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# Sexuality education in comparative perspective: conceptualising reproduction knowledge provision in school curricula

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## ABSTRACT

This article introduces a novel conceptual typology for understanding how reproduction knowledge is provided in sexuality education curricula and applies it to the school curricula in the German federal states. Given the lack of systematic conceptual approaches currently, I examine curricula from a policy perspective by considering them central to conveying politically selected information about reproduction. I advance an analytical framework that assesses curricula along two dimensions: prescriptiveness and comprehensiveness, measuring the number of topics covered, and the degree of detail to which curriculum content is specified. Four ideal types of reproduction knowledge provision are identified: residual, selective, broad, and extensive. These categories describe how states shape the provision of reproduction knowledge through sexuality education curricula. The analysis of curricula reveals significant variation, with relatively low levels of comprehensiveness, while prescriptiveness varies to a greater extent. The article advances the literature on comprehensive sexuality education and highlights the importance of taking a detailed look at structural differences in curricula. It offers insight into how states regulate reproduction knowledge provision, and recognises this process as a crucial yet under-examined and under-conceptualised policy arena.

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Sexuality education; curriculum; reproduction knowledge; education; Germany

## Introduction

Sexuality education is an important feature of state regulation of reproduction as it entails knowledge provision on issues such as reproductive anatomy, sexuality and gender identity. However, there is a scarcity of systematically applicable and comparative approaches to analysing the key documents that specify the knowledge that should be provided – in the form of school curricula. This is a major shortcoming, as curricula are policy documents detailing the knowledge that policymakers deem important for pupils (Westbury 2008). While the delivery of knowledge is often dependent on schools and teachers, curricula provide the frameworks dictating what should be taught. Hence,

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I argue that sexuality education curricula are instruments through which states shape the provision of *reproduction knowledge*.

In the article, I use the term ‘reproduction’ sociologically, recognising it as ‘the biological and social process of having or not having children’ (Almeling 2015, 430; Sandall, Monaghan, and Gabe 2013). Seen this way, in contrast to its popular use, reproduction exceeds processes of conception, pregnancy, birth and parenthood and also encompasses non-procreative aspects, given that those people who do not have children must navigate social norms concerning procreation, and take precautions to avoid pregnancy. This broader focus includes the experiences of men and gender diverse people, and encompasses bodily, individual, interactive and cultural processes (Almeling 2015). Consequently, *reproduction knowledge* refers to a broad array of knowledge concerning sexual experiences, identities and the social and biological processes surrounding them. Reproduction knowledge is shaped by, amongst other things, the knowledge provided in school sexuality education curricula.

In this article, I ask how can the provision of reproduction knowledge in curricula be conceptualised from a policy perspective? To this end, I propose a novel conceptual typology that classifies this in terms of two dimensions: comprehensiveness and prescriptiveness. Comprehensiveness describes the range of topics that should be taught; prescriptiveness refers to the level of detail with which curriculum content is specified. Four derived ideal types – residual, selective, broad and extensive – capture variations in knowledge provision and allow me to draw conclusions about the way in which different curricula shape the delivery of reproduction knowledge. As an example, I apply the framework to the current curricula in the 16 German federal states. Germany provides ideal ground for this exercise given its federal education structure and its secondary school tracks, which allocate pupils to different educational tracks based on performance. This results in multiple curricula within and across federal states and facilitates the use of a most-similar-systems design for looking at regional variation within a single country.

In the study described here, I manually coded and quantified the curriculum content and then plotted it along the two proposed dimensions. The analysis revealed considerable variation in comprehensiveness and prescriptiveness. The majority of curricula were comparatively low in comprehensiveness, but varied in their prescriptiveness. This means that, in many of the curricula, relatively few topics are mentioned but these are often specified with great detail. Furthermore, the analysis reveals systematic differences between secondary school types, with more comprehensive curricula being offered in intermediate or lower secondary schools, such as in *Hauptschule* or *Realschule*.

## The curriculum as policy

Curricula encompass what should be taught in schools and how. Under this broad definition, however, different disciplines engage with distinct issues, varying from regarding curricula as schedules detailing the content for specific subjects, to perceiving them as a collective body of knowledge to be transmitted across generations (Tröhler 2014). It is crucial to recognise that school curricula do not necessarily align with what teachers actually deliver in the classroom. To address this, Vollstädt (2003) differentiates between official, institutional, individual, actual and realised curricula. In this article, I focus on the ‘official curriculum’, which denotes the specific syllabi that

include the knowledge to be taught in school. This omits an engagement with teaching methods or materials, and focuses only on the designated instructional content. This approach is intentional, as it is important to analyse the knowledge specified in the curriculum separately from other policies, such as whether a subject is mandatory or what teaching materials are used. The rationale behind this focus lies in the fact that other actors may be involved in policy formulation (e.g. publishers regarding teaching materials) (Klein 1991). This definition of the curriculum also deliberately excludes the ‘realised’ curriculum, i.e. what is actually taught in classrooms. This is because the content taught in classrooms is influenced by numerous contextual factors, including teacher discretion and school autonomy (Mausethagen and Elde Mølsted 2015).

Curricula, viewed through a ‘politics of knowledge’ lens (Stehr 2003), not only have pedagogical functions but also political ones. They embody a collection of ‘chosen rationales’ (Goodson 2002) that correspond with overarching goals of education and schooling (*ibid.*). Empirically, curricula are frequently adapted to societal demands, which can be exemplified by the inclusion of sexually transmitted infections in school curricula following the HIV epidemic (Sivesind and Westbury 2016). That they are adapted to societal issues demonstrates that curricula reflect and frame issues considered relevant by policymakers. Thereby, they may be seen as representing ‘authoritative statements about the social distribution of the knowledge, attitudes and competencies seen as appropriate to populations of students’ (Westbury 2008, 47). In essence, therefore, curricula are ‘culturally selected’ (Looney 2001, 154) which positions the ‘curriculum as policy’ (*ibid.*). That the creation of curricula is not (only) a pedagogical but a political process is also exemplified by the involved stakeholders. Although only limited research exists on who is actively involved in shaping sexuality education curricula, evidence from Germany suggests that parents, student associations, churches and other actors play a role in the process (Kluge 2024). Each may bring their own values and priorities to the discussion. The presence of such groups means that curriculum content is often a reflection of broader societal debates and negotiations over what it is considered acceptable or important for students to learn about reproduction.

It is important to see the significance of curricula beyond their educational relevance especially in the case of sexuality education. Their role in education is important because they offer knowledge on issues like unintended pregnancy, sexual health, reproductive anatomy, puberty and navigating relationships. Research has shown that what individuals know about reproduction can shape their behaviours and perceptions, which can then impact both individual reproductive choices and experiences within relationships (Guzzo and Hayford 2018). Specifically, reproduction knowledge has been shown to impact reproductive trajectories and can influence behaviour related to pregnancies, contraceptive use and health screening (e.g. Guzzo et al. 2018; Lee 2019; Schaalma et al. 2004; Stanger-Hall and Hall 2011; Väisänen et al. 2021). Goldfarb and Lieberman (2021) for example revealed that receiving sexuality education may have an even broader impact, potentially influencing pupils’ appreciation of sexual diversity and/or their awareness of intimate partner violence. The relationship between knowledge and behaviour is not always straightforward. Although its impact is not guaranteed, the possibility that knowledge may inform decision-making at different stages of life is significant enough to warrant consideration as part of curriculum development. Overall, reproduction

knowledge within sexuality education is not merely neutral educational content; it is in fact a form of socio-politically selected information. Viewing curricula as policy underscores the need to consider how states intervene in knowledge provision through curriculum design.

## Conceptualising sexuality education curricula

The content of sexuality education curricula can be conceptualised in different ways, but little research has so far focused on the narrower definition of curricula applied in this article. One strand of research has examined the inclusion of specific topics in sexuality education curricula, such as in relation to the needs of people with disabilities, the navigation of relationships, and/or contraception (McCann, Marsh, and Brown 2019; Szucs et al. 2023; W. J. Hall et al. 2019). Another strand has focused on different discourses within curricula (Allen 2007; Ezer et al. 2019). However, comparative accounts are limited and very few identify ideal types of curricula (e.g. Barriuso-Ortega, Heras-Sevilla, and Fernández-Hawrylak 2022).

A prominent concept used in the field of sexuality education is *comprehensive sexuality education*. This is often distinguished from so-called abstinence-based sexuality education (Stanger-Hall and Hall 2011). The latter approach has been particularly prevalent in the USA, but has also been used in some European countries (including Ireland, Estonia, Latvia and more recently Poland (Izdebski et al. 2022; Ketting and Ivanova 2018). Some writers seek to distinguish between ‘comprehensive’ and ‘holistic’ sexuality education, an approach that can be found in the European Standards for Sexuality Education (BZgA, and WHO 2010). While a holistic approach may be considered to be more inclusive and broader than a comprehensive one, the term ‘comprehensive sexuality education’ is more frequently used in research with regards analysing the scope of sexuality education curricula and programmes (Shannon 2016; Hegdahl et al. 2022; Goldfarb and Lieberman 2021). To contribute to coherence in current research, I use the term comprehensive sexuality education.

Sexuality education in its most comprehensive form entails engagement with a multitude of topics that should be covered at different times in young people’s lives in order for them to have autonomous and self-determined reproductive experiences (cf. BZgA, and WHO 2010). Comparative research on the scope and content of comprehensive sexuality education curricula is scarce and often focuses on contextual factors surrounding a specific curriculum (Cassar 2022; Ketting and Ivanova 2018; Parker, Wellings, and Lazarus 2009).

Despite this, framing curricula as policy (as I seek to do in this paper) requires one to take the specific aspects of knowledge within the curricula into account to capture how an ‘official’ curriculum works. Presently, conceptualisations of comprehensive sexuality education rarely focus on systematically specifying the kinds of knowledge to be acquired and whether topics are to be addressed cursorily or more thoroughly. Acknowledging the degree to which the content is specified in detail in a curriculum enables one to analyse the extent to which states define the content to be taught or, on the contrary, allow a more open approach by teachers.

Building on these considerations, I suggest that differences in reproduction knowledge provision through curricula are best captured along two dimensions, *comprehensiveness*

and *prescriptiveness*. Comprehensiveness denotes how many different topics there are within a curriculum. The topics focused on here correspond to those present in the European Standards for Sexuality Education (BZgA, and WHO 2010) and concern the topic areas of body, fertility, sexuality, emotions, relationships, rights and socio-cultural aspects. Comprehensiveness of curricula may be measured by the number of topics included. More comprehensive curricula provide broad reproduction knowledge rather than a focus on only selective aspects (as would be the case in a less comprehensive curriculum). Table 1 provides an overview of potential topics that can be included under each of these topic areas. In making sense of these, it is important to acknowledge the range of issues that could be engaged with and how this have developed over time. Early on, and in most countries, the focus was mostly on the biological aspects of reproduction, such as anatomy and physiology, fertility, and sexually transmitted infections. In more recent decades, the range of topics covered in sexuality education has broadened significantly (Ketting and Ivanova 2018) to include emotions and consent, as well as gender identity and sexual orientation. While historically, some issues have long been contentious in sexuality education (Sauerteig and Roger 2012), topics to do with gender identity and sexual orientation have recently come under attack by right-wing actors (Schmincke 2020). Thus, it is important to note that while a broad perspective on comprehensiveness is needed to comprehend the range of issues that could be included in school-based sexuality education, it does not highlight the individual (and potentially controversial) issues that are *not* included.

**Table 1.** Overview of topics of comprehensive sexuality education.

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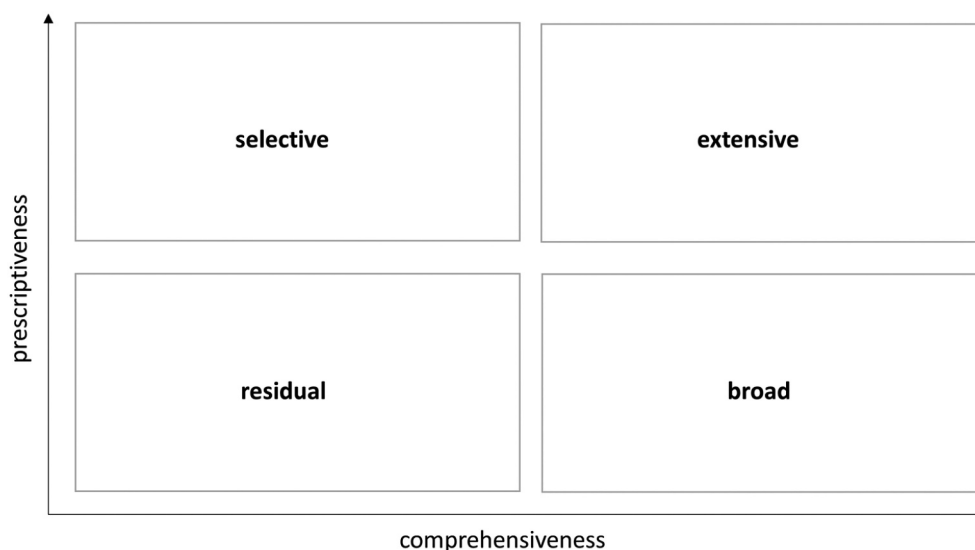
<b>Body:</b>	body changes, puberty, anatomy and sex differences, body acceptance, body modifications, beauty standards, menstruation
<b>Fertility:</b>	birth, pregnancy, parenthood and choices, fertility and cycle, contraception, (young) parenthood, infertility and fertility changes, emergency contraception, contraception, responsibility, medically assisted reproduction, abortion
<b>Sexuality:</b>	relevance sexuality, sexuality basic need, gender identity, sexual orientations, love, sex in media, intercourse, consent and appropriate sex, pleasure, pleasure masturbation, conscious decision to sex, gender and sex, transactional sex, coming out, positive attitude to sex, different forms of affection and sex
<b>Emotions:</b>	friendship love and lust, communicating emotions, different emotions, intimacy and privacy, acceptance of emotions
<b>Relationships:</b>	navigating relationships, different types of relationships, family constellations, social behaviour, same-sex relationships, respect for diversity in relationships, gender roles and expectations, discrimination, influence of: age, gender, religion, culture, fulfilling relationships
<b>Well-being:</b>	positive effects of sexuality, sexually transmitted infections, violence and boundaries, abuse: forms and support, responsibility for own and others' boundaries
<b>Rights:</b>	self-determination/autonomy, sexual rights, help and info when violation of rights, human rights language, claiming one's sexual rights
<b>Socio-cultural:</b>	gender roles and culture, peer pressure sexuality, different norms

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While comprehensiveness describes breadth of topics, prescriptiveness describes the level of detail with which the teaching content is specified. A curriculum is more prescriptive if the focus lies on specific aspects and defines content in greater detail (for instance, 'how to prevent pregnancy' or 'learning about potentially adverse health outcomes for the unborn throughout pregnancy', rather than merely 'pregnancy'). Hence, in a (more) prescriptive curriculum, specific learning goals are identified. In addition, prescriptiveness serves as an indicator of external control over reproduction knowledge

provision. A less prescriptive curriculum gives greater freedom to teachers and enables them to influence the delivered content. It also grants educators and other resources such as textbooks or external consultants, greater influence over the sexuality education content (Douglas et al. 2001; Kapella and Mazal 2022). While the extent of teacher autonomy over learning content depends on the regulatory context, prescriptiveness nonetheless reveals the specificity with which the state defines (to-be-taught) reproduction knowledge and the latitude given to teachers through a scarcity of detailed content definition. Overall, a more prescriptive curriculum provides more *specific* rather than *non-specific* reproduction knowledge. The specification of more topics and greater detail influences both what teachers will teach and consequently what pupils can learn about reproduction in school.

Informed by these dimensions, a series of expectations about ideal types of reproduction knowledge can be derived. Figure 1 illustrates this in the form of a four-field matrix. It is important to recognise here that defining curricula in terms of two dimensions does not influence reproduction knowledge *per se*, but rather the way in which states shape what should be taught. The aim of the model is to provide one possible framework for assessing differences in curricula. The development of the model has been informed by policy conceptualisation approaches in policy analysis research, where measurement along multiple dimensions and classification into ideal types is commonly used to assess the multidimensionality of policies in a comparatively robust way across contexts (see for example, Lohmann and Zagel 2016 for family policy; Esping-Andersen 1990 in respect of welfare states; and P. A. Hall and Soskice (2001) for types of capitalism). Applying such a conceptual approach to sexuality education curricula enables a systematic, deductive assessment of differences in curricula.



**Figure 1.** Ideal types of reproduction knowledge provision in terms of comprehensiveness and prescriptiveness.

Approaches to reproduction knowledge provision fall into four categories. At one end, the ideal type ‘residual provision of reproduction knowledge’ describes *selective* and *non-specific* curricula. Here, the state plays a minimal role in the provision of knowledge by offering little curriculum content, which is also not strongly specified. At the opposite pole, the ideal type ‘extensive provision of reproduction knowledge’ describes curricula in which *broad* and *specific* knowledge is defined; the state asserts the greatest control with such a curriculum by covering more topics in greater detail. The ideal type ‘selective provision of reproduction knowledge’ is *selective* and *specific*; that is, fewer topics are covered, although each is described in detail, leaving less scope for teachers to determine contents. Finally, the ideal type ‘broad provision of reproduction knowledge’ refers to *broad* and *non-specific* curricula allowing for greater teacher influence over direction and depth; with a multitude of topics of being covered thereunder.

## Materials and methods

I turn now to the use of the conceptual typology by applying it to the sexuality education curricula of the 16 German federal states. Germany is a well-suited case due to the fact that its federal structure allows each state to have authority over education policy and curricula. In the German school system, after primary school, pupils may move to lower, intermediate and higher secondary school types based on their ability (Leischner 2011). This means that there are separate curricula for the different school types.

Following recent reforms, the earlier tripartite system has changed in some states. Currently, five German states have a comprehensive school system (*Gemeinschaftsschulen*) without different school types. Seven have bipartite systems, comprising general secondary schools (e.g. *Sekundarschulen*) and higher secondary (*Gymnasien*). Four states have tripartite systems, and differentiate between *Hauptschulen* (lower secondary schools), *Realschulen* (intermediate secondary schools) and *Gymnasien* (higher secondary school).<sup>1</sup> This results in at least one distinct curriculum per state, and multiple distinct curricula per state where there are different school types.

## Data

The data comprises the currently applicable public school curricula in Germany (as of January 2023). I collected this information by downloading the respective subject curricula from official websites in each federal state. The sample focuses on curricula from school types that the majority of pupils (are required to) attend, thereby excluding information from school types such as vocational or special-needs schools. It also excludes primary school curricula due to the often distinct nature of sexuality education at this level, for which sexuality education guidelines have different areas of focus given the different stage of child (sexual) development (Goldman 2013). Because sexuality education is not a separate subject in any of the federal states, I identified the school subjects in which it is taught by consulting interdisciplinary guidelines and government-conducted studies (especially Deutscher 2016).<sup>2</sup> In many cases, there exist several curricula for one school type (e.g. for different grade levels), and these were combined into one unit of analysis so as to ensure one curriculum for each school type per state. This allowed me to compare the

secondary school curricula systematically. Overall, the final data comprises 31 curricula. A detailed overview of curricula is included in an online supplemental online file (Table A1).

### ***Analytical strategy***

The analysis took the form of a quantitative content analysis, with two main steps (Krippendorff 2013). At the first of these steps, I identified the specific parts of the curricula focusing on sexuality education. This was necessary given that sexuality education is rarely explicitly labelled as such. To distinguish it from other components, a pool of potential topics was derived from what is considered comprehensive sexuality education in the aforementioned European Standards for Sexuality Education (BZgA, and WHO 2010). These encompassed themes such as body, fertility, sexuality, emotions, relationships, rights and socio-cultural factors. At a second step, I used the aforementioned list of topics as a coding scheme and manually coded the curricula by tagging relevant topics mentioned in each state curriculum to the corresponding sexuality education topic in the coding scheme. The identification of different topics in each curriculum allowed me to calculate a numerical value for each curriculum. This *comprehensiveness* variable indicated the number of different topics covered in a curriculum (out of 63 in total, see Table 1). The value was standardised to range from 0 to 1, with 1 indicating all topics were present in the relevant curriculum.

Based on this identification of topics, I ascertained which of the items denoting a specific topic were *prescriptive*. It is important to acknowledge that curricula differ in terms of how content is organised, in that some use lists and bullet points while others use plain text. To ensure comparability, I approached *prescriptiveness* as follows: an item was labelled as prescriptive if it went beyond and ‘added value’ to the topics characteristic of comprehensive sexuality education listed in Table 1 (e.g. not ‘contraception’ but ‘condoms and the pill’). An item was also prescriptive if it appeared in a complete descriptive sentence, or if the item was brief but had a clear instructional character (e.g. ‘learning different contraceptive methods’).

To facilitate ease of understanding, I will give some examples from the Hesse curriculum to illustrate how content was coded for prescriptiveness. In higher secondary schools’ (*Gymnasien*) lessons on biology, it is stated that ‘[i]n addition, a contribution should be made to prepare children for a responsible partnership’ This was coded as prescriptive, as the learning goal is explicitly stated. Another prescriptively described topic is ‘[p]renatal development (risks to the unborn child)’. Here the reason for labelling the topic as prescriptive is that, once again, it is made clear what specific knowledge should be taught: namely, that there are prenatal developmental risks to the unborn child during pregnancy. In contrast, content items that merely listed individual subjects such as ‘pregnancy and birth’ are not considered prescriptive because the precise topics to be learned are not specified. Overall, the *prescriptiveness* variable refers to the percentage of prescriptive items within one curriculum, ranging from 0 to 1, with 1 indicating that all topics in a curriculum are associated with a detailed description of content.

To ensure the reliability and robustness of the coding process, 10% of documents<sup>3</sup> were retrospectively double coded by two additional and independent coders with no

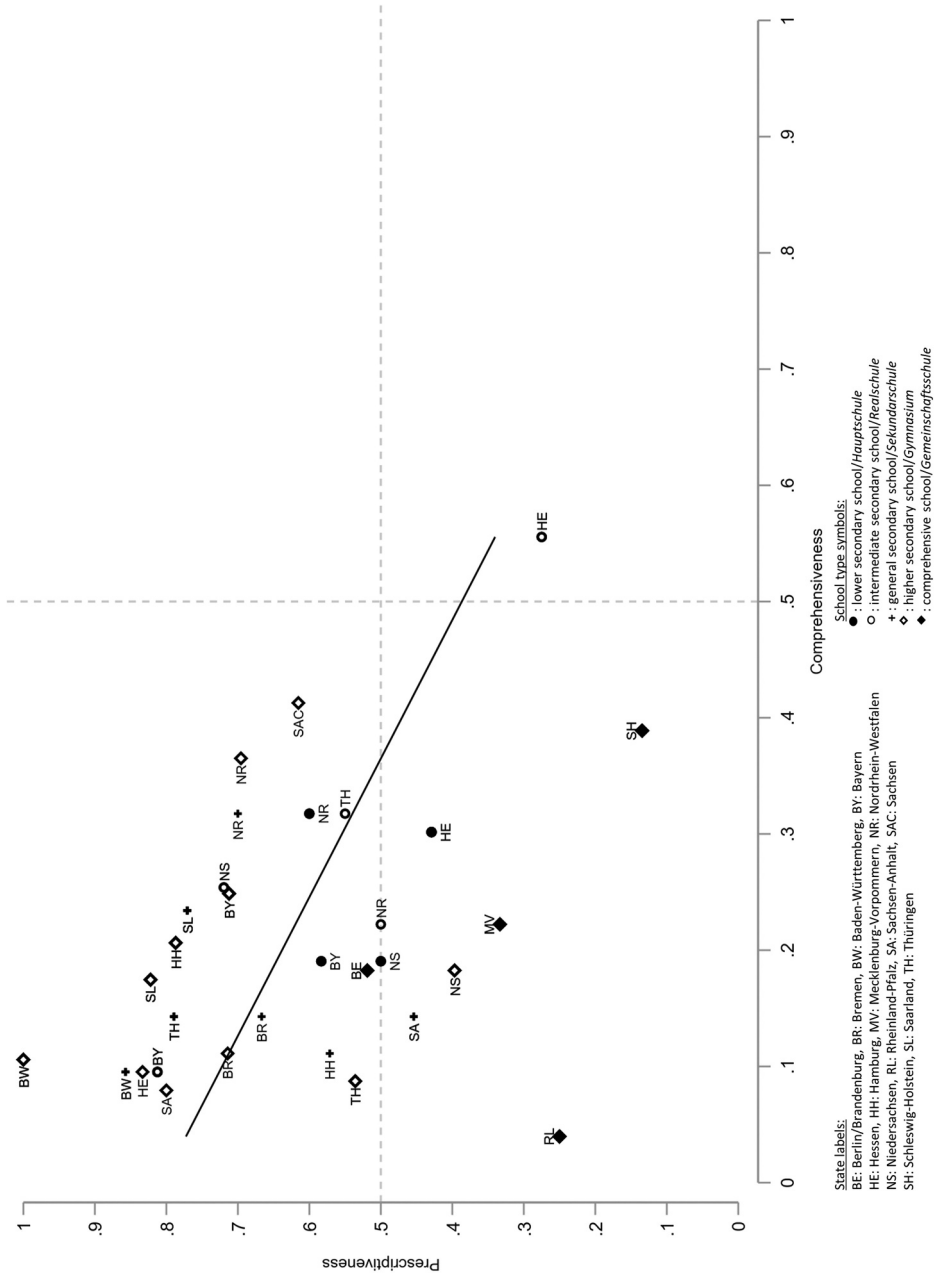


Figure 2. Comprehensiveness and prescriptiveness of sexuality education curricula in Germany.

background in research in sexuality education. This enabled the inter-coder reliability (ICR) to be calculated using Cohen's Kappa. In this study, this ranged from 0.90 to 0.99 (calculated for each document, rating both comprehensiveness and prescriptiveness codings together), indicating a high level of agreement and reliability in the coding for both comprehensiveness and prescriptiveness.

To identify the type of knowledge provision in a sexuality education curriculum, I then plotted the two variables describing the dimensions of reproduction knowledge provision in sexuality education curricula.

## Findings and discussion

Figure 2 shows a plot of sexuality education curricula along the dimensions of comprehensiveness and prescriptiveness. The different curricula are labelled with symbols and abbreviations for the respective federal states and school type. The dashed lines indicate the cut-off points for the construction of the conceptual typology.

Prescriptiveness varied widely across the 31 curricula, but comprehensiveness less so. The average prescriptiveness score was 0.63, signifying that curricula more often than not specify the reproduction knowledge to be provided. Comprehensiveness scores were lower overall (mean value of 0.17), suggesting that, on average, curricula included 17% of the topics constituting comprehensive sexuality education. Overall, six curricula can be located in the ideal type associated with *residual reproduction knowledge provision*, 24 in the ideal type of *selective reproduction knowledge provision* (with two of them bordering on the 0.5 line of prescriptiveness), and one in the *broad reproduction knowledge provision* ideal type. For some states, the curricula for different school types are located in different ideal types, whereas for the other states, they are in the same ideal type.

Two specific findings should be pointed out. First, there was a correlation in the relationship between the two dimensions, with more comprehensive curricula being less prescriptive as indicated by the trend line in the graph. Second, there were differences in curricula between different school types. For comprehensiveness, the highest values were found for the lower- and intermediate secondary schools (both 0.26), although the standard deviation was quite large for the intermediate secondary school values (0.18). The differences between school types were also statistically significant, as indicated by an ANOVA test (see online supplemental material, Table A2). Differences in prescriptiveness were less pronounced across school types. Overall, *Hauptschulen* (lower secondary schools) and *Sekundarschulen* (general secondary schools) were more prescriptive, while *Realschulen* (intermediate secondary schools) and *Gemeinschaftsschulen* (comprehensive schools) exhibited the lowest levels of prescriptiveness. These differences were not statistically significant.

## Discussion

These results of this analysis show that the majority of German sexuality education curricula are located in the clusters of *residual* or *selective reproduction knowledge provision*. This suggests that German federal states' curricula overall provide limited and little predefined knowledge on reproduction. Given the lack of previous empirical research on this subject, this is an important finding. It underlines that most sexuality education

curricula in Germany do not even cover half of the topics considered in the working definition of ‘comprehensive’ sexuality education used in this paper. Considering Germany’s reputation as a country with comparatively progressive sexuality education (Ketting and Ivanova 2018), these results are especially important. One should note in this context that conceptually, the focus here is on a narrow definition of curricula – the content in syllabi. This means that required school-books dealing with sexuality education, for example, are not considered. This limitation is important as it may change the range of provided reproduction knowledge, and underscores the need to account for other regulatory contexts beyond the curriculum itself.

It is also important to consider how the dimension of comprehensiveness defines curriculum content. While comprehensiveness is primarily a quantitative measure of the range of topics covered, it can also provide an indication of which specific topics are included. A broader range of topics typically indicates a more extensive provision of information. In this study, nearly all the curricula included information on puberty, making this as a fundamental topic. As more topics are introduced, the content moves beyond foundational and less controversial subjects. Consequently, higher comprehensiveness increases the likelihood of addressing more sensitive or controversial topics, as these are less likely to be covered without also addressing more foundational, less sensitive issues; however, this relationship does not, of course, necessarily always hold.

One possible explanation for the relatively low levels of comprehensiveness could derive from the specific way in which comprehensiveness was measured here. The measurement indicates how many individual topics are mentioned, rather than looking at broad topic areas. Hence, a curriculum that mentions puberty, contraception, sexual intercourse, acceptance of emotions, fulfilling relationships, violence and boundaries, and gender roles and culture might be considered quite broad by some. However, it would still receive a low comprehensiveness score here, as only one aspect of each topic area is covered. This is important to keep in mind when interpreting the empirical findings.

What is more, the observed relationship between the two dimensions, with more comprehensive curricula being less prescriptive, provides a crucial perspective on assessing curricula based solely on comprehensiveness. Focusing mainly on the topics that are meant to be taught limits our understanding of how those topics are framed within the curriculum. Curricula with lower levels of prescriptiveness may offer liberal-minded educators wider latitude to introduce progressive concepts, while conservative teachers might use the flexibility to stress traditional viewpoints on reproduction issues.

The observed correlation between the two dimensions may be the result of different factors. First, it may be an empirical artefact, created by more topics resulting in less ‘space’ in the curriculum for detailed descriptions. Second, it may be the result of deliberate political decisions to encompass a broader range of topics while allowing instructors more freedom to shape the content. If this is the case, then prescriptiveness may be used strategically by policymakers to avoid specifying what exactly is to be taught, which may be helpful in times of backlash against sexuality education (Schmincke 2020; Kuhar and Paternotte 2017). The existence of curricula of different ideal types within a single state suggests that these differences are not merely determined by traditions of curriculum-making but are by political factors as well.

When discussing the political strategies behind curriculum design, it is important to keep in mind the fact that curriculum development involves multiple stakeholders and is shaped by cultural context. Curricula reflect societal values and norms, and have undergone significant shifts over time in response to changing social, political and educational priorities (Sauerteig and Roger 2012). Historical legacies, such as past educational policies or cultural attitudes, can also play a role in shaping contemporary curricula. The process may involve compromises between various stakeholders, including policymakers, educators, parents and interest groups, each with differing perspectives on what should be included and how sensitive topics should be addressed. When interpreting the types of reproduction knowledge provided in curricula, it is essential to keep these complexities in mind.

Lastly, the differences found in curricula between different school types pertain mostly to comprehensiveness. This may indicate that including more topics is the main instrument that policymakers use to increase reproduction knowledge, rather than a more detailed description of the included topics. That prescriptiveness does not increase in parallel to comprehensiveness also stresses the relevance of considering both dimensions, and stresses how both may not be used in the same way or to the same extent. It also underlines the assumption that prescriptiveness could be a scale that is used not necessarily to increase or decrease reproduction knowledge as such, but rather is used strategically by policymakers to shape the nuances of the content. However, it is important to recognise that only four states have a tripartite and seven have a bipartite educational system, which restricts insight into systematic differences between school types.

## Conclusion

Sexuality education curricula provide a key, yet often overlooked aspect of the state regulation of reproduction. However, there have as yet been few efforts to systematically analyse them. Yet, in the light of contemporary backlash with respect to gender and reproduction policies (Kuhar and Zobec 2017), they are important to examine beyond their pedagogical significance. By providing a two-dimensional conceptualisation of sexuality education curricula and an empirical utilisation of it, this paper has sought to contribute to the existing literature on sexuality education and policy analysis in several ways.

First, I have argued that curricula are useful policy documents with which to examine implicit norms and types of state involvement in shaping knowledge provision (cf. Jensen 2009). Curricula are inherently political constructions and the outcome of deliberate choices about what knowledge to include, and what to exclude. Importantly, social norms influence not only curriculum content itself but also political controversy surrounding sexuality education in general. They also offer insight into the links between education policy and social policy (Carstensen and Emmenegger 2023) by revealing empirical differences in curricula between school types.

Second, I have provided an initial conceptualisation of different kinds of sexuality education curriculum. The typology developed in this paper can be utilised for future work to make within, and between, country comparisons, and can be

applied to other school subjects as well. Lastly, I have provided insight into the educational landscape in Germany with respect the provision of reproduction knowledge, signalling how school curricula illuminate the ongoing contestations surrounding sexuality education.

## Notes

1. Comprehensive: Berlin/Brandenburg (the curricula under review were the same, so these were analysed together), Mecklenburg-Vorpommern, Schleswig-Holstein, Rheinland-Pfalz; bipartite: Bremen, Baden-Württemberg, Hamburg, Sachsen-Anhalt, Sachsen, Saarland, Thüringen; tripartite: Bayern, Hessen, Nordrhein-Westphalen, Niedersachsen. Note: Nordrhein-Westphalen has a tripartite system but with the option of a comprehensive track; it is therefore a mixed-type but was placed under the tripartite system (Helbig and Nikolai 2015).
2. Drawing on these sources, I examined the specific subject curricula. I then briefly reviewed other curricula to see if sexuality education content was mentioned in them, too. For example, in many German states, sexuality education content is also taught in ethics classes. In those which explicitly taught the subject in biology classes, I therefore checked ethics classes to avoid content loss.
3. The *Mittelschule* (intermediate secondary school) curricula in Bavaria, the *Gymnasium* (higher secondary school), and the *Gemeinschaftsschule* (comprehensive school) curricula in Saxony. These were chosen so that the double-coded curricula encompass various regions and school types throughout Germany to control for potential regional bias.

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