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## Professional Closure Beyond State Authorization

**Abstract:** For decades, the Weberian approach to the study of professions has been strong, emphasizing state authorization and market monopolies as constituting what is considered a profession. Originally, however, the Weberian conception of closure, or the ways in which a profession is constituted and made separate, was broader. This article suggests a revision of the closure concept, integrating insights from Pierre Bourdieu, and conceptualizing professional closure as the intersection of social, symbolic *and* legal closure. Based on this revision, this article demonstrates how to apply such a concept in empirical studies. This is done by exploring social, symbolic and legal closure across sixteen professional degree programs. The analyses show a tendency for some overlap between different forms of closure, with a somewhat divergent pattern for legal closure. Results support the argument that we need to study these processes as an intersection of different sources of closure, including capital, lifestyles and discourse.

**Keywords:** professions, social closure, Max Weber, Pierre Bourdieu, lifestyles, symbolic boundaries

Professional studies continuously quarrel about what constitutes professions and professional authority, including for example whether professions should be seen as constituted by knowledge *or* power (e.g. Brante, 2010; Saks, 2010). Other scholars, however, point to a middle ground, insisting that we may learn more about professions by studying intersections and overlaps of power, knowledge and even values and identities, than by insisting on figuring out causal priorities (e.g. Abbott, 1988, 2005; Evetts, 2003).

This article seeks to make a contribution to the second argument, exploring an approach to the study of professions that focuses on intersections and overlaps of knowledge and power. At the root of this approach is a revision of the concept of social closure, a key concept within professional studies over the last 30 years (e.g. Parkin, 1979; Collins, 1979; Murphy, 1984, 1988; Larson, 1977). The concept of closure traditionally focuses on power as constitutive of professions. However, with insights from recent developments within the sociology of stratification, the concept can be revised to accommodate an interest in intersections and overlaps of power and knowledge, and to guide empirical explorations into such intersections and overlaps.

The key aim of this article is therefore to present a revised concept of social closure as well as to use this concept in an empirical exploration, demonstrating a first and preliminary step towards a more nuanced study of the way in which professions are constituted. The study explores professional degree programs,

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arguing that educational institutions are one key site of the constitution of professions and of the selection of future professionals. As will be shown, the study indicates that we need to look much more closely at processes of professional social closure, moving beyond considering only strategic achievement of state authorization to include different sources, intersections and overlaps of power and knowledge.

## **Professions, knowledge and power**

In recent years, two interesting claims have been made with regard to professions, knowledge and power (Brante, 2010, 2011; Saks, 2010, 2012). On the one hand, Brante (2010) suggests defining professions by their use of scientific knowledge. To be sure, Brante also acknowledges social factors such as ideologies and the hegemony of knowledge as influencing the system of professions. However, the cognitive aspect remains dominant, since knowledge will, in the long run, determine the boundaries within which strategies of power can play out (Brante, 2010, p. 866).

The argument made by Saks (2010) is the exact opposite. Professions are, the argument goes, mainly constituted by their social power and particularly by their “legally-based exclusionary closure” (p. 892), which is typically obtained following a political process of strategically seeking to restrict access to the profession and gain control of the market, often by creating alliances with and securing (legal) recognition from the state. In this political process, knowledge does seem to play some role, but knowledge is clearly secondary to social and political power (Saks, 2010, p. 895).

Obviously these two arguments compete. However, they also share an implicit assumption that it is crucial to establish a clear definition of professions, focusing on the boundary of professions and non-professions, as well as on the main causal factors structuring the “professional landscape”, as Brante calls it. Thus, what is left aside by both Brante and Saks is the exploration of intersections and overlaps between power and knowledge.

As mentioned, other scholars have insisted on moving away from such discussions of definitions and causal priorities. In Abbott’s (1988) approach to the professional system, the authority of a profession’s knowledge is dependent on making successful jurisdictional claims. This process is surely a power struggle, but one asset is precisely the amount and quality of knowledge resources held by a profession and its individual members. As a result, analyses of professions must discern the intersections of knowledge and power instead of making *ex ante* priorities (see also Abbott, 2005). A similar focus on intersections can be inferred from Evetts’ (2003) argument on the shift from professions to professionalism. Here, professionalism facilitates an intersection between knowledge and power, transforming knowledge to a form of social power, and reinforcing claims for authority based on knowledge with a force equivalent to those of social structure, organization and power.

Despite such efforts to seek middle ground, the empirical study of intersections of power and knowledge remains difficult and not very well guided by theoretical approaches. In the following, I therefore present a revision of the concept of social closure, which has guided many successful empirical studies in the past. The concept of social closure within professional studies, however, remains focused on a rather narrow conception of power. In order to accommodate a study on intersections of power and knowledge, I therefore revise the concept, drawing on insights from the literature on social stratification and especially the writings of Pierre Bourdieu.

## Traditional conceptions of social closure

The theory of social closure was originally suggested by Weber, but gained its coherence and elaboration within professional studies primarily by Parkin (1979; see also Collins, 1979; Murphy, 1984, 1988; and Tilly, 1998). Social closure, Parkin explains, is basically the “process by which social collectives seek to maximize rewards by restricting access to resources and opportunities to a limited circle of eligibles” (Parkin, 1979, p. 44). This definition has two main implications. First, social closure is obtained by restricting access to—and gaining a monopoly of—different forms of resources. Second, social closure is obtained through some form of strategic process, where agents (collectively or as individuals) actively seek power and privilege.

Parkin further suggests two main forms of social closure, namely closure by exclusion and closure by usurpation. He also suggests two bases for social closure in modern societies, namely private property and credentialism. Finally, he defines the specific form of social closure for professions, which he calls professionalization, as “a strategy designed, amongst other things, to limit and control the supply of entrants to an occupation in order to safeguard or enhance its market value” (Parkin, 1979, p. 54).

The conception of social closure as exclusion and as a strategic process adopted by groups of agents in order to protect the value of their credentials and even to gain a legally guaranteed market monopoly (e.g. by institutionalizing systems of state authorization) has dominated the neo-Weberian tradition within studies of professions since Parkin’s explication (see e.g. Larson, 1977; MacDonald, 1995; Saks, 2010, 2012). As argued by Saks, one of the major advantages of this tradition is that it provides a clear definition that “avoids the unduly complimentary assumptions” as well as considers the macro-structural context for professionalization (Saks, 2012, p. 4-5). And it has indeed been fruitful for numerous empirical studies that have pointed to professionalization not solely a process of knowledge formation but indeed as a process of negotiations of power.

However, as suggested above, this precision may also be a disadvantage if it directs attention away from the crucial processes of professionalization, where intersections of knowledge and power are vital. And as argued elsewhere (see Harrits & Larsen, forthcoming), the original theory on closure forwarded by Weber does indeed contain a more nuanced approach. Weber defines closure as the exclusion of certain members from a group on the basis of some characteristic, resulting in some form of monopoly of resources (Weber, 1980, p. 203).

Further, closure is also implicitly referred to in the discussions of stratification—or distributions of power, as Weber calls it—where Weber makes his famous distinction between classes constituted by economic relations and status groups constituted by social relations (Weber, 1980, p. 531-40). Here, closure is a feature of status groups, and is seen as constructed on the basis of a common lifestyle and honour, which may or may not lead to the obtainment of a legal monopoly, and which may or may not be related to the possession of economic and material resources. Furthermore, even though there may be elements of rational and strategic behaviour involved, these are not the primary focus of attention. Neither is legal monopoly, which instead seems to follow as a consequence of a monopoly already attained at the level of status or resources (Weber, 1980, p. 535-539).

Finally, since closure is related to stratification and the formation of societal groups, Weber implicitly suggests that closure processes can occur via the intergenerational transmission of resources and lifestyles, and the way in which groups are formed in social networks and interactions. This is closely related to Weber’s concept of social classes, defined as the totality of those class situations within which individual and generational mobility is easy and typical (1980, p. 177). Following this, the concept of social closure has, within stratification studies, been seen as referring to processes of “opportunity hoarding” and group formation related

to the intergenerational reproduction and transmission of resources and access to social networks within families.

Hence, Weber's theory of social closure tends to emphasize the narrow strategic process of obtaining state authorization to a much lesser extent than traditional professional studies. At the same time, Weber's theory emphasizes the intersection between social and economic characteristics—that is, the intersection between life-style/status and the possession of different kinds of resources—to a much greater extent than traditional professional studies. In recent decades, Weber's theory has been further developed in particular by Pierre Bourdieu. Although Bourdieu does not himself use the concept of social closure, the main elements of his theory on social reproduction can inform a revision of the closure concept, moving beyond the narrow focus on strategies for obtaining state authorization.

## Social closure revisited

The point of departure for the Bourdieusian theory of stratification is the suggestion that modern society features several different forms of structurally based resources, or what is referred to as capital (e.g. Bourdieu, 1984a, 1986, 1996). However, Bourdieu also suggests—very similar to Parkin—that economic capital and cultural capital (i.e. knowledge, both academic and knowledge related to certain lifestyles, cf. Lareau & Weininger, 2003) are the two dominant forms of capital in contemporary western societies. For a theory on social closure, this means that closure could be obtained by the concentration or monopoly of any kind of resource, but will most likely be based on the concentration of economic or cultural capital—or both.

Further, Bourdieu insists that such processes of stratification and reproduction are always transmitted through the symbolic struggles of everyday life. At the level of social groups, similarities in class habitus results in the formation of more or less coherent lifestyle groupings as well as in shared systems of classification (e.g. Bourdieu, 1984a, 1984b, 1987b, 1989). This results in a continuous reinforcement between, on the one hand, the distribution of capital and classes in social space, and, on the other hand, status groups in the symbolic space. For a theory on social closure, this means that the creation of common lifestyles or distinct symbolic groups of classifications can be a crucial element of social closure processes, since these can reinforce (or weaken) the concentration of capital in specific groups.

In line with this, I suggest distinguishing between two concepts of closure. On the one hand, *social closure* can be defined as the concentration of capital, including the way in which such a concentration can be facilitated by intergenerational transmission. On the other hand, *symbolic closure* can be defined as the concentration of distinctive lifestyle traits, the restriction of access based on such traits, and the establishment of a clear symbolic group or category.

This distinction owes much to that made by Lamont and Molnar between symbolic boundaries and social boundaries:

Symbolic boundaries are conceptual distinctions made by social actors to categorize objects, people, practices, and even time and space [...]. Social boundaries are objectified forms of social differences manifested in unequal access to and unequal distribution of resources (material and non-material) and social opportunities (2002, p. 168).

However, the conception of symbolic closure is somewhat broader than Lamont and Molnar's concept of symbolic boundaries, since it includes the concentration of lifestyles and status groups as well as the presence of strong symbolic categories, for example those based on occupations. Following Bourdieu, such symbolic categories could also be related to the different social fields that may form in modern, functionally differentiated societies (for an elaboration on symbolic closure, see Harrits & Larsen, forthcoming).

Following this, I suggest conceptualizing professionalization as a process of professional closure dependent upon—or made up of—processes both social and symbolic. Further, I suggest that professional closure will most likely succeed when social and symbolic closure converge, or as Bourdieu terms it, where a structural homology between different social and symbolic structures exists (Bourdieu, 1984a). Further, professional closure may be strengthened by legal closure, or legal codification, for example by systems of authorization, but this is not a necessary element and may not even be a superior strategy.

In a brilliant—but not widely read—article, “The force of law” (Bourdieu, 1987a), Bourdieu elaborates on the importance of structural homologies. The law profession and the authority of law, Bourdieu argues, are founded upon the way in which the science of law and specialized legal language establish an epistemological break with everyday language. However, this epistemological break is continuously reinforced by—and even hard to disentangle from—the social and symbolic distance of lawyers and judges from other social classes. Both the legitimacy and the effectiveness of discretions performed by the legal professions thus gain their strength from the *exclusion* of “laymen,” established simultaneously by specialized language and the social and symbolic position of the profession's agents. Thus the effect of knowledge and specialized language is always intertwined with pre-existing social and lifestyle differences (Bourdieu, 1987a, p. 839).

In sum, this means that processes of professional closure should be empirically studied by focusing on the possible structural homologies of

1. Social closure, or the concentration (e.g. across generations) of economic and cultural capital
2. Symbolic closure, including
  - a. Concentration of status groups and lifestyles
  - b. Concentration of distinct symbolic categories, for example based on occupations or fields
3. Legal closure, based on state authorization of professions.

Doing this makes it possible to look more closely at the way in which knowledge intersects with power, as well as with lifestyle, status and discourse. It further means seeing processes of closure as also occurring as unintended consequences—that is, beyond or beside strategic engagement in political processes. Put another way, it means exploring the establishment of professions as a social process as much as a political process.

In the remaining parts of this paper, I will present a first attempt and a preliminary demonstration of such an empirical study of closure. The data comes from a survey of 16 professional degree programs, collected for a different purpose. Preferably, analysis should be done on data from different professional groups. However, data on educational professional programs may be an acceptable alternative, since education can be assumed to be one important site for closure processes. As Bourdieu argues, education today functions as sorting mechanism (1996). Research seems to agree that educational institutions reproduce distributions of social



resources and symbolic structures to a high degree, thereby maintaining systems of stratification (Munk & Mattsson, 2008; Munk et al., 2011; Jæger, 2009; Karlson & Jæger, 2011; Muel-Dreyfus, 2001; Weeden & Grusky, 2005).

The key question to be explored is thus whether the different kinds of closure seem to be established in the 16 professional degree programs, and whether or not the different forms of closure seem to overlap—that is, whether structural homologies exist. Following the conceptions suggested above, I study homologies between three forms of closure, namely social, symbolic, and legal closure.

Social closure is operationalized as the concentration of different forms of capital within the professional educational programs. First, I include a measure of future or “promised” capital, namely the mean average salary of the different professions. Second, I include different measures of students’ inherited economic and cultural capital, thereby also exploring intergenerational transmission. Symbolic closure is operationalized as the concentration of “highbrow” lifestyles (defined below) among students and the presence of professional groups as a strong symbolic category, as well as subject fields and academic status as symbolic categories. Finally, legal closure is operationalized as the existence of legally guaranteed authorizations providing the professional groups with a monopoly.

## Data and method

Analyses are based on a research project on the recruitment of students for professional education (see Harrits & Olesen, 2012). Data were collected in October 2010-January 2011 among students at 26 different professional degree programs in the Mid-West Region of Denmark, comprising a variation of subject fields, organizations and study programs.

An e-survey comprising a total of 73 questions (many of them with several sub-questions) was distributed to students by the administration of their study program. This resulted in 5,385 respondents, which amounts to an overall response rate of 25%.<sup>1</sup> However, response rates vary among the study programs, from as low as 5% to as high as 68%. For the purpose of this analysis, study programs with a response rate below 18% have been taken out, leaving a sample of 16 study programs and 4,899 students, and an aggregate response rate of 28.6%. Respondents not completing the survey or with a high number of non-answered questions have been deleted, reducing the sample to 3,441 students.

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<sup>1</sup> The calculation of response rate is built on official data regarding number of students enrolled in the different degree programs. However, dropouts are typically not registered, and the response rate is thus most likely underestimated. Unfortunately it was not possible to find reliable parameters of the population to compare to the sample, and no weighing is conducted.

Table 1 *Sample*

	Sample (n) / Population (N)	Response rate
Architecture ****	33 / 157	21.0%
Bio-analysis *	182 / 384	47.4%
Design and business *	145 / 214	67.8%
Occupational therapy *	157 / 520	30.2%
Nutrition and health	145 / 235	61.7%
Physiotherapy *	267 / 708	37.7%
Journalism ***	95 / 139	68.3%
Teaching (Primary school) *	897 / 3,409	26.3%
Medicine (MD) **	453 / 2,460	18.4%
Pedagogy (Nursery school teaching) *	948 / 4,640	20.4%
Psychology **	86 / 205	42.0%
Relaxation therapy *	55 / 134	41.0%
Social work *	382 / 1,124	34.0%
Nursing *	890 / 2,528	35.2%
Dentistry **	48 / 67	71.6%
Textile (Design) *	56 / 64	87.5%
<b>Total</b>	<b>4,899 / 21,294</b>	<b>28.6 %</b>

*Note.* The number of students in a population is based on information from the study programs given December 2010 / January 2011. Numbers from the Textile Study Program are from 2009.

\* VIA University College, Professional BA degree \*\* Aarhus University, Academic BA and MA degrees \*\*\* The Danish School of Media and Journalism Studies, Professional BA degree \*\*\*\* The school of Architecture and Design, Aarhus, Academic BA and MA degrees

Supplementing the survey data, the research project also collected register-based information on income distributions, data from the professional organizations and data on state authorization.

Obviously, the response rate is rather low, and inference beyond the studies and institutions included should therefore be done with caution and on analytical grounds only. However, since the purpose of the analysis is solely explorative, such inferences will not be made here. One possible effect of the low response rate, however, is that the students answering the questionnaire represent a somewhat “selected” group, holding for example more resources than students not answering. Thus, some of the differences demonstrated in the analyses below may be due to such differences, and I will return to this point in the analysis.

The choice of degree programs for the analysis was very pragmatic. The research project originally included all degree programs at Via University College, the largest University College in Denmark, as well as a selected group of other professional degree programs in the same region of Denmark, including three at Aarhus University, one at the Danish School of Media and Journalism, and one program at the School of Architecture in Aarhus. After data collection, some degree programs were, as mentioned, eliminated from the analysis based on a low response rate, leaving a total of eleven programs from Via University College. This means that the analyses include professional degree programs qualifying for what can be seen as professions in the traditional sense, combined with what are sometimes referred to as semi-professions and pre-professions (Etzioni, 1969). This choice is, as mentioned, pragmatic, but it is well suited for the analysis done here, because (as expected) it provides some variation with regard to degree of professional closure, and therefore can facilitate analysis between professions at different stages of professionalization. Following the argument made above, the constitution of professions and professionalization should be seen as a process, for which reason it is not desirable to distinguish between professions ex ante at the level of definitions.

Strictly speaking, some of the study programs studied here may not (yet) be professions in the narrow sense of the word. This is, however, beside the point for the analyses conducted here.

Different indicators based on either survey data or other types of data have been selected for analysis. Below, Table 2 gives a description of these indicators, while the Appendix gives the full details, including the details on how the aggregate indexes of professional strength and social and symbolic closure are constructed.

Table 2 *Variables in the analysis*

Variable	Measurement
<b>Social Closure</b>	
Future economic capital: Salary among professionals occupied in the profession	Average personal income (i.e. including income from investments, overtime, second jobs, etc.) based on register data, 2010.
Inherited cultural capital: Mothers' and fathers' education	% of mother and father holding a general high school diploma (Studentereksamen)
	% of mother and father holding a further education with the duration of five years or longer.
Inherited economic capital: Economic capital when growing up	Formative index consisting of four indicators: parents owning a summer house, a camper, or a yacht, and students' subjective evaluation of economic hardship when growing up. Index is formative, and alpha is hence not calculated.
<b>Symbolic Closure</b>	
Lifestyle of highbrow taste ( $\alpha=0.789$ )	Index measuring taste within literature, music, film, TV, and art. Lack of knowledge on different cultural practices counts as a negative indication of highbrow taste, whereas engaging in practices counts as a positive indication.
Strong symbolic category	Percentage of students who knew as a child that they would enroll in this study program.
Lifestyle / Cultural capital when growing up ( $\alpha = 0.701$ )	Index of indicators of cultural activities when growing up: parents reading to children, doing homework with parents, visiting museums
Symbolic category: Academic profession	Degree programs with research-based teaching: Medicine, Dentistry, Psychology, Architecture Degree programs without research-based teaching: Nursing, Physiotherapy, Occupational Therapy, Relaxation Therapy, Nutrition and Health, Bio-Analysis, Teaching, Nursery School Teaching, Journalism, Social Work, Design and Business, Textile Design
Symbolic category: Field	<i>Health:</i> Medicine, Dentistry, Nursing, Physiotherapy, Occupational Therapy, Relaxation Therapy, Nutrition and Health, Bio-Analysis <i>Psychology/Education:</i> Psychology, Teaching, Nursery School Teaching <i>Social science:</i> Journalism, Social Work <i>Art/Design:</i> Architecture, Design and Business, Textile Design
<b>Legal Closure</b>	
Authorization	The existence of a state-guaranteed system of authorization.

*Note.* See also Appendix A for wording of survey questions.



## Exploring professional closure

The main question to be explored in the comparative analysis of professional degree programs is whether or not there are indications of different kinds of closure across the different degree programs, and whether overlaps can be identified. I therefore first explore the concentration of capital and lifestyle measures across the different professional degree programs, after which I compare aggregate measures of social, symbolic and legal closure. Further, the comparison includes exploring whether patterns of closure can be identified following the distinction between academic and non-academic programs and among different fields, thus exploring the degree of symbolic closure and structural homologies along these dimensions.

Let us first look at social closure and the concentration of resources across the degree programs (Table 3). With regard to future economic capital, three groups of programs are detectable. At the top, two traditional medical professions stand out (medical doctors and dentists) with an average salary about twice as high as most other professions, indicating a high concentration of economic capital. In the second group, a number of professions have a fairly high average salary, around 400,000 DKK a year (journalists, architects, psychologists, teachers, social workers, nurses, bio-analysts, and physiotherapists), indicating a medium concentration of capital. Third, we have a group with an average salary somewhat less than 350,000 DKK a year (nursery school teachers, occupational therapists, textile designers, relaxation therapists, and nutrition and health specialists), indicating a lesser degree of capital concentration.

Table 3 *Social closure*

	Average salary per year in the profession 1000 DKK	% Father high school diploma	% Mother high school diploma	% Father further education 5 years	% Mother further education 5 years	Average economic capital when growing up (scale 0-1)	Aggregate measure of closure (see appendix B)
Medical doctors	856	50	51	35	21	0.49	Strong
Dentists	691	33	45	21	23	0.47	Strong
Nurses	370	14	21	10	4	0.42	Weak
Physiotherapists	366	24	34	12	7	0.47	Medium
Occupational therapists	327	10	18	10	3	0.42	Weak
Relaxation therapists	278	22	26	24	11	0.41	Medium
Nutrition and health	261	13	17	13	4	0.40	Weak
Bio-analysts	368	14	21	10	4	0.37	Weak
Psychologists	462	41	38	30	14	0.42	Strong
Teachers (Primary school)	402	19	27	12	5	0.42	Medium
Teachers (Nursery school)	332	9	16	6	2	0.40	Weak
Journalists	485	44	49	37	15	0.45	Strong
Social workers	376	15	14	8	5	0.39	Weak
Architects	452	31	37	22	22	0.45	Strong
Design and business	-	10	26	7	11	0.46	Medium
Textile (Design)	300	6	21	13	0	0.40	Weak
<b>Total</b>		<b>20</b> <b>(3167)</b>	<b>26</b> <b>(3269)</b>	<b>14</b> <b>(3231)</b>	<b>7</b> <b>(3306)</b>	<b>0.43</b> <b>(3441)</b>	

*Note.* No data on average salary available for Design and business

Turning to the analysis of inherited capital among students, patterns are rather clear when we look at inherited cultural capital in the form of parent education. Among the academic professions (medical doctors, dentists, psychologists, and architects) as well as journalists, the students come from a background with a high degree of cultural capital. This is the case for all four indicators of inherited cultural capital: both high school degrees and further education, and for both mothers and fathers. In comparison, the concentration of inherited cultural capital is much weaker for many of the non-academic professions, and a few study programs also stand out with a very low concentration of inherited cultural capital (especially nursery school teachers, social workers, and textile designers).

For the exploration of the concentration of inherited economic capital, a formative index measuring the presence of economic capital in the home when students were growing up has been constructed. First, it is worth noticing how close the averages for each degree program are to the overall average, indicating a somewhat restricted variation across programs. There are significant differences between some of the programs, though not all of them, and the variation of differences in average falls within a range of approximately half a standard deviation of the scale. Even so, there are some interesting differences to observe. Six programs seem to display a somewhat higher than average concentration of inherited economic capital (medical doctors, dentists, physiotherapists, journalists, architects, and design and business specialists), and six programs display a below average concentration (relaxation therapists, nutrition and health specialists, bio-analysts, nursery school teachers, social workers, and textile designers).

Finally, to be able to compare across different forms of closure, a crude aggregate index was also made. This was done by a qualitative judgment across cases as to whether the data indicates a strong, medium, or weak instance of closure (see Appendix B for details). As can be seen in Table 3, all academic programs as well as journalism display a strong tendency of social closure (i.e. concentration of economic and cultural capital), whereas physiotherapy, relaxation therapy, teaching, and the degree program in Design and Business display a medium tendency of closure. All other programs display a weak tendency of social closure.

Moving on to symbolic closure, Table 4 displays the concentration of lifestyle traits (now and when growing up). Also, as an indication of the existence of the different professional groups as strong symbolic categories, I looked at the presence of the profession in the minds of young people, measured as the percentage of students agreeing that they have wanted to enroll in their present degree program since they were children. Here we find four professions (medical doctors, dentists, journalists, and architects) where more than fifteen percent of the students agree, compared to the five professions (occupational therapists, relaxation therapists, nutrition and health specialists, bio-analysts, and social workers) where under five percent agree with this same statement. This indicates that the former professions are present as a somewhat stronger symbolic category compared to the latter professions.

Table 4 *Status closure*

	% of students with a strong sense of profession as symbolic category	Average cultural capital / highbrow taste (scale 0-1)	Average cultural capital / highbrow taste when growing up (scale 0-1)	Aggregate measure of status closure (see Appendix B)
Medical doctors	19	0.45	0.67	Strong
Dentists	30	0.36	0.57	Medium
Nurses	11	0.34	0.61	Medium
Physiotherapists	8	0.31	0.63	Medium
Occupational therapists	0	0.34	0.61	Weak
Relaxation therapists	0	0.41	0.62	Medium
Nutrition and health	1	0.32	0.56	Weak
Bio-analysts	2	0.31	0.55	Weak
Psychologists	7	0.41	0.63	Medium
Teachers (Primary school)	9	0.43	0.63	Medium
Teachers (Nursery school)	13	0.34	0.60	Weak
Journalists	18	0.49	0.63	Strong
Social workers	4	0.40	0.59	Weak
Architects	25	0.45	0.69	Strong
Design and business	9	0.35	0.61	Medium
Textile (Design)	8	0.38	0.55	Medium
<b>Total</b>	<b>10</b> <b>(3441)</b>	<b>0.37</b> <b>(3441)</b>	<b>0.62</b> <b>(3441)</b>	

Also, I have constructed an index measuring student highbrow lifestyle ( $\alpha=0.789$ ), including a set of questions asking about their knowledge and possible consumption of books, films, TV shows, and other cultural consumables that can be seen to indicate a highbrow lifestyle (see Prieur et al., 2008 for a study using a similar set of questions on a broader sample). As was the case with the measures of economic capital, we find a concentration of program averages around the total average, with a variation about one half the standard deviation, and with significant differences between only some of the programs. This reminds us that even though there is an interesting variation of lifestyle traits between professional degree programs, when taken together as a group, they show somewhat comparable traits.

However, there are interesting differences with regard to the concentration of a highbrow lifestyle. Thus we find seven programs (medicine, relaxation therapy, psychology, teaching, journalism, social work, and architecture) with a concentration of highbrow lifestyles above average, whereas we find six programs (nursing, physiotherapy, occupational therapy, nutrition and health specialists, bio-analysts, and nursery school teachers) with a concentration somewhat below average.

When it comes to lifestyles when growing up, a separate index was constructed ( $\alpha=0.701$ ) including items on different activities that students report having done with their parents. Here two groups have a concentration somewhat above average (medical doctors and architects), whereas five groups display a concentration somewhat below average (nutrition and health specialists, bio-analysts, nursery school teachers, social workers, and textile designers).

Taken together (in a similar crude aggregate measure as done with social closure, see Appendix B) symbolic closure seems to be strongest among medical students, psychologists, journalists, and architects, and weakest among occupational therapists, nutrition and health students, bio-analysts, nursery school teachers, and social workers.

If we then briefly turn to legal closure, we see a rather different pattern. Whereas both social and symbolic closure more or less followed the distinction between academic and non-academic study programs, it is clear that legal closure is more connected to the functional differentiation among fields. As can be seen in Table 5, state authorization is present in many of the medical professions, including the profession of psychology, but not in other professions. However, there does exist a special arrangement for teachers, since anyone wanting to teach in the Danish public schools (but not the private schools) must be a licensed teacher. A private licensing agency for architects also exists. Both these professional study programs have therefore been given a value of (+).

Finally, if we compare the rather crude measures of social, symbolic, and legal closure across the different professions, also considering academic status and subject field, we see an interesting pattern (Table 5). First, one profession stands out as displaying a strong homology across all three measures: medical doctors.

Table 5 *Comparing forms of closure*

	Aggregate measure of social closure (see appendix B)	Aggregate measure of symbolic closure (see appendix B)	Legal closure (state authorization)
Medical doctors	Strong	Strong	+
Dentists	Strong	Medium	+
Nurses	Weak	Medium	+
Physiotherapists	Medium	Medium	+
Occupational therapists	Weak	Weak	+
Relaxation therapists	Medium	Medium	
Nutrition and health	Weak	Weak	
Bio-analysts	Weak	Weak	+
Psychologists	Strong	Medium	+
Teachers (Primary school)	Medium	Medium	(+)
Teachers (Nursery school)	Weak	Weak	
Journalists	Strong	Strong	
Social workers	Weak	Weak	
Architects	Strong	Strong	(+)
Design and business	Medium	Medium	
Textile (Design)	Weak	Medium	

However, both dentists and psychologists display strong or moderately strong social and symbolic closure along with legal closure, whereas architects and journalists have strong social and symbolic closure but weaker or non-existent legal closure. Thus, for all the academic programs as well as the journalists, there does seem to be a rather strong homology across social and symbolic closure. With regard to journalists, it should be noted that within the last ten years journalism research and masters programs in journalism with academic teaching have been developed in Denmark.

The five programs displaying weak social and symbolic closure are occupational therapy, nutrition and health specialists, bio-analysis, nursery school teaching, and social work. Interestingly, two of these professions do have legal closure, while three do not.

Finally we have a group of professional degree programs displaying a medium degree of social and symbolic closure: nursing, physiotherapy, relaxation therapy, teaching, design and business, and textile design. Again, the pattern of legal closure follows the field of knowledge (i.e. health) more closely than the patterns of strength and closure, since some of these professions have state authorization, whereas others do not.

Overall, the analyses have demonstrated a somewhat strong homology of both social and symbolic closure, or the concentration of economic and cultural capital as well as different lifestyle traits, among journalists as well as the academic

professions (which could also be called traditional professions). On the other hand, among what could be called semi- and pre-professions, we find a homology of medium to weak social and symbolic closure. At the same time, patterns of legal closure seem to diverge from the pattern of homology, instead following subject field (health). As mentioned above, some of these differences may be due to differences in response rates, since architects, occupational therapists, physiotherapists, teachers, medical doctors, nursery school teachers, social workers, and nurses all had a response rate below 40%.

## Conclusion

In this article, I have argued for a change of perspective that would focus on intersections of knowledge and power when studying professions. As one way of approaching the study of intersections, I have suggested a revision of the conception of social closure, conceptualizing professional closure as the homology of social, symbolic and legal closure. Inherent in this suggestion is the idea that professional closure is not only a strategic and political process of establishing state authorization, but also a social process of concentration of resources, including the inter-generational transmission of capital and lifestyle. In the empirical analyses, I explored tendencies of closure across sixteen different professional and academic degree programs, arguing that education may be one important site where processes of closure occur. As shown in Table 6, some patterns of homologies between and social and symbolic closure were indeed detectable, following mainly a distinction between academic and non-academic professions. At the same time, it was shown that legal closure was mainly important within one particular subject field.

Surely, the empirical study presented here is only a preliminary step, since it is purely descriptive and based on data from which generalizations should be made with caution. Many more indicators of social and symbolic closure should also be explored, including data on inter- and intra-professional differences with regard to capital concentration and lifestyles. Further, structural patterns of closure, and the concentration of capital and lifestyles across different professions, should be further explored using other data sources and methods, including historical studies of closure processes. Indeed, solid empirical conclusions on the existence of closure cannot be done without such historical and process analysis.

However, the structural patterns shown here do give us a hint that such historical studies should not be restricted to the political processes of negotiations about state authority, nor should they be focused only on the development of scientific knowledge and its application. Power and knowledge intersect, and professions are constituted through the intricate processes of closure that also involve capital concentration, lifestyle and status formation and discursive and symbolic struggles within and between professions. Professional studies therefore need to pay attention not only to political and scientific institutions, but also to the social and even cultural processes surrounding the constitution of professions. One possible area of future research could be the way in which capital and lifestyles are transmitted across generations, through the formation of habitus and strategies for education and careers – and the way in which such habitus and strategies affect and intertwine with the formation of professions and professionalism, as well as the way in which professional work is carried out in practice.

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Appendix A *Variables in the analyses*

Variable	Wording of survey questions
<b>Social closure</b>	
Salary among professionals occupied in the profession	Register data
Mother's and father's education	"What type of school education does your father / mother have?" (Primary school up to 7 years; Primary school up to 9 or 10 years; Primary school degree [Realeksamen]; General High School diploma; Mercantile High School diploma; Technical High School diploma; Higher preparation Exam [HF]; Higher preparation exam single courses; Other; Don't know)
	"What type of higher education does your father/mother have?" (None; Vocational training; Short higher education [1-3 years]; Medium length higher education [4 years]; Long higher education [5 years or more]; Don't know)
Economic capital when growing up	<p>"Did your parents, at any time when you were growing up, own one of the following items: summer house, camper, yacht?" (yes, no)</p> <p>"Did your family struggle financially when you were growing up?" (No never, no seldom, yes sometimes, yes often, don't know).</p> <p>Index is formative, and alpha is hence not calculated.</p>
<b>Symbolic closure</b>	
Lifestyle of highbrow taste	<p>"Please choose the relevant response regarding these different authors: Johannes V Jensen, Kirsten Thorup, Leif Davidsen, Sven Åge Madsen, Jakob Ejersbo" (I do not know this author; I have not read anything written by this author, and I would not like to; I have not read anything by this author, but I would like to; I have read something by this author)</p> <p>"Please choose the relevant response regarding these different movies: Aldomovar: "Volver", Kieslowski: "Blue" (I do not know this movie; I have not seen this movie, and I would not like to; I have not seen this movie, but I would like to; I have seen this movie)</p> <p>"Please choose the relevant response regarding these different musical artists: Miles Davis, Stravinsky" (I do not know this artist; I do not like listening to this artist; I neither like nor dislike listening to this artist; I like listening to this artist)</p> <p>"Please choose the relevant response regarding these different TV shows: Deadline, DR (News/background)" (I never watch this; I seldom watch this; I sometimes watch this; I often watch this)</p> <p>"I like the Cobra painters" (Totally disagree; disagree; neither agree nor disagree; agree; totally agree; Don't know)</p> <p>"I find installation art interesting" (Totally disagree; disagree; neither agree nor disagree; agree; totally agree; Don't know)</p> <p>"I find furniture from Verner Panton interesting" (Totally disagree; disagree; neither agree nor disagree; agree; totally agree; Don't know)</p> <p>Index made of these items with <math>\alpha=0.789</math>.</p>
Strong symbolic category	"When did you decide what education you would seek admission to?" (At the time of application; during my time in high school; I have known since I was a child)

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Cultural capital when growing up	“How often would you say that you did the following with your parents when growing up: your parents read to you, your parents helped with homework, visiting a museum” (Never, seldom, sometimes, often)  Index made of these items with $\alpha=0.701$
Symbolic category: Academic profession	“What education program are you enrolled in?”
Symbolic category: Field	
<b>Legal closure</b>	
Authorization	Data from websites. See also Harrits & Olesen, 2012.

*Note.* A full version of the questionnaire (in Danish) can be obtained by e-mailing the author.

Appendix B *Aggregate measures of closure*

<b>Social closure</b>		
Economic strength (average salaries)	Salary > 500,000 DKK Salary > 350,000 DKK Other	Strong Medium Weak
High school diploma father and mother, %	> 30 > 20 Other	Strong Medium Weak
Education 5 years father, %	> 25 > 10 Other	Strong Medium Weak
Education 5 years mother, %	> 20 > 10 Other	Strong Medium Weak
Economic capital when growing up, scale 0-1	> 0.45 > 0.41 Other	Strong Medium Weak
<i>Aggregate measure</i> Strong: Strong closure on three or more indicators Weak: Weak closure on three or more indicators Medium: All other cases		
<b>Symbolic closure</b>		
% of students planning to enroll in study program since childhood	> 15 > 5 Other	Strong Medium Weak
Highbrow taste, scale 0-1	> 0.39 > 0.35 Other	Strong Medium Weak
Cultural capital when growing up, scale 0-1	> 0.64 > 0.60 Other	Strong Medium Weak
<i>Aggregate measure</i> Strong: Strong closure on two or more indicators Weak: Weak closure on two or more indicators Medium: All other cases		