Expertise of Top Civil Servants in the EU Agency for Cooperation of Energy Regulators: To what extent hiring practices lead to epistemic communities

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10-03-2023

Word count: 13247

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Abstract

This research has examined to what extent the hiring practices of the EU Agency for Cooperation of Energy Regulators (ACER) contribute to the creation of an epistemic community. Classifying this group of employees as an epistemic community requires a shared knowledge base and degree of socialisation, which practically means a large degree of overlap in knowledge, normative beliefs, and interests. The results do not indicate that ACER has a preference for hiring individuals with the same type of expertise, degree of socialisation, or shared interests, which means that ACER's hiring practices are not responsible for the possible formation of an epistemic community. This could alleviate societal concerns about sub-optimal decisions being made by an organisation that they have no direct control over and adds a new perspective on the external factors of norm internalisation

Chapter 1: Introduction

Introduction to Epistemic Communities and Groupthink

In his book *Capital Ideas: The IMF and the Rise of Financial Liberalization* (2010), Chwieroth demonstrates that "normative and behavioral changes in international organizations are driven not just by new rules or the influence of member states but also by the evolving makeup, beliefs, debates, and strategic agency of their staffs" (Chwieroth, 2010, p.3). He does this, among other things, by showing that the financial liberalisation policy that was promoted by the IMF was the result of IMF staff collectively believing that capital freedom was a desirable policy in the long run. Although there were differing opinions on the speed of implementation, capital freedom became the norm in the 1980s and 1990s. Due to this norm, the emerging markets of developing countries were stimulated to adjust their policies and implement reforms in line with standards that were supposedly universal, but in reality, driven by Angelo-American economics education (Chwieroth, 2010).

What this example demonstrates is that the combination of shared norms and expertise in a certain subject – in this case economics - in the staff of an international governmental organization can have a large impact on the choices that are made by that organization, which might not always be to the benefit of everyone. In other words, epistemic communities, which are characterised by shared norms and a shared knowledge base (Haas, 1992), can create a bias towards their own way of thinking and ignoring alternative preferences, options, or ways of thinking. This phenomenon is known as groupthink (Janis, 1972). The concept groupthink was the result of a psychological analysis of political decision-making and it consists of "an excessive form of concurrence seeking among members of high prestige, tightly knit policy making groups" ('t Hart, 1991, p.247). These conditions are typical for international bureaucracies.

Features of International Administrations

As Trondal, Marcussen, Larsson, and Veggeland (2013) explain, international bureaucracies have over the years become more and more involved in the decision-making process of the international organisation that they are part of. International administrations share several key characteristics that distinguish them from the other bodies within international organisations: international administrations are permanent administrative bodies, they are organisationally separate from the other bodies through formally mandated

autonomy vis-à-vis the member states, they are horizontally and vertically specialised, they have a permanent and full time staff, and they are in charge of providing the international organisation with technical expertise and information. But the one thing that stands out above all of these characteristics is the fact that the loyalty of the international administrations' staff is first and foremost to the international administration (and not to their country of origin) (Trondal et al., 2010). What this concretely means is that a group of people with certain expertise that know each other well through frequent interactions and who are more loyal to the interests of the administration than those of the member states are involved with and to some extent responsible for the decisions that are made within international organisations (Eckhard & Ege, 2016).

Societal and Academic Relevance

If the decisions made deviate from what the member states want and thus indirectly deviated from the will of the people, this could lead to concerns regarding the lack of political control over and legitimacy of international administrations. Especially when it comes to such a salient and important issues as climate change and the European dependence on Russian gas, which become obvious when the EU wanted to cut back its use during the Russia-Ukraine and energy prices have since risen dramatically (Horton & Palumbo, 2022). These issues demonstrate the importance of energy regulation across Europe, both currently and in the future. For this reason, I have chosen to look into the EU Agency for the Cooperation of Energy Regulators, which was mandated by the Treaty of Lisbon in 2009 but created in its current form in 2011 to further European integration of the energy sector and promote the EU's carbon reduction strategy (LaBelle, 2012; Jevnaker, 2015)

Because of the lack of political control and issues regarding legitimacy of international administrations described above as well as the possibility of groupthink that stems from too much concurrence seeking among experts, the societal relevance lies in normative implications for society. Since there is no direct societal control, it is important to know who the people are that play an important role in shaping the decisions made by international governmental organisations and how they are selected.

For this reason, the research question is: to what extent do the hiring practices of the EU Agency for Cooperation of Energy Regulators contribute to the creation of an epistemic

community, and how has this changed during the period 2008-2022? Classifying this group of employees as an epistemic community requires a shared knowledge base and degree of socialisation, which practically means a large degree of overlap in knowledge, normative beliefs, and interests.

Michalski & Daniels (2018) identified a gap in the literature concerning the role that environmental conditions play on the internalisation of international organisations' norms. One of these environmental conditions could be the hiring practices, which might mean selecting future employees based on similarities to current staff members to facilitate the socialisation process. The academic relevance of this research is by filling in a part of that gap by one the one hand adding to the limited data on recruitment by European Agencies in general, as identified by Egeberg, Gornitzka, and Trondal (2019), and on the other hand by assessing if and how hiring practices play a role in the formation of an epistemic community in a European agency over time: does ACER create a group of likeminded individuals? This like-mindedness is evaluated based on their similarity in terms of educational background: their level of education, where they received their education, and in which fields they are educated. If all of these factors were very similar indeed, it would make it easier for them to be socialised into adopting the agency's norms, values, and priorities.

Theoretical Framework

The theoretical framework consists of three chapters. The first one will go into depth on the normative concerns regarding expert-led decision-making in contemporary democracies, with the example of groupthink as a worst-case scenario. The second chapter will explain what features and conditions need to be present in order to classify a group of people as an epistemic community. The last section of this chapter will describe how the conditions are present in an international and EU-specific context.

Expertise as a Normative Issue

One thing that characterises contemporary democracies is that political decision-making is dependent on expertise and thus reliant on the knowledge of experts. Examples of this include independent central banks and European agencies. Expertise in policy-making is, however, sometimes seen as problematic because it presents a principal-agent problem due

to the fact that non-experts are unable to assess the quality of the decisions that are made by experts (Holst & Molander, 2019). This chapter will discuss the normative aspect of expert-based political decision-making. The first part will delve into the concerns surrounding and benefits of expertise as well as how to combine epistocracy and democracy, while the second part will delve into the reasons reliance on experts is seen as something negative with an example illustrating what could happen, and has happened in the past, if experts have too much authority.

Expertise's Threats and Contributions to Democracy

In their 2019 article on epistemic democracy and accountability of experts, Holst and Molander argue that expertise is not necessarily harmful to democracy, in fact that there is a false dichotomy between expertise and democracy. They postulate that expertise can be used to improve the quality of the democratic decision-making process and that the objections to expert-led decision-making, while having some truth to them, are often too exaggerated or misconstrued. The example that they use to demonstrate this point is the premise that democracy is better than a group of experts based on the "diversity trumps ability theorem", which is then generalised into "(large) numbers trump ability theorem", which posits that a large group of different people always makes better decisions than a group of experts. This theorem does not take into account voters' ignorance and identity-based preferences. Because of this, in essence, this theorem only supports the argument for a large and diverse group of experts rather than democracy.

Instead, the authors focus on the question of how a democratic society can use the intellectual resources provided by a division of labour in such a way that is compatible with the underlying ideal of discussion among citizens about policy and law- in essence combining the positives of epistocracy (rule by experts) and (deliberative) democracy. The idea behind this question is that expertise would be used as filter in democratic processes, which would ensure a certain degree of truth sensitivity among the public. This would require that expert arrangements are designed to have normative legitimacy, which concretely means that the powers that are granted to experts are democratically delegated to them. Following this logic, decision-making would be delegated to experts as much as possible to arrive at better, more efficient, and more equitable decisions (Holst & Molander, 2019)

However, before that point can be elaborated upon, there are some objections to epistocracy that need to be addressed. Holst and Molander listed ten concerns in their 2018 article *Asymmetry, Disagreement and Biases: Epistemic Worries about Expertise.* Their ten concerns can be categorised in the following groups: 1) the political aspect of expertise, 2) the threat of bias, and 3) the societal position of experts. The political aspect of expertise comprises concerns over who the real experts are since there is always the possibility for disagreement among experts due to competing paradigms, which makes it very difficult for non-experts to assess who to believe in any given situation. The worries that fall under threats of bias are the result of the fact that experts are also human and thus not infallible: even experts make cognitive mistakes, have been raised with a particular set of morals, and are more likely to frame issues in such a way that they fit into their discipline of expertise. The position of experts in society is the last category that causes some apprehension. Experts are supposed to be neutral parties, but their elite position in societies based on the Weberian model of bureaucracy can compromise this neutrality in favour of supporting the powers that be. This is exacerbated by the fact that experts are often not well versed in explaining their ideas in very simple terms and that they are more concerned with supporting their argument with solid evidence than whether it is politically feasible or not Holst & Molander, 2018).

In essence, all the concerns about expert biases and mistakes, while not unfounded, should not lead to the conclusion that non-experts are as likely to be right as experts or that relying on expertise does not result in a better quality of political discourse. What is needed to prevent these biases and mistakes from occurring are mechanisms that prevent these from happening as well as safeguarding against the misuse of expertise (Holst & Molander, 2018; Holst & Molander, 2019)

The institutional safeguards that the authors have come up with to ensure that expertise and democracy are compatible revolve around making experts accountable in three ways. The first group of mechanisms is aimed at expert behaviour, the second at judgements of experts, and the third at the conditions required for expert-based decision-making. The mechanisms that should ensure that experts' behaviour can be trusted are not only the mutual criticism and epistemic norms that are already in place that establish what is acceptable behaviour for people within the epistemic community and what is not, but political authorities can also influence the way in which expert bodies are organised and thus

ensure that experts' academic publications and reputation are checked and perhaps even political affiliation. This way people who are considered untrustworthy can be prevented from being part of an expert body.

The second set safeguards against poor judgement on the part of experts by putting their judgements under review by different forums and thus holding them accountable. These forums include but are not limited to a forum of peers, a legislative forum, a group of political actors, and civil society. In these forums, experts are expected to be able to explain the decisions they made, which assumptions they made, and which things they cannot account for. This should ensure fewer errors as well such as failures resulting from for example overconfidence.

The third set of mechanisms are centred around conditions for expert judgement. Because people operate under 'confirmation bias' it is necessary to create conditions under which this bias is unlikely to occur. This requires organising expert bodies in such a way that diversity and exposure to criticism from the scientific community is ensured. This would mean cooperation between different disciples as well as a combination of factual and normative analyses (Holst & Molander, 2017; Holst & Molander, 2019).

Expertise as a Threat: Groupthink

What are the risks of having an expert community who have the same way of thinking? Privileging the advice of specialists in a particular domain may result in the generation of "bad" decisions, either because it leads to neglecting potentially valuable interdisciplinary insights or ignores the social ends to which decisions regarding specific issues are directed. The worst-case scenario of what happens if experts have too much authority is what Irving L. Janis coined as "groupthink".

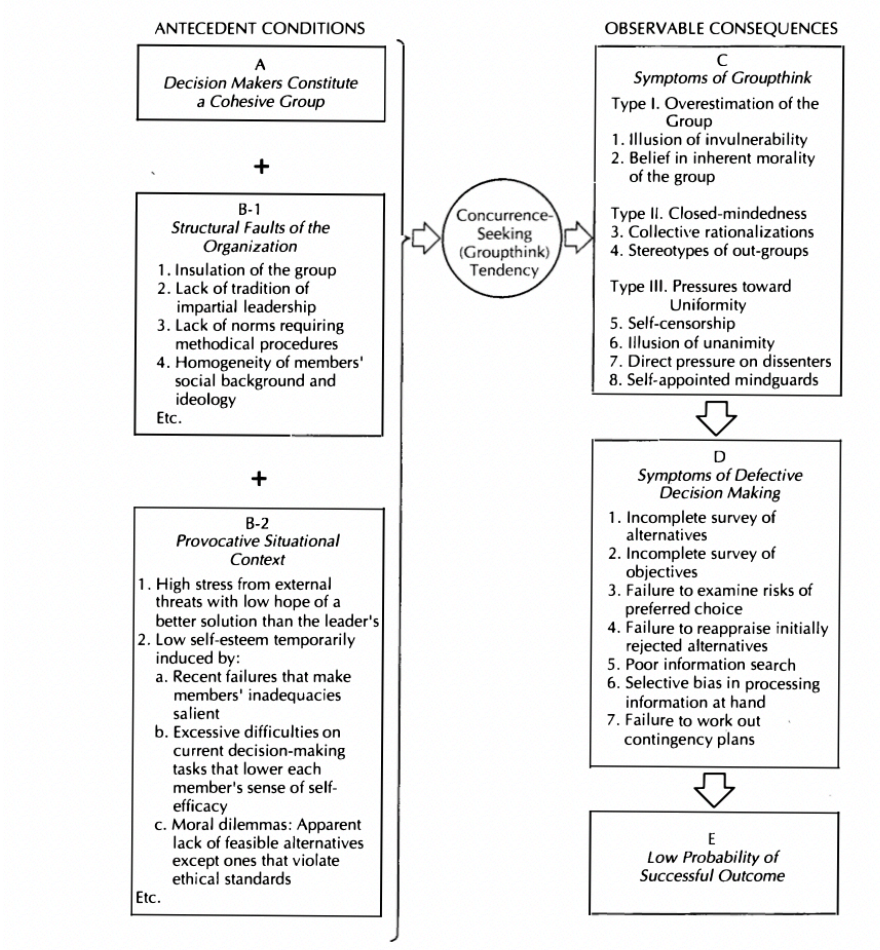
Groupthink is defined as "a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when the members' strivings for unanimity override their motivation to realistically appraise alternative courses of action" (Janis, 1991, p.237). One can recognise groupthink based on three characteristics with corresponding symptoms. The first two symptoms - the illusion of invulnerability and belief in the inherent morality of the group - boil down to an overestimation of the group. Close-mindedness consists of collective rationalisation and out-group stereotypes. And finally, the pressure towards uniformity has

four recognisable symptoms: self-censorship, the illusion of unanimity, direct pressure on dissenters, and self-appointed mind guards.

However, it is important to note that groupthink, or concurrence seeking, does not always lead to bad decisions. It depends on the presence and interplay of the conditions identified in figure 1 below. In order for groupthink to lead to sub-optimal to poor decisions, there also need to be structural faults in the organisation and a provocative situational context. In reality, the requirement for the creation of bad policies a stressful situation, most likely produced by earlier attempts that have not resulted in a decision, in combination with an insulated group of like-minded people without a clear leader or requirement to adhere to certain methodological standards ('t Hart, 1991).

Figure 1

A Model of Groupthink Theory



Note. From 't Hart, P. (1991). Irving L. Janis' Victims of Groupthink. *Political Psychology*, *12*(2), p.257. https://doi.org/10.2307/3791464

To demonstrate the relevance of this research: there are two structural faults of the organisation that arere characteristic of international administrations: 1 - Formal autonomy in the form of mandated independence, which means insulation of the group of experts from the rest of the international organisation. And 4 – Homogeneity of members' social background and ideology: university educated, which usually means high socio-economic status and trained in a specific way of (analytical) thinking with at least a basic understanding of methodological norms and procedures

Additionally, according to Barr and Mintz (2018) groupthink is more likely to occur during the decision-making process of the policy cycle, which combined with the fact that international administrations are increasingly more involved in the decision-making process of international organisations, could result in suboptimal to poor decision-making. In order to arrive at this conclusion, Barr and Mintz combined the stages of policy cycle with three group decision-making models to assess which type of decision-making was more likely during each stage of the policy cycle. They found that policy formulation requires presenting multiple and diverse options, which most likely corresponds to a con-div group dynamic. This is characterised by a balance between both convergence and divergence of group members' opinions, which is very appropriate for assessing options. The decision-making stage requires that the group arrives at a single option, in which case one is more likely to see group-think dynamics that prioritises concurrence seeking. The Implementation stage consists of being able to translate an objective into concrete action that is context dependent. For this purpose, poly-think dynamics are more likely to occur given that a plurality of options and divergent policy prescriptions are beneficial when no two contexts are the same (Barr and Mintz, 2018).

Epistemic Community

This chapter goes into depth on the question of what elements are needed to create a community of experts, otherwise known as an epistemic community, as coined by Peter M. Haas in 1992. The first part will explain the definition and features of an epistemic community as well as what distinguishes epistemic communities from other groups. The

second part will go into more detail about the difference between an epistemic community and a profession or academic discipline and the socialisation that is needed for the distinction to be made.

What is an Epistemic Community?

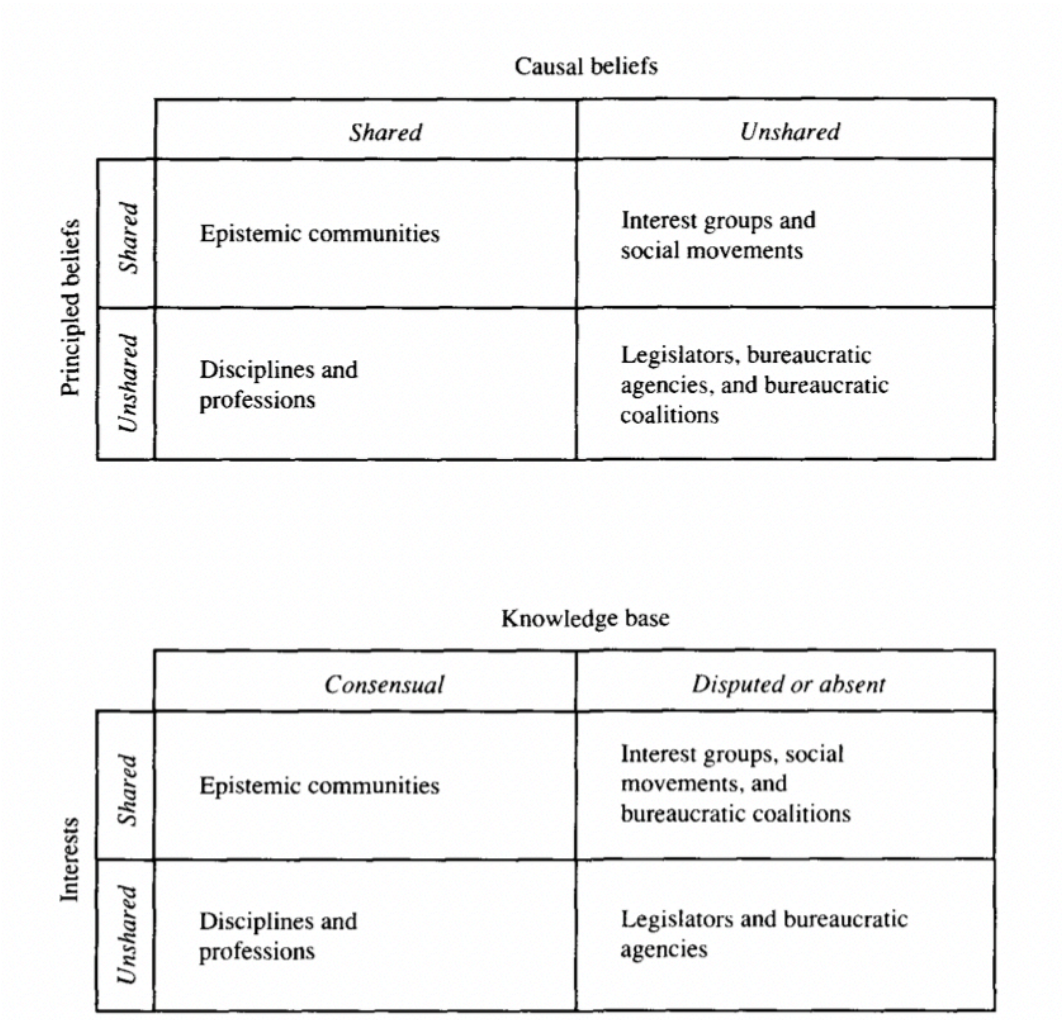
According to Haas, "An epistemic community is a network of professionals with recognised expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue area" (Haas, 1992, p.3). The reason that such a group of experts exists is because from 1940s onwards, expansion and professionalisation of bureaucracies and the growing technical nature of problems have fostered an increase in the deference paid to technical expertise and, in particular, to that of scientists. Conditions of uncertainty and complexity create the need for information to make the best decisions and the best information comes from people who are experts on the subject (Haas, 1992).

There are certain features or conditions that need to present in order to qualify something as an epistemic community. These are "1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members. 2) Shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating multiple linkages between possible policy actions and desired outcomes. 3) shared notions of validity: intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise. And 4) a common policy enterprise: a set of common practices associated with a set of problems to which their professional competence is directed, usually based on the assumption that it will improve human welfare." (Haas, 1992, p.3). In other words what is needed for an group to be called an epistemic community are shared norms, principled beliefs, and interests in combination with a common knowledge base and causal beliefs.

As shown below by figure 2, epistemic community can be distinguished from other groups based on a combination two factors: expertise on a specific subject, which constitutes a shared knowledge base and causal beliefs, and socialisation, which is the basis for shared normative and principled beliefs as well as shared interests.

Figure 2

Distinguishing Epistemic Communities from Other Groups



Causal beliefs

Principled beliefs	*Shared*	*Unshared*
Shared	Epistemic communities	Interest groups and social movements
Unshared	Disciplines and professions	Legislators, bureaucratic agencies, and bureaucratic coalitions

Knowledge base

Interests	*Consensual*	*Disputed or absent*
Shared	Epistemic communities	Interest groups, social movements, and bureaucratic coalitions
Unshared	Disciplines and professions	Legislators and bureaucratic agencies

Note. From Haas, P. M. (1992). Introduction: epistemic communities and international policy coordination. *International Organization*, *46*(1), p.18. https://doi.org/10.1017/s0020818300001442

The following two sections will explain what factors play a role in socialisation in international organisations and how expertise is organised within the EU and its agencies.

Conditions for Epistemic Communities – Socialisation

Berkelaar and Harrison (2019) define organisational socialisation as "the process by which people learn about, adjust to, and change the knowledge, skills, attitudes, expectations, and behaviours needed for a new or changing organizational role" (Berkelaar & Harrison, 2019, p.1). Socialisation in this context means learning about and understanding

the culture, (unwritten) norms, and internal politics of an organisation and adopting them as one's own, in other words, adopting the values of the organisation and identifying oneself as part of this organisation. In the case of socialisation in the EU, it also means adopting the political values that the organisation aims to promote, such as for example European integration. There is of course a level of self-selection as well, as people who have different values to those of the organisation are unlikely to apply for a job at that specific organisation, so there is almost always some level value congruence. The exception to this rule is when the candidate knows very little about the organisation prior to their application (Ban, 2013).

Once someone has been hired by an organisation, the socialisation in the workplace begins, but the extent of the socialisation is not always the same. Suvarierol, Busuioc, and Groenleer (2013) found that diverging socialisation processes lead to different socialisation products, depending on how much interaction actually occurs. Temporary contracts or part-time contracts lead to less (time)investment in both formal and informal norm transfer on part of the organisation and less commitment to the organisation (norm adoption) on the part of the employee. In the case of EU organisations this means that primary loyalty to Europe and/or the international administration is less likely in cases of part-time or temporary contracts, or at least that they adapt to the norms while working there, but not internalised to the extent that it becomes part of one's identity (Suvarierol, Busuioc, & Groenleer, 2013).

This might beg the question under which conditions socialisation occurs and what other factors could influence socialisation in international organisations like the EU. Michalski and Danielson compared the committees of permanent representatives in the EU and NATO in their 2018 article and found that unambiguous norms favour socialisation to a larger degree than ambiguous norms, refuting the assumption that diffuse norms lead to more internalisation. It is worth noting that they concluded that the internalisation of group norms and role conceptions was stronger among NATO representatives than EU representatives, based on the fact that the EU representatives prioritised reaching an agreement rather than finding a solution that actually fulfils the organisation's mission, which was caused by their specific definition of socialisation (Michalski & Danielson, 2018). This example could also be read as a prime example of permanent representatives being

socialised into valuing EU integration and cooperation above all else and thus as showing the first signs of concurrence seeking.

Other factors that influence socialisation in international organisations are unexpected changes, gender, and age. Murdoch, Kassim, Connolly, and Geys conducted a longitudinal study into several factors that could influence the socialisation process and they found that socialisation is conditional on the absence of unexpected changes, as these can have a negative effect on individuals' expose to organisational values. Their analysis also shows that age at entry and gender affect the intensity of such value change (which is the effect of socialisation process). They argue that women's higher socio-evaluative concerns make them more open to socialising influences and that individual who enter an international organisation at a younger age (in this case under 30) have fewer cognitive barriers to socialisation and tend to internalise the international attitude more firmly (Murdoch et al., 2018).

Conditions for Epistemic Communities – Expertise

The European Commission (EC) is a key institution in European decision-making and is primarily responsible for promoting European interests and making regulatory policies, which are based on technical expertise and is therefore argued to result in a 'technocratic bias'. However, centralised competitions have been used a recruitment method since the late 1950s instead of basing the selection on formal qualification. One might argue that these competitions could be used to tests technical expertise. And while that once might have been the case, the content of these competitions has changed over time. The tests that are used to assess candidates have become increasingly focuses on generalist skills, such as their ability to solve problems and communicate clearly.

One of the arguments presented for this shift is the outsourcing of expert functions, but this is quickly dismissed in favour of the explanation that rather than it being intentional, more generalist recruitment for the European Commission was an accidental by-product of managing the heterogeneity of an expanding multinational civil service. However, while outsourcing of expertise is not the cause of more generalist recruitment practices in the EC, it is the effect of having put more emphasis on generalist knowledge and skills. In order to still make the best decisions possible and serve the European interest, the EC must rely on expert knowledge obtained somewhere else to inform their decisions (Christensen, 2015).

This expertise is found in vertically specialised agencies, as well as in expert groups and through the use of seconded national experts. The staff of European agencies is mostly made up of individuals with specific scientific or technical knowledge, whose qualifications match the agency's specialisation. Expert groups are often organised by the Commission and they allow external stakeholders as well as scientists and national civil servants to be involves in the decision-making process, usually on a temporary and informal basis. Seconded national experts are usually national civil servants who have an area of expertise for which they are called to the EC as advisors, while at the same time reporting their experiences at the EU level back to their member states. Besides using these more systematic structures of expertise, expertise is also brought in via government funded research programmes, think-tanks, consultancy services, conferences, or even indirectly through media reports or lobbying (Christensen & Gornitzka, 2022; Gornitzka & Holst, 2015).

This way of organising expertise within a governance system is called a knowledge regime. The main idea behind a knowledge regime is to consider what organisations and institutions are involved the production of policy-relevant knowledge and how they are governed in order to understand where the ideas that influence policies come from. What makes the EU's knowledge regime unique is that fact that it does not control education and research systems. Education and research systems are governed and funded by the member state in which the institution is located, leading to a large diversity across Europe. The only regulatory role for the EU in its knowledge regime is ensuring the mutual recognition of professional degrees (Christensen & Gornitzka, 2022).

Hiring Practices in the EU

Based on the theories outlined above, one would expect the formation of an epistemic community if the hiring practices of an international administration were based on norm and value congruence and demonstrable expertise. In the following section, the recruitment practices of EU bureaucracies will be outlined over time as well educational attainment statistics of the European population.

As stated above in the section on expertise, Christensen (2015) looked at the changes in recruitment practices of the European Commission from 1956 to 2013 in his article *Recruitment and Expertise in the European Commission*. He found that a shift occurred in the 1960s from specialist skills to more generalist skills as demonstrated by the centralised

competitions that the EC relies on to recruit permanent staff becoming ever more reliant on tests that assess general competencies rather than expert knowledge. These findings can be explained be explained by the facts that the European Union had a growing membership, which required the inclusion of employees from the new member states who we educated in different educational systems and needed to be socialised into prioritising the European interest.

The reason why it is so important to look at the recruitment practices of bureaucracies is because it is a defining factor of the role of experts. In the EU, a merit-based recruitment is used which can be conducive to hiring people with a certain expertise, however, this depends on two dimensions: the degree of centralisation and the type of knowledge and skills. The European Commission has relied on formalised and standardised tests in the form of open competitions, which is a trend that started 1969 to measure knowledge and developed over time into a system that tested eight competencies: "analysis and problem solving, communicating, delivering quality end results, learning and development, prioritising and organising, resilience, working with others, and leadership" (Christensen, 2015, p.649).

Looking at type of knowledge and skills shows that with the increase in recruitment based on general competitions the use of the two major specialist competitions – law and economics – decreased. The level of education and field of education required to apply to the general competitions since 2004 are a three-year university degree in a relevant field for lower-level administrators and a four-year university degree for higher officials. Before 2004 the requirements were roughly the same just less explicitly formulated. In terms of the recruitment tests used by the EC to assess potential employees a part of the test also assesses specialist knowledge, however, this percentage has seen a downward trend over time. The merit-based recruitment system used by the EC is thus very centralised and focuses increasingly on generalist knowledge and skills rather than expertise. This is not to say expertise no longer plays an important role given that the majority of officials are still recruited through competitions that test expertise in a specific field, but the trend towards more generalist skills and knowledge cannot be ignored (Christensen, 2015).

Although not much is yet known about the recruitment practices within the specialised agencies, Egeberg, Gornitzka, and Trondal (2019) make a start by looking into the recruitment practices within the secretariats of EU agencies while at the same time

examining if it matters whether these agencies are located in countries that do not have meritocratic bureaucratic recruitment system or not. Theoretically, the standard recruitment procedure for agencies is that a vacancy notice will be published with selection criteria and instruction on how to apply. After the application deadline, a selection committee determines which of the candidates fit the profile best on the basis of the selection criteria and invite them for a written test as well as an interview. The list of potential suitable applicants is then given to the agency director by the selection committee. Recruitment according to the researchers is thus based on three elements: the vacancy note, the selection committees, and the selection process. They found that all 31 agencies publish the vacancy note externally, on their own website, on the European Personnel Selection Office website, and through task-specific outlets to the wider environment. All 31 agencies use a selection committee for recruitment in which employees' organisations participate. And all 31 agencies use interviews and written tests during the selection process that are organised by HR (or another administrative unit) and can be appealed by applicants. Overall, this means that recruitment by EU agencies is based on meritocratic instruments (rather than patronage, friendship, kinship, or political party affiliation) and is not affected or influenced by the recruitment norms of the country in which the agency is located (Egeberg, Gornitzka, & Trondal, 2019).

Looking more specifically at selection criteria of the Agency for the Cooperation of Energy Regulators based on a selection notice for the position of IT Service Officer (ACER/2022/09) and two selection notices to establish a reserve list for the positions of energy infrastructure policy officer (ACER/2022/05) and information systems assistant (ACER/2022/06), one can see that the educational eligibility criteria for these positions (which are lower-level administrator positions) are the same. They all require the applicant to have a level of education which corresponds to completed post-secondary education, as proven by a diploma, as well as being able to speak one of the languages of the European Union fluently and a second one satisfactorily. The recruitments for the applicants' technical knowledge differ per selection notice but are usually centred around (years of) professional experience and/or having a relevant degree in a technical field.

Theoretical Expectations

According to Wonka & Rittberger, the EU has experienced two waves of 'agencification' from the beginning of the 1990s onwards, which have led to the large number of EU agencies that exist today and that are responsible for policy-making in certain sectors. EU agencies are "EU level public authorities with a legal personality and a certain degree of organisational and financial autonomy that are created by acts of secondary legislation in order to perform clearly specified tasks" (Kelemen, 2005, p175). EU agencies' actual degree of autonomy differs based on credibility, policy complexity and political uncertainty, but the authors found that using these factors to arrive at an independence score led to the conclusion that regulatory agencies show greater independence than informational or executive agencies (Wonka & Rittberger, 2010).

ACER falls into the category of regulatory agency as it "provides legislators in the Commission, EP, and Council, who are ultimately in charge of making the regulations, with relevant information and support the preparation of proposals for regulation" (Wonka & Rittberger, 2010, p.740). And perhaps more importantly, ACER plays a central role in the administrative implementation of these regulations. What this formal and large degree of actual independence means is that there is less direct accountability, which can result in the agency developing its own goals. Combining that with the socialisation effects, primary loyalty to the organisation, and expertise typically found in international administrations such as EU agencies can lead to the formation of an epistemic community within ACER. If that were the case, there could ultimately be a risk of groupthink and sub-optimal decision-making.

My expectations with regards to the research question "to what extent do the hiring practices of the EU Agency for Cooperation of Energy Regulators contribute to the creation of an epistemic community, and how has this changed during the period 2008-2022?" are that given EU agencies' emphasis on technical and scientific skills, the employees are selected on based on their educational background and level of expertise, which is likely to result in the creation of a group of like-minded employees (with the same primary loyalty, socialisation within organisation, and similar qualifications and interests).

To repeat: classifying ACER's group of employees as an epistemic community requires a shared knowledge base and degree of socialisation, which practically means a large degree of overlap in knowledge, causal beliefs, normative beliefs, and interests. So, to make my

expectations more concrete, I have developed them into three hypotheses for the first part of the question regarding the extent of epistemic community formation:

- Hypothesis 1: there will be a preference for more specialised knowledge, which concretely means that ACER will prefer hiring individuals with a higher level of education.

The first hypothesis is related to the condition of expertise for the creation of epistemic communities. The level of education indicates degree of specialisation: a master indicates more specialisation than bachelor and a PhD more than master or bachelor. Because the expected outcome is that epistemic community formation is likely, one would expect a preference for a higher level of education.

- Hypothesis 2: there will be a preference for people with a comparable knowledge base, therefore ACER will prefer hiring individuals who have the same area(s) of expertise and thus have received a degree in the same field(s).

The second hypothesis relates to both the condition of expertise and the condition of socialisation for the creation of an epistemic community. On the hand, a degree in the same field of education not only demonstrates a certain level of expertise, but it also allows us to infer that these individuals have been trained in the same way of analysing and framing issues to fit into their research paradigm. On the other hand, individuals whose studies fall within the same departments most likely have a similar worldview, priorities, and interests, because they chose this field of study and can thus be said to have shared values as well as knowledge.

- Hypothesis 3: there will be a preference for individuals who have similar norms and values, which means that ACER will prefer hiring new employees that attended the same universities as current employees.

The third hypothesis is linked to the socialisation condition. By hiring individuals from the same universities where they thus underwent the same type of initial socialisation i.e. shaping of norms, values, and identities, ACER would be expected to prefer hiring people that will ‘fit in’.

I have also developed three hypotheses based on the second part of the question: "how has this changed during the period 2008-2022?" Because 'agencification' is quite a recent development and the agencies have clearly specified tasks, I expect that ACER's recruitment strategies, criteria, and preferences for applicants are fairly stable, which means that there should be no significant change over time in level of education or field of education. Given that preferences for universities is hypothesised to depend on the group of existing employees, there will change over time in the beginning since the group needs to be formed first.

- hypothesis 4: ACER will consistently prefer hiring people who have a higher level of education, meaning that there is no significant change over time.
- hypothesis 5: ACER will consistently prefer hiring people who have the same area(s) of expertise and thus have received a degree in the same field(s), meaning that there is no change over time.
- hypothesis 6: ACER will not have a preference for hiring individuals that attended a specific university during the first 5-year years, as this can be seen as the time during which the 'original' group is formed, based on which preferences for universities will develop. But after this period, the preference for people who attended the same universities will be consistent.

Chapter 4: Research Design and Methodology

This chapter will explain how the research question "to what extent do the hiring practices of the EU Agency for Cooperation of Energy Regulators contribute to the creation of an epistemic community, and how has this changed during the period 2008-2022?" will be answered. Firstly, the research design will be described to explain how the research question will be answered. Secondly, the case selection will be explained to demonstrate why this case was chosen and give important insights into the structure of the organisation. The sections on operationalisation data collection will answer the questions what data are required to answer the research question as well as what the data collection process looked like. The final two sections will discuss the method of analysis and the research's reliability and validity.

Research Design

The research design is a quantitative analysis, consisting of creating a large-N dataset by gathering educational data on the current list of individuals who are employed by ACER. This is accomplished by looking at the profiles of the 117 employees who are listed as such on the EU Agency for the Cooperation of Energy Regulators' official LinkedIn page and putting the data in an Excel sheet. the data will be presented and analysed using pie-charts, a point biserial correlation, and a simple logistic regression analysis.

Case Selection

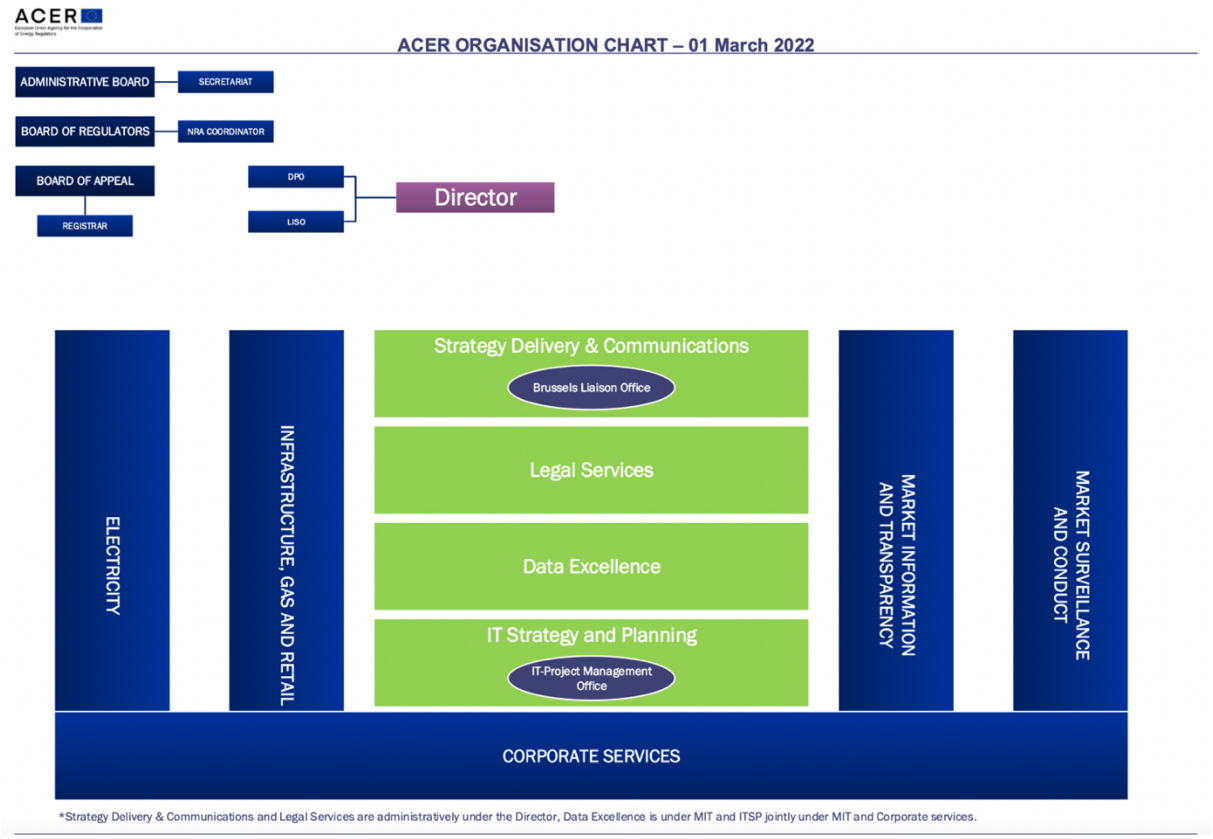
I have chosen to look into the employees of a European Agency, since these decentralised agencies are legally separate and created for an indefinite amount of time with the aim of supporting both the EU and national governments through the pooling of knowledge and technical expertise (European Union, n.d.) In particular, I will be looking into the European Union Agency for the Cooperation of Energy Regulators (ACER). ACER was created by European Commission Regulation No. 713/2009 of the European Parliament and of the Council on 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators (ACER). Its mandate has increased since 2011, resulting in ACER as it currently exists. The agency is in charge of complementing and coordinating the work national energy regulators at the EU level with the goals of creating a single energy market for electricity and gas in the European Union (Jevnaker, 2015).

ACER is organised into five departments: corporate services; infrastructure, gas, and retail department; market surveillance and conduct; market integrity and transparency; and electricity, as well as four horizontal clusters, which have a central role in providing key support functions to the whole Agency in fulfilling its mandate, objectives, and goals (ACER, n.d.-a). The managerial level of ACER consist of the Director, who manages and represents the Agency; the Administrative Board (AB), which is responsible for the Agency's governance as well as all administrative and budgetary activities; the Board of Regulators (BoR) is in charge of the regulatory policy and overseeing all the activities connected; the Board of Appeal deals with complaints lodged against ACER decisions; and ACER Working Groups that advise the Director and Board of Regulators on the agency's regulatory activities. All of the boards independent from each other and the members of the boards and the working

groups are not solely employed by ACER. The members of the Administrative Board are appointed by the European Commission, the European Parliament, and the Council of the European Union. The Board of Regulators consist of senior representatives of the National Regulatory Authorities for energy of each of the twenty-seven member states. Even the members of the Working Groups are a mix of ACER representatives, national regulators, and members of the European Commission (ACER, n.d.-b).

Figure 3

ACER's organisation chart



Note. From ACER. (n.d.-a). *ACER teams*. Retrieved 5 August 2022, from https://www.acer.europa.eu/the-agency/about-acer/acer-teams

ACER thus relies on the support of over a hundred committed employees, both permanent staff and experts seconded by national regulatory authorities. ACER staff is organised in departments and horizontal clusters and is responsible for running the daily operations and effectively fulfilling the Agency's mandate. For this reason, the population of

this study consists of the employees of the five departments and four horizontal clusters that are employed solely by ACER. The seconded national experts, the director, and members of the different boards are excluded from this study, as ACER is not their main employer, which could result in divided loyalty instead of the primary loyalty to the organisation, which is one of the characteristics of international administrations, which is the unit of observation in this research.

Operationalisation

The independent variable of this research is hiring practices from 2008 – the year ACER was created until May 2022. However, as described earlier, the hiring practices of EU agencies are meritocratic and consist of a stable set of practices, which means that the independent variable used is recruitment year.

The dependent variable is the creation of an epistemic community, which more practically means the creation of a group of individuals who studied at a certain level, in the same field, or at the same university and could thus be said to have received similar education and experienced similar if not the same socialisation processes. More concretely, the dependent variables used to assess the six hypotheses are the level of education each individual has, the fields of study they have a degree in, and at which university they completed their master's degree, since that was the most common level of expertise and provided the most usable data.

The reason why I am using educational background as a proxy for epistemic community is because the shared causal beliefs, shared knowledge base, and shared principled beliefs are a product of socialisation that generally starts at university.

Not included as dependent variable are executive masters or post-graduate degrees since these are typically obtained during an individual's career, which means that they are already socialised into the ways of the company they work for, which therefore does not say anything about the socialisation aspect of university education or how hiring practices influence the creation of an epistemic community.

During the data collection stage of the research, I created one large page in Excel on which I collected the following data: in the first column I put each individual's name, followed by their nationality in the second column (which I did not need or use). The third and fourth column were used to list each individual's bachelor's degree(s) in a certain

subject at a specific university. The fifth, sixth, and seventh column were used to list each individual's master's degree(s) in a certain subject at a specific university if they had them. The eighth and ninth column were used to list each individual's PhD(s) in a certain subject at a specific university if they had them. The tenth column contained the year each individual was hired by ACER, which does not necessarily correspond to their current function. However, this does not matter as their educational background has not changed, so one may assume that they were hired based on the hiring criteria in that year. The eleventh and final column was used to describe in which department each individual worked as well as their position within the department if it was listed on their profile.

From this point onward, I used the that first Excel page to create several more. The second one I made I used to code for each employee's highest level of education as well as the year they started working for ACER. Level of education is a numerical variable, for which I used 1 to correspond to a bachelor's degree, 2 to correspond to a master's degree, and 3 to a PhD. However, within Excel I coded level of education as a categorical variable in order to count the total number people with that level of education: 0 for no, 1 for yes in each of the three categories

The third Excel page was used to code for educational field, which is a categorical variable where each field/discipline has a column in which every row (representing a person) has either 0 for no or 1 for yes. Multiple fields per person are possible, as many people have more than one degree and quite often these are not in the same field, especially when it concerns two degrees of the same level. The list of educational fields that makes up categorical variables is composed of: Economics; Law; Engineering; Physics; Business (Administration); Mathematics and Computer Science; Political Science; Information and Communication Science; Humanities; Human Resources Management; Sustainable Development and Environmental Sciences; Linguistics; Area Studies; Archaeology, Anthropology, and Culture Studies; Public Administration; Psychology; Primary Education; and Journalism. I used the Sum function in Excel to add up all the zeros and ones for each educational field and used these numbers to get an overview of how many employees had at least one degree in each field.

The fourth Excel page was utilised to list all the universities where each staff member of ACER had obtained a master's degree. The list was so long that, instead of using the normal way of coding for categorical variables by giving each option a separate column and

putting a 0 for no and a 1 for yes, I put all of the universities in one column and alphabetised the list, so I could count how many degrees were obtained from each university and put that number next to each university's name in another table. There was such a large spread (too many universities) without any universities standing out that it did not make sense to use the data on the universities to look for change over time, which means that the data was not used for the correlation analysis and regression analysis.

This way of ordering was sufficient for the creation of the pie-charts, but in order to be able to use the data for further analysis, I created another page on which the data on level of education, field of study and recruitment year were combined. Recruitment year was recoded so that the scale started at 0 which corresponds to the year 2008 and ended at 14, which corresponds to the year 2022. Level of education and field of education were included as dummy variables, which allowed me to run a point biserial correlation and simple logistic regression on the data in excel (by downloading an extension for Excel from real-statistics.com that made it possible to run a logistic regression analysis in Excel). The simple (binary) logistic regression required creating new pages for every regression tested with the independent variable – recruitment year – in the left column (A) and the dependent variable – one of the dummy variables – in the right column (B).

Data Collection

The data required to answer the research question are details about the educational background of ACER's employees. These were found using a free one-month trial of the LinkedIn Sales Navigator Core profile, which allows the user to access 50 profiles per month that are not part of their network. It enables the user to find people and their functions more easily through the Sales Navigator Platform, which allows the user to filter their search through personal details, information about the company, the role of the person within the company, or activities and shared experiences. Additionally, with a Sales Navigator Core profile gives the user the opportunity to unlimitedly browse through people's profiles and create custom lists.

The data collection started at the end of April 2022 by going to the official LinkedIn page of the Agency and clicking on their list of employees, which resulted in a list of 147 employees. Of these 147 employees one person disappeared at the beginning of May because they left the Agency at the end of April, however they are included in the dataset

because the data-collection process had already started at that point. One person had two profiles – one old and one up to date, which means that the educational data on both profiles was the same and the difference was that person's function within the Agency. There was also a profile included on the list that belonged to a food vendor without any relevant information. Thus, the dataset actually consisted of 145 individuals. Of these people, 4 individuals did not have any information on their educational background on their LinkedIn pages and one did not have they year they started at ACER listed, which meant that they could not be included in the dataset. This resulted in educational data on 140 employees of the EU Agency for the Cooperation of Energy Regulators. Controlling for SNEs meant removing three individuals and controlling for the management level means removing 21 more people resulting in a population 116 ACER employees.

Method of Analysis

The analysis used to answer the research question is a quantitative analysis of the hiring preferences of ACER based on the level of education of individuals hired, how many of the current staff members studied within the same educational field, and how many current staff members went to the same university for their master's degree. The analysis of the data was conducted using Excel and the real-statistics resource pack that was downloaded online, which contains additional data analysis tools not provided by Excel such as a binary logistic regression. In order to get a feel for the data, the findings are initially be presented in tables with descriptive statistics of the whole data set accompanied by corresponding pie-charts. From these data it became clear that there were simply too many categories withing the variable university, which meant that this variable is excluded from further analyses. To get an overview of how the distributions change of the relevant variables (level of education and field of education) change over time, descriptive statistics of these data are presented per 5-year interval accompanied by pie charts. To test the relationship between the independent variable recruitment year and the relevant dependent variables two statistical analyses are used. Because the data set consists of numerical data for the independent variable and a binary or dummy variable for the dependent variable, one must use a point biserial correlation analysis when testing for a correlation and a simple binary logistic regression when running a regression between a continuous and categorical variable (Statology, 2020; Statology, 2022).

The results from the correlation analysis are presented in tables with columns for the dependent variable, the independent variable, the point biserial correlation (with the degrees of freedom in brackets) and the p-value. A positive value for the point biserial correlation is positive indicates a positive correlation between the independent and dependent variable. A negative value for the point biserial correlation indicates a negative correlation between the independent and dependent variable. The p-value signifies statistical significance. The significance level used is 5% or 0.05.

The results from the regression analysis are presented in tables with columns for the dependent variable, the independent variable, the coefficient, the odds ratio (with the 95% Confidence Interval between brackets), and the p-value. The coefficient and the odds ratio demonstrate the nature and the strength of the relationship. The statistical significance is assessed using the p-value with the significance level set at 5% or 0.05. Sometimes, the value for pseudo R-squared is also included when reporting logistic regressions in academic research as an indicator of the percentage of variation of the dependent variable that is explained by the independent variable. I have not included this because the usefulness of pseudo R-squared in logistic regressions is contested, which means that no conclusions can be drawn from it and it is therefore not useful to include it (UCLA, n.d.).

Reliability and Validity

There is no concern about the reliability of this research as this whole process can be repeated by others since publicly accessible online resources were used, but there are some concerns regarding the validity of this research. The concerns for internal validity are that there is no way of verifying whether the educational data people provide on LinkedIn is true, which means that we need to trust that people use LinkedIn honestly. And there is the concern that not everyone who works for ACER has a LinkedIn profile, which could create a selection bias where individuals who dislike using such media or who are not technologically proficient are excluded. Moreover, one could say that the fact that this research is not generalisable to a wider population poses a threat for its external validity (Toshkov, 2016). However, as generalisability was never the aim of this research since it is very case-specific and includes all the employees listed on LinkedIn with useable profiles, I would say that these concerns are not preventable.

Chapter 4: Analysis

The analysis section will be divided into three parts: the first part will cover the descriptive statistics that will lead to some preliminary ideas about hypotheses 1 to 3, the second part will show descriptive statistics divided into three 5-year intervals to show how the distribution of the variables level of education and field of education change in order to assess hypotheses 4 to 6, whereas the third part will more explanatory, focusing on the correlation and regression analyses to be able to say something about all of the hypotheses

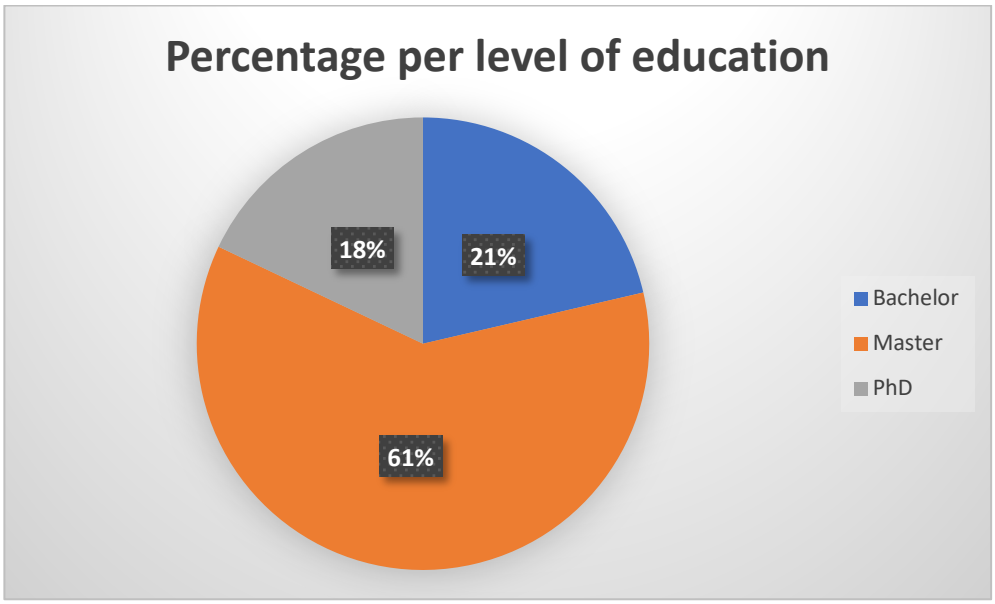
Descriptive Statistics

The descriptive statistics of the categorical dependent variable level of education are presented in *table 1* below. The table shows both the frequency – meaning the amount of people who have either a Bachelor's degree, Master's degree, or PhD as their highest level of education as well as the share of the population that has that level of education.

Table 1 - Descriptive statistics of the categorical variable level of education

Level of Education	**Frequency**	**Share (in %)**
Bachelor	24	21
Master	71	61
PhD	21	18

Graph 1 – spread in level of education



The overall distribution of the level of education as seen in *graph 1* shows that a substantial majority of the employees of ACER have obtained a Master's degree as their highest level of education. Less than a quarter of the employees have a Bachelor's degree as their highest educational qualification, which means that more than three-quarters of the employees of ACER can be said to have a greater level of expertise than the three years of university education that are formally required for their position. This seems to indicate that ACER does indeed have a preference for hiring individuals with a greater degree of specialisation as indicated by level of education.

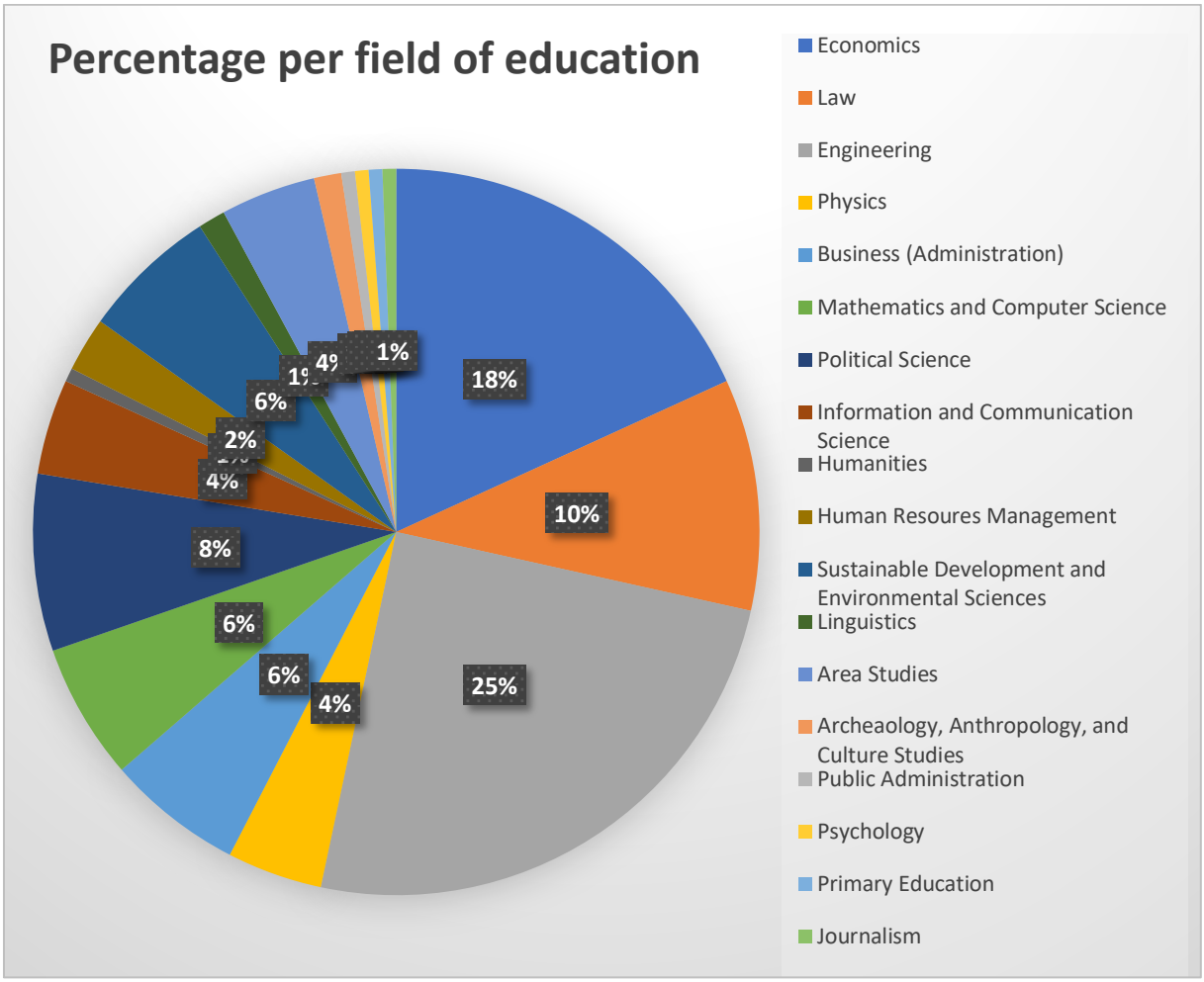
The descriptive statistics of the categorical dependent variable field of education are presented in *table 2* below. The table shows both the frequency – meaning the amount of people who have a degree in the field as well as the share of the population that has that has a degree in that field.

Table 2 – Descriptive statistics of the categorical variable field of education

Field of Education	**Frequency**	**Share (in %)**
Economics	30	18.0
Law	17	10.2
Engineering	42	25.1
Physics	7	4.2
Business (Administration)	11	6.6
Mathematics and Computer Science	10	6.0
Political Science	13	7.8
Information and Communication Science	7	4.2
Humanities	1	0.6
Human Resources Management	4	2.4
Sustainable Development and Environmental Sciences	10	6.0

Linguistics	2	1.2
Area Studies	7	4.2
Archaeology, Anthropology, and Culture Studies	2	1.2
Public Administration	1	0.6
Psychology	1	0.6
Primary Education	1	0.6
Journalism	1	0.6

Graph 2 – spread in field of education



The overall distribution of the field of education as seen in *graph 2* shows that there are three fields of education that together represent slightly more than half of the total degrees. These fields are Economics, Law, and Engineering. The remaining slightly less than

half of the total degrees are composed of the other 15 fields of education. The fact that the three fields in which ACER employees have the most degrees make up only slightly more than half of all the degrees combined with the relatively large spread of degrees that make up the rest seems to somewhat of a preference for people with a specific educational background, but there does not appear to be strong preference for people who are educated in similar fields of education, since Economics, Law , and Engineering are very distinct fields of education.

The descriptive statistics of the categorical dependent variable university are presented in *table 3* below. The table shows both the frequency – meaning the amount of people who have a degree from this university as well as the share of the population that has that has a degree from that university. In this case, the table is more easily interpretable because the number of universities is so large that the number of categories are nearly overwhelming, which is demonstrated by *graph 3* below. Most of the universities represent only 1 or 2 percent of the total universities from which a degree is obtained. There are three universities that represent a slightly larger proportion: the University of Ljubljana represents 7.3%, the KU Leuven represents 5.5%, and Corvinus University of Budapest represents 3.6%. These statistics show that there is absolutely no indication of a preference for a degree obtained from a specific university, which means that is does not make sense to look for some trend over time.

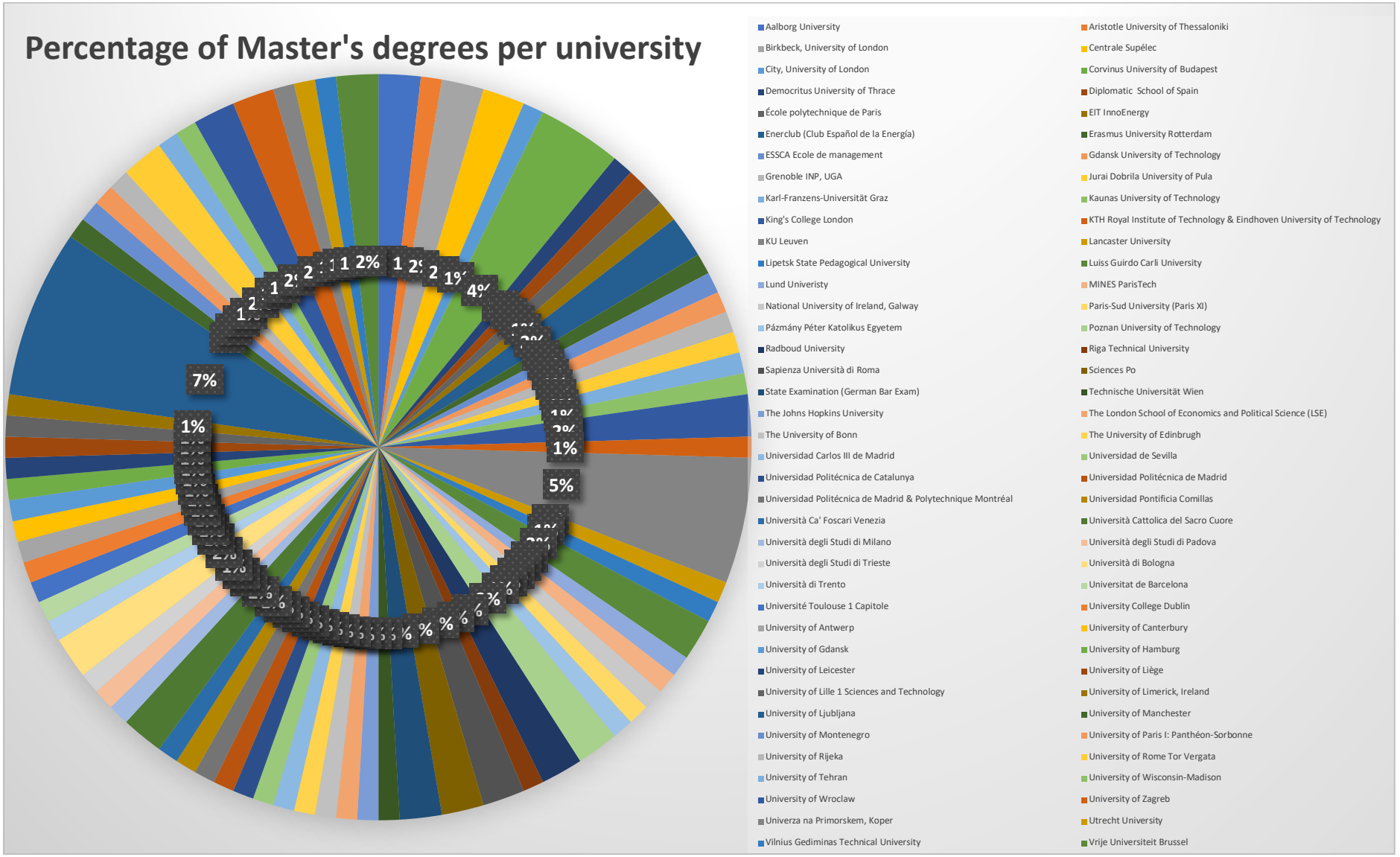
Table 3 – Descriptive statistics of the categorical variable university

University	Frequency	Share (in %)
Aalborg University	2	1.8
Aristotle University of Thessaloniki	1	0.9
Birkbeck, University of London	2	1.8
Centrale Supélec	2	1.8
City, University of London	1	0.9
Corvinus University of Budapest	4	3.6
Democritus University of Thrace	1	0.9
Diplomatic School of Spain	1	0.9
École polytechnique de Paris	1	0.9
EIT InnoEnergy	1	0.9
Enerclub (Club Español de la Energía)	2	1.8
Erasmus University Rotterdam	1	0.9
ESSCA Ecole de management	1	0.9
Gdansk University of Technology	1	0.9
Grenoble INP, UGA	1	0.9
Jurai Dobrila University of Pula	1	0.9
Karl-Franzens-Universität Graz	1	0.9
Kaunas University of Technology	1	0.9
King's College London	2	1.8
KTH Royal Institute of Technology & Eindhoven University of Technology	1	0.9
KU Leuven	6	5.5
Lancaster University	1	0.9
Lipetsk State Pedagogical University	1	0.9
Luiss Guirdo Carli University	2	1.8
Lund Univeristy	1	0.9

MINES ParisTech	1	0.9
National University of Ireland, Galway	1	0.9
Paris-Sud University (Paris XI)	1	0.9
Pázmány Péter Katolikus Egyetem	1	0.9
Poznan University of Technology	2	1.8
Radboud University	2	1.8
Riga Technical University	1	0.9
Sapienza Università di Roma	2	1.8
Sciences Po	2	1.8
State Examination (German Bar Exam)	2	1.8
Technische Universität Wien	1	0.9
The Johns Hopkins University	1	0.9
The London School of Economics and Political Science (LSE)	1	0.9
The University of Bonn	1	0.9
The University of Edinbrugh	1	0.9
Universidad Carlos III de Madrid	1	0.9
Universidad de Sevilla	1	0.9
Universidad Politécnica de Catalunya	1	0.9
Universidad Politécnica de Madrid	1	0.9
Universidad Politécnica de Madrid & Polytechnique Montréal	1	0.9
Universidad Pontificia Comillas	1	0.9
Università Ca' Foscari Venezia	1	0.9
Università Cattolica del Sacro Cuore	2	1.8
Università degli Studi di Milano	1	0.9
Università degli Studi di Padova	1	0.9
Università degli Studi di Trieste	1	0.9
Università di Bologna	2	1.8

Università di Trento	1	0.9
Universitat de Barcelona	1	0.9
Université Toulouse 1 Capitole	1	0.9
University College Dublin	1	0.9
University of Antwerp	1	0.9
University of Canterbury	1	0.9
University of Gdansk	1	0.9
University of Hamburg	1	0.9
University of Leicester	1	0.9
University of Liège	1	0.9
University of Lille 1 Sciences and Technology	1	0.9
University of Limerick, Ireland	1	0.9
University of Ljubljana	8	7.3
University of Manchester	1	0.9
University of Montenegro	1	0.9
University of Paris I: Panthéon-Sorbonne	1	0.9
University of Rijeka	1	0.9
University of Rome Tor Vergata	2	1.8
University of Tehran	1	0.9
University of Wisconsin-Madison	1	0.9
University of Wroclaw	2	1.8
University of Zagreb	2	1.8
Univerza na Primorskem, Koper	1	0.9
Utrecht University	1	0.9
Vilnius Gediminas Technical University	1	0.9
Vrije Universiteit Brussel	2	1.8

Graph 3 – spread of universities



Descriptive Statistics per 5-year Interval

The descriptive statistics of the categorical dependent variable level of education are presented per 5-year interval in *table 4* below. The table shows the frequency, meaning the amount of people who have either a Bachelor's degree, Master's degree, or PhD as their highest level of education per 5-year interval, which is translated into the share of the population hired during a specific period that has that level of education in *graph 4, 5, and 6.*

From these graphs, one can deduce that the share of ACER employees with Bachelor's degrees that were hired in the period 2013-2017 has increased compared to the share of ACER employees with Bachelor's degrees that were hired in the period 2008-2012. The share of ACER employees with Bachelor's degrees that were hired in the period 2018-2022 has decreased compared to the share of ACER employees with Bachelor's degrees that were hired in the period 2013-2017 as well 2008-2012.

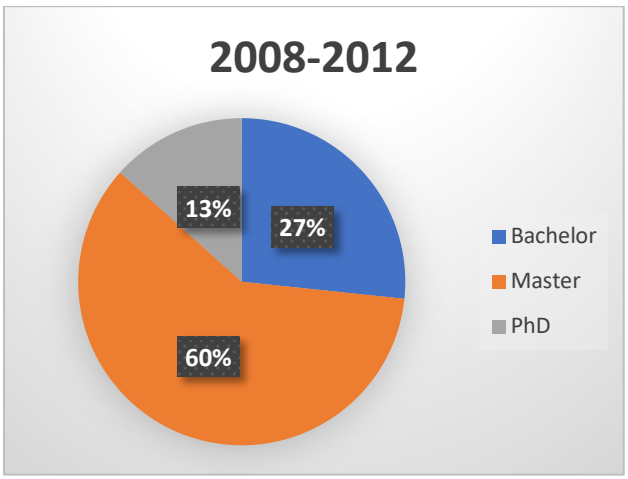
The share of ACER employees with Master's degrees that were hired in the period 2013-2017 has decreased compared to the share of ACER employees with Bachelor's degrees that were hired in the period 2008-2012. The share of ACER employees with Master's degrees that were hired in the period 2018-2022 has increased compared to the share of ACER employees with Bachelor's degrees that were hired in the period 2013- 2017 as well as 2008-2012.

The share of ACER employees with a PhD that were hired in the period 2013-2017 has increased compared to the share of ACER employees with PhDs that were hired in the period 2008-2012. The share of ACER employees with PhD that were hired in the period 2018-2022 has decreased compared to the share of ACER employees with PhDs that were hired in the period 2013-2017, yet increased compared to the share of ACER employees with PhDs that were hired in the period 2008-2012.

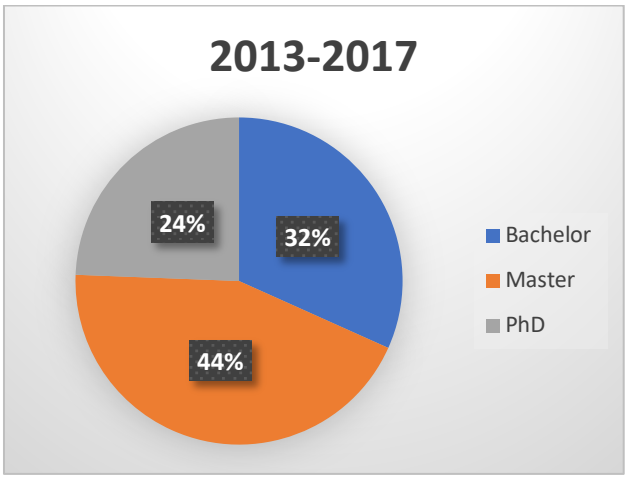
Table 4 - Level of education per 5-year interval

	Bachelor	Master	PhD
2008-2012	4	9	2
2013-2017	13	18	10
2018-2022	7	44	9

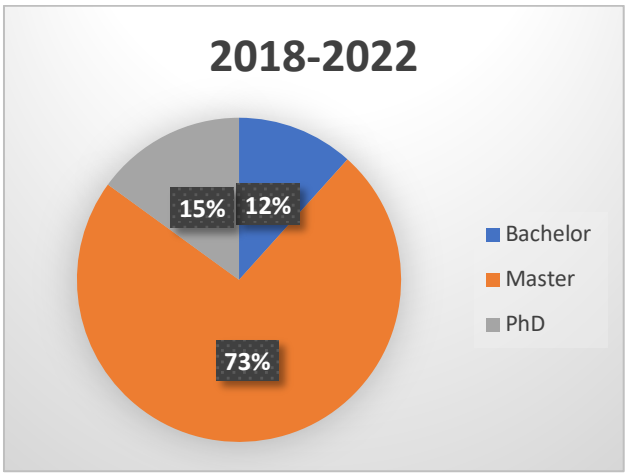
Graph 4 – distribution of level of education 2008-2012



Graph 5 – distribution of level of education 2013-2017



Graph 6 – distribution of level of education 2018-2022



The descriptive statistics of the categorical dependent variable field of education are presented per 5-year interval in *table 5, 6 and 7* below. The tables shows the frequency,

meaning the amount of people who were hired during the 5-year interval and have a degree in that field of education, which is translated into the share of the population hired during a specific period that has a degree in that field in *graph 7, 8, and 9.*

Looking at the tables and the graphs shows that Economics, Law, and Engineering have always been the main fields of education in which ACER employees have a degree. Their share has decreased slightly over time as more diversity in field of education arose over time, however at least half of the employees hired in any of the 5-year intervals have a degree in one these three fields.

Table 5 – Field of education 2008-2012

Field of education 2008-2012	frequency
Economics	4
Law	3
Engineering	5
Physics	0
Business (Administration)	0
Mathematics and Computer Science	2
Political Science	2
Information and Communication Science	0
Humanities	0
Human Resources Management	0
Sustainable Development and Environmental Sciences	0
Linguistics	0
Area Studies	1
Archaeology, Anthropology, and Culture Studies	0
Public Administration	0
Psychology	0
Primary Education	0
Journalism	1

Graph 7 – distribution of field of education 2008-2012

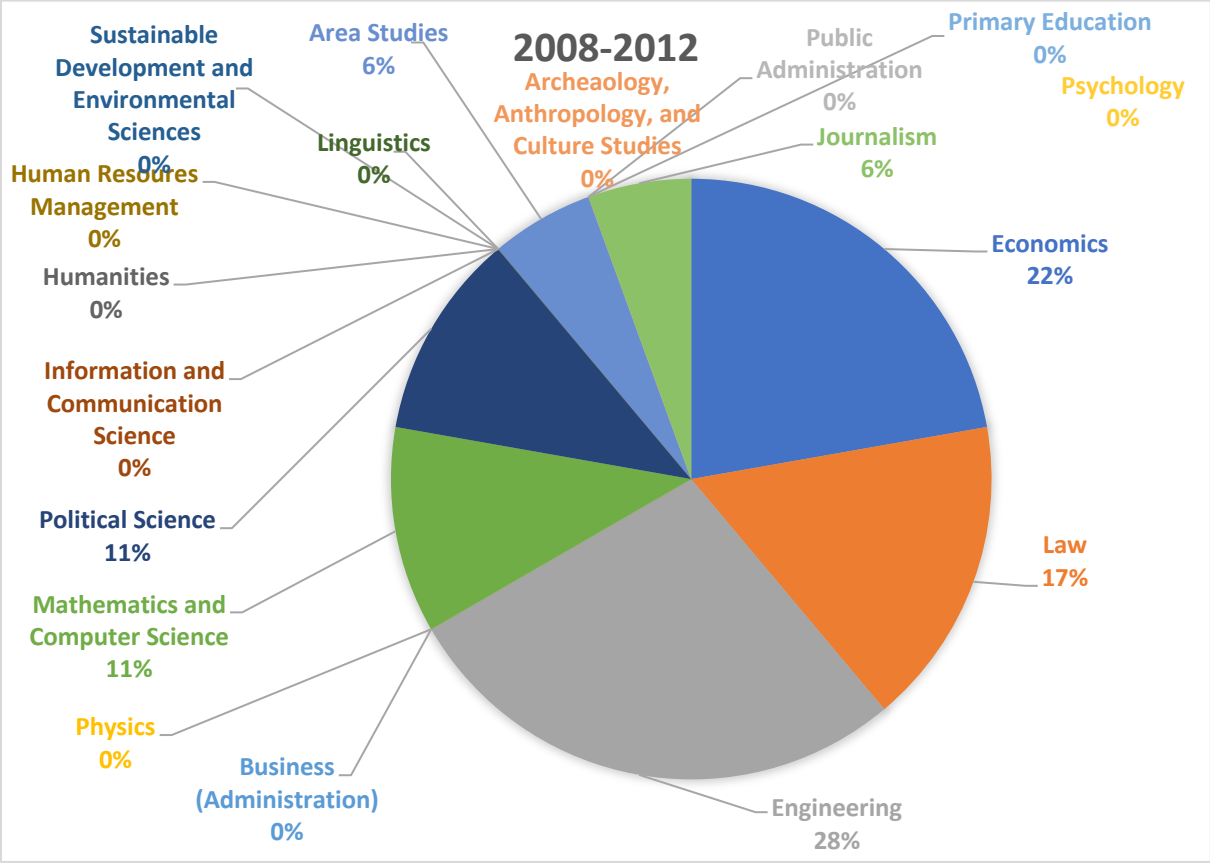


Table 6 – Field of education 2013-2017

Field of education 2013-2017	frequency
Economics	11
Law	6
Engineering	14
Physics	3
Business (Administration)	3
Mathematics and Computer Science	2
Political Science	5
Information and Communication Science	5
Humanities	1
Human Resources Management	4
Sustainable Development and Environmental Sciences	4
Linguistics	1
Area Studies	1
Archaeology, Anthropology, and Culture Studies	1
Public Administration	0
Psychology	0
Primary Education	0
Journalism	0

Graph 8 – distribution of field of education 2008-2017

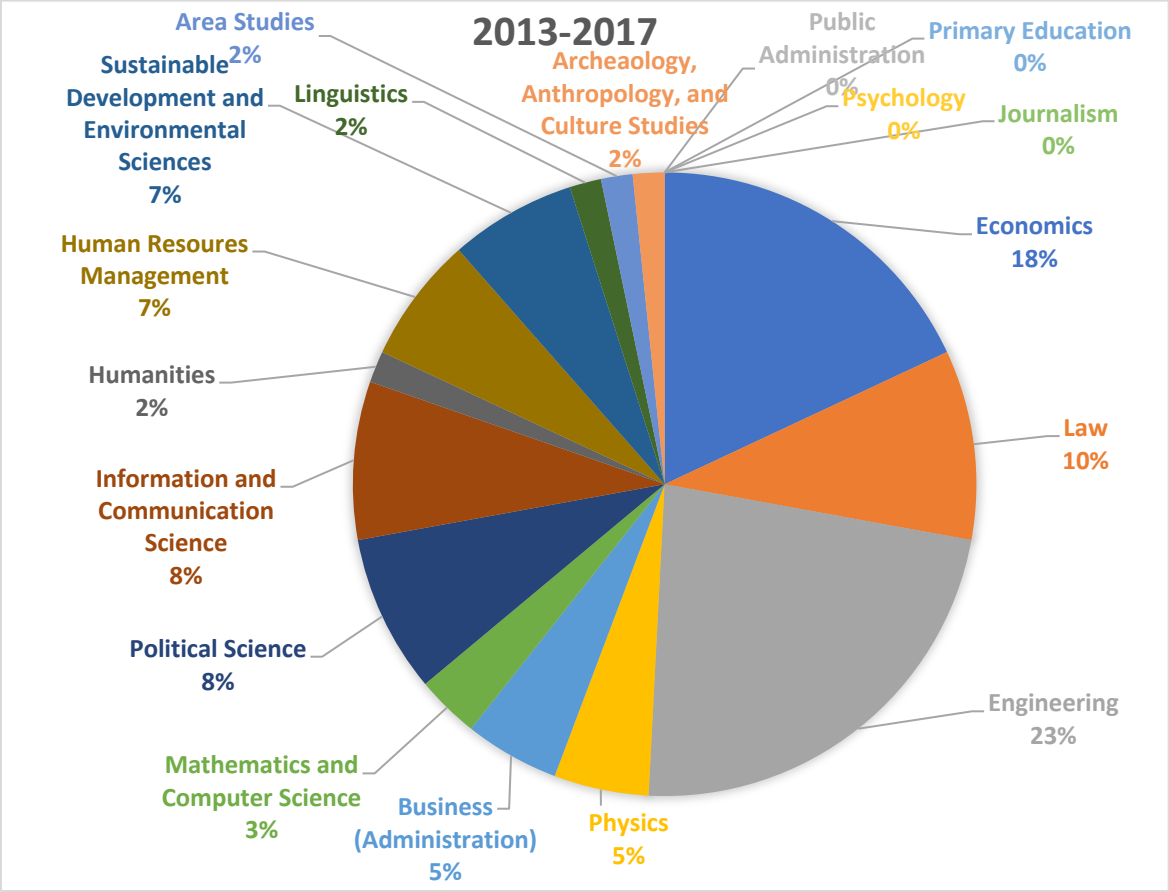
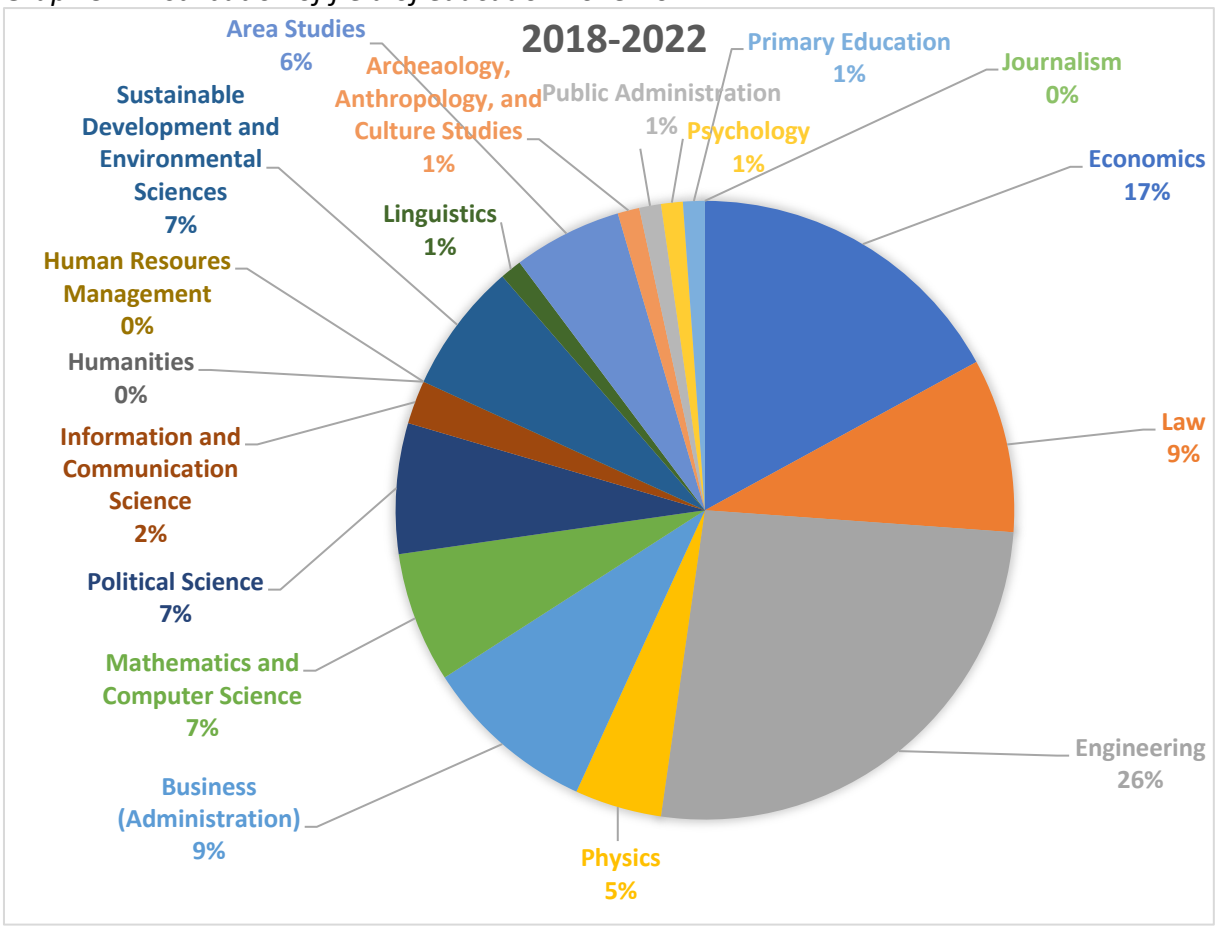


Table 7 – Field of education 2018-2022

Field of education 2018-2022	frequency
Economics	15
Law	8
Engineering	23
Physics	4
Business (Administration)	8
Mathematics and Computer Science	6
Political Science	6
Information and Communication Science	2
Humanities	0
Human Resources Management	0
Sustainable Development and Environmental Sciences	6
Linguistics	1
Area Studies	5
Archaeology, Anthropology, and Culture Studies	1
Public Administration	1
Psychology	1
Primary Education	1
Journalism	0

Graph 9 – Distribution of field of education 2018-2022



Explanatory Statistics: Correlation and Regression

In this section, the hypotheses that were formulated in the theoretical expectations part of chapter two, about the preferences for expertise and field of education will be tested so that they can be confirmed or rejected. This way the question: "To what extent do the hiring practices of ACER contribute to the creation of epistemic communities, and how has this changed during the period 2008-2022?" is addressed.

As explained in the method section, the statistical methods that are used for this purpose are a biserial point correlation and a logistic regression. The outcome of the biserial point correlation for dependent variable level of education is presented in *table 8.* The outcome of the logistic regression for the same variable is presented in *table 9*. The outcome of the biserial point correlation for dependent variable field of education is presented in *table 10.* The outcome of the logistic regression for the same variable is presented in *table 11*.

Table 8 – Point Biserial Correlation analysis: level of education

Dependent variable	**Independent variable**	**Point biserial correlation (114)**	**P**
Bachelor	Recruitment year	-0.1954	0.0356*
Master	Recruitment year	0.1927	0.0383*
PhD	Recruitment year	-0.0383	0.6831

*Significant at the p < 0.05 level.

Table 9 – Simple Logistic Regression Analysis: level of education

Dependent variable	**Independent variable**	**Coefficient**	**Odds Ratio (95% confidence interval)**	**P-value**
Bachelor	Recruitment year	-0.131	0.877 (0.774; 0,994)	0.039*
Master	Recruitment year	0.111	1.117 (1,005; 1,242)	0.041*
PhD	Recruitment year	-0.027	0.973 (0.855; 1.108)	0.680

*Significant at the p < 0.05 level.

Table 10 – Point Biserial Correlation analysis: field of education

Dependent variable	**Independent variable**	**Point biserial correlation (114)**	**P**
Economics	Recruitment year	0.0449	0.6322
Law	Recruitment year	-0.0676	0.4707
Engineering	Recruitment year	0.0782	0.4040
Physics	Recruitment year	0.0498	0.5956
Business (Administration)	Recruitment year	0.1454	0.1195
Maths and Computer Science	Recruitment year	-0.0250	0.7898
Political Science	Recruitment year	-0.0137	0.8835
Information and	Recruitment year	-0.0911	0.3309

Communication Science			
Humanities	Recruitment year	-0.0335	0.7210
Human Resources Management	Recruitment year	-0.1204	0.1978
Sustainable Development and Environmental Sciences	Recruitment year	0.0945	0.3131
Linguistics	Recruitment year	0.0444	0.6358
Area Studies	Recruitment year	0.0397	0.6720
Archaeology, Anthropology, and Culture Studies	Recruitment year	-0.0108	0.9085
Public Administration	Recruitment year	0.0960	0.3050
Psychology	Recruitment year	0.0960	0.3050
Primary Education	Recruitment year	0.0960	0.3050
Journalism	Recruitment year	-0.1372	0.1420

Table 11 – Simple Logistic Regression analysis – field of education

Dependent variable	**Independent variable**	**Coefficient**	**Odds Ratio (95% confidence interval)**	**P-value**
Economics	Recruitment year	0,029	1.029 (0.915; 1.157)	0.629
Law	Recruitment year	-0.052	0.949 (0.825; 1.092)	0.468
Engineering	Recruitment year	0.046	1.047 (0.941; 1.165)	0.401
Physics	Recruitment year	0.061	1.063 (0.849; 1.331)	0.593
Business (Administration)	Recruitment year	0.161	1.175 (0.955; 1.446)	0.128
Maths and Computer Science	Recruitment year	-0.024	0.976 (0.817; 1.165)	0.788
Political Science	Recruitment year	-0.012	0.988 (0.843; 1.159)	0.882
Information and Communication Science	Recruitment year	-0.101	0.904 (0.737; 1.109)	0.333
Humanities	Recruitment year	-0.095	0.909 (0.539; 1.534)	0.721
Human Resources Management	Recruitment year	-0.173	0.842 (0.642; 1,103)	0.212

Sustainable Development and Environmental Sciences	Recruitment year	0.103	1.108 (0.907; 1.353)	0.315
Linguistics	Recruitment year	0.105	1.111 (0.717; 1.722)	0.637
Area Studies	Recruitment year	0.048	1.049 (0.841: 1.310)	0.670
Archaeology, Anthropology, and Culture Studies	Recruitment year	-0.023	0.978 (0.667; 1,433)	0.908
Public Administration	Recruitment year	0.643	1.902 (0.413; 8.757)	0.409
Psychology	Recruitment year	0.643	1.902 (0.413; 8.757)	0.409
Primary Education	Recruitment year	0.643	1.902 (0.413; 8.757)	0.409
Journalism	Recruitment year	-0.445	0.641 (0.312; 1.315)	0.225

As demonstrated by the * next to the p-values in the tables above, there are only two statistically significant relationships and these are 1) between the independent variable recruitment and Bachelor's degree as dependent level of education, and 2) between the independent variable recruitment and Master's degree as dependent level of education. For the first significant relationship, the logistic regression shows an odds ratio of 0.877 (*table 9*) which means that there is a relatively small negative relationship between ACER employees' recruitment year and having a Bachelor's degree. For the second significant relationship, the logistic regression shows an odds ratio of 1.117 (*table 9*) meaning that there is a relatively small positive relationship between ACER employees' recruitment year and having a Master's degree.

Based on the results above, the conclusion must be drawn that the only hypothesis that is supported by the data and is statistically significant is hypothesis 1: there will be a preference for more specialised knowledge, which concretely means that ACER will prefer hiring individuals with a higher level of education. The statistical data show that this preference leads to an increased likelihood of hiring people with a Master's degree as time (recruitment year) increases as well as a decreased likelihood of hiring people with a Bachelor's degree as time (recruitment year) increases.

The rest of the hypotheses are not supported by the data and are thus rejected:

- Hypothesis 2: there will be a preference for people with a comparable knowledge base, therefore ACER will prefer hiring individuals who have the same area(s) of expertise and thus have received a degree in the same field(s).
- Hypothesis 3: there will be a preference for individuals who have similar norms and values, which means that ACER will prefer hiring new employees that attended the same universities as current employees.
- hypothesis 4: ACER will consistently prefer hiring people who have a higher level of education, meaning that there is no change over time.
- hypothesis 5: ACER will consistently prefer hiring people who have the same area(s) of expertise and thus have received a degree in the same field(s), meaning that there is no change over time.
- hypothesis 6: ACER will not have a preference for hiring individuals that attended a specific university during the first 5-year years, as this can be seen as the time during which the 'original' group is formed, based on which preferences for universities will develop. But after this period, the preference for people who attended the same universities will be consistent.

Based on these results the conditions for the creation of an epistemic community through hiring practices have not been met as there needs to be evidence for both expertise and initial overlap in values, interests, and priorities. Because the data do not show a preference for a particular field of expertise or university, it cannot be said that the socialisation criterion is met. One cannot conclude there to be a selection based on comparable knowledge or interests during the hiring process.

Something else to note is the fact that the three fields of education in which more than half of ACER employees have a degree are so different from each other, that this could possibly work to prevent epistemic community formation: experts in the field of Economics will most likely focus on whether a policy is feasible and perhaps even profitable, whereas experts in Law will determine if it is legally possible, and experts in Engineering will assess the technical possibilities.

The answer to the research question "to what extent do the hiring practices of the EU Agency for Cooperation of Energy Regulators contribute to the creation of an epistemic community, and how has this changed over time?" is thus that ACER's hiring practices do not contribute to the creation of an epistemic community because a preference for a higher level of education that corresponds to a trend of increased likelihood of hiring people with a that degree of specialisation does meet the epistemic community criteria.

This does, however, not mean that it is impossible for an epistemic community to exist within ACER, only that the hiring practices of the agency do not contribute to this creation. The definition of organisational socialisation as mentioned before is "the process by which people learn about, adjust to, and change the knowledge, skills, attitudes, expectations, and behaviours needed for a new or changing organizational role" (Berkelaar & Harrison, 2019, p.1), which means that it is a possibility for people with very different educational backgrounds to be socialised into adopting the values of an organisation and prioritising the needs of ACER above valuing a plurality of opinions.

The implication of this is that it is very unlikely for groupthink to occur. Although ACER appeared at first glance to meet two of the structural faults of an organisation that facilitate the sub-optimal decision-making resulting from groupthink:

1 - Formal autonomy in the form of mandated independence, which means insulation of the group of experts from the rest of the international organisation. And

4 – Homogeneity of members' social background and ideology: university educated, which usually means high socio-economic status and trained in a specific way of (analytical) thinking with at least a basic understanding of methodological norms and procedures ('t Hart, 1991). This research has shown that it cannot be concluded that the backgrounds of ACER employees are homogenous.

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Chapter 5: Conclusion

In conclusion, there is no substantial evidence that the hiring practices of the EU Agency for Cooperation of Energy Regulators contribute to the creation of an epistemic community. As stated before, classifying this group of employees as an epistemic community requires expertise, a shared knowledge base, and degree of socialisation, which practically means a large degree of overlap in knowledge, normative beliefs, and interests. Based on the research which only found support for level of expertise, there is thus no indication for a large degree of overlap in knowledge-base, normative beliefs, and interests. The results indicate the ACER staff members have a wide variety in terms of both educational field and socialisation. The only thing one can conclude is that there seems to be a preference for hiring people with a greater degree of expertise, but that is to be expected when examining the staff of a specialised EU agency.

The implications of this research are that if the decisions made by ACER deviate from what the member states want and thus indirectly deviated from the will of the people, this is not the result of an epistemic community created by ACER's hiring practices, but it could still be caused by a community of experts who have decided what the best course of action is.

The contribution of this thesis to the academic literature lies in adding to the limited data on recruitment by European Agencies in that they not only use meritocratic instruments but that these instruments used during the recruitment process by ACER do not contribute to the creation of epistemic community.

The limitations of this research are that it cannot definitively say anything about the possibility of an epistemic community to be formed within ACER or for groupthink to occur because of too much concurrence seeking among a group of very likeminded individuals. The only thing the data have made clear is that ACER's hiring practices do not facilitate the creation of an epistemic community. Since there is no direct societal control over EU decision-making, it is important to know who the people are that play an important role in shaping the decisions made by international governmental organisations and how they are selected. What this research has shown is that the employees of ACER are not selected based on how similar they are in terms of educational or socialisation background.

What is not included in the research and is worth considering as an important factor in the socialisation process is the employee's attitude towards the EU before they started working for an EU agency, as there is a mechanism of self-selection: those who do not look

favourably upon the EU as a whole are less likely to apply for a position within the any of the EU bodies, whether they are tasked with making decisions or providing information. A future research project could look into the motivation of applicants to an EU agency and compare it to the motivation of the current staff of the agency to determine to what extent self-selection plays a role in the application process and thus indirectly in the recruitment process as well.

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