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Democratic Party's Foreign Policy Voting: A Network Analysis

Master's thesis

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Study program: Territorial Studies, North American Studies

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Declaration

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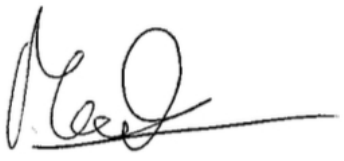
2. I hereby declare that my thesis has not been used to gain any other academic title.
3. I fully agree to my work being used for study and scientific purposes.

In Prague on, May 3rd, 2023, David Robert Mulica



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Abstract

This paper analyzes the voting behavior of Democratic Party members in the 117th Congress. Specifically, it examines roll call votes related to U.S. foreign policy. Namely, it examines votes on funding allocations for the two major policy departments of the executive branch - the Department of State and the Department of Defense, votes on resolutions, and other legislative actions in which Congress has jurisdiction over U.S. foreign policy. More particularly, this study is interested in the voting behavior of members of the so-called "Congressional Progressive Caucus" (CPC), one of the ideological caucuses in the U.S. Congress that has been gaining political strength, especially in recent years. The aim of the study is to show whether the "Progressive Caucus" has developed to be a political force that is already showing tendencies to vote differently from the rest of the Democratic Party, or which specific members of Congress are potentially in positions to mediate between the "CPC" and the rest of the party on foreign policy issues. The study uses the social network analysis methodology to process and project data on the voting patterns of individual members of Congress.

Abstrakt

Tato práce analyzuje hlasování členů Demokratické strany v 117. kongresu. Konkrétně zkoumá hlasování týkajících se zahraniční politiky USA, tedy zejména hlasování o alokaci finančních prostředků pro dva nejsilnější zahraničně politické resorty exekutivní vlády - Ministerstvo zahraničí (Department of State) a Ministerstvo obrany (Department of Defense), hlasování o rezolucích a dalších legislativních úkonech, ve kterých má kongres pravomoc v zahraniční politice USA. Tato studie se zejména zajímá o volební chování členů tzv. "Congressional Progressive Caucus - CPC", jedno z ideologických uskupení v americkém kongresu, které zejména v posledních letech nabývá na politické síle. Cílem studie je ukázat, zda je "Progressive Caucus" politickou silou, která již vykazuje tendence odlišného hlasování od zbytku demokratické strany, případně kteří konkrétní členové kongresu jsou potenciálně v

pozicích mediátorů mezi "CPC" a zbytkem strany v otázkách zahraniční politiky. Studie využívá teorii sociálních sítí jako výzkumnou metodologii pro zpracování a projekci dat o hlasování jednotlivých členů kongresu.

Keywords

117. U.S. Congress, U.S. foreign policy, Democratic Party, Congressional Progressive Caucus, network analysis, progressive politics in the U.S., partisan voting discipline, Pramila Jayapal, Ilhan Omar.

Klíčová slova

117. Kongres USA, zahraniční politika USA, demokratická strana, progresivní frakce, síťová analýza, progresivní politika v USA, stranická hlasovací disciplína, Pramila Jayapal, Ilhan Omar.

Title

Democratic Party's Foreign Policy Voting: A Network Analysis

Název práce

Hlasování Demokratické strany ve věcech zahraniční politiky: síťová analýza

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Introduction

This study aims to describe, visualize, and interpret connections between the members of the 117th U.S. Congress, with special focus on foreign policy issues and deeper analysis on the voting behavior of selected groups of congress members. The study specifically focuses on the Congressional Progressive Caucus, its leadership and the general state of progressive policy making in the contemporary U.S. politics. The 117th U.S. Congress was formed after the 2020 general elections, where the Democratic Party won majority and its term lasted from January 3, 2021, until January 3, 2023. The study uses the social network analysis (SNA) methodology applied for the interpretation of networks across academia - it is used not only in social studies, but also in computer science, medical studies, and many other fields (Borgatti et. al., 2013).

To achieve the goals of this study, it is important to outline the status quo from which the U.S. political system and specifically the U.S. Congress is analyzed. Reaching the point where either chamber of the U.S. Congress holds a vote on a certain bill or resolution is often long and complex not only from political and procedural points of view. Furthermore, this study focuses on specific groups of congress members - primarily the members of the Democratic Party and the Congressional Progressive Caucus (CPC) - within the House of Representatives of the U.S. Congress. The key element which is analyzed by this study is their voting behavior in the U.S. House interpretable via the SNA methods of data analysis. Finally, the data used in this study will be those roll call votes in the U.S. House which are labeled by the Office of the Clerk of the U.S. House as international affairs legislation proposals.

This selection of data enables analyzing the voting of the CPC on U.S. foreign policy matters. As described later in the study in detail, this means not all roll call votes relevant to U.S. foreign policy will be included, because they may not be labeled "international affairs" by the Office of the Clerk. Many bills relevant to foreign policy making can be introduced while primarily addressing other fields of policy such as environmental affairs, defense, or military policy etc. Nonetheless, the selected roll call votes should present a convincing sample on the voting of the CPC on foreign policy issues. Having a general understanding on the process of

foreign policy making in U.S. politics will therefore be paramount to the analytical goals of this study.

For the purposes of analyzing the CPC, this paper also briefly describes aspects of the two-party system in the U.S. politics and the form of governing in the U.S. political system. It focuses on the relationship between the legislative branch - the U.S. Congress - and the executive branch - The President and the Administration. Furthermore, it is imperative to outline the global significance of U.S. foreign policy making and the standing of the United States in world politics. This study won't attempt to analyze and understand all aspects of U.S. foreign policy, however, it will use examples to provide evidence of the importance of U.S. foreign policy making in the global context, hence justifying the data selection. It is universally acknowledged that the United States play a leading role in global affairs. For many years after the end of the cold war, many academics have even argued for the world to be in the unipolar order of the United States from the perspective of global geopolitics. This argument has been made following the dissolution of the USSR where no nation state or international coalition of states was opposing or threatening the United States' global hierarchical position (e.g., Wohlforth, 1999).

There has been an undeniable shift in this perception in the last two decades. The People's Republic of China (PRC) has economically and militarily grown to be a significant actor in global geopolitics and perhaps the greatest challenger to the United States dominance over global affairs (Xinbo, 2020). Additionally, Russia has been showing their geopolitical ambitions albeit not being as economically and geopolitically powerful as it was during the times of the USSR. They have exercised strategic military and diplomatic tactics which led to a number of local wars such as the War in Georgia in 2008, the Chechen wars in the early 2000s' or their military support of involved parties in foreign conflicts - most notably in the Syrian Civil War in the 2010's. Especially during the 2010's, Russia and the United States have further distanced themselves in their mutual cooperation. Russia has since attempted to strengthen its case as a challenger to the U.S. geopolitical interests in various regions and areas of international policy which ultimately led to February 2022 when Russia launched a full-scale invasion of Ukraine.

The United States near hegemonic position in global policy making has met challenges in recent years, yet the course and decisions of the U.S. foreign policy arguably remain the most influential of all nation states in the global geopolitical order of the 21st Century. The U.S. remains the strongest economy in the world while overwhelmingly outspending the challengers in the allocation of financial resources in its armed forces and research (Tian et. al., 2020). From the post-cold war era, the U.S. also remains to bear the greatest nuclear arsenal of all nuclear powers in the world. Unfortunately, this is yet again highly relevant in the raising tensions between its primary challengers, Russia and China, due to (but not limited to) verbal threats of nuclear strikes being regularly made by the President of the Russian Federation (ICAN Annual Report, 2022). Any decisions, declarations, or changes of course in the U.S. foreign policy mechanisms therefore have the universal potential to have great global impact on any foreign policy issue in question.

In the context of foreign policy making, it is also arguably highly relevant to analyze the increasing interest in progressive policies in the U.S. In recent years, there has been an increased demand for progressive and social democratic policies with a higher focus on human rights to be in the center of U.S. foreign policy, as well as returning to a non-interventionist approach to global geopolitics. For this reason, this study focuses on the Congressional Progressive Caucus (CPC) and individual congress members who are in the forefront in the contemporary U.S. progressive policy making. Therefore, this study aims to evaluate the current relevance of the CPC to the U.S. foreign policy making process, as well as its voting relationship with the remainder of the Democratic Party in the 117th U.S. Congress.

1. Theoretical background

1.1 The U.S. Congress within the U.S. political system

Popularly known as the oldest democracy in the world, the U.S. political system operates under the same original Constitution that was created, ratified and consequentially put into effect in 1789. The republican form of government and the system of separation of powers are key elements of the Constitution, that has only been amended throughout the years by separate amendments to the Constitution - 27 amendments have been passed and ratified throughout the existence of the Union (U.S. Const. amend. I.-XVII.). The legislative rights are vested in the U.S. Congress in Article I. as well as the creation of the two chambers (House of Representatives - House - and Senate), the eligibility of candidates for congressional membership and more (U.S. Const., Article I). The creation of a bicameral legislature was the result of the Constitutional Convention between the larger (more populous) states of the Union and the smaller (less populous) states.

The result of the Convention reflected the two Plans for the establishment of the legislative branch - the New Jersey Plan (each state having the same number of representatives) and the Virginia Plan (representatives proportionally allocated based on the population size of each state) (Wolfe, 1977). Additionally, the electoral terms of members of both chambers of Congress are presented within Article I. The 2-year term for members of the House means there are time limits to the legislative process. In the matter of the time amounted to the legislature, the 2-year legislative cycle is much less flexible in comparison with most legislatures around the world. The whole legislative process in the United States therefore has a shorter timeframe in which it can operate and decide on the introduced legislation.

1.2. Partisan politics, congressional caucuses, and the Progressive Caucus

Partisan politics in the United States government and specifically in the U.S. Congress is highly important background for understanding the whole political dynamics of (foreign) policy making in the United States and it will be an important concept discussed by this study. The United States operate in a bipartisan system where federal politics are completely dominated by two parties - since the 1850's and 1860's these parties have been the Democratic Party (D) and the Republican Party, also known as the Grand Old Party (GOP). Their dominating position in U.S. politics stems from their large membership numbers and the institutional strength of the parties in every state of the Union. There are small parties which have occasional electoral success especially on the state or local levels. However, there are no politically relevant parties on the federal level besides the two major parties.

To be precise, there is a limited amount of congress members which consider themselves independent, or not party members of the two major parties. Nevertheless, this is a rarity in the U.S. Congress and their respective parties do not hold any political power themselves; the non-major party congress members can typically only influence politics when they align themselves with one of the two parties. In the 117th U.S. Congress, there were only two congress members not affiliated with the two major parties - Senators Angus King (Junior Senator of Maine) and Bernie Sanders (then Junior Senator of Vermont), both elected as independents (Sanders as the candidate of the Democratic Party). Both senators were (and remain after the term end of the 117th U.S. Congress) members of the informal Senate Democratic Caucus in their chamber due to their understanding of the bipartisan political system and the functioning of the U.S. Congress. The two-party system and the two-year electoral cycle in the U.S. House create a political environment where in-party alliances, commonly associated within the formally established *House Caucuses*, are highly relevant for both legislative purposes and for public perception reasons (United States Congress, n.d.).

Congressional caucuses, also known as "Congressional Member Organizations - CMO's" are groups of members of the United States Congress who share common interests or concerns and work together to pursue legislative goals related to those interests or concerns. Caucuses can be formed around a wide variety of issues, including policy areas such as health care, education, or the environment, demographic factors such as race, gender, or sexual orientation or even caucuses pushing the agenda of one specific issue such as the 5G Caucus (pushing the availably of 5G internet) or the Cannabis Caucus (advocating for legislation allowing medical cannabis in the U.S.). Members of Congress can join multiple caucuses and often use them to build coalitions and advance their legislative priorities. Caucuses typically meet on a regular basis to discuss policy issues and strategize on how to advance their agenda within Congress. Caucuses are especially important in the House where they may obtain formal recognition and receive funding, whereas in Senate they are only informal Caucuses or CMO's. House Caucuses can include Senate members in their ranks, even though they are not voting participants on House matters (Congressional Research Service, 2017).

Understandably, there are two major caucuses encompassing all members of the two major parties. First, the House Democratic Caucus, which in the 117th U.S. House had majority and therefore the leader of the Democratic Caucus (rep. Nancy Pelosi of California's 12th District) was also the Speaker of the House. Second, the House Republican Conference, led by Kevin McCarthy (CA-20) who was therefore the minority leader in the 117th U.S. House. However, and more importantly for this study, there are many other caucuses within the framework of each party, including ideological caucuses which are gaining increasingly more media coverage in recent years (Brennan, 2022).

In recent years including the 117th U.S. House, the prominent ideological caucuses on the side of the Democrats have been the Congressional Progressive Caucus (CPC), the New Democrat Coalition (NDC) and the Blue Dog Coalition. On the Republican side, the most prominent groups in this category have recently been the Republican Study Committee (RSC)

and most notably the Freedom Caucus formed in 2015. For the purposes of this study, the focus will be on the role of the CPC among the ranks of the rest of the House Democratic Caucus, however, other groups among these listed CMO's are also highly interesting and relevant for future analysis.

The Congressional Progressive Caucus (CPC) is a group of congress members which has been receiving significant media interest in recent years. It has especially started to gain interest since the founder of the CPC senator Bernie Sanders ran for the presidential office in 2016 with a very strong primary campaign aimed at the centrist and pro-business ranks of the Democratic Party including his primary elections opponent Hillary Clinton. Even though his campaign was unsuccessful in regards of gaining party nomination for the general election, it opened the door for progressivism to start gaining mainstream interest in U.S. politics again.

Consequentially, in the 2018 General "Midterm" Elections, there were several candidates who successfully ran on a strongly progressive or even a social democratic platform and ousted more centrist members of the Democratic Party, most notably Ayanna Pressley from the Massachusetts' 7th District and Alexandria Ocasio-Cortez from the New York's 14th District. During the 2016 and 2018 election cycles, the CPC's media coverage and interest of internal workings increased as congress members such as Pressley and Ocasio-Cortez were voicing their criticism to the state of progressive policy making in the U.S. Their criticism was often indirectly and, on some occasions, directly aimed at the CPC and members of the CPC as well (Wagner, 2018).

The CPC's membership has grown in the last decade as many congress members want to associate themselves with progressive policies (Hawkins, 2016), however, the large membership of the CPC also brings the potential for greater fractions within the caucus itself. For instance, many scholars and analysts would consider many members of the CPC more moderate leaning rather then being progressives in their policy making (Homan & Lantis, 2020). This all meant that the CPC is seen as a somewhat unconsolidated political force where various

members of the caucus would publicly oppose other members on their stance on policies considered to be progressive. Due to the recent electoral success of the Democratic Party, the growing ranks of the CPC membership as well as interests in progressive policies, this study will analyze the cohesiveness and connectedness of the CPC. It aims to provide data analysis to interpret which members of the CPC play a key role in the network, specifically in voting on foreign policy issues, and whether there are informal clusters of congress members within the CPC which stand out among the rest of the caucus.

In its own words, the CPC officially declares its advocacy interest and policy making involvement in general areas of policy such as changing the health care system, raising the minimum wage, strengthening labor protection rights, adopting climate change prevention policies or the everlasting interest of eliminating political corruption (Congressional Progressive Caucus, n.d.). Besides their public declaration of supporting strong climate protection policies, their political positions related to other foreign policy making are not as clear. For example, in 2002, the CPC had 57 members and yet most of the members voted YEA on one of the most impactful foreign policy Joint Resolutions, the Authorization of Use of Military Force (AUMF) after the 9/11 terrorist attacks (The AUMF and its impact on U.S. foreign policy is described on pp. 20 and 21). The outstanding NAY vote came from rep. Barbara Lee of California who soon after became the chairperson of the CPC (H.J.Res.64, 107th Congress, 1st sess., Roll Call Vote 342).

Additionally, the mentioned new wave of progressive congress members such as the current CPC chairperson Pramila Jayapal (WA-7) or the current vice chair of the CPC Ilhan Omar (MN-5) have held strong personal positions on various foreign policy issues which were often in contradiction with other CPC members' positions. For instance, Omar is a strong critic of the human rights abuses carried out by many middle east countries such as Israel (Kampeas, 2018) or Saudi Arabia, countries strongly allied with the United States (Salem, 2018), and Jayapal joined Omar and another 16 members of the Democratic Party on voting against H.R. 246 in

2019 condemning the global "Boycott, Divestment, Sanction" Israel movement (Roll Call Vote 497. 116th Cong., 1st sess.). Needless to add, many members of the CPC publicly shared their disagreement with Omar and Jayapal on these issues which is no way a rare event in the inner politics of the CPC (Haberkorn, 2019). It can be conclusively observed that the CPC on certain levels shows fractions in the views of individual congress members' foreign policy positions. This should be taken into consideration when analyzing and discussing the CPC and its functioning, not limited to foreign policy making.

1.3. Foreign Policy and the role of the Congress

It is imperative to stress that the United States are a presidential system with many, and arguably key powers centralized in the position of the President of the United States (POTUS). While Congress has strong say in many key areas of foreign policy making, especially any budgetary matters including the distribution of funds for the foreign policy agendas (a power again vested by the Article I of the Constitution), the Executive Branch (i.e., the POTUS) is seen as the more powerful foreign policy maker in the U.S. political system due to - but not limited to - POTUS' veto powers, treaty negotiation powers or his title as commander-in-chief (Masters, 2017). At the same time, the legislative branch's role in foreign policy cannot and should not be underestimated - it plays a crucial role both through practical and representative measures.

One of the significant powers held by the Congress is the Senate's duty to decide on the ratification of international treaties negotiated by the President and member of the Presidential Administration (typically the Secretary of State but also other members of the Administration depending on the specific topic the treaty addresses), stemming from Article II. section 2 of the U.S. Constitution. There have been many occasions in history, including very high-profile cases, in which the Senate decided to not ratify a large bilateral or multilateral treaty. An example of exercising this power can be the Versailles Treaty of 1919 which established the League of Nations, an organization which the U.S. never formally joined due to the lack of treaty

ratification by the Senate even though the U.S. President Woodrow Wilson and his foreign policy approach was integral to its negotiation (Margulies, 1989).

In many cases in which the executive branch often clashes with the legislative branch and their individual powers and responsibilities in foreign policy making - resulting in checks and balances of each of the branches - the factor of partisan politics plays a significant and often deciding role in how the legislative branch of government cooperates with the executive branch. This was the case many times in the history of foreign policy making in the United States (the case of the Versailles Treaty can be viewed as an example of this behavior) and has gradually increased until present day policy making (Thompson, 2015).

The 117th Congress was led by the Democratic Party which had control of both the U.S. Senate and the U.S. House. This coincided with the 2020 Presidential Elections where the Democratic Party and their Presidential and Vice-Presidential candidates Joe Biden and Kamala Harris won and therefore took control of the executive government. Even under regular circumstances the change of the POTUS and the executive administration is a significant event not only for the foreign policy of the U.S. Government, but for its overall policy making options and capabilities. However, it's important to state that the 117th Congress ' term took place during an unusually unstable period for U.S. and global politics. It started with the far-right attempt to overthrow the newly elected government aided by the outgoing President Trump, which led to his impeachment in the first days of its term. It convened during a time of two major global crises that severely affected the whole world - the ongoing covid-19 pandemic continued to completely dominate the world in the first year of the 117th Congress' term, at least until the 24th of February 2022 when a full-scale attack on Ukraine by the Russian Federation began which started the greatest war on the European continent since World War II (Lynch et. al., 2023).

The global importance of U.S. Foreign Policy, historically speaking, cannot be understated and this unquestionably applied to the two major crises, both extremely negative events with major implications on the United States and global politics. Regarding the start of the term of the 117th Congress, the international economic and public health crisis resulting from the ongoing covid-19 pandemic was of paramount importance and it was the leading issue in both domestic as well as foreign policy making. International travel continued to be severely limited, international trade was still facing unprecedented complications and delays in delivery and the global numbers of lives casualties resulting from the pandemic were already in the millions (WHO, 2022) with around a half million officially reported covid-19 related deaths in the United States in 2021 alone (Ahmad et. al., 2022).

Besides the Russian invasion of Ukraine which was launched in early 2022, there were other major foreign policy events which occurred during 117th Congress's term. Among them was the full withdrawal of U.S. troops from Afghanistan in August of 2021, where the United States had its military presence since the War in Afghanistan began in the aftermath of the 9/11 terrorist attacks. The Operation Enduring Freedom, which was the official designation of the military operation in Afghanistan since 2001 and which was aimed against the Taliban-backed terrorist organization Al-Qaeda, ended in August 2021 in a controversial fashion for the United States and its foreign policy as the troops chaotically withdrew while Taliban forces were encroaching on the capital city of Kabul (Fazal et. al., 2022). As it's implied, most of the major global political events are in some way typically influenced by U.S. foreign policy, but the withdrawal of troops and the overall analysis of the War in Afghanistan is an important case study for the power struggle in foreign policy making between the executive and the legislative branches of the U.S. government.

The area of foreign policy making in the United States government is one of the key areas where the principle of checks and balances between the legislative and executive branches of government come into play (Lantis, 2022, ch. 4). As previously stated, arguably the U.S. Congress' biggest power remains in the power of budget approval of various executive offices of the Executive Administration, including the military branches (Lantis, ch. 5). All branches of the government, including the military branches, have a duty to report their spending records on a regular basis internally within their respective executive departments and the U.S. Congress effectively decides not only on the federal budget and the allocation of funds for the departments responsible for foreign policy making, but they also naturally review the spending records, provide oversight and have the right to decide on extraordinary funding if a branch of the executive government requests it.

In the case of foreign policy, the emergency aid packages in foreign missions or to allied countries can be seen as an example of this decision-making process (Congressional Research Service, 2023b). However, there is also a major legal question which has been discussed by scholars since the 9/11 terrorist attacks and that is the core legality of recent foreign military interventions by the United States. To summarize, military activities and engagements play a major and arguably leading role in U.S. foreign policy making. There are concerns regarding the constitutionality of many U.S. military interventions in the world including the later stages of the War in Afghanistan.

In Article I, section 8, the Constitution vested the power to declare war into the hands of the Congress and the executive branch specifically in the 20th and the 21st Century has been successfully engaging in military conflicts even without explicit congressional consent. Congress has attempted to limit the executive branch in its military powers on several occasions, most notably by passing the War Powers Resolution of 1973 in the waning years of the failed military campaign in Vietnam (H.J.Res.542, 93rd Congress, 1st sess.). The War Powers Act has attempted to prevent waging undeclared wars such as the Wars in Korea and Vietnam.

However, the executive branch has continued to successfully engage in military campaigns after its passage. On some occasions, the executive has been granted the right of military deployment by Congress based on the War Powers Act (such as the War in the Persian Gulf), however, there are legal controversies surrounding the authorization of use of military force based on the War Powers Act in other occasions. This is most notably the case in the War in Afghanistan and the global war on terror. In accordance with the War Powers Act, the executive branch has acted on the grounds of the Authorization of Use of Military Force (H.J.Res.64, 107th Congress, 1st sess.), passed by the Congress in 2001 in the aftermath of the 9/11 terrorist attacks. Due to its the content and wording, it gave the executive branch full freedom to become involved in many military activities around the world in combating the global threat of Islamic terrorism, including in Afghanistan long after Osama bin Laden, the leader of Al-Qaeda was killed by the U.S. military in 2011. The executive branch has since been criticized for authorizing military activities and making foreign policy decisions on the grounds of the AUMF in conflicts many years after the 9/11 terrorist attacks, thus putting into question the legality of the actions of the executive branch.

Accounting for the complexities of foreign policy making in the United States and with the executive branch and the POTUS universally seen as the more influential actors in the U.S. government, the Congress and individual congress members remain major stakeholders in foreign policy making. Besides the aforementioned congressional rights such as treaty ratification, budgetary responsibilities and foreign military influence, the Congress and congress members play a significant role in the representation of the U.S. government from an international perspective, both through economic and diplomatic measures. Famously, foreign leaders of the past and present arrive at the U.S. Congress when they attempt to make a plea to the U.S. public, like Czechoslovak president Vaclav Havel in the past or Ukrainian president Volodymyr Zelenskyy in the present. Members of Congress serving on standing committees relevant to foreign policy are seen as highly important stakeholders which are important for the success of diplomatic missions of foreign countries in the United States. At the same time,

members of Congress are often sent on so-called Congressional Delegations Abroad (CODELs), to strengthen economic and political ties with the visited countries (Desiderio, 2022). Besides overseeing the foreign policy aspects of the CODEL visits, they also provide an interesting opportunity for creating connections and relationships between representatives from different sides of the congressional and ideological aisle. To give an example, Senator Chris Coons of Delaware described CODELs as one of the few places where senators can "actually talk," claiming that the trips provided him and his colleagues with the opportunity to know each other and trust each other (MacGillivray, 2019). In future studies, this would also be a potentially interesting area to explore for extensive analysis using the SNA methodology as well.

1.4. Party discipline, ideological cohesion, and hypotheses

This study will be inspired by contemporary scholars implementing the Social Network Analysis methodology into political science. Specifically, this study is inspired by the research of Clio Andris et. al. (2015), David Lazer (2011) and many more who study the voting of the U.S. Congress using the Social Network Analysis methodology. It attempts to provide insight into who votes with whom in the Congressional Progressive Caucus, specifically on foreign policy issues while analytically confronting general and public perceptions of the strength of connectedness between the members of the Progressive Caucus and its individual members.

An important concept applied to this study will be party unity. Ergün Ozbundun (1970) identifies two main sources of party unity: ideological cohesion and party discipline. Ideological cohesion forces members of legislatures to vote in unison because of their beliefs and ideological anchorage, and therefore members of the same party can be expected to vote in unison precisely because of their shared positions (Ozbundun, 1970). It can be expected following this argument that the voting uniformity of congress members in the U.S. Congress will be high within the two parties even if they function as a catch-all parties, and the voting uniformity should be especially high within the ideological caucuses. Ideological coherence and

unity are therefore important assumptions for this study. Party discipline, on the other hand, is a process that is promoted and often enforced by the leadership of a given political party with the help of various tools that the party can use against its members (e.g., the establishment of electoral lists, etc.). Hazan (2003) further stresses the importance of differentiation between the two sources of party voting cohesiveness.

As the framework for this study is laid out, this study will attempt to prove or disprove the following hypotheses:

1. **Hypothesis 1: The CPC will show a high connectedness on voting on foreign policy topics, due to the ideological nature of the Caucus supporting "progressive" policy making. (H1)**
2. **Hypothesis 2: Hypothesis 1 leads to the presumption that there won't be nearly any outstanding congress members who would be a part of the CPC but have a higher connectedness to the non-CPC group of congress members in the network. If there are, they would cease to be CPC members after the 117th Congress. (H2)**
3. **Hypothesis 3: The CPC network will show weaker connectedness to the remaining Democratic Party members which will demonstrate the ideological tendencies of the caucus and different opinions on foreign policy issues of the U.S. (H3)**
4. **Hypothesis 4: Rep. Pramila Jayapal (WA-7) as caucus chairperson will show strong ties to the vast majority of the members of the CPC network, effectively confirming her central position among the caucus. The same would apply to CPC vice-chair rep. Ilhan Omar (MN-5). (H4)**

By analyzing larger portions of data to confirm these hypotheses, this study will be able to empirically answer complex questions regarding the cohesiveness of the Congressional Progressive Caucus in voting in the 117th Congress. Due to the vast majority of CPC members from the 117th Congress retaining their seats in the 118th Congress (as a result of the 2022 general elections), this study will also be very relevant for studying the current affairs in the U.S.

House of Representatives in 2023 and onward. There are a few important phenomena this study tackles in which its results will contribute to further evaluate the current state of affairs.

Most importantly, it's the state of the Progressive Caucus in the U.S. House in the 117th Congress. It will be possible to draw conclusions from the results of this study in the evaluation how are progressive policies in U.S. politics faring on the federal level of the U.S. government. Specifically, it will be able to offer insight in the relationship between the caucus and the rest of the democratic party, including individual connections of congress members and the two major evaluated groups (CPC + the rest of the democratic party). The individual congress members which this study focuses on the most are the current chairperson of the CPC rep. Pramila Jayapal (WA-7) along with CPC vice-chair Ilhan Omar (MN-5). However, some other cases will also prove to be interesting to analyze in a more detailed fashion, especially other outstanding congress members showing weaker connections to the remainder of the network or the CPC.

Finally, this study evaluates the voting of the selected congress members on issues considered as international affairs. Therefore, the most accurate conclusions of the results of this study will be on the foreign policy positions of the concerned congress members and the CPC. However, due to the broad nature of foreign policy making in the United States, the results of this study will be able to provide general conclusions of the ideological and political closeness of the studied congress members in all areas of policy. Overall, this study should be able provide evidence of the political relationships between the members of the Congressional Progressive Caucus in the U.S. House in 117th Congress as well as the whole Democratic Party.

2. Methodology and data selection

This study will analyze the voting in the U.S. House in the mandate of the 117th Congress. The data input of this study will be the roll call votes which took place during the two sessions of the U.S. House in the 117th Congress and in using this data input, this study will establish networks between the data providers (examined congress members) and the data results (specific votes on examined roll calls). The study uses the methodologies and calculations of the Social Network Analysis (SNA) to provide in depth analysis of the selected data - primarily the selected congress members and their voting on selected roll calls. In using the SNA methodology, this study uses specific SNA parameters and equations which aggregate the selected datasets and the parameter having the utmost importance for this study (but most other SNA studies as well) is the "weight" parameter, also meaning the "strength of edge". The most relevant SNA parameters will be in detail described below. The goal of this study is to analyze the selected data with SNA tools which will allow comprehensive interpretation of the results of the study.

2.1. About Social Network Analysis

Social Network Analysis (SNA) is a research approach that examines the patterns of relationships among individuals or groups. It is a way of understanding the structure and dynamics of social systems by mapping and analyzing the connections between people or organizations. SNA can be applied to a wide range of social phenomena, including communication patterns, information diffusion, collaboration networks, and social influence. SNA typically involves constructing a network graph or diagram that represents the connections between individuals or groups. Jennifer Golbeck describes social networks in her publication *Analyzing the social web* where "a person is considered a node or *vertex*, and a relationship between people is a *link* or edge. When all the people and relationships are identified, there are many statistics that can provide insight into the network" (2013, pp. 2). She also adds, that even

before learning those statistics or anything about social network analysis, observers can probably identify some important and interesting things in the given network (pp. 2).

Nodes or *vertices* on the graph represent individual actors or organizations, while edges or *links* represent the relationships between them. These relationships can be based on a variety of factors, such as friendship ties, work relationships, or shared interests. Understandably, in the data analysis phase, the nodes will be represented primarily by congress members, and secondly by the roll calls themselves. The "strength" or "*weight*" of the connections between specifically the congress members will represent edges. Detailed elaboration on how this is calculated will be provided further.

SNA uses a variety of quantitative but also qualitative methods to analyze network data, including measures of centrality (of nodes), clustering (of groups of nodes), and community structure. These measures can help identify key players or groups within a network, as well as the overall structure and dynamics of the network. Due to its potential, SNA has been applied in many fields, including sociology, psychology, anthropology, and business. It has proven useful for understanding social phenomena such as the spread of diseases, the diffusion of innovations, and the formation of social movements. More recently, the SNA has become popular in political sciences and specifically in studying the behavior and connectedness of larger groups of politically relevant actors (Borgatti et. al., 2013). This study contributes to the usage of SNA in social studies and specifically on studying the voting behavior of the congress members of the 117th U.S. House of Representatives.

As it has been stated, SNA works with two key elements - nodes and edges. Nodes are the individual actors, entities, or other entities (having specific attributes) that are captured in the network. For example, in a social network of high school students, nodes represent individual students. In a network of international trade relationships, nodes can represent countries or corporations. In a network of online communication, nodes might represent individual users or websites. And in a network of political assemblies, nodes can represent

representatives of such assembly. Nodes can be described in large variety of ways with a seemingly inexhaustible source of means of description and these means are considered attributes. Some common attributes include “degree centrality”, which measures the number of direct connections that a node has with other nodes; “betweenness centrality”, which measures the extent to which a node lies on the shortest paths between other pairs of nodes; and “closeness centrality”, which measures the average distance of a node to all other nodes in the network (Brandes, 2001). Other attributes can include a wide variety of details about the given network of nodes, such as age, gender, role, or any other relevant characteristic of the nodes being studied. The choice of attributes will depend on the research question and the specific characteristics of the network being analyzed. Nodes with their specific attributes distribute actors into arbitrary subgroups, but it is only the edges (or links) that connect the network and define the network. The nodes in the case of my research are of two types (two different entities of nodes), which I explain in the paragraphs below.

Edges on the other hand capture the relationships between these nodes - they are clearly defined, have their own rules, and often have different intensities. The different "intensity" of an edge is precisely the *weight* (commonly also described as *strength*) of the edge. Edges are typically represented as lines or arrows between nodes on a network graph. The strength and directionality of the edges can provide insights into the structure and dynamics of the network, such as the intensity of relationships, the direction of communication or resource flows, or the presence of asymmetries in power or influence. Edges can also have different types or attributes, depending on the nature of the relationship between nodes. For example, in a social network, edges might represent friendship ties, family relationships, or work connections. In a transportation network, edges might represent roads, railways, or air routes. In an information network, edges might represent email or citation links. In the case of studies of relationships of politicians and political bodies, other quantifiable relationships must be described, for example how commonly do political actors communicate, travel on work trips, or vote in assemblies. Some common measures of edges in SNA include "edge weight," which

reflects the strength or intensity of the relationship between nodes, and "directionality," which indicates whether the relationship is one-way or reciprocal (Newman, 2006). Overall, edges are a critical component of network analysis as they help us to understand the connections and relationships that exist between nodes, and how these relationships contribute to the overall structure and behavior of the network.

Every network is therefore an analysis of the relationships between nodes and first and foremost analyzed via the edges connecting nodes within a network. Typically, a network has at least one type of nodes in a network which have edges connecting them. An example of a one node network could be a classroom of 30 students. The classroom is the network we are analyzing, the 30 students represent nodes, and we can objectively set the classroom to be sufficient evidence of a connection between each student, this will create a one node or one-party network. If we don't explore the type of the connection further, the weight (or strength) of each edge (connection between student) will be the same, i.e., one. However, in the analysis of networks, it's possible to go beyond basic observation and calculate other attributes of both the nodes and the edges (Borgatti, 2013).

It is possible to explore other attributes with the nodes - for example, we can analyze the gender of the students, the age of the students, ethnicity, membership in school clubs and many, many more. This partition of the nodes can be very insightful in further analysis of the network, to know proportions of the specific attribute present in examined network. Many attributes can be easily observed by the naked eye, however, it's always preferable to have mathematical background supporting the observation of the researcher. Especially in much larger networks where there are hundreds or thousands of nodes, the specific attributes of individual nodes are extremely valuable information for further analysis of the network (Barabasi, 2002).

In this model network of 30 students, we can imagine that 15 of the students are members of the school ice hockey team, 10 of the football team and 5 are not members of any

school club at all. After applying this model "school clubs" attribute to the network, we get that the 15 ice hockey players/students are connected to each other, the 10 football players are connected to each other and the 5 students without any school club membership are not connected to any network at all. This already gives us 2 significant "clusters" within the network and disconnects the 5 non-club member students form the network. If we go one step forward with the network analysis, we can have a situation where all club-member students eat with each other lunch at the same time at the school cafeteria, thus strengthening the opportunity to socialize. This could make a situation where the nodes have club membership as one attribute and specific club membership as a second attribute. Applying both these attributes in the network will create a situation where all club-member students are connected with edges of weight 1 and also the specific club memberships further connected the groups of 15 ice hockey club members and 10 football club members, thus creating a network where 25 of the students are connected via these two attributes and 5 students are not connected to the network at all. This model situation is very common in network analysis; therefore, node attributes play a key role in all networks.

Edges (connections between nodes) have their specific important attributes as well. Most notably, the weight of the edges is paramount to the connectedness of the analyzed network, as hinted above. However, edges don't have to be created only based on mutual attributes of the nodes, on the contrary - in many cases, analyzing networks only based on node attributes would not provide insightful analysis of the given network. In the model case of the classroom of 30 students, it may but also may not be interesting to analyze the network based on - for example - the gender attribute. The analyst must provide evidence that that such analysis provides valuable information for his study, otherwise, it may not be sufficient to analyze such attributes to receive interesting results of such study. Therefore, a second type of nodes may be introduced for the analysis of specific network.

In the case of the classroom, the second type of nodes can be teachers. Each student node would represent an individual student, and each teacher node would represent an individual teacher. We can then map the relationships between the students and teachers by representing connections between nodes. For example, we could represent a connection between a student node and a teacher node as an edge which indicates that the student is enrolled in the teacher's course, thus creating an objective connection between the two nodes (student-teacher). In this network, we could analyze the patterns of relationships between the students and teachers, such as the degree to which students are connected to multiple teachers, the centrality of certain teachers within the network, or the formation of cliques or subgroups among the students. Such an analysis could help us better understand the social dynamics of the classroom and the factors that contribute to student success (Newman, 2001). The result of this exemplary case is a bi-modal (or bi-party) network with two types of nodes focusing on the relationship between nodes of type 1 (students) and type 2 (teachers).

In many cases of network analysis, it is academically interesting to analyze the relationships between the type 1 nodes (students) via their connection to type 2 nodes (teachers). Say that student John has courses with teacher Phillip and student Steven is also taking teacher Phillip's course. This means that students John and Steven are connected via teacher Phillip. In network analysis, it is very valuable to transform a bi-modal network into a one-mode network while preserving the connections created through the type two nodes (in this case teachers). This is done through converting the bi-modal network into a one-mode network where the connections between type 1 nodes made through type 2 nodes remain, however, the type 2 nodes are all removed from the network whatsoever. As a result, a one-mode network connecting the type 1 nodes based on the previous calculations of connections remain in the network, which allows the analyst to evaluate the weight of the edges (connections) based on this projection. In the example of the two students, the two individuals by attending the same class are now connected via the teacher/class they are mutually attending, therefore, it's possible to assume that they created a connection between each other

and potentially leaving the teacher/class irrelevant for further analysis - thus resulting in a one mode network created from an original bi-modal network. Therefore, a crucial aspect of network analysis for this study as this research will also converting a bi-modal networks into a one-mode network (Leifeld, 2017).

2.2. Methods and data selection

This study will be implementing many of the previously described Social Network Analysis methodologies in this study and to do so, the data selection process is a key element of a successful SNA projection. As it has been described in previous chapters, this study will be analyzing the following data of voting in the U.S. Congress.:

1. It must be data from roll call votes in the 117th Congress, i.e., between January 3, 2021, and will end on January 3, 2023
2. There must be all data on roll call votes in the U.S. House on foreign policy issues.
3. This study is specifically looking for roll call voting data of Democratic Party members and more specifically, Congressional Progressive Caucus members.

By law, all roll call votes with take place on the floor of the U.S. Congress must be accounted by the Office of the Clerk (of the House or Senate), which consequentially releases the results of each roll call vote publicly. Importantly, the U.S. Congress has various procedures for how to vote on the floor of a congressional chamber, many of them different in comparison to different democracies such as in the European Union. Specifically on the U.S. House, which is where the data desired for this study originates, there are four types of votes which can take place during session: the Voice Vote, the Yea-and-Nay Vote, the Recorded Vote and the nowadays uncommonly used Division Vote (Congressional Research Service, 2023a). The Division Vote is easily the least practiced floor voting measure in the current workings of the Congress, as the voting is conducted by physically "dividing" the House into groups of those who are in favor and who are not in favor in the measure in question. The Speaker orders the

congress members to stand in separate groups to symbolize those in favor and against and these votes are not accounted for by the Clerk. For understandable reasons, this voting practice is mostly abandoned.

The Voice Vote is a commonly used practice in voting on procedural measures or non-controversial legislation. The Voice Vote, in a limited capacity, provides the filtration of roll call data, since it can be expected that the measures passed by Voice Vote will have near unanimous acceptance by the voting members of Congress. However, it is important to note that in many other cases of measures and legislation with expectance of high rates of similarity in voting of all congress members, a Recorded Vote or Yea-and-Nay Vote may be demanded by any congress member. This can be for public relations reasons, as various congress members may see it desirable to have their (or their political opponents') vote on an individual measure recorded and released to the general public through the Office of the Clerk. It can also be for inner-political reasons due to the competitiveness of party politics in both major parties in the U.S. Congress. The Voice Vote therefore does filter much of the voting from on non-controversial issues out of the database of roll call votes, however, there will still be many votes with high bi-partisan acceptance/refusal rates in the database of the roll call votes (Congressional Research Service, 2023a).

The Recorded and Yea-and-Nay voting procedures are very similar to each other, with the most significant difference being the quorum of congress members need to force the specific voting procedure. In both cases, the votes of the voting congress members are being cast via an electronic system and accounted for by the Office of the Clerk (and consequentially released to the public). In the case of the Yea-and-Nay Vote, the "Desire of one fifth of those present” is required to vote on a given procedure via Yeas and Nays. It does not matter if the quorum of the chamber is present or not (Congressional Research Service, 2023a). On the contrary, a "Recorded Vote" also requires a proportion of the congress members to agree with the requested voting procedure, however, in this case it's one-fifth of a quorum which is

required for the "Recorded Vote to take place. Since the outcome of both voting procedures is very similar - voting takes place via an electronic device and is accounted for by the Office of the Clerk - it's more common that Yeas-and-Nays are demanded in the House due to the smaller portion of congress members required to proceed with the voting procedure (Congressional Research Service, 2023a).

Given the circumstances, this study is conducted using available accounted for data, i.e., resulting from "recorded" and "Yea-and-Nay" votes. Since conducting a network analysis with large amounts of input data is best done via analytical computing programs, a machine-readable dataset in a csv. or similar format is desirable to ensure the most comprehensive results. Besides the Office of the Clerk and the U.S. Congress itself, there are a few research projects continuously analyzing the available data from voting in the U.S. Congress. Most notably, these research projects include "GovTrack.us" run by the organization Civic Impulse, LLC. and the "Voteview" project led by Jefferey B. Lewis, professor of political science at the University of California Los Angeles. The "Voteview" project is specifically developed for purposes of academical and journalistic researches and analyses such as this which leads to the high quality and compilation of voting data of the U.S. Congress provided by the project's website. Therefore, this analysis uses the data provided by Lewis et. al. (2023) and contributes to their work.

The datasets provided by Lewis et. al. used in this study include data on all "votes" in the selected timeframe (117th Congress) with the accounted voting of each voting member on each measure and this dataset will be the foundation for the future edge lists necessary for a network analysis. Additionally, the "members" dataset provides personal data on all members of the Congress in the selected timeframe and the data from this dataset will be the foundation for the future node list in this network analysis. Most importantly, the "members" dataset links with the "votes" dataset via the unique id numbers of each congress member (called "icpsr" numbers) used for recording voting on the chambers' floor. Finally, a third dataset from Lewis

et. al. provides to show relevant supporting information - the "roll calls" dataset links the roll call numbers in the "votes" dataset with the specific measures and legislation voted on the chambers' floor. Crucially, in the datasets on voting in the U.S. Congress provided by Lewis et. al., there is an artificial roll call number developed by the researchers which doesn't correspond with the official roll call number recorded by the Office of the Clerk. This is for the reason that the official "Clerk" roll call number renews after the conclusion of each session of the given chamber. Some analyses (including this) aim to analyze more sessions of a congressional chamber at once, which would result in duplicates in the official roll call numbers. Since this study analyzes the whole term of the 117th Congress, i.e., the whole two-year mandate, and since one session of a congressional chamber typically runs from beginning to the end of a calendar year, it would be the case in this study as well. Lewis et. al. solves this issue by creating an unofficial roll call number used for research purposes precisely linked to the official clerk roll call numbers provided by the congressional databases.

The first step of the data selection process must be to develop an attribute to separate Progressive Caucus (CPC) members from the remained of the Congress. Since this study does not aim to analyze the voting of the CPC members with the Republican Party (GOP) members, all voting of GOP members is filtered out. This way, only Democratic Party (DEM) members and their voting remain in the datasets. Next step is the creation of the attribute whether a DEM House member is also a member of the CPC or not. This is where the analysis becomes difficult as there are no great records on past membership of congressional caucuses. While they are formalized in the House of Representatives (contrary to the Senate), have formal structures and funding, there are no guidelines for recording who is (or was) to be considered a member of a congressional caucus and who isn't (wasn't). The CPC keeps transparent records on who it considers to be a caucus member at present time, however, since this analysis is conducted after the term of the 117th Congress, it is needed to resort to the internet archival program "Wayback machine" to receive the past membership of the CPC. The official website of the CPC archived in the "Wayback machine" program sufficiently provides the CPC membership list in

the 117th Congress (Progressive Caucus, 2021). Additionally, it provides information on who is not considered to be a CPC member in the 118th Congress, after crosschecking with the CPC membership list of the ensuing U.S. House (Progressive Caucus, 2023). This manual analysis is necessary due to the lack of official records on CPC membership and the absence of caucus membership data in official datasets on voting the Congress.

All this results in the creation of an attribute named "party_CPC" where the following applies:

- "0" symbols all DEM party members who during the creation of this analysis are NOT CPC members at any time (e.g., rep. Terri Sewell [AL-7]).
- "1" symbols all DEM party members who during the creation of this analysis are CPC members at all times (e.g., rep. Raúl Grijalva [AZ-3]). There were 82 such congress members in the 117th Congress.
- "2" symbols all DEM party members who are CPC members in the 117th Congress but for various reasons are not reelected to the 118th Congress (e.g., rep. Karen Bass [CA-37]). There were 13 such congress members in the 117th Congress.
- "3" symbols all DEM party members who are CPC members in the 117th Congress but are not after the end of its term even though they continue to be congress members (e.g., rep. Hakeem Jeffries [NY-8]). There were 4 such congress members in the 117th Congress.
- "4" symbols rep. Nancy Pelosi (CA-12), The Speaker of the House in the 117th Congress and the co-founder of the CPC who resigned on her CPC membership in 2003 (Debrusk, 2018).
- "5" symbols all DEM party members who weren't members of the CPC in 117th Congress according to available data but became CPC members after the 117th Congress' term (rep. Kweisi Mfume [MD-7] and rep. Danny Davis [IL-7]).

This configuration of data allows the study to go beyond the publicly available data provided by the Office of the Clerk and analyze the voting behavior of the progressive caucus members. Surely the most relevant groups to analyze are the relationships between the "non-CPC members" ("0") and the CPC members of the 117th Congress (labels "1", "2", "3"), which represent the overwhelming majority of the Democratic Party congress members in the 117th Congress. In total, this study includes the data of voting of 232 Democratic Party members, of whom 99 were CPC members during the 117th Congress and who were accordingly labeled as such in the datasets.

The second step which was necessary for the filtration of the data was to select the legislation that fit the criteria of foreign policy issues, which is the aim of this analysis of CPC members' voting. In order to have an understanding of the data, it is important to describe the type of legislation being voted on in the U.S. House. The two basic types of legislation which are voted on in the House are bills and resolutions. Bills, officially styled with prefixes H.R. (if originating in the U.S. House), form the vast majority of legislative proposals in the U.S. Congress and they address all areas of policy making, both domestic and foreign policy issues as well as the appropriation of funds to federal programs, approving the budget for the fiscal year and many more (United States Senate, n.d.). "Bills" are legally binding, must be passed in the same form by both chambers of Congress and are subject to the signature (and potential veto) of the POTUS. The bills are similar to "Join Resolutions" styled as H.J.Res. if originating from the House. Join resolutions are used for specific issues such as adjustments of debt limits, transfers of appropriations or declarations of war. They however have the same effect as bills as they must be passed by both chambers and signed by the President to become legally binding laws (Congressional Research Service, 2020).

The non-legally binding resolutions are of two types. "Simple Resolutions" (styled as H.Res. if originated in the House) concern the internal affairs of one chamber. They typically express the sentiment of the concerned chamber on a political issue, or internally regulate the given chambers proceedings, but are not subject to approval by the President or the other chamber. Similarly, a given chamber can also use the "Concurrent Resolution" measure, in this case to regulate internal affairs of the two congressional chambers. Styled as "H.Con.Res." if originated in the House, Concurrent Resolutions are also not subject to the passage of the other chamber as well as the signature of the POTUS as they have the same legal impact as Simple Resolutions. Nevertheless, both Simple and Concurring Resolutions have significance in policy making processes as a mere statement of the given chambers' conscience on the topic in question can lead to pressure on other stakeholders and policy makers which have power in the matter of question. Additionally, the "Sense of the House/Senate" resolutions can be significant moral boosts for the people affected by the non-binding resolutions. Overall, all four types of legislative measures have significance in the policy making process (Congressional Research Service, 2020).

As listed above, there are 4 basic types of legislation being voted on in the U.S. Congress, typically separated into binding *bills* (H.R. and H.J.Res.) and non-binding *resolutions* (H. Res., H. Con. Res.). Since all four have, albeit varying, impact on the policy making process, all types of legislative measures voted on in the House are considered in this study. Additionally, it was important to establish criteria of which roll calls will be analyzed due to the broad nature of policy making in the U.S. Congress and the implications of domestic policy decisions on the global political landscape. As the first criterium, the roll call data includes roll calls labeled by the Office of the Clerk and the official website of the U.S. Congress as "international affairs" matters specifically in the "Subject-Policy Area" filter of all roll call data. This initial filtration resulted in the selection of 65 roll call vote on 54 pieces of legislation.

The second phase of the data filtration and selection process focused on a limited amount of legislation not included under the "international affairs" label of the congressional databases. A number of bills and resolutions were hand-picked and included in the database due to their significance or obvious alignment with the desired goal of analyzing roll calls on voting on foreign policy matters. These hand-picked examples of legislation weren't included in the "international affairs", presumably due to the fact that they heavily impacted other areas of policy making. Most notably, the selected additional legislation impacted appropriation and budget distribution and, presumably, this is the reason for the different labelling of the additional legislation added to this study as voting on foreign policy matters. Examples of the additional legislative matters added to this study were the appropriations acts affecting both the fiscal budget of the Department of Defense and the Department of State (e.g., H.R. 2471) The National Defense Authorization Acts (H.R.4350 and H.R. 7900), and a number of bills reacting to the Russian invasion of Ukraine leading to cutting economic ties with Russia and Belarus. As a result, an additional 22 legislative matters were added to the analyzed datasets, including an additional 105 roll calls. In total, 170 roll call votes on 76 different legislative proposals and motions were analyzed by this study.

3. Data analysis and network projection

3.1. Gephi

Gephi is an open-source software tool that allows users to import, manipulate, and visualize networks. It is designed for analyzing and understanding the structure of any type of networks, including social networks, biological networks, transportation networks and is a valuable tool for network analysis in political science as well. One of the key features of Gephi is its ability to import data in various formats, such as GraphML, GEXF, GDF, and CSV. Once the data is imported, users can manipulate and explore the network using various tools and algorithms. Additionally, the network layout function is a critical feature in Gephi that provides various algorithms for laying out networks in two or three dimensions. These algorithms include ForceAtlas2, Fruchterman-Reingold, and Yifan Hu. The choice of layout algorithm will depend on the size and complexity of the network, as well as the user's visualization goals. In social studies, arguably the most popular algorithm layout is ForceAtlas2, and this study also contributes to the usage of this algorithm in network analysis in political science (Bastian et. al., 2009).

In addition to layout, Gephi provides tools for node and edge manipulation. Users can modify the properties of nodes and edges, such as size, color, and label, as well as filter and group them based on various criteria. For example, users can filter out nodes with low degree centrality or group nodes based on their community structure. Gephi also offers various network analysis metrics, such as degree centrality, betweenness centrality, and clustering coefficient. These metrics can provide insights into the structural properties of the network and help identify important nodes or edges. The Gephi program is commonly used in political studies is the analysis of political networks, such as the network of political parties in the European Parliament or the network of lobbyists in the US Congress. By visualizing and analyzing these networks, researchers can identify key actors and relationships, and gain

insights into decision-making processes (Bastian et. al., 2009). The Gephi program is overall a powerful and flexible tool for analyzing and visualizing networks. Its features make it a popular choice for researchers and analysts working with network data in various domains and this study also uses Gephi for the network visualization including much of the data analysis.

3.2. Network aggregation, bi-modal and one-mode networks

The amended "members" database with the added attribute "CPC_party" indicating the given congress members' status on CPC membership serves as the final node list which will be used during the analysis. In the "members" database, the study preserves the following attributes:

- "icpsr" (renamed "id" in the datasets for computing reasons) which is the unique code of each congress member in the database of the Office of the Clerk,
- "party_CPC", the newly developed attribute reflecting CPC membership,
- "bioname", indicating the real names of each congress member,
- "district_code" and "state_abbrev", indicating the state and the congressional district of each congress member

Finally, another attribute must be introduced to ensure the correct proceedings of the network analysis. This attribute is named "type", where each congress member will be "type" 1 in their database and the "roll call" number (from the "votes" dataset) will consequentially be type two. For the initial phase of network analysis, it is important to treat the "roll calls" as a second "type" of nodes as the connection is being made between the type 1 nodes (congress members) and type 2 nodes (roll calls). The connection between the two types of nodes in each individual case which will be studied in detail will be the vote cast by each individual congress member. This is the essence of this network analysis. The node list will therefore include type 1 and type 2 nodes (under the "id" column) as the aggregation from a currently bi-modal to a one-mode network proceeds.

Before proceeding, the creation of edge lists must take place. The edge lists need to contain two basic attributes in order to create a network: source (node) and a target (node). The sources in this case will be type 1 nodes, i.e., the congress members analyzed by this study. The targets will be the type 2 nodes, i.e., the roll calls analyzed by this study. The connections between the two node types are done via voting and since there are technically four options on how to record a vote on each legislation, there will be four different edge lists created. To explain, technically there are four options on how to register a congress member's vote on each legislation - a congress member may vote "YEA" to agree with the motion, "NAY" to disagree, however, they can also vote "PRESENT" or record their vote as "NOT VOTING/ABSTEINED". However, the options "PRESENT" and "NOT VOTING/ABSTEINED" are not commonly used in the U.S. Congress in the sense of expressing a political position. This may be due to the bipartisan behavior of voting in the U.S. Congress where very strong party unity applies for voting across the chamber. In the selected roll calls analyzed by this study, there is only about 1% of unique votes cast as "PRESENT" or "NOT VOTING/ABSEINED" and the majority of congress members don't cast a vote in this matter at all in none of the analyzed roll call votes. Therefore, this study does not use the votes cast as "PRESENT" or "NOT VOTING/ABSTEINED" in the network analysis, as it may result in misleading conclusions, and it would have minimal impact on the strength of connections between the selected and analyzed congress members. This results in the sole analysis of the "YEA" and "NAY" cast votes on the selected roll calls and the connections between congress members will be analyzed based on these two types of voting.

In the network analysis procedure, it is important to create edge lists which will lead to the projection of voting by the congress members. It is necessary to create two edge lists, where in one the connections between "members" and "roll calls" will be via voting type "YEA" and the same will happen for the voting type "NAY". Both lists will have the attributes "source" and "target" and will be separately uploaded to the "Gephi" analyzing program with the node list containing the specific information about the analyzed congress members. An important statistical calculation must take place at this stage, and that is the calculating the "degree" of

each node. It can be done manually, but the "Gephi" program can support this with its built-in functions. The degree measures how many times each analyzed "member" cast a vote of the given vote type - in this study, this will mean how many total "YEAS" and "NAYS" has a "member" cast in the selected roll calls. The "degree" statistic is a key variable used in the formula which counts the similarity (of voting) between the two selected nodes (members). More on this below.

The next key step is the conversion of the network from the current bi-modal network to a one mode network where only the "members" nodes remain. This is done via the aggregating tools of the "Gephi" program which deletes the selected type of nodes while preserving the connections created by bi-modal network. The same is done for both the "YEA" and "NAY" bi-modal networks. This creates lists of connections between all analyzed "members" who voted "YEA" and "NAY" and eliminates to need for the "type 2" nodes - the actual "roll calls". Now, for the two formerly bi-modal networks for "YEA" and "NAY" and the connections created between the members also include the "degree" data of each node ("member").

Finally, the "weight" statistic must also be calculated in all, including the initial bi-modal networks. The weight in the networks indicate how many times has a node ("member") been connected to the another given node. In the bi-modal networks, the weight of all "members" nodes will be 1, since they can only cast 1 vote in each roll call, thus creating only one unique *connection* with the node. In the transposed one mode networks, the "weight" number will now mean how many times has "member A" connected (via presently deleted roll call node X1) with "member B". The weight number, i.e., how many times each pair of "members" voted with each other (in both "YEA" and "NAY" networks) will be a key element for the final integral step of the network construction - the calculation of the "Jaccard index".

The Jaccard index, or *Jaccard similarity coefficient* is the last key attribute needed for the construction of the final one mode network reflecting the members' voting similarity of the selected roll call votes. This index defines the final "weight" (or strength of connection) between a given pair of congress members. It equals the size of the intersection of the sets of matching votes of these actors/congress members (sum of the number of cast vote-types for the two "members"). In this study, the intersection of the matching votes is between "member A" and "member B". This is followed by subtracting by the weight value of the connection in the network in question and finally divided by the weight of the connection of the two nodes ("members"). In this study the "weight" number is the number of total votes of the two "members" in the network in question. The size of the Index is always between 0 (zero matching votes) and 1 (100% matching votes). The index equation is as follows: *I=Xab/Xa+Xb-Xab* (Leydesdorff, 2008).

The index must be done for all "members" pairings in both "YEA" and "NAY" one mode networks. The final index of similarity value giving the final weight of each connection of members pairings will then be the average of the two index numbers for every pairing in the network. This results in the final edge list where each member pairing consists of one node ("member A") being the "source", one node ("member B") being the "target" and the weight of the connection based on the calculation of the Jaccard index from both "YEA" and "NAY" roll call datasets.

3.3. Network projection

After completing all steps in the aggregation of the selected data, this study can convincingly proceed to the network projection faze. This study will mainly focus on discussing the network visualization based on three essential partition attributes:

1. The CPC membership status based on the methodology outlined above.
2. The "modularity" index, which based on the Louvain algorithm calculates communities within a network.
3. The "betweenness centrality" coefficient, which calculates the centrality (and importance) of nodes in each network.

The modularity index mathematically derives how many subgroups are in each network, and which specific nodes ("members") are included in every calculated subgroup. The method of calculating the network modularity index is commonly used in statistical analysis and is described in detail by Mark Newman (2006, pp. 8577-8582). The two partition attributes will offer the desired results outlined as the goals of this study. On the other hand, the "betweenness centrality" coefficient analyzes nodes in a network by calculating how many nodes rely on any given node to be connected to the remainder of the network (Brandes, 2001). More on this on pages 60-64.

In the network projection phase, it is important to find a threshold/attribute which will separate and filter the weak connections between member-pairings from the network. The solution for this question lays in the weight (strength) of the edges (connection). In the network of the selected congress members, the connections will unquestionably be strong between all of the analyzed congress members, however, the aim of this study is *how* strong the connections actually are. To answer this question, averaging the total weight of all connections

between every existing node ("member") pairing. The average index of similarity of the whole network will then be the threshold at which extensive analysis will focus on.

It is possible to calculate many more attributes in the "Gephi" computing program with such networks. For further analysis, the degree levels of the network in different partition phases may be very interesting, including the centrality of individual nodes identifying important nodes in the network. This will be specifically observed in the cases of rep. Pramila Jayapal and rep. Ilhan Omar, the chair and vice-chair of the CPC in the 117th Congress. Additionally, it's possible to evaluate other distance attributes, such as closeness centrality (measuring how close a node is to all other nodes in a network), network average path length (of one node/member to another node/member) or also the network density, indicating the overall connectedness of the network. The are other attributes applicable for in-depth analysis in various partition phases of the network including other unique attributes of the nodes ("members") such as state, gender or any other, however, for the purposes of this study, the above listed statistical calculations and node attributes will be sufficient for comprehensive evaluation of the results.

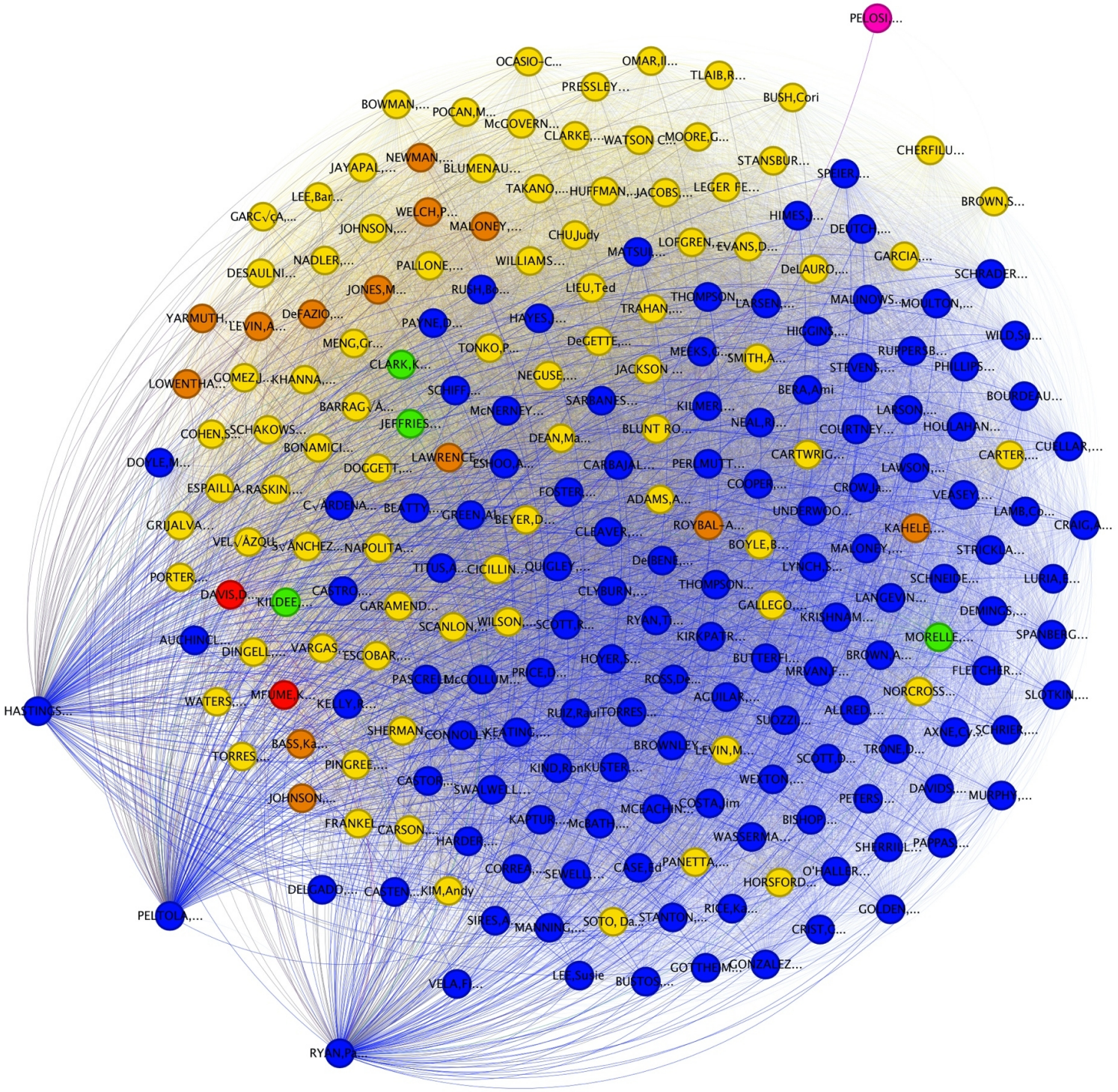
4. Analysis results and discussion

The application of the data and network analysis steps enlisted in sections above result in the creation of a one mode network where the focus is on the strength of the connections between unique pairings of Democratic Party congress members in the 117th Congress, specifically in voting on foreign policy matters and legislation. While the discussion of results is not limited to it, this study primarily focuses on confirming the following hypotheses in the projections and network analysis:

1. **Hypothesis 1: The CPC will show a high connectedness on voting on foreign policy topics, due to the ideological nature of the Caucus supporting "progressive" policy making. (H1)**
2. **Hypothesis 2: Hypothesis 1 leads to the presumption that there won't be nearly any outstanding congress members who would be a part of the CPC but have a higher connectedness to the non-CPC group of congress members in the network. If there are, they would cease to be CPC members after the 117th Congress. (H2)**
3. **Hypothesis 3: The CPC network will show weaker connectedness to the remaining Democratic Party members which will demonstrate the ideological tendencies of the caucus and different opinions on foreign policy issues of the U.S. (H3)**
4. **Hypothesis 4: Rep. Pramila Jayapal (WA-7) as caucus chairperson will show strong ties to the vast majority of the members of the CPC network, effectively confirming her central position among the caucus. The same would apply to CPC vice-chair rep. Ilhan Omar (MN-5). (H4)**

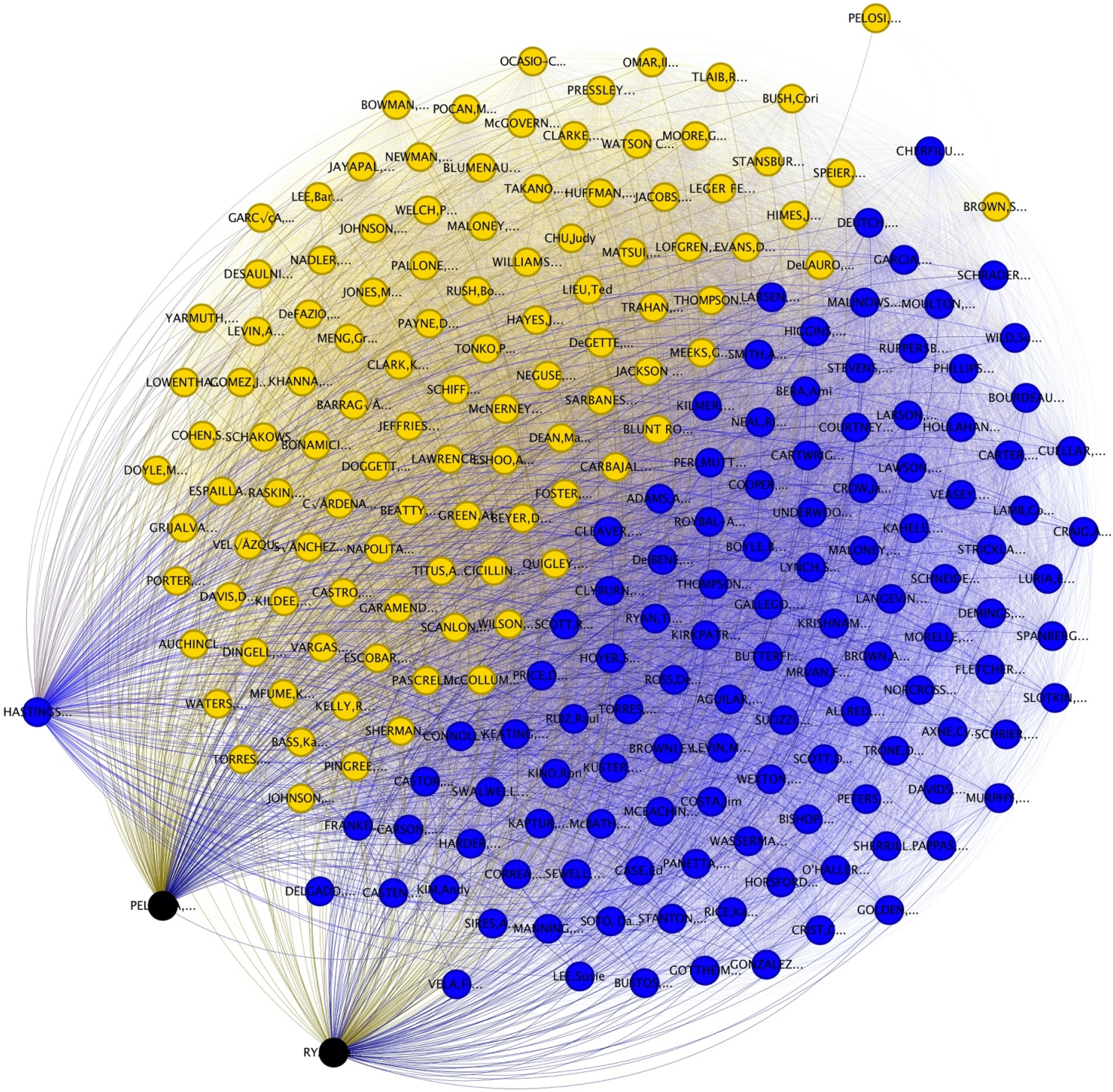
The first interpretable results appear in the network even before applying any statistical partition attributes such as edge weight and modularity. See Graph no. 1.

Graph no. 1: Network projection after applying the "party_CPC" node attribute. Legend: blue nodes: "0", yellow nodes: "1", orange nodes: "2", green nodes: "3", purple node: "4", red nodes: "5". Edges manually minimized to focus on node positions.



The network expectedly appears densely connected, which is in agreement with the average edge weight (or connectedness) of the network being above 71%. Nevertheless, the network is already clearly separated into two groups of nodes keeping together closely - the blue group of nodes symbolizing the congress members never to be part of the Congressional Progressive Caucus (CPC) in the selected timeframe, and the colored (mostly yellow) group of nodes who were members of the CPC in the analyzed roll call data (the purple and red nodes are special case studies, see attribute section in methodology, pp. 35). This shows that there appear to be two major coalitions of congress members from the Democratic Party in the 117th Congress in voting on foreign policy issues - CPC and non-CPC DEM congress members. There are outstanding nodes in both large groupings of the network - individual blue nodes appearing closely connected to the colored side of the network, and individual colored nodes appearing in the blue side of the network. To confirm this observation, the modularity statistical algorithm (statistical calculation of communities) is applied at this stage. See Graph no. 2.

Graph no. 2: Network projection after applying the "modularity_class" node attribute.

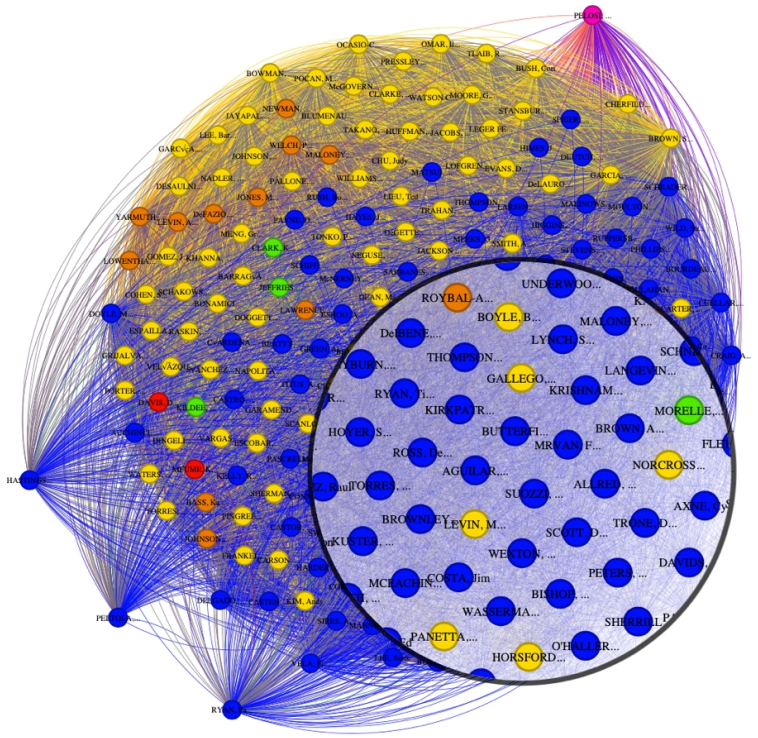


The application of the modularity algorithm confirms observation made before its application - that being, that there are two dominant groups of nodes in the network, which clearly have closer connections to each other than to with the nodes from the opposing community of nodes. There is a third community created by the algorithm which includes the congress members Mary Peltola (AK-1) and Patrick Ryan (NY-19). This community however doesn't seem to have analytical relevance due to the fact that both congress members were elected to the 117th Congress in special elections in 2022 and didn't take part in voting on many of the selected roll calls, thus not being able to create strong connections to the network yet. The other nodes appearing to have lesser connections to the network include Shontel Brown (OH-11), Alcee Hastings (FL-20), Sheila Cherfilus-McCormick (FL-20) and Nancy Pelosi (CA-12). Brown and Cherfilus-McCormick were also elected to the 117th Congress in special elections, Cherfilus-McCormick to the vacated seat caused by the death of rep. Hastings therefore all the above congress members don't show strong connections to the network, thus rendering the analysis of their community participation of insufficient.

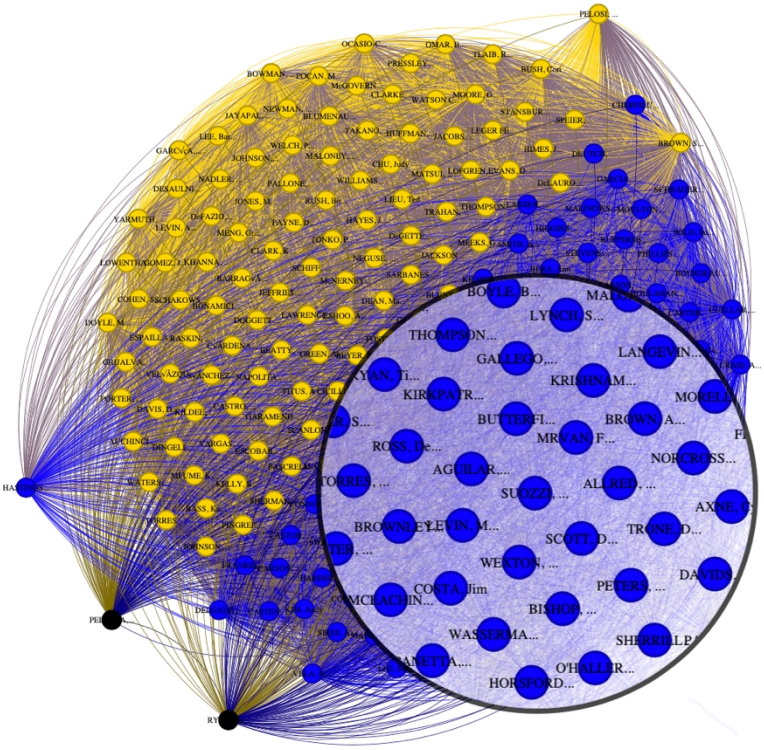
Nancy Pelosi as Speaker of the House separates herself from the network for other reasons. Her lack of connectivity to the network caused by low voting cohesiveness with the party is likely the result of her Constitutional position as Speaker of the House. The Speaker of the House traditionally abstains from voting unless their vote isn't crucial for the passage of the proposed motion. This is because the Speaker is a partisan position and traditionally does not vote in most situations to avoid appearing biased or influencing the outcome of the vote. While the Speaker has the right to vote in all roll call votes like any other member of the House, they do not typically vote on every occasion (Oleszek et. al., 2015). This network construction confirms that this practice was true during the 117th Congress as well.

The two communities created by the modularity calculation mostly copy the attribute created to the belonging to the Congressional Progressive Caucus. Besides the individual cases above, there are outstanding cases in both modularity communities where a congress member is part of the statistical community (thus having close voting connections to the remained of the community), however, their official alignment to the CPC is different than their actual voting shows. There are in total 18 cases of CPC members (those receiving the "party_CPC" label either "1", "2", or "3") who vote more often with non-CPC members on foreign policy issues. Total 15 CPC members in this modularity class are from the "party_CPC" grouping "1" including rep. Ruben Gallego (AZ-7) or Donald Norcross (NJ-1), 2 CPC members ("party_CPC" grouping "2") leave the Congress after the end of its term (reps. Lucille Roybal-Allard (CA-40) and Kaialiʻi Kahele (HI-2)) and 1 CPC member is included in the "party_CPC" grouping "3" indicating that they didn't continue their CPC membership after the 117th Congress (rep. Joseph Morelle (NY-25). This results in the remaining 80 CPC ("party_CPC" labels "1", 2" and "3") members in the 117th Congress creating a statistically cohesive community in voting on foreign policy issues. The vast majority of the group - nearly 82% of all CPC members - creates a concise voting body even before the removal of weaker edges from the network. Compare a selection of outstanding congress members in Graphs 1.2. and 2.2.

Graph no. 1.2: Selection of nodes - network projection after applying the "party_CPC" node attribute.



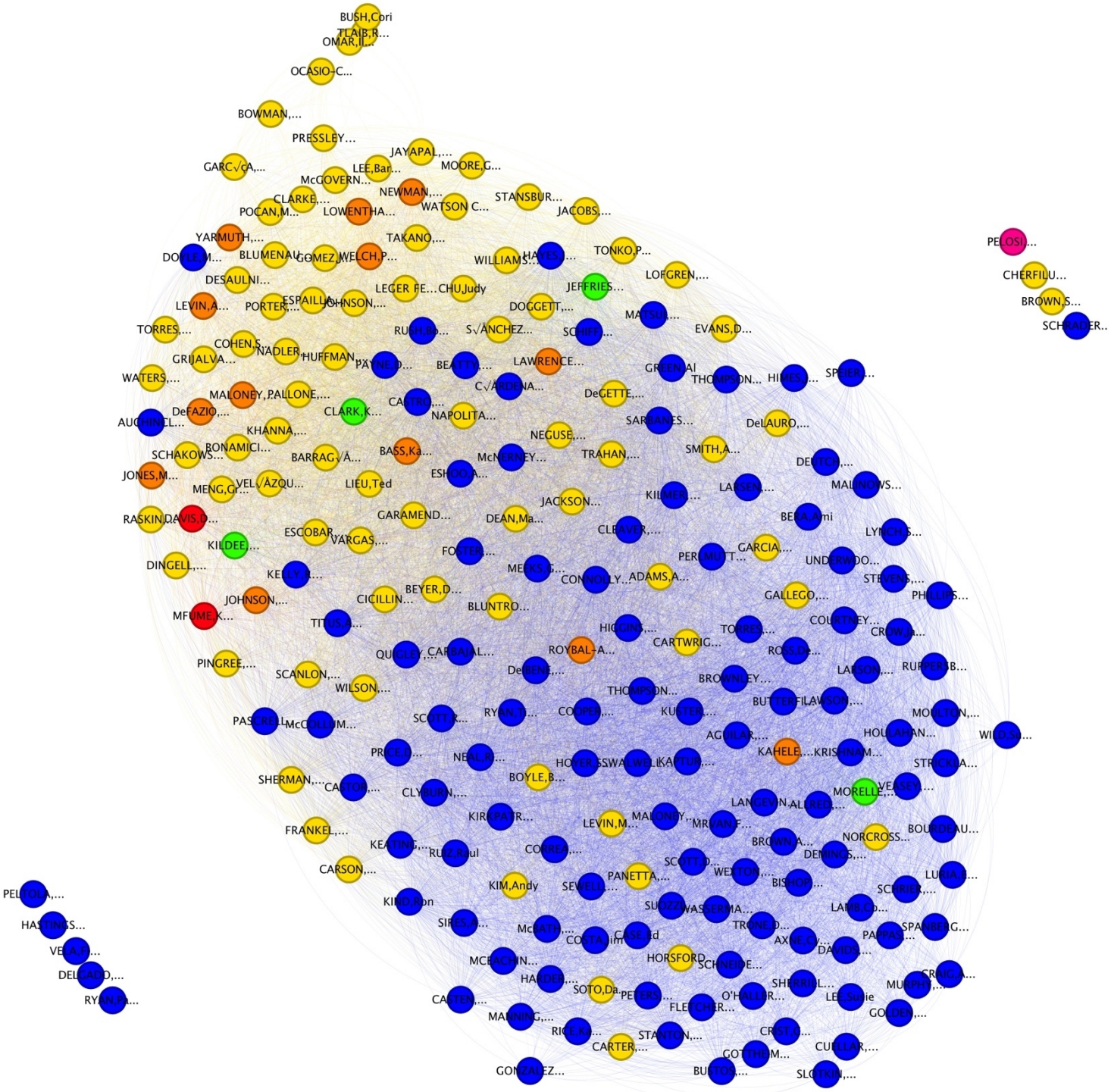
Graph no. 2.2: Selection of nodes - network projection after applying the "modularity_class" node attribute.



Conversely, in voting on foreign policy legislation, there are 25 non-CPC Democratic Party members who belong to the statistical community (modularity class) where the CPC members form the majority of congress members. These members include rep. Adam Schiff (CA-28), Jake Auchincloss (MA-4), and, perhaps unsurprisingly, reps. Kweisi Mfume (MD-7) and Danny Davis (IL-7), both of whom become CPC members after the 117th Congress. The percentage groups of the cohesively voting non-CPC DEM party members is again nearly at 80% (precisely at 78.6%). It will be interesting to compare the modularity class results after deleting below average edge weights from the network, nevertheless, it is already obvious that the CPC forms a strong body of congress members who vote cohesively in the 117th U.S. House - specifically on foreign policy issues. Therefore, the initial network layout already appears to confirm Hypothesis 1 and 3 and this observation is subsequently verified by the modularity algorithm of communities in networks.

In the next step, the average edge weight filter is applied, meaning that all below network average connections between "members" are filtered out of the dataset. The filter of the average weight of the network, which is 0.712524243 (or 71.25% network connectedness) is first applied to the network based on the CPC membership attribute. See Graph no. 3.

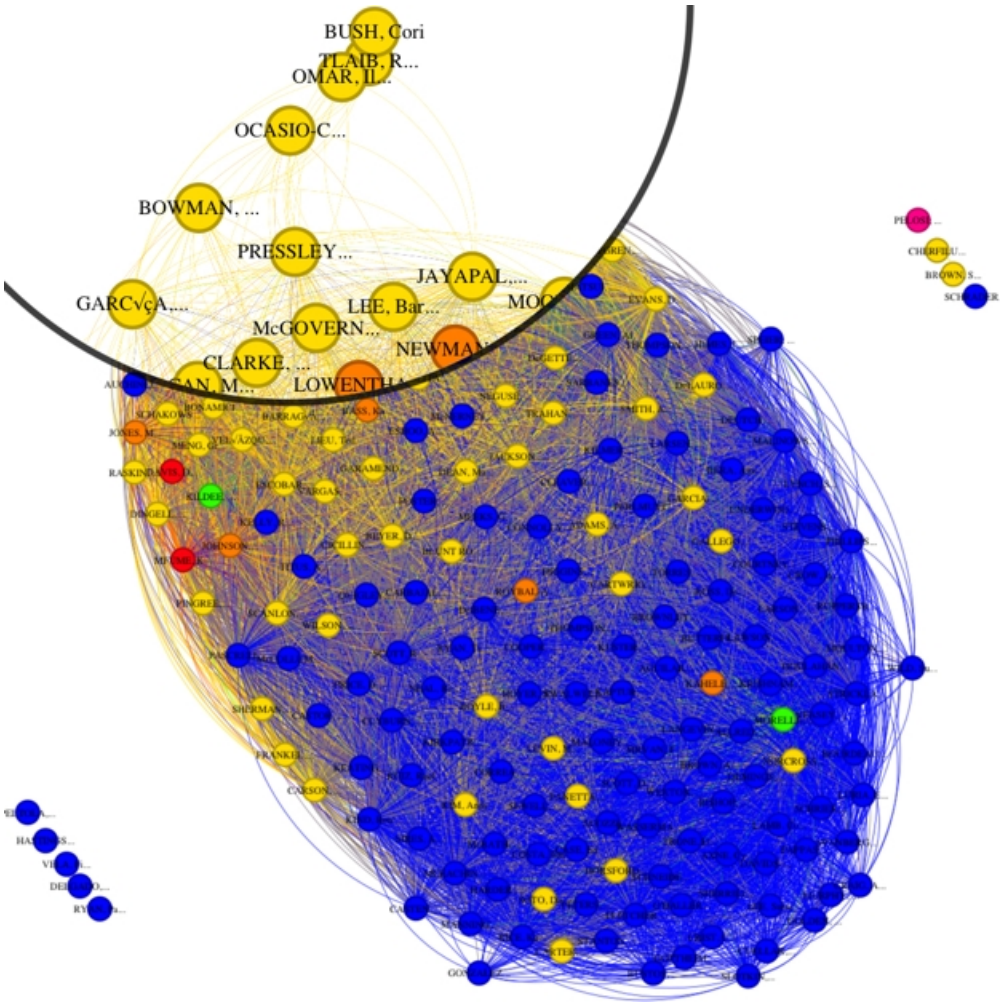
Graph no. 3: Network projection after applying the "party_CPC" node attribute and the average edge weight.



The network further breaks down into the groupings visible in the initial network projection before the application of the average edge weight filter. There are a few observations possible to be made on first sight. First, the weakly connected congress members disconnect from the network completely. Besides the six congress members (Peltola, Ryan, Brown, Hastings, Cherfilus-McCormick, Pelosi) who were already showing signs of weak connectedness to the network in Graphs no. 1 and 2 before the application of the edge weight filter, there are three more "member" nodes who join the six mentioned “members” in disconnecting from the network of the remainder DEM congress members. They are reps. Kurt Schrader (OR-5), Filemon Vela (TX-34) and Antonio Delgado (NY-19). Vela and Delgado's disconnection from the network is likely due to their early resignation from their congressional seats, thus not participating in a portion of the analyzed data. The only outstanding congress member disconnected from the network is rep. Schrader, a conservative "blue dog" Democrat (both figuratively and literally due to his membership status in the "Blue Dog Coalition" congressional caucus encompassing conservative leaning members of House Democrats) who remains a member of the 117th Congress until its term end. Otherwise, the two detected communities - "blue" and "colored" in the "party_CPC" attribute application - remain to appear intact, in fact appearing to separate from each other even more. This will be verified with the re-calculation and the following application of the modularity algorithm for community detection.

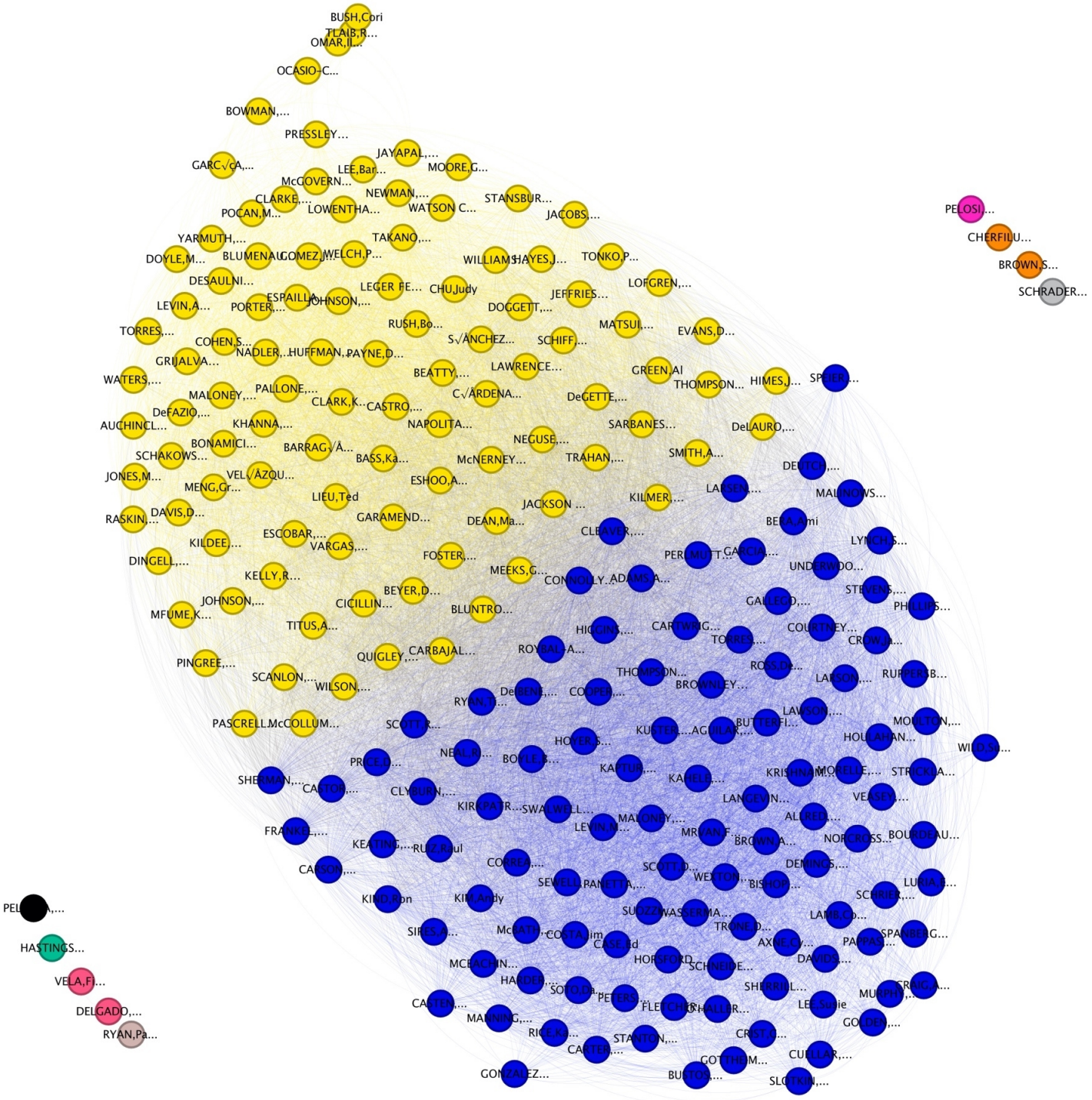
Additionally, there is one more outstanding group of congress members appearing to show different voting behavior then the rest of the CPC and the network. See Graph 3.1.

Graph no. 3.1: Selection of nodes - network projection after applying the "party_CPC" node attribute and the average edge weight.



As it's pointed out in the Graph 3.1 above, there appears to be a small number of CPC congress members separating itself from the majority of the community. Specifically, the congress members Cori Bush (MO-1), Rashida Tlaib (MI-13), Ilhan Omar (MN-5) or Alexandria Ocasio-Cortez (NY-14) are showing voting behavior potentially leading towards separating from the rest of the "colored" grouping. The application of the modularity algorithm will objectively conclude whether they form a statistical voting community or not. See Graph 4.

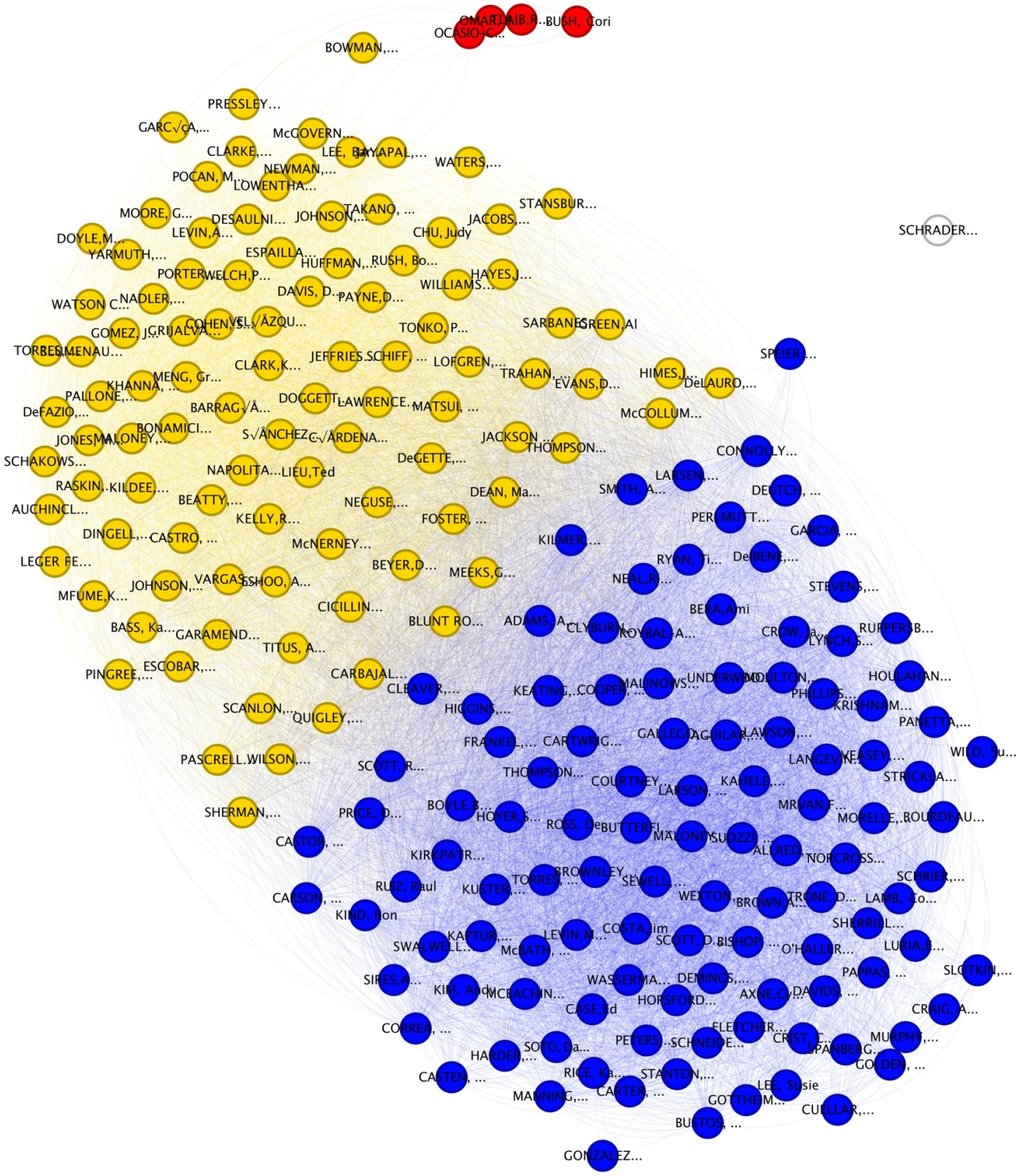
Graph no. 4: Network projection after applying the "modularity_class" node attribute and the average edge weight.



The modularity algorithm detects 9 communities within the network with removing the below-network average edges between the nodes/members, however, only two communities are analytically relevant - the blue community representing the majority of non-CPC Democratic Party members in the 117th House, and the yellow community representing the majority CPC members in the House. The remaining 7 communities represent the aforementioned nine congress members, of which seven did not serve the full 2-year congressional term (with rep. Schrader and Speaker of the House Pelosi being the exceptions). The modularity algorithm at this stage of network partition does not detect a community within the selected congress members highlighted in Graph 3.1. As it has been established that out of the nine disconnected congress members, eight have objective reasons for their lack of voting cohesiveness with the remainder of the Democratic Party which don't necessarily result from ideological differences in this network. Therefore, it is possible to delete the eight mentioned congress members to see whether the community detection changes.

The new average edge weight, i.e., the average strength of voting similarity between the Democratic Party members on foreign policy issues, is now increased to 0.7463659 (74.63%), which is likely more representative to the actual average of voting similarity of the party than when the eight less-relevant members are included in the formula. Next, it is possible to run the modularity algorithm on the network again to detect whether the distribution of communities in the studied sample of roll calls change. See results of the community detection in this modified network of Democratic Party members in Graph no. 5.

Graph no. 5: Network projection after applying the "modularity_class" node attribute and the new average edge weight of the network following the removal of eight congress members with low roll call participation.

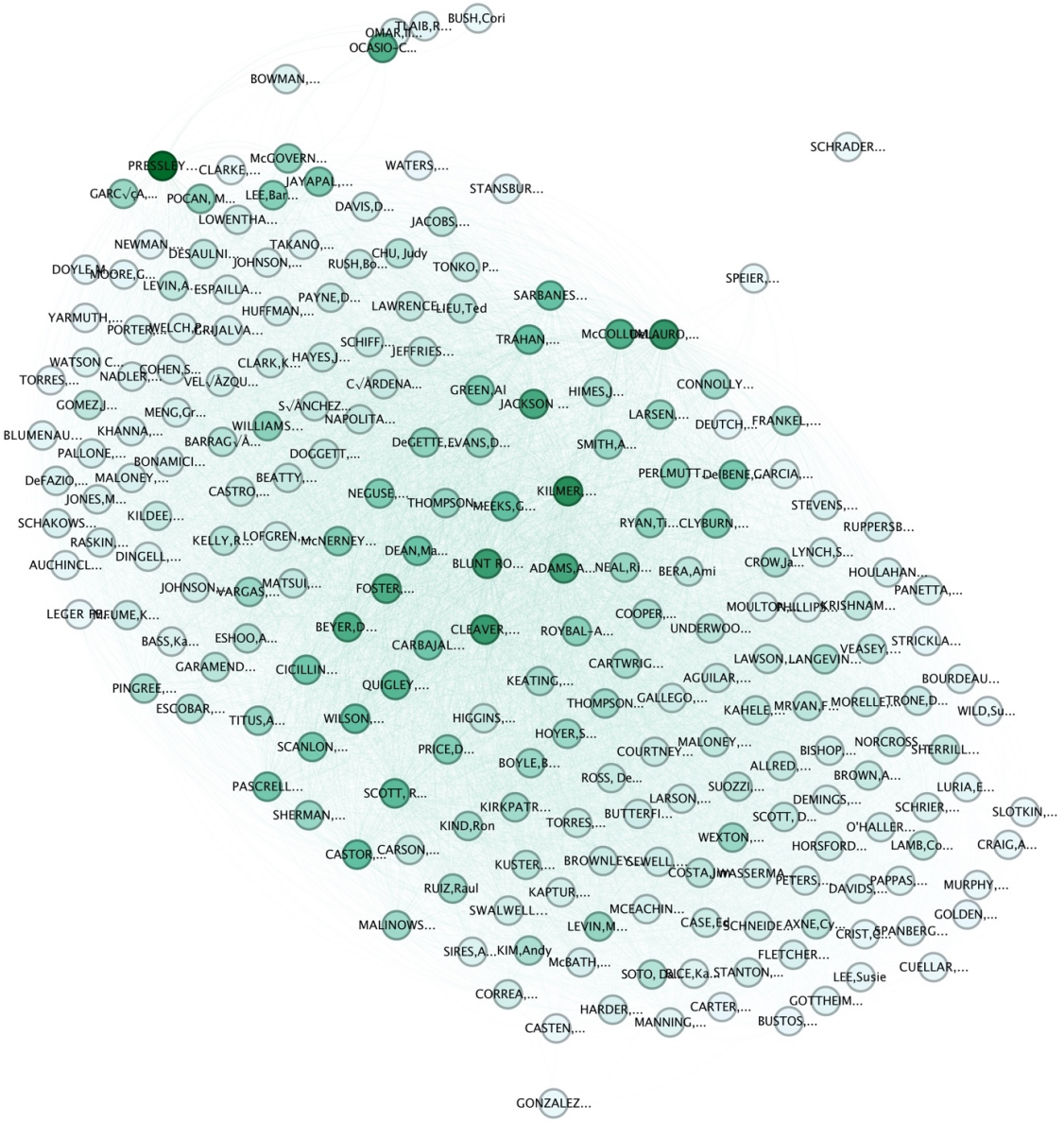


After deleting the eight congress members with low roll call participation (seven congress members not serving the full 2-year term and one Speaker of the House traditionally withholding from voting until necessary) and applying the new average network edge weight filter, the modularity algorithm detects a new community within the network and confirms the initial observation. Reps. Bush, Omar, Tlaib and Ocasio-Cortez (also known by her initials AOC) form a new (colored red) community and detach themselves from the rest of the CPC members in this calculation. This mathematical calculation confirms that there are differences between the CPC and the 4 congress members forming the red community. They all belong to the new wave of progressive democrats elected to the House in recent years - Omar, Tlaib and AOC were elected in the 2018 general elections following the wave of progressive policy interest after the Bernie Sanders presidential campaign, whereas Bush was elected in the 2020 general election following her rise to fame during the Black Lives Matter national protest movement. Omar, Tlaib and AOC, along with rep. Ayanna Pressley (MA-7) rose to media fame with rep. AOC's famous social media post labelling the four women as the "Squad" (Ocasio-Cortez, 2018). The name "Squad" was quickly adopted by the general public, specifically after the negative attention the post and the newly elected congress members received by conservative media (Ingraham, 2019). The modularity algorithm in this network confirms that specifically the three original members of the informal squad remain to be closely connected in voting on foreign policy issues in the 117th Congress.

Additionally, rep. Jamaal Bowman (NY-16) elected to Congress in the 2020 general elections, appears to be somewhat weakly connected to the yellow (majority CPC) community and to have moderately strong voting cohesiveness with the red community. However, to analyze whether rep. Bowman serves as a "bridge", or mediator between the red community and the remainder of the network, it necessary to run the betweenness centrality algorithm in the Gephi program first. Betweenness centrality is another popular attribute commonly used in network analysis. It measures the number of shortest paths between any two nodes in a network that pass through a given node. Nodes with high betweenness centrality act as bridges or connectors between different parts of the network and are important in facilitating

communication or information flow between different groups or communities (Brandes, 2001). Following the calculation of the betweenness centrality attribute for each node/member and applying it to the network layout, it will be possible to make conclusions which congress members serve as connectors within the whole network and whether rep. Bowman is one of the central figures in connecting the red community with the rest of the Democratic Party. See Graph no. 6.

Graph no. 6: Network projection after applying the " betweenness_centrality" node attribute and the new average edge weight of the network following the removal of eight congress members with low roll call participation.

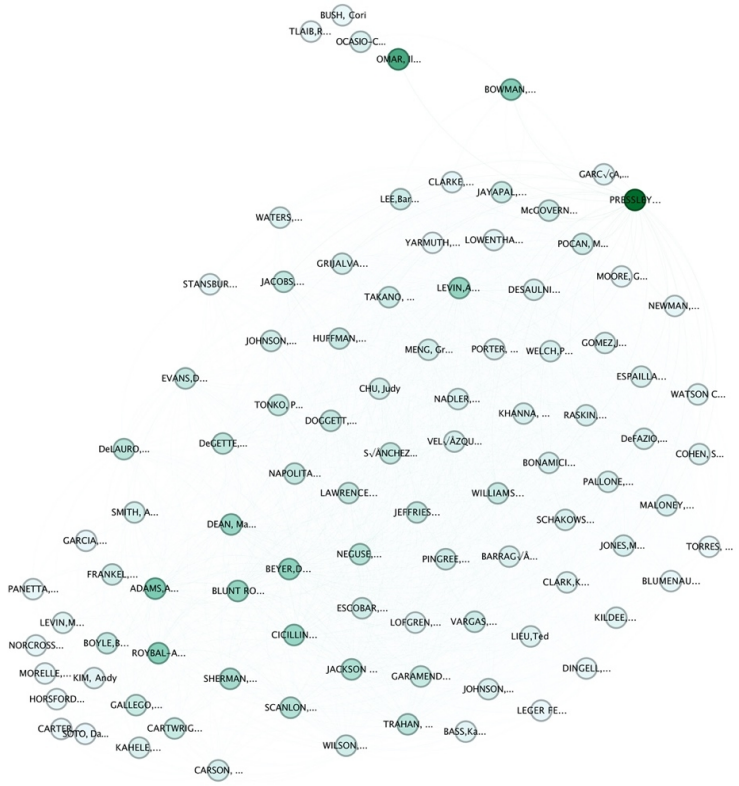


The Graph no. 6 confirms a number of issues important for this study, where dark green equals high betweenness centrality of the respective node and light green means low betweenness centrality of nodes. First and foremost, rep. Bowman does not appear to be central in connecting the representatives forming the red modularity community to the remainder of the network of the Democratic Party. His betweenness centrality is actually below average in the aggregated network (applying the average network edge weight filter) resulting in an 18 betweenness centrality coefficient. The network average of the coefficient is 63. On the contrary, there are two sections where the betweenness centrality coefficient is high. The first is approximately in the middle of the network where the CPC members and the non-CPC members meet. Most notably rep. Derek Klimer (WA-6, betweenness centrality 272) and rep. Rosa DeLauro (CT-3, betweenness centrality 251) are the key members of the network connecting the two sides of the network to each other.

The second area of high levels of the betweenness centrality coefficient is in the area of the separation of the red modularity community (or the "squad" community) with the remainder of the CPC community and the whole network. Unlike rep. Bowman, rep. Ayanna Pressley is key to the connectedness of the whole network with the highest betweenness centrality coefficient - 339. She serves as the central figure in connecting the red ("squad") community with the rest of the network while maintaining her voting alliance with the yellow (majority CPC) community. This observation confirms her minor shift public perception since her election to Congress. While she remains to be highly connected to the three congress members from the original "squad" photograph, unlike the other congress members she is closely connected to the remainder of the Democratic Party and specifically to the CPC members. Additionally, the case of rep. Ocasio-Cortez is also an important case study - after rep. Pressley, she shows the second highest betweenness centrality coefficient (199) among the CPC members with weaker connections to the non-CPC Democratic Party congress members. Her high connectedness to the network also indicates that her she has found political allies across the board in the Democratic Party, thus adding context to the public perception of her political positions using voting behavior in Congress as an indicator.

Finally, this study is interested in evaluating the centrality and importance of reps. Pramila Jayapal (WA-7), the CPC chairperson and Ilhan Omar (MN-5), the CPC vice-chair specifically within the CPC network of DEM congress members. The network projection of the whole Party with the average edge weight filter applied indicates that their betweenness centrality coefficient varies, where rep. Jayapal's coefficient is 135, i.e., above the network average of 63, however, rep. Omar's coefficient is only 15. To have conclusive evidence, it is important to calculate their betweenness centrality coefficient solely for a network of CPC members only. To proceed, it's necessary to remove all non-CPC nodes and preserve only those nodes labeled as CPC members in the 117th Congress (node attribute "party_CPC", labels "1", "2" and "3"). Additionally, the calculation of the average weight between the nodes/members must take place. The average weight in this network of CPC members is 0.77307089 (77.3%). This will be the partition attribute applied as the average edge weight filter of the network. See Graph no. 7 for results.

Graph no. 7: Network projection after applying the " betweenness_centrality" node attribute and the new average edge weight of the network following the removal of non-CPC congress members.



The network projected without non-CPC members doesn't change its structure by much and there are still three apparent communities - the formerly red community symbolizing four so-called "squad" congress members, the formerly yellow community symbolizing the majority of the CPC members and the formerly blue network symbolizing the majority non-CPC members, aided by the presence of a portion of more moderate CPC members. The moderate CPC members (having high connectedness to the non-CPC DEM party members) now appear at the bottom left corner of Graph no. 7. However, what is important for this study is the betweenness centrality coefficient for the CPC members of this network. The average betweenness centrality of this "CPC member ONLY" network is 31, however, it is clearly indicated in Graph no. 7 that rep. Pressley preserves her position as the central figure of the network. Her centrality coefficient 269 is by far the highest of this network as well. Interestingly though, rep. Omar's centrality coefficient significantly increases in the network of CPC members excluding the non-CPC members. From her coefficient being 15 in the previous calculation with non-CPC members, her centrality coefficient rises to 172, resulting in rep. Omar being the second most central figure in the "CPC member ONLY" network. This observation suggests that while her connection to non-CPC Democratic Party members in Congress is considerably weak, her strong centrality in the CPC network confirms her legitimacy as deserving vice-chair of the caucus who brings together the caucus members in voting on common issues, specifically in analyzing foreign policy making in the U.S. House.

On the other hand, the chairperson of the CPC rep. Jayapal's centrality coefficient is very average in the CPC network as well. Specifically, her coefficient 32 is almost exactly average and suggests that her role is not that of a significant mediator within the caucus. With her centrality coefficient in the network including non-CPC DEM congress members being slightly above network average, it is fair to question her significance in "bridging" individual congress members in both networks including and excluding non-CPC members.

Conclusion

While this network analysis can lead to many more takeaways relevant to understanding the voting of the Democratic Party members in the 117th Congress, this study focuses on select issues which result from the analysis. This study focuses on two specific objectives:

A. **Voting of the Democratic Party on foreign policy legislation in the 117th Congress.**
B. **The voting cohesiveness of the Congressional Progressive Caucus with the rest of the Democratic Party congress members in the 117th Congress.**

All of the following takeaways are applicable to the fact that this study analyzes roll calls solely from the 117th Congress and on foreign policy matters. This study focuses on voting on foreign policy matters due to its significance on the international political stage. The study results may be relevant for further analysis of the voting unity of the Democratic Party on such issues in the House and it helps assessing on which groups (communities) or individual congress members should policy makers, academics and other stakeholders should focus when analyzing and working with the U.S. House on roll call voting behavior.

Therefore, the main observations resulting from this study are:

1. The voting cohesiveness of the Democratic Party is fairly high, with the average voting similarity of the congress members being 71% (Graph no. 1) or 74.6% (Graph no. 5). This confirms a strong party discipline among the Democratic Party in voting on the floor of the U.S. Congress.

2. There are three politically relevant and statistically confirmed communities within the network of House Democratic Party congress members - one community including the majority (77.5%) of the non-CPC congress members, a second community including the majority (77%) of CPC members and a third community including four CPC member from the new wave of progressive democrats (Graph no. 5). This observation confirms Hypotheses 1 and 3.

3. There are outstanding congress members from both two communities who are not voting in alliance with the majority of their official ideological partners in congress. There is about 22-23% of CPC members voting more often with the non-majority CPC community and vice versa. This means that the CPC is not yet completely consolidated in its voting in Congress, thus refuting Hypothesis 2.

4. Individual congress members and their "mediator" factor in the network:
    a. In the isolated CPC network but also the whole network of House Democrats, rep. Ayanna Pressley (MA-7) is by far the most central figure in connecting the congress members with each other, based on the analysis of voting similarity.
    b. CPC vice-chair rep. Ilhan Omar (MN-5) also has a very high betweenness centrality coefficient in the CPC network (172), however, she shows exceptionally low voting cohesiveness with the non-CPC DEM congress members.
    c. Regarding the evaluation of voting similarity, CPC chairperson Pramila Jayapal (WA-7) has a near exact average betweenness centrality coefficient in the isolated CPC network (32). In the whole network of House Democrats, she is moderately above average from the perspective of all Democratic congress members. Overall, there is no indication that her role as CPC chair is built on strong mediation responsibilities, thus questioning the extent of her impact as chairperson of the CPC. This observation partially confirms H4 (in rep. Omar's case) and partially refutes it (in rep. Jayapal’s case).

Based on the main observations, the following larger conclusions can be made after the network analysis of the voting of House Democrats on foreign policy issues:

I. Based on observations no. 2 and 3, the CPC has developed to be a politically relevant body of congress members which has the potential to play a significant role in the power distribution within the Democratic Party. However, it has not consolidated its voting behavior in a manner which would prevent CPC members not voting with the majority of the CPC network on a near unanimous level.

II. The voting analysis confirms that the new progressive democrats centered around the so-called "squad" female congress members (reps. Bush, Tlaib, Omar, Ocasio-Cortez) has formed into a politically relevant community of voting members of the U.S. House. They show a weaker voting similarity index to the remainder of the CPC and even more so to the non-CPC House Democrats.

III. Omar and rep. Ayanna Pressley, another new progressive CPC member, serve as the primary mediators between the remainder of the new progressives' community and the rest of the CPC. Additionally, Ocasio-Cortez and Pressley serve as potential mediators between the new progressives and the non-CPC House Democrats, based on their voting similarity with the network.

IV. Based on voting similarity, CPC chairperson Pramila Jayapal (WA-7) does not play a key role in the CPC voting behavior.

V. When advocating, lobbying, or whipping votes for a given legislative matter on foreign policy issues, stakeholders are advised to consult rep. Pressley (MA-7) from the CPC caucus or reps. Klimer (WA-6) and DeLauro (CT-3) from the non-CPC House Democrats in order to maximize the chances of the Democratic Party to vote on the given legislation. Klimer and DeLauro are members of the crucial House Appropriations committee, with DeLauro being the chairperson of the committee in the 117th Congress. This is in addition to the standard advocacy and lobbying targets being the Democratic leadership in the House (starting with Majority leader Pelosi in the 117th Congress).

In conclusion, this network analysis provides evidence that the Progressive Caucus has established itself as an important political body in the foreign policy making process of U.S. politics, which potentially translates to other aspects of policy making in the U.S. Congress. It informs about the voting behavior of individual congress members as well, including the leadership of the progressive caucus - chairperson Pramila Jayapal and vice-chair Ilhan Omar. It gives insights into the foreign policy making process in the U.S. Congress and concludes that there are two major communities with a developing third community which have differing opinions on various foreign policy matters. With the complexity of the foreign policy making process in the U.S. government, this study contributes to identifying key stakeholders in the House Democratic Caucus who potentially play a significant role in the inner workings of the party voting on such matters. Finally, it shows the voting behavior of the House Democratic members of the 117th Congress and provides insight on possible political alliances in the House of Representatives.

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Master's Thesis Summary

ZÁVĚREČNÉ TEZE MAGISTERSKÉ PRÁCE NMTS
Závěrečné teze student odevzdává ke konci Diplomního semináře III jako součást magisterské práce a tyto teze jsou spolu s odevzdáním magisterské práce do SIS předpokladem udělení zápočtu za tento seminář.
Jméno: David Robert Mulica
E-mail: 50845446@fsv.cuni.cz
Specializace (uveďte zkratkou)*: SAS
Semestr a školní rok zahájení práce: LS 2021
Semestr a školní rok ukončení práce: LS 2023
Vedoucí diplomového semináře: Dr. phil. Lucie Kýrová, M.A.
Vedoucí práce: Mgr. Jiří Pondělíček, Ph.D.
Název práce: Democratic Party's Foreign Policy Voting: A Network Analysis
Charakteristika tématu práce (max 10 řádek): Tato práce analyzuje hlasování členů Demokratické strany v 117. kongresu. Konkrétně zkoumá hlasování týkajících se zahraniční politiky USA, tedy zejména hlasování o alokaci finančních prostředků pro dva nejsilnější zahraničně politické resorty exekutivní vlády - Ministerstvo zahraničí (Department of State) a Ministerstvo obrany (Department of Defense), hlasování o rezolucích a dalších legislativních úkonech, ve kterých má kongres pravomoc v zahraniční politice USA. Tato studie se zejména zajímá o volební chování členů tzv. "Congressional Progressive Caucus - CPC", jedno z ideologických uskupení v americkém kongresu, které zejména v posledních letech nabývá na politické síle. Cílem studie je ukázat, zda je "Progressive Caucus" politickou silou, která již vykazuje tendence odlišného hlasování od zbytku demokratické strany, případně kteří konkrétní členové kongresu jsou potenciálně v pozicích mediátorů mezi "CPC" a zbytkem strany v otázkách zahraniční politiky. Studie využívá teorii sociálních sítí jako výzkumnou metodologii pro zpracování a projekci dat o hlasování jednotlivých členů kongresu.
Vývoj tématu od zadání projektu do odevzdání práce (max. 10 řádek): Nejvíce času paradoxně zabral výběr specifického tématu, které bude tato studie zkoumat – tedy kterou konkrétní oblast americké politiky a které konkrétní zástupce v kongresu vybrat jako nejrelevantnější v rámci současného politického dění v USA. Nejprve bylo zvažováno téma republikánské strany a jejích potenciálních štěpných linií (např. tzn. "Impeachement 10" skupina nebo "Freedom Caucus"), nicméně nakonec bylo rozhodnuto zkoumat právě demokratické členy kongresu, kteří jsou součástí ideologické skupiny "Progressive caucus". Jako politické téma hlasování byla zvolena

oblast zahraniční politiky USA jednak z toho důvodu, že je studie psána z pozice zahraničního pozorovatele působícího na univerzitě mimo USA a jednak z důvodu zásadního dopadu americké zahraniční politiky na světovou politiku. Samotná analýza dat pak zabrala několik týdnů intenzivní práce, jelikož stav a kvalita dat o hlasování v americkém kongresu je na relativně vysoké úrovni.

Struktura práce (hlavní kapitoly obsahu):

Hlavní výsledky práce (max. 10 řádek):

Tato síťová analýza poskytuje důkazy o tom, že se "Progressive caucus" etablovala jako důležitý politický orgán v procesu tvorby zahraniční politiky USA, což se potenciálně promítá i do dalších aspektů tvorby legislativy a politiky v Kongresu USA. Informuje také o hlasovacím chování jednotlivých členů Kongresu, včetně vedení "Progressive caucus" - předsedkyně Pramily Jayapal a místopředsedkyně Ilhan Omar. Poskytuje vhled do procesu tvorby zahraniční politiky v americkém Kongresu a dochází k závěru, že existují dvě hlavní komunity s rozvíjející se třetí komunitou členů sněmovny, které mají na zahraničněpolitické otázky odlišné názory. Vzhledem ke složitosti procesu tvorby zahraniční politiky ve vládě USA přispívá tato studie k identifikaci klíčových aktérů ve sněmovním demokratickém sboru, kteří potenciálně hrají významnou roli ve vnitřním fungování strany při hlasování o těchto záležitostech. V neposlední řadě ukazuje hlasovací chování demokratických členů Sněmovny reprezentantů ve 117. Kongresu a poskytuje vhled do možných politických aliancí ve Sněmovně reprezentantů.

Prameny a literatura (výběr nejpodstatnějších):

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