

Working the Boundaries of Social Work: Artificial Intelligence and the Profession of Social Work

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Abstract

Artificial intelligence (AI) and algorithmic decision-support are relatively new technologies within the field of social work. This paper investigates how the social work profession in Denmark responds to the current technological changes. Analysing articles from professional journals associated with the Danish Association of Social Workers, online content on the association's website, and interviews with key actors involved in the association's work on technology, this paper shows how professional agents legitimize and criticise these technologies, thereby performing different kinds of boundary work. The paper will show how such boundary work, carried out by the profession of social work in Denmark, change over time, and how, in the discussion on artificial intelligence, the profession reinforces its own position within the welfare state, demarcates the boundaries between the profession of social work and other occupational groups, and formulates a new professional project.

Keywords

Social work, artificial intelligence, boundary work, professional jurisdiction, welfare professionals

Introduction: New technologies, changing professional jurisdictions

Artificial intelligence and algorithms are rapidly becoming new technologies in public administration and within the field of social work (see for instance, Eubanks, 2018; Gillingham, 2019; Ting et al., 2018). Artificial intelligence is used to analyse large amounts of data for the purpose of finding connections and patterns. In social work, artificial intelligence is for instance used in municipal case management of the unemployed to determine the risks of long-term unemployment (Seidelin et al., 2022) by analysing different historical data and variables. In child welfare and protection services, municipalities also test and implement artificial intelligence to determine risks and prioritize resources (Schwartz et al., 2004). The political incentive for implementing these technologies is that they are said to enhance the consistency, transparency, accuracy, and effectiveness in social work (Coulthard et al., 2020; Schwartz et al., 2004). Other actors, however, criticize the technologies for standardizing social work, for stigmatizing and discriminating against certain groups of citizens, and for not being able to replace professional discretion and judgement (Eubanks, 2018). In Denmark, several projects with artificial intelligence within social work have sparked a debate in the media about profiling, stigmatization, and discrimination (Kristensen, 2022).

New technologies present themselves as options for professions to develop new work tasks; they are opportunities for professions to claim new areas of expertise (Abbott, 1988; Timmermans, 2002). However, technologies also have the potential to destroy existing professional work tasks (Abbott, 1988; Susskind & Susskind, 2015). Thus, a new technology, such as artificial intelligence, has the potential to change the work tasks of social workers radically. In the process of adapting to new technological changes, professions use *boundary work* to defend their work areas. In the sociology of professions, the concept of boundary work, originally coined by Gieryn (1983), has been used to analyse how professions demarcate their own areas of authority and control from that of other professions (e.g., Allen 2000; Halpern, 1992; Timmermans, 2002), and other groups, such as clients and state agencies (e.g., Fournier, 2000; Liu, 2008). Some of these studies (Liu, 2008; Timmermans, 2002) build specifically on Andrew Abbotts work (1988) that posits that in claiming areas of expertise, authority, and control, professions are always competing, coordinating, and negotiating with adjacent professions, striving to legitimize their own role, and that changes in work tasks lead to changes in professional jurisdictions and in the professions themselves (Abbott, 1988). It follows that such a *system of professions* will always be in process (Bucher & Strauss, 1961).

In this paper, I try to answer the question: How does the profession of social work in Denmark respond to artificial intelligence? This paper shows how new technologies, such as artificial intelligence, predictive algorithms, and algorithmic decision-support, challenge the profession of social work and its core work tasks, but the paper also shows how social workers use the new field of artificial intelligence to reinforce the concepts of professionalism and expertise within the field of social work. As a so-called “welfare profession” (Brante 1990), social

work has less authority and control over its own work tasks than “traditional” professions such as medicine and law. Therefore, social work faces challenges in building professional “projects” (Harrits & Larsen, 2016; Larson, 2013) and claiming professional jurisdiction. The analysis explores the boundary work of a welfare profession and shows how this professional boundary work changes over time. In this paper, I show how the profession of social work performs boundary work relating to other professions and different work tasks, and the development in how the profession of social work justifies its work and authority in relation to artificial intelligence: from focusing on how artificial intelligence can remove certain administrative and bureaucratic tasks, to beginning to formulate a new professional project, in which social workers are involved in the development of artificial intelligence systems.

Artificial intelligence is a broad term that covers many different technological systems. These technologies do very different things in professional practice. One distinction is between fully automated decision-making systems, on the one hand, and systems that provide additional and optional information, on the other. Danish municipalities have implemented AI in social work in very limited areas, contributing to uncontroversial work tasks, such as the collection of specific information from different systems. However, as the analysis will show, there are projects that work with artificial intelligence in more complex areas, such as using AI in decision-making processes related to child protection services. In this paper, I analyse how the profession of social work engages with the concept of artificial intelligence. These discussions are often unclear as to the specificities of the systems but relate more to the broad concept of AI. However, my analysis shows how the professions themselves become more aware of the differences and nuances in the ways in which artificial intelligence can be used.

The rest of the paper will proceed as follows: Drawing on the sociology of professions, I will first describe the professional jurisdiction of social work and professional boundary work. The theoretical framework is based on an interactionist, processual sociology of professions, such as Abbott (1988), Bucher and Strauss (1961), and Liu (2018). I will then continue to describe the design, data, and methods of the study. Next, I will analyse my material in three analytical sections and, finally, I will present my conclusion on how, as a profession, social work is striving to uphold its own boundaries, when confronted with a new technology such as artificial intelligence.

Theory: The jurisdiction of social work and (welfare) professional boundary work

Many studies emphasize how technology will change professional work and the role of professions (Abbott, 1988; Timmermans, 2002). In a recent contribution, Daniel Susskind and Richard Susskind (2015) argue that technology will fundamentally change—and is already changing—the role of professions to the point where the profession as an institution will disappear, because expertise will be accessible to consumers and citizens to a new degree. For instance, new technologies increase the *routinization of professional work* (making it easier

to standardize and automate professional work tasks) and introduce *new competition* from technical actors and organizations.

A growing body of literature has analysed the influence of algorithmic systems on frontline work and decision-making in public organizations (see for instance, Brown et al., 2019; Coulthard et al., 2020; Gillingham, 2019; Peeters, 2020; Petersen et al., 2021). Within the area of social work and politics, studies such as Virginia Eubanks (2018) and Cathy O'Neil (2016) show how predictive algorithms and automated decision-making are biased and systematically profile people, who already lack resources and are in contact with the welfare system. As other studies have also shown (Høybye-Mortensen, 2015), decision-making systems are not neutral technologies but impact professional behaviour and human decision-making. With these insights in mind, Peeters (2020) suggests analyses that focus on the human-algorithm interaction and, among other things, recommends, that professionals should be trained in supervising the algorithms they work with.

In this study, I analyse social work as a so-called welfare profession (Brante, 1990). Welfare professions are closely linked with the welfare state. Compared with the more classic professions, such as medicine and law, they do not have the same amount of authority, power, and control over work tasks and education (Toren, 1972, p. 14). In their work, welfare professions are continually in direct contact with citizens, clients, students, and patients (Kamp, 2016). It is characteristic of welfare professions that municipalities, regions, or the state employ most of the professionals. The various welfare professions differ as to how heavily public policies regulate their work. In Denmark, social work is heavily regulated, especially with respect to areas such as municipal employment. This, and other characteristics, have led Danish researchers to claim that the jurisdiction of social work in Denmark is not very consolidated (Dalgaard, 2014). Here, two characteristics are defining and relevant in relation to the professional position and status of social work.

First, social work is a profession with considerable administrative responsibility and administrative work tasks, but social workers do not define themselves as administrators. Abbott claims that social work has always fought to define its boundaries in relation to administrative work (Abbott, 1995). As early as 1972, Toren described how social workers in the US tried to get rid of their administrative tasks to free up more time for rehabilitative casework (1972). The professional and academic discussion within social work concerning various New Public Management tools has, among other things, centred on new demands for registration and documentation (Mik-Meyer, 2018; Parton, 2008). The Danish Association of Social Workers (Dansk Socialrådgiverforening [hereafter DS], 2010) has demonstrated how much time social workers spend on activities such as documentation, and how little they spend on direct contact with citizens. Professions in general, and welfare professions in particular, are dealing with similar issues concerning administrative and bureaucratic tasks. However, the discussion is especially pronounced in social work.

Secondly, there is a notable and lively discussion in social work about the trend towards standardization and the possibilities of maintaining and sustaining the role of professional discretion (e.g., Brodtkin, 2011; Evans, 2011; Evans & Harris, 2004; Ponnert & Svensson, 2016). The literature defines professional discretion as the ability to apply knowledge-based principles in concrete cases by drawing on expertise and experience (Molander et al., 2012). The literature on professions has also debated issues concerning standardization and the room for professional discretion (e.g., Timmermans, 2002). According to Abbott (1988), professional work can neither be too standardized (which would mean that anyone, without a specialized education could do it), nor have too much room for professional discretion (which makes the work difficult to legitimize) (1988, p. 52). This paper finds that the profession of social work carries out considerable work in claiming this room for professional discretion, suggesting, together with other researchers (Evans & Harris, 2004), that professional discretion still exists in social work, even though it is threatened by processes of standardization.

All in all, this means that, as a profession, social work defends its own boundaries against more administrative tasks and against standardization.

In this paper, I draw on the concept of a “professional project”, developed by Larson (2013) and deployed in numerous studies of professional power and privilege (e.g., Harrits & Larsen, 2016; Suddaby & Viale, 2011). Professional projects are collective projects that attempt to establish market closure and, thus, social status for the profession (Larson, 2013). In this paper, I use this term to show how the profession of social work defines a new area of expertise as part of its professional project.

Originally, Gieryn (1983) used the concept of boundary work to describe the practical and symbolic activities of scientists distinguishing between “science” and “non-science”. In the sociology of professions, many researchers have used the term to analyse professional demarcations (e.g., Allen 2000; Fournier, 2000; Halpern, 1992; Timmermans, 2002) and to distinguish professional from non-professional. Some researchers have developed this idea into different typologies of professional boundary work (e.g., Liu, 2015). One of the main ideas behind such typologies is that boundary work takes place pragmatically in everyday floor-level work (Timmermans, 2002) and, also, with more strategic, organizational ideas in mind. In the sociology of professions, especially studies that draw on Abbott’s ideas (1988), professional development is always related to other professions. In the process of claiming areas of expertise, authority, and control, professions compete and coordinate with other adjacent professions. When a profession such as social work tackles new technological developments, this will always in some way involve a connection with other professions. One way of understanding such a relationship is through the concept of boundary work. In this paper, I analyse one type of boundary work, namely the work that goes on in a professional association, when a new technology has the potential to alter the professions’ work tasks and areas of expertise. In everyday professional practice, there are other types of boundary work, which may look different—and probably are. In this paper, however, I analyse how the profession of social

work itself, tries to make sense of and tackle these new technologies. In this process, the profession (re)defines its own place in a system of professions by claiming and demarcating social work’s authority in relation to other occupational groups.

Design, data, method

I analyse articles from three professional journals associated with DS, the Danish Association of Social Workers, and online content from the association’s website. These journals are mostly read by members of the association, and I therefore analyse how, internally, the profession itself makes sense of these new technologies. I collected the documents online in July 2022. I searched DS’ website and the three journals using the search words “AI”, “algorithms”, “artificial intelligence”, “automatization”, “machine learning”, “predictive models”, “decision-support”, and “robot”. Having eliminated irrelevant articles (for instance when “robot” was used in a metaphorical way), my material consisted of 63 documents. These documents are different documents related to the organization, such as minutes from board meetings, news items from the website, and information from the biannual professional conference *Socialrådgiverdage* (Social Worker Days), together with articles from professional journals. These journals are *Socialrådgiveren*, (The Social Worker), which is a journal for members of DS, *Offentlig ledelse* (Public Management), which is for management members of DS, and *Uden for Nummer* (an expression that means to be strange, remarkable, or different)—a journal on research and practice within social work, contributing academic articles, some peer-reviewed, for all DS members. Table 1 summarizes my material.

Table 1. Analysed documents.

Organizational documents. Mainly minutes from board meetings, regional group meetings and annual directors’ reports	13 documents (from 2016 to 2020)
Website. News items and strategic documents	4 documents (from 2017 to 2019)
Information from Social Worker Days	8 documents (from 2017 to 2021)
The Social Worker (journal)	28 documents (from 2011 to 2022)
Public Management (journal)	7 documents (from 2017 to 2019)
Uden for Nummer (journal)	4 documents (from 2019 to 2021)

I have coded all documents, first in specific codes closely related to the material and key words used in the documents (codes such as automatization, newly graduated social workers, information, efficiency, data, quality, core tasks). Next, I looked at the codes over the course

of time (from 2016 to 2022), looking for differences as to how often specific words and ways of justification and criticism were mentioned. This way, I realized a development in how the profession justifies its core work tasks over time as well as the performance of boundary work in relation to artificial intelligence. In my analytical process, I moved between my empirical material and my theoretical framework in an abductive process (Tavory & Timmermans, 2014). My analysis began as an analysis of the social work profession, using analytical concepts from the sociology of professions. The choice to use boundary work as an analytical tool for the purpose of understanding my material developed as I studied my empirical material more closely. The concept of “professional project” (Larson, 2013) also became important, especially as I analysed the most recent material. Thus, the idea of understanding parts of the material as a professional project resulted from the abductive process of going back and forth between theory and data. In my analytical process, I have also drawn on my earlier work within the area (Meilvang & Dahler, 2022), and I therefore use parts of previous interview material with professionals and DS representatives, whom I interviewed as part of a project on artificial intelligence in social work within Danish child protection services.

In the following analysis, I explore the boundary work carried out by social workers and the professional organization of social workers in Denmark relative to artificial intelligence. I demonstrate how social workers describe and discuss these new technologies and use such discussions to demarcate the boundaries of their profession in relation to other professions, managers, and politicians and reinforce what they themselves consider to be the core work tasks of social work. I demonstrate that, over time, there has been a development in these professional discussions and in the way boundaries are upheld and maintained.

Analysis: Different work tasks, new boundaries

In the following, I analyse content from 2016 to 2022. During this period, Socialrådgiveren published three special issues on artificial intelligence and robots: One in 2017, one in 2019, and one in 2022. Much of my analysed material comes from these three issues. In 2019, DS released a technology strategy on which they had been working since 2017. From 2019 and up until today, there have been several smaller, but highly profiled, Danish projects that have developed artificial intelligence technologies targeted at social work. These projects have been discussed in the Danish media and relate to social work with child protection services as well as the area of (un)employment in Denmark. Even though these two areas of social work are quite different in Denmark, what I am concerned with here is the way in which the profession *as a whole* discusses the new technologies. In the following section, I structure my analysis around three themes: the first relates mainly to the period between 2016 and 2017, the other two discuss the period after 2017 and up until today.

The technologies discussed in the different documents are referred to as “artificial intelligence”. They constitute a range of various specific technologies, such as voice recognition, predictive algorithms, algorithmic decision-support systems, and more. In the documents,

they are all categorized as a kind of “artificial intelligence”, which is also why I use this term in the paper, even though some of the technologies are not artificial intelligence *per se* but use different varieties of machine learning.

In many ways, the way in which the professional association draws its boundaries relates to larger public narratives concerning artificial intelligence. In Denmark, such narratives, often utopian or dystopian extremes (The Royal Society, 2018), have centred on AI as a silver-bullet solution to an overworked, public workforce and an ageing population (utopian) or AI as surveillance and biased profiling (dystopian) (Kristensen, 2022). In the following analysis, these discussions play out in specific ways, for instance as the rather utopian idea that AI systems will be capable of coping with all bureaucracy for social workers.

Working the boundary to administration: “Move time away from bureaucracy to core professionalism”

One important boundary that DS, and social workers in general, work to enforce is the boundary between social work’s important tasks on the one hand and, on the other, administrative tasks, such as registration and documentation. In relation to artificial intelligence, DS invokes this distinction and delegates administrative tasks to the new technological systems. This way, artificial intelligence can help social workers, giving them more time for the work tasks they are “really” supposed to perform. This boundary performance is especially clear from the earliest mention of artificial intelligence. As such, it is a kind of “first wave” boundary work.

In 2016, the president of DS wrote:

How will the technological development affect the working life of social workers in the future? We do not know the answer to this, but it is important that we ensure a quality agenda for a digitalized future instead of an efficiency agenda, where the goal is to reduce the number of employees. The automatization of parts of the work functions of social workers should be a tool to minimize workloads and monotonous tasks such as e.g. registration—thus leaving us with more time for core tasks (Socialrådgiveren, 2016, p. 13, author translation).

Here, DS enforces its own jurisdiction (the “core tasks” of social workers) and clearly demarcates the boundaries of this jurisdiction by leaving out “monotonous” work tasks such as registration. The important dichotomy here is between quality and efficiency. According to an article on artificial intelligence, published in a 2017 issue of Socialrådgiveren:

The Danish Association of Social Workers recently decided to develop a technology strategy and will work towards leaving its mark on this development, focusing on quality rather than efficiency. In short: moving working hours from bureaucracy to core professionalism (in Danish, “kernefaglighed”) (Socialrådgiveren, 2017a, p. 17, author translation).

Neither these quotes nor other articles clarify how this “core professionalism” should be construed. Looking through the articles, one important core work task for which artificial intelligence can free up additional time, is the work with citizens—in Danish “borgernært arbejde”, which, directly translated, means “citizen-close work”. A member of the technology group that was developing a technology strategy for DS (a then social worker who, today, is vice president of DS) wrote:

Am looking forward to the day when robots have come so far that they can do the bureaucratic stuff—and social workers can spend their time on citizens (Socialrådgiveren, 2017b, p. 26, author translation).

Elsewhere in the material, the core tasks are described as “professional” and “knowledge based”, but in 2017 the focus was particularly on time spent with citizens and quality in case management. One important example of artificial intelligence, mentioned in the 2017-issue of Socialrådgiveren, is voice recognition to be used for the keeping of case records. Such artificial intelligence is precisely a type of technology that could help with documentation and registration, freeing up time for other work tasks.

Later, in 2021, DS still adheres to this view. In an interview, the vice president of DS (the same as quoted above) said:

I actually believe that the municipalities are mainly successful with respect to the simpler stuff. Thus, certain services can, for instance, be carried out by a robot that will handle everything. It's worse for a trade union with members who are mainly administrative officers, such as e.g. HK. From a social worker's perspective, however, you are not particularly keen on carrying out such work and, therefore, we actually think it's great (author translation).

Here, the vice president of DS delegates the administrative work that social workers are not really interested in carrying out, to other occupations and other unions, primarily HK (HK is a Danish trade union for trade and administrative work, the members of which often have educations that are shorter than bachelor level). This union covers many administrative officers in municipalities. Artificial intelligence and robots are considered a threat to *them*, the DS vice president claims, not to social workers. This is clearly a type of boundary work that makes a distinction between administrative occupations and social work. As such, it reinforces a general discussion on and about social work (and other welfare professions), namely that social work must define itself in opposition to administrative work and defend its work practices against an overweight of administrative tasks. Other occupational groups can also perform a variety of administrative tasks, which might then dilute social work as a profession and threaten its jurisdiction.

This boundary work is especially apparent in the 2016 and 2017 vocabulary where terms such as “bureaucracy” and “efficiency” appear quite frequently in relation to artificial intelligence.

What can be seen from this early, or “first wave”, of boundary work is that administration, documentation, and registration are all tasks associated with “bureaucracy” and not essential work tasks to the profession of social work—also, social workers feel that such tasks take up too much of their working hours. Here, DS and social workers in general advocate that artificial intelligence should be developed and implemented in a way that will support the distribution of roles and defend the social workers' own core tasks and jurisdiction, which comprise of people-centred work.

Defending professional discretion: Inexperienced social workers and the threat of standardization

From 2019 and onwards, the boundary work changes focus. In this “second wave” of boundary work, social work is defending its jurisdiction against artificial intelligence. Specifically, artificial intelligence is considered to be threatening professional discretion and, as such, the profession itself. In the course of the years from 2017, when social work as a profession viewed artificial intelligence as a potential help in the prioritization of “core work”, municipalities, researchers, and foundations in Denmark initiated various projects implementing artificial intelligence in social work. In 2017, a large foundation began a research project on “decision-support for referrals” in the work with vulnerable children and families, where researchers developed and tested artificial intelligence for the categorization of referrals. In 2017, a Danish municipality wished to develop artificial intelligence for early detection of vulnerable children. In 2018, this idea sparked a heated debate in the Danish media across the country about surveillance and profiling (Kristensen, 2022). One research project, commenced in late 2017, aims to develop artificial intelligence for casework at job centres.

Even though these projects were subject to some criticism, different state authorities as well as the national association of local authorities in Denmark (Local Government Denmark) focus on digitalization and artificial intelligence. In 2018, DS attended a debate in the Danish parliament on what was referred to as “digitalization-ready legislation” (in Danish “digitaliseringsparat lovgivning”), the purpose of which was that all legislation should be prepared for digitalization and thus primarily based on objective criteria. In this debate, the DS president stated:

If it is just a matter of getting sickness benefits up and running, then it will be fine to receive help from digital tools on the making of such decisions. But if abuse and child protection are involved, it will be highly problematic having computers decide (Socialrådgiveren, 2018, p. 26, author translation).

Here, the DS president repeats the distinction between administrative and social work. But, in this debate, instead of merely highlighting where artificial intelligence can be useful, she criticises the idea of artificial intelligence (“computers”) in certain areas of social work, specifically with respect to decision-making in child protection cases and more generally, earlier in the debate, in relation to “complex casework in instances where citizens are involved in

more than one case” (Socialrådgiveren, 2018, p. 26). This adds another dimension to boundary work, focusing on defending social workers' core tasks against these technologies.

In this new “wave” of boundary work, the social work profession defends its room for professional discretion. This is often contrasted to the implementation of fixed standards and thus relates to a general discussion within social work on tendencies for standardization, the possibilities of sustaining professional discretion, and the general fear of being made redundant as a profession owing to the standardization of work tasks. In an interview in Socialrådgiveren, a union representative, who has worked with various artificial intelligence systems, says:

I’m a bit worried that we are developing a standardized form of casework which you can easily buy into if you have too many cases and are too busy, or if you are a newly graduate (Socialrådgiveren, 2019a, p. 17, author translation).

Here, the union representative not only criticizes the technological systems for standardization, but she also points towards various reasons why social workers should accept such standardization, reasons that are closely related to the current employment situation for social workers in Denmark: being too busy, having too many cases, and being inexperienced. As DS has analysed and focused on in Danish media (Dansk Socialrådgiverforening, 2020), social workers are stressed and often work many cases. Another issue within social work is the municipalities' difficulties with respect to retaining employees and, thus, at any given time, many social workers will be newly employed. For these reasons, technological standardizations represent an even larger threat to social work. In an interview with an educational researcher from one of the vocational colleges for the education of social workers, the researcher also highlights this argument: “Which young and newly educated social worker would dare to go against the recommendation of an algorithm that has a tinge of objective truth?” (Socialrådgiveren, 2019c, p. 22, author translation).

DS and individual social workers point out that artificial intelligence should never replace professional discretion. A manager within a municipality, working with different technologies in social work, told Socialrådgiveren:

As we are working with a complex and vulnerable group of citizens, digitalization can obviously neither replace professional discretion nor the individual assessment that will lead to a concrete decision. The subjective assessment, the professional analysis and the face-to-face meeting are elements that digitalization cannot and should not replace. (Socialrådgiveren, 2019b, p. 19, author translation).

One of the reasons why technological systems should neither assess nor decide without the involvement of a human being is that neither such assessment nor decision-making are exact sciences. The researcher quoted earlier explains:

Professional discretion in social work builds on much more than variables and characteristics. Social workers' sensory impressions such as smell and facial expressions cannot be standardized into an algorithmic system as advantages and disadvantages in already defined response categories. (Socialrådgiveren, 2019c, p. 23, author translation).

In this type of boundary work, the boundaries are thus drawn around professional discretion, professional assessment, and the social worker's subjective experience in the meeting with citizens. This is not the place for artificial intelligence, as this would entail the risk of standardizing complex casework. Here, the profession does not perform boundary work relative to other professions, but relative to professionalism in general. It is a defence of professional discretion and the need for *professional* assessments and *professional* analysis, i.e., the need for professionally educated workers and against de-professionalization.

“Experts from practice should be in charge of the digital transformation”: Decision-support as a new professional project?

With respect to this “second wave” of boundary work, where discussions focus on professional discretion and standardization, a slightly different kind of boundary work is being performed. This revolves around the concept of “decision-support”, to which many actors refer after 2017 with respect to artificial intelligence and social work. The idea behind the concept of decision-support is that artificial intelligence and algorithmic systems should not be the sole constituents in the assessment of cases; nor should they be decisive in complex cases within social work. They can, however, help to inform this decision for social workers, providing various kinds of relevant information. This idea does, to a certain extent, continue the boundary work described above by clearly demarcating professional discretion as a valuable work task to be performed by professional social workers. However, it posits that valuable information can be attained from artificial intelligence and, further, that such information will help social workers overcome some of their own blind spots in their work. A union representative involved in a project on artificial intelligence focused on referrals, says:

The algorithm should not decide anything. I usually discuss referrals with a colleague and, here, the algorithm could be a kind of third colleague. When you work with the same kind of cases, you can become a bit blind to things. The decision-support could contribute to our discussions as to whether we are doing what we would like to do. In that way, it can be said to qualify our assessment (Socialrådgiveren, 2022a, p. 22, author translation).

This idea of artificial intelligence as decision-support is most evident in recent documents, from 2019 and up to now, and particularly evident in the 2022 thematic issue of Socialrådgiveren. In contrast to the defence of professional discretion described in the previous section, the idea of decision-support makes artificial intelligence an element in the assessment process and, hence, defines the boundaries of the profession of social work in a

different way: Though artificial intelligence can be used in the process, a professional social worker must be involved and have the last say in decision-making. Thus, the inclusion of artificial intelligence in the decision-making process within social work, will also mean that AI comes closer to the central work tasks of the profession. As such, a new professional project is beginning to take shape around social workers' involvement in the development of artificial intelligence. In 2022, two social workers working as digitalization consultants in a Danish municipality wrote in *Socialrådgiveren* under the heading "Experts from practice should be in charge of the digital transformation":

Often, the provider has considerable influence on the system design. At this early stage in the process, some control is removed from the professionals who, at the end of the day, should have the last word. There is a risk of getting an inferior product, at a higher cost [...]. Therefore, the legislation for digital projects should be amended to the effect that, as a point of departure, experts from practice shall, to a higher extent, have a say in their digital working day. We should look at tenders and contracts so that the public sector will have more to say. When the development of digital solutions involved in socially critical tasks demands a high degree of professionalism, it should be natural to involve professional groups and their knowledge. This is why, as a society, we must have a national digital strategy that supports professionals from practice in influencing the digital transformation of the welfare society (*Socialrådgiveren*, 2022b, p. 31, author translation).

What is described here is clearly a new area of expertise as an element in the professional project (Larson, 2013) for social workers, namely that of developing technologies aimed at social work. This is a claim for a new jurisdictional task, a claim for "taking control of" the area, which should be subject to legislative control. It also draws a boundary towards another occupational group, namely the developers of digital technology who are not professional social workers "from practice". Likewise, DS, itself, explicitly embraces this as a professional project. In an interview published in *Socialrådgiveren* in 2019, the vice president said:

We are the ones who meet the citizens, and thus we are the ones who can tell which challenges new technologies can solve for us. Therefore, I would like social workers to be involved in the development of these new technologies, and they should be released from their duties to test a new robot, for instance (*Socialrådgiveren*, 2019d, p. 27, author translation).

In this type of boundary work, the profession of social work defines the development and implementation of artificial intelligence as an area of expertise within social work, thus defining a new area within their professional project.

Discussion

Susskind and Susskind (2015) suggest that new technologies increase the *routinization of professional work* and introduce *new competition* by technical actors and organizations. My analysis supports this idea by showing how the profession of social work in Denmark tries to protect the profession from routinization and standardization and, also, from new competition as represented by IT-developers. In my analysis, I discuss three themes and three different ways of carrying out boundary work related to artificial intelligence within the profession of social work. I have described them chronologically, albeit the last two overlap to a certain extent. There is a clear development from the thematic issue of the 2017 edition of *Socialrådgiveren*, where the focus is on bureaucracy and efficiency, to the other two thematic issues of 2019 and 2022, respectively, where decision-support and professional discretion are in focus. With respect to artificial intelligence, the boundaries of social work are set in a different way. First, artificial intelligence is delegated to assist with documentation and registration, work tasks which social work as a profession is not interested in. This frees up time for social workers, enabling them to spend more time with citizens and, hence, heightens the quality of casework. Then, artificial intelligence moves closer towards the core work tasks of the social worker, being considered both a threat to professional discretion and a further standardization of social work and, at the same time, a valuable tool for the profession of social work, which the profession should help develop. Based on my material, and on the fact that the area is still very much in process, it is difficult to determine whether these last two types of boundary work are chronological developments or discussions internally within the profession on how to engage with artificial intelligence. Maybe the two positions represent two different groups, what Bucher and Strauss refer to as professional *segments* (Bucher & Strauss, 1961). Professional segments are groups that strive to change the profession in certain ways. These segments compete internally to develop the profession in ways that align with their respective competencies and ideas. Hence, the two positions could be two groups within social work, each working towards defining the boundaries around social work in two different ways.

There are, I believe, several reasons for this development. *First*, the change from first to second wave boundary work could be due to the development of various specific AI projects in the area of social work in Denmark. The first wave boundary work idealizes the promise of artificial intelligence and sees it as valuable to the profession. However, the development of specific projects, together with the government's drive for digitalizing the public sector, makes the profession feel threatened that professional social work will be made redundant. *Second*, the move away from denouncing artificial intelligence, owing to the fear that it will standardize social work, towards embracing it in some form and claiming it as a profession, could be due to the realization that artificial intelligence will become reality, whether the profession of social work likes it or not, and that it will be better to be involved in the process than being left out. However, it could also be that those recommending a certain professional project have seen (or can imagine) how social work will benefit and further that, as a segment

within social work, they are claiming a place for themselves within the field of social work. *Third*, two classical discussions in social work, about standardization on the one hand and administration on the other, are once again played out in relation to artificial intelligence. This means that boundary work relates to more general issues about the problem of standardization within the profession of social work (thus making social workers redundant) and the problem of excessive administration (likewise making social workers redundant). As the field is still relatively new and under constant development, there is a need for follow-up research into the different kinds of boundary work (and different professional segments), and into the way in which these will change the profession of social work in the future.

Conclusion

In my analysis I show that, over time, there is a development in the boundary work related to the profession of social work with respect to new technologies and the use of artificial intelligence. During the first period, from 2016 to 2017, the profession drew its boundaries to delineate the profession from administrative work tasks. Here, artificial intelligence is welcomed as something that can help with administrative work tasks and free up time for complex problem-solving and the “core task of social work”. In the period between 2019 and 2022, artificial intelligence is debated in relation to issues of standardization and professional judgement. In the DS technology strategy of 2019 and in the 2022 special issue of *Socialrådgiveren*, a new professional project is formulated, arguing that social workers shall have a central role in the development of technologies using artificial intelligence.

This paper shows that boundary work in a welfare profession such as social work is constantly in process and changes relatively fast, as new technologies are developed and implemented. This shows that the profession of social work experiences the need to defend its boundaries against such new technologies but, at the same time, deploys strategies of seizing the technologies as new areas of expertise. The welfare professions share characteristics as compared with more traditional professions and, hence, it would be interesting to make a comparative study of other welfare professions to discover how for instance primary school teachers and nurses respond to similar technological changes going on in and around their respective areas of expertise.

As the literature shows (Høybye-Mortensen, 2015; Peeters, 2020), algorithmic systems are not neutral technologies but extend beyond their calculation or screen-output. How social work as a profession decides to deal with these systems will influence social workers' work method, their interaction with the systems and, ultimately, their own decision-making processes. As this paper has shown, there is an ongoing development within the field of social work to engage positively and actively in the development and implementation of these systems. This paper thus points out the need for more studies on this new development, the human-algorithm interaction, and the work carried out by welfare professionals in their engagement with algorithmic systems.

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Working the Boundaries of Social Work

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