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Sex education and adolescent sexual behavior. Analysis of historical and contemporary data

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Abstract

Research objectives and problems: The article focuses on the issue of students' sexual activity. The aim is to describe the initiation of sexual intercourse by adolescents (people aged 19 and under). Two main research problems are posed: What changes in the issue of adolescent sexual initiation can be observed by comparing the results of survey data from the early 20th century with the results of surveys from the early 21st century? Do survey data on adolescent sexual initiation correlate with statistics from the Central Statistical Office on the number of teenage pregnancies?

Research methods: The study is based on a comparative analysis of a wide range of scientific publications, reports and statistical data on adolescent sexual behavior over the years. Survey data from the late 19th century to the present are analyzed, which makes it possible to track long-term trends and identify significant changes in youth behavior.

Structure of the article:

1. Introduction
2. Evolving Perceptions of Youth Sexuality

3. Review of the Results of Survey Research on Adolescent Sexual Initiation (1898–2019)
4. Age of sexual initiation
5. From initiation to parenthood—teenage pregnancy statistics in light of CSO statistics
6. Test results

Research findings and their impact on the development of educational sciences: The results of the study show that since the beginning of the 20th century, there have been significant changes in the sexual initiation of adolescents. The age of sexual initiation for boys at the beginning of the 20th century was higher than at its end, and since the 1970s there has been a steady increase in the number of girls engaging in sexual intercourse before the age of majority. Despite the increase in sexual activity, the number of teenage pregnancies has been steadily decreasing since 2004, suggesting the positive impact of sexual education, greater awareness and responsibility regarding the consequences of sexual intercourse. The findings also indicate that socio-behavioral changes have a substantial impact on adolescent behavior, which should be taken into account when creating educational and health policies.

Conclusions and/or recommendations: Further research is needed to more fully understand the impact of these changes and to develop effective strategies to protect young people from early motherhood and its health and social consequences.

Keywords: adolescent sexual behavior, sexual initiation, sex education, adolescent parenting

Introduction

The topic of sexual education first appeared in Polish pedagogical literature at the turn of the 19th and 20th centuries (Babik, 2010). Adolescents' awakening sexuality often manifested in behaviors that perplexed teachers, raising questions about how they should respond and how best to educate young people on issues related to sexuality. A compelling

account of this issue is presented by L. J. Bukowski in his book *Figle i psoty młodzieży szkolnej* [Pranks and Mischief of School Youth] (Bukowski, 1933), in which he examines various mischievous behaviors among students, including those related to their budding sexuality.

Bukowski's work, though a product of its time, brings to light several noteworthy aspects of sexual activity among youth in schools. Firstly, he identifies diverse expressions of adolescent sexuality, ranging from discussions about sexuality to bringing pornographic materials to school and even writing erotic poetry. Secondly, Bukowski critiques the often inadequate responses of teachers, especially when they were called upon to intervene or address these topics openly (Bukowski, 1933). Lastly, he notes what he termed a "pedagogical misunderstanding," where students faced disciplinary action for their sexual behaviors without being informed about the expectations or rules governing such matters.

Over the 90 years since Bukowski's observations, dramatic changes have reshaped the landscape of sexual education in Poland. One notable shift occurred in the 1980s, with the introduction of sexuality-related content into school curricula as part of the *Preparation for Family Life* course (Izdebski, 2012). Building on this progress, the *Act on Family Planning and Protection of the Human Fetus* in the early 1990s mandated the inclusion of education about human sexuality in school curricula (Izdebski, 2012). This marked a significant departure from the interwar period, during which Polish students lacked any formal sexual education within schools.

This evolution underscores the growing need for equipping educators with the knowledge and skills to navigate the complexities of sexual education, ensuring that schools provide an environment conducive to informed and healthy discussions about sexuality. These developments stress the urgent need for teachers who are well-prepared to navigate the complexities of sexual education. By equipping educators with the tools to engage students in meaningful discussions about sexuality, schools can foster an environment where adolescents feel supported in understanding their own development while making informed and responsible choices. This evolution reflects the broader societal shift toward a more open and comprehensive approach to sexual education.

Adolescent sexual initiation and its associated consequences have long been topics of keen interest in both academic research and public discourse. Understanding the age at which adolescents first engage in sexual activity, as well as the factors influencing these decisions, is key for designing effective educational and health programs. A comprehensive analysis of survey findings and statistical data can contribute worthwhile knowledge on historical trends and provide a clearer picture of the obstacles that parents and educators face today when designing and conducting sexual education for children and teenagers.

This article explores the patterns of sexual initiation among teenagers (individuals aged 19 and under), addressing two central questions. First, what changes in adolescent sexual behaviors can be observed when comparing survey data from the early 20th century with findings from the early 21st century? Second, do survey data on teenage sexual initiation correlate with statistical trends from Poland's Central Statistical Office regarding pregnancies and births among adolescents? Specifically, does an increase or decrease in teenage sexual activity correspond to a rise or fall in pregnancies and births within this demographic?

The material for this article comes from a diverse range of sources, including academic studies, reports, and statistical datasets that shed light on sexual behaviors among adolescents across different historical periods. These sources provide a foundation for a comparative analysis, allowing for drawing conclusions about long-term trends and changes in this field. Particular attention is given to studies spanning from the late 19th century to the present day, which enables a comprehensive overview of long-term trends and shifts in adolescent sexual behaviors. By juxtaposing data from different periods, this article describes the changing age of sexual initiation and its implications, particularly concerning teenage pregnancies and births, as reflected in statistical data from Poland's Central Statistical Office. This comparative analysis is contextualized by a brief discussion of the social, cultural, and educational factors that have shaped adolescent sexual expression over time.

It is important to note that the sources used in this study, as listed in the bibliography, do not encompass all available research on teenage

sexual behavior (for a more exhaustive review, see Izdebski, 2010, pp. 114–146). Instead, the analysis focuses on selected studies that include large, representative groups of respondents. Methodological differences between studies have been intentionally excluded from this discussion, with the emphasis placed solely on the data presented in the reports.

Evolving Perceptions of Youth Sexuality

The advancement of sexological sciences, beginning in the 19th century and progressing through the 20th century, catalyzed a significant shift in how human sexuality was understood. Society moved away from a simplistic model grounded in cultural and religious norms, which stigmatized all expressions of sexuality in children and adolescents as deviant. Instead, a developmental perspective emerged, which acknowledged sexual activity in children and adolescents within specific, defined boundaries (Beisert, 2006, pp. 1–15).

This developmental approach established biological factors—along with their progression throughout a person’s life—and interpersonal relationships as critical benchmarks for determining norms of sexual expression. From this standpoint, both inappropriate sexual behaviors and an absence of sexual expression in adolescents could signify developmental disorders. In the context of schooling, this perspective suggests that instead of expecting complete abstinence from sexual behaviors, the focus should be on guiding such behaviors within normative boundaries. This necessitates a nuanced approach from educators, who must adopt an informed approach to accurately identify and interpret student behaviors. Only actions that fall outside normative limits should prompt corrective interventions by teachers. Furthermore, educators must acknowledge that students acquire knowledge about sexuality incrementally, learning associated norms over time—a process during which they may occasionally test boundaries. The competence and knowledge of teachers play a pivotal role in handling and redirecting such behaviors.

The 20th century also brought advancements in understanding the legal aspects of human sexuality, which are reflected in changes to criminal legislation on sexual offenses. An analysis of Polish criminal codes from the 1930s to the present illustrates this evolving perspective. The Criminal Code of 1932 contextualized sexuality within the framework of social customs, using the term *nierzqd* (fornication). Legal commentaries defined *nierzqd* as actions aimed at satisfying sexual desires in ways inconsistent with societal norms of moral purity, specifically outside marital relationships (*matrimonium est remedium concupiscentiae*) (Makarewicz, 1932, p. 298). This definition signals the law's primary concern with reserving sexual activity for marriage, a standard deeply rooted in religious conceptions of sexuality. The reference to the Latin maxim, *matrimonium est remedium concupiscentiae*, or "marriage is the remedy for concupiscence," reflects a view of sexuality as something requiring regulation, or a "cure," with marriage serving as the prescribed remedy. This perspective traces back to medieval theological principles originating in the works of Peter Lombard (1100–1164) (Ozorowski, 2002, p. 88).

The 1932 Criminal Code remained in effect until 1970, when it was replaced by the 1969 Code. Although the latter retained the term *nierzqd*, it expanded the legal framework by distinguishing between "crimes against morality" (Chapter XXIII) and "crimes against liberty" (Chapter XXII). Chapter XXIII addressed offenses such as the dissemination of pornography, pimping, incest, and corrupting minors, while Chapter XXII covered crimes against sexual freedom, including rape and acts of fornication. This distinction demonstrated a more nuanced understanding of morality and sexual freedom as separate but equally protected values under the law.

The current Criminal Code, introduced in 1997, merges the protection of sexual freedom and morality into a single chapter—Chapter XXV, titled "Crimes Against Sexual Freedom and Morality." The rationale for this consolidation, as explained in the code's accompanying memorandum, is that these two spheres are often simultaneously violated. Notably, the term *nierzqd* was replaced with "sexual intercourse," signaling a move toward modernized and more neutral terminology and reflecting contemporary societal attitudes.

Today, the term *nierzqd* is confined to the Misdemeanor Code, appearing in Chapter XVI, titled “Offenses Against Public Morals,” Article 142. It is noteworthy that while the current Criminal Code continues to uphold morality as a legally protected value, it also places pronounced emphasis on safeguarding sexual freedom, defined as an individual’s inherent right to make autonomous decisions regarding their sexual activity. The coexistence of moral and sexual liberty within the Code reflects an acknowledgment of the fluid nature of morality, which adapts and evolves in response to cultural and societal shifts, as well as broader changes in perspectives on human sexuality.

In summary, the shift from viewing sexuality solely in the context of marriage to recognizing sexual freedom as a right of every person has had an impact on changing social norms, which should consequently be reflected in the sexual behavior of young people. The abandonment of terms such as *nierzqd* (fornication) and the introduction of neutral terms such as “sexual intercourse” have helped reduce the stigma associated with sexual activity, which is no longer treated as some kind of “crime” or “offense.” Today, the law emphasizes the protection of sexual freedom and the prevention of violence in this sphere. It should be noted that the law evolves with cultural and social changes, so changes in the law regarding sexuality are both a result of and a catalyst for changes in mores, which largely shape the values and norms of adolescent sexual behavior.

Review of the Results of Survey Research on Adolescent Sexual Initiation (1898–2019)

The subject of adolescent sexual initiation is a prominent topic in scientific literature and is frequently covered in the media. This issue is analyzed from various perspectives, including statistical analysis as well as psychological and biological frameworks. Numerous publications, especially those in mass media outlets, suggest that the age of first sexual contact among adolescents is steadily decreasing. However, such claims require scientific corroboration, which can be achieved by comparing

research findings across different historical periods. In Polish literature, such an analysis spans more than a century, beginning with studies conducted in 1898 and continuing to the present day.

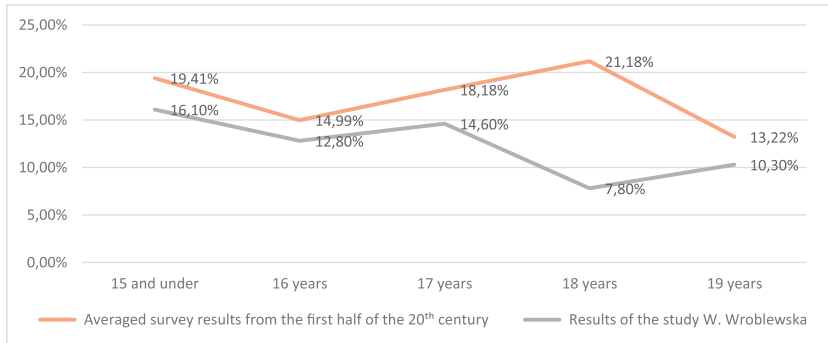
The earliest research on the sexual behavior of student adolescents at Warsaw University was conducted by Zdzisław J. Kowalski during the academic year 1897/98 (1898). Around the turn of the 20th century, growing interest in sexual education spurred further investigations into sexual activity, with studies carried out in 1903–1904 (Łazowski & Siwicki, 1906; Moszczeńska, 1904). These early datasets provide a valuable benchmark for contemporary research and facilitate a more in-depth understanding of the evolution of adolescent sexual behavior over time.

Age of Sexual Initiation

Survey studies conducted during the early 20th century included only male students. Consequently, these findings present an incomplete picture, as they do not account for sexual initiation among girls or among non-student male youth. Therefore, the results from this period can only be compared with contemporary data relating to men. These findings allow for the determination of the percentage of boys who experienced sexual initiation within specific age groups, starting from 15 years old and younger.

To obtain more representative data, survey results from the early 20th century along with subsequent studies conducted in the 1930s were averaged and then compared with findings from the late 20th century. This comparison yields surprising results: in all age groups, a higher percentage of boys reported undergoing sexual initiation at the beginning of the 20th century than at its end (Figure 1).

Figure 1. Summary of Survey Results on the Age of Sexual Initiation for Boys
 Percentage of boys reporting first sexual intercourse in different age groups,
 based on averaged data from 1898–1938 and the 1996 survey results.



Note: The averaged data was calculated based on Kowalski, Z. J. (1898). *Stan zdrowia i warunki higieniczne studentów Uniwersytetu Warszawskiego w świetle cyfr* [The Health Status and Hygienic Conditions of Students at the University of Warsaw in the Light of Statistics] (p. 27); Łazowski, T. J., & Siwicki, K. (1905–1906). *Życie płciowe warszawskiej młodzieży akademickiej według ankiety z roku 1903* [The Sexual Life of Warsaw Academic Youth According to the 1903 Survey]. *Czystość* [Purity], 1905, 139–143; 1906, 172–175; 181–187; 205–207; 214–218; 234–236; 258–268; 282–288; 294–303; Moszczerńska, I. (1904). *Czego nie wiemy o naszych synach. Fakta i cyfry dla użytku rodziców* [What We Do Not Know About Our Sons: Facts and Figures for Parents]. Księgarnia Naukowa; Welfle, T. (1938). *Życie płciowe młodzieży akademickiej* [The Sexual Life of Academic Youth]. *Zagadnienia Rasy*, (2), 101–125; Wroblewska, W. (1998). *Nastoletni Polacy wobec seksualności* [Teenage Poles and Sexuality]. Instytut Spraw Publicznych.

Figure 1 illustrates the percentage of boys who underwent sexual initiation at specific ages, comparing two sets of data: the averaged results from studies conducted during the first half of the 20th century and the findings of a 1996 study by Wroblewska (1998). Similar trends for ages 15 and 17 were also observed in the study by Woynarowska, Szymańska, and Mazur (1999, pp. 41–42).

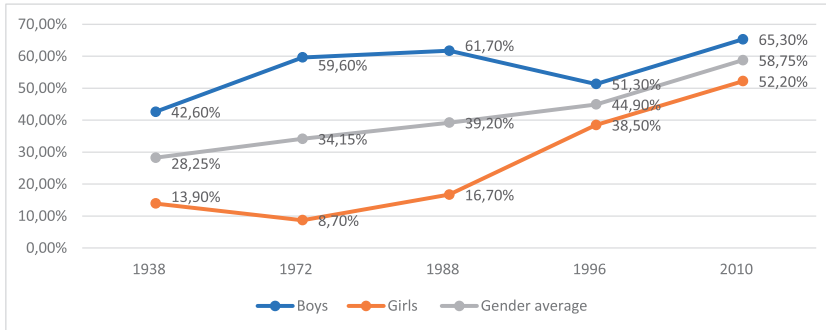
For boys aged 15 and younger, the averaged results show 19.41%, whereas Wroblewska’s study reports 16.10%. Among 16-year-olds, the averaged results indicate 14.99%, compared to 12.80% in Wroblewska’s findings. For 17-year-olds, the averaged data show 18.18%, while Wroblewska’s research reports 14.60%. The largest disparity appears in the age group of 18, where the averaged results report 21.18%, but Wroblewska’s findings shows only 7.80%. At age 19, the averaged results are reported at 13.22%, compared to 10.30% in Wroblewska’s research.

When comparing trends, Wroblewska's 1996 study consistently reports lower percentages across all age groups compared to the averaged results from the early 20th century. The most significant difference is observed among 18-year-olds, where Wroblewska's findings are markedly lower. Both data sets reveal a general decrease in the percentage of boys undergoing sexual initiation as age increases, with one exception: the averaged results show a notable increase at age 18 compared to age 17. These findings suggest that, by 1996, boys were initiating sexual activity at slightly older ages than in the first half of the 20th century. Interestingly, this trend runs counter to what might be expected given the substantial social and cultural transformations of the 20th century, which could suggest earlier initiation.

As previously noted, studies conducted at the turn of the 20th century did not include girls. The first survey questionnaires targeting female students were carried out in a study published in 1938 (Wefele, 1938). However, with only 72 responses from girls compared to 2,153 from boys, the sample size for females was insufficient for drawing broad conclusions. Extensive research on girls' sexual initiation only began in the 1970s. These studies reveal a gradual increase in the percentage of girls initiating sexual intercourse before reaching the age of majority (18). In 1972, this figure was 8.7%; by 1988, it had risen to 16.7%. By 1996, the percentage had increased significantly to 38.5%, and by 2010, it reached 52.2% (Figure 2).

Figure 2 illustrates the percentage of boys and girls who had their first sexual intercourse at age 18 or younger, broken down by the year of study. These trends highlight a noticeable shift in the timing of sexual initiation, especially among girls, reflecting broader social and cultural changes over recent decades.

Figure 2. Percentage of boys and girls who had their first sexual intercourse at age 18 or younger by year of study



Note: Data for calculations in individual years come from: For the year 1934: Welfle, T. (1938). *Życie płciowe młodzieży akademickiej* [The Sexual Life of Academic Youth]. *Zagadnienia Rasy*, 2, 101–125; For the year 1972: Jaczewski, A., & Radomski, J. (1980). *Raport z badań nad seksualizmem dzieci i młodzieży w Polsce* [Report on Research into the Sexuality of Children and Adolescents in Poland]. In: M. Kozakiewicz (Ed.), *Młodzież wobec seksu, małżeństwa i rodziny* [Youth and Attitudes Toward Sex, Marriage, and Family] (pp. 34–40). Instytut Wydawniczy Związków Zawodowych; For the year 1988: Izdebski, Z. (1992). *Seksualizm dzieci i młodzieży w Polsce. Raport z badań* [The Sexuality of Children and Adolescents in Poland: Research Report]. Wydawnictwo WSP; For the year 1996: Wróblewska, W. (1998). *Nastoletni Polacy wobec seksualności* [Teenage Poles and Sexuality]. Instytut Spraw Publicznych. Similar results up to 1996: Woynarowska, B., Szymańska, M., & Mazur, J. (1999). *Zdrowie młodzieży w Polsce. Wiedza i przekonania o HIV/AIDS. Zachowania seksualne. Raport z badań wykonanych w 1998 roku* [The Health of Youth in Poland: Knowledge and Beliefs About HIV/AIDS, Sexual Behaviors. Research Report Conducted in 1998]. Instytut Matki i Dziecka; For the year 2010: Mazur, J., & Małkowska-Szcutnik, A. (Eds.). (2011). *Wyniki badań HBSC 2010. Raport techniczny* [Results of the HBSC 2010 Study: Technical Report] (p. 149). Instytut Matki i Dziecka.

The rise in the number of girls engaging in sexual initiation before the age of eighteen, observed during the second half of the twentieth century, allows for a more detailed understanding of the growing percentage of adolescents participating in sexual activity. This trend is illustrated in Figure 2 as an arithmetic average for both sexes. When recalculating the data for boys and girls, the following results emerge: in 1934, 28.25% of all youth initiated sexual activity before reaching the age of majority; in 1972, 34.15%; in 1988, 39.20%; in 1996, 44.90%; and in 2010, 58.75%.

The data clearly indicate that, starting in 1938, there has been a steady increase in the proportion of young people in Poland initiating sexual contact before the age of eighteen. However, this rise appears to be driven less by changes in boys' sexual behavior and more by an increase in the frequency of sexual initiation among girls. This trend may suggest that

the socio-behavioral transformations of recent decades have had a greater impact on the sexual behavior of women than men.

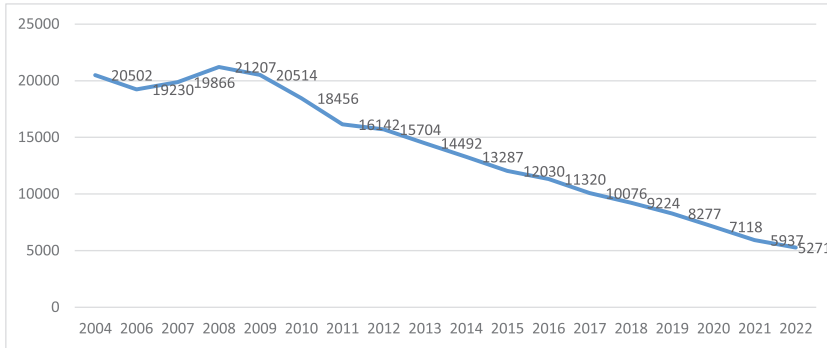
From Initiation to Parenthood: Teenage Pregnancy Statistics in Light of CSO Data

The survey results on the onset of sexual activity among teenagers discussed earlier provide valuable insights. To gain a more comprehensive understanding of this phenomenon, these findings were compared with statistical data from the Central Statistical Office (CSO) on teenage births. Research conducted throughout the 20th century indicates that since the 1970s, the number of girls initiating sexual activity during adolescence has steadily increased. Consequently, CSO birth statistics for this age group were analyzed starting from 2004. It seemed logical to hypothesize that the rise in teenage sexual activity would correlate with an increase in teenage parenthood.

The annual *Demographic Yearbooks* published by the CSO provide data on the number of births among teenage girls. For the period under review (2004 to 2022, encompassing the time from birth to adulthood for the youngest adolescent cohort), a trend contrary to the survey results emerges. While the percentage of teenagers engaging in sexual activity has risen, the number of teenage girls giving birth has progressively declined.

From 2004 to 2008, the number of births remained relatively stable, ranging from 19,230 (in 2006) to 21,207 (in 2008). A significant decline in teenage births began in 2010 and continued through 2014. Comparing 2008, the year with the highest number of teenage births, to 2014 reveals a decrease of 7,920 births, equivalent to a 37.35% reduction. Detailed figures illustrating this trend are presented in Figure 3.

Figure 3. Number of Births Among Women Aged 19 and Under from 2004 to 2022

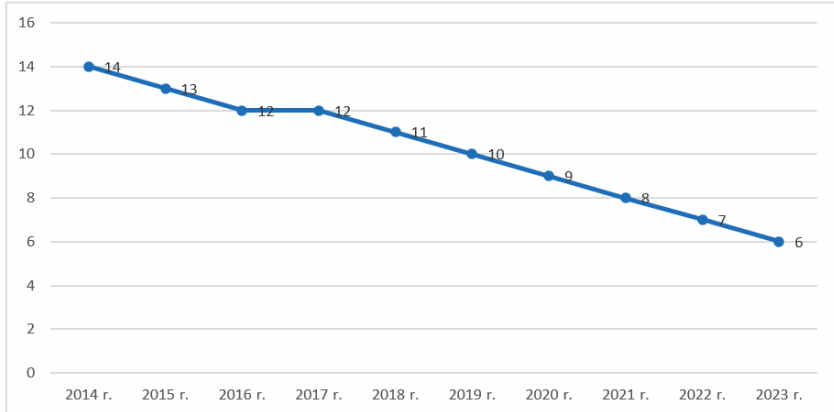


Source: Demographic Yearbooks 2004–2023

This trend continued through 2022. In 2014, the CSO recorded 13,287 births among women aged 19 and under, while in 2022, this number dropped to 5,271. This represents a significant decrease of 60.33% compared to 2014 and an even steeper 71.14% decline compared to 2008.

Analyzing the data on the number of births per 1,000 women aged 19 and under also demonstrates a consistent downward trend over the 2014–2023 period. In 2014, the rate stood at 14 births per 1,000 women, but by 2023, it had fallen to 6 births per 1,000 women. Between 2015 and 2016, the figure declined from 13 to 12 births per 1,000 women, and since 2017, a further gradual decrease has been observed. In 2018, the count dropped to 11 births per 1,000 women, followed by 10 in 2019, 9 in 2020, 8 in 2021, and 7 in 2022 (Figure 4).

Figure 4. Number of Births Among Women Aged 19 and Under Per 1,000 Women in This Age Group



Source: Demographic Yearbooks of Poland

The *Demographic Yearbooks* offer a detailed analysis of teenage births, providing not only the total number of births, but also data categorized by the age of teenage mothers. The age groups include mothers aged 15 and younger, as well as those aged 16, 17, 18, and 19. An analysis of these data indicates that the majority of births occur among girls aged 18 and 19, while the lowest numbers are recorded for mothers aged 15 and under.

A comprehensive review of the Central Statistical Office's *Demographic Yearbooks* shows that in 2004, teenage girls in these age groups gave birth to a total of 16,528 children. This figure remained relatively stable until 2009, when 15,667 births were recorded. However, since 2009, the number of births among 18- and 19-year-old mothers has dropped markedly, falling to 10,045 in 2014 and further declining to just 3,944 in 2022 (see Tables 1 and 2).

**Table 1. Number of Births Among Teenage Girls from 2004 to 2014
(excluding 2005)**

Mother's age	Year									
	2004	2006	2007	2008	2009	2010	2011	2012	2013	2014
15 years and under	287	302	316	407	401	350	311	342	286	305
16 years	1003	955	1121	1224	1307	1245	967	945	886	838
17 years	2 684	2824	3096	3365	3139	2883	2568	2469	2271	2099
18 years	6 147	5784	5882	6334	6268	5572	4875	4692	4278	3968
19 years	10381	9365	9451	9877	9399	8406	7421	7256	6771	6077
total	20 502	19 230	19 866	21 207	20 514	18 456	16 142	15 704	14 492	13 287

Source: Demographic Yearbooks of the Central Statistical Office.

Table 2. Number of Births by Age of the Mother from 2014 to 2022

Mother's age	Year							
	2014	2015	2016	2017	2019	2020	2021	2022
15 years and under	305	280	253	212	181	168	153	171
16 years	838	747	769	614	497	482	407	399
17 years	2099	1813	1696	1492	1204	1054	875	757
18 years	3968	3612	3265	2941	2380	1961	1649	1464
19 years	6077	5578	5337	4817	4015	3453	2853	2480
total	13 287	12 030	11 320	10 076	8277	7118	5937	5271

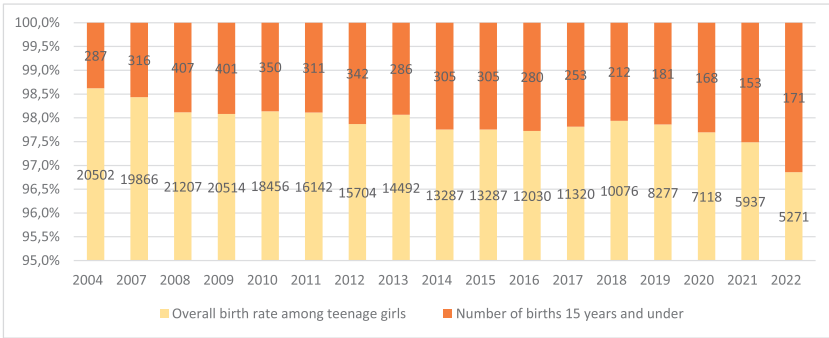
Source: Demographic Yearbooks of the Central Statistical Office.

Under Polish law, engaging in sexual intercourse with individuals under the age of 15 is strictly prohibited, which underscores the special legal protections afforded to this age group. Despite these legal safeguards, data from the Central Statistical Office (CSO) consistently report births among girls aged 15 and younger, signaling potential violations of these laws. For this reason, this article focuses particular attention on this vulnerable demographic.

This analysis is essential for assessing the effectiveness of current legislation and devising strategies to safeguard young people from premature

parenthood and its associated health and social consequences. Examining births within the 15-and-under age group demonstrates a persistent decline in the absolute number of girls giving birth in this category. However, the percentage share of this group within the total number of teenage births (up to 19 years old) shows statistically significant changes. Specifically, the percentage of births among the youngest mothers rose from 1.40% in 2004 to 3.24% in 2022 (Figure 5). This indicates that girls aged 15 and under account for a growing proportion of all teenage births.

Figure 5. Percentage of Births to Girls Aged 15 and Under in the Total Number of Teenage Births (2004–2022)



To gain deeper insight into this phenomenon, the study examined the relationship between the proportion of births among girls aged 15 and younger and the total number of births among teenage girls aged 16–19. This analysis utilized a ratio index and Pearson’s correlation coefficient, which measures both the strength and direction of a linear relationship between two variables. The ratio of births among mothers aged 15 and under compared to mothers aged 16–19 reveals an upward trend. Pearson’s correlation coefficient for this period is approximately 0.87, which indicates a very strong positive correlation between the year and the birth ratio among girls aged 15 and younger. This suggests that over time the proportion of births among the youngest mothers has consistently increased. Furthermore, a p-value of approximately 6.82×10^{-6} confirms the statistical significance of this correlation, indicating that the changes in the proportion rate are not random, but rather exhibit a strong and consistent

relationship between the year and the proportion of births among girls aged 15 and younger compared to those aged 16–19.

Building on these findings, further analysis explored the number of fathers involved in teenage births in Poland from 2007 to 2022. This examination included the number of fathers aged 19 and younger, the subset of these fathers whose partners were also aged 19 or younger, and the total number of births to women aged 19 and younger. Additionally, the percentage of fathers aged 19 and younger relative to all births, as well as the percentage of fathers older than 19, was calculated (Table 3).

Table 3. Summary of the Age of Fathers and Teenage Births in Poland (2007–2022)

Year	Number of Fathers aged 19 and under	Number of fathers aged 19 and under with mothers aged 19 and under	Total number of births among women aged 19 and under	% of fathers (19 years and under) to births to women aged 19 and under	% of fathers 20 years and older in relation to births to women 19 years and younger
2007	2701	1689	19866	13.60%	91.50%
2008	3039	1952	21207	14.33%	90.79%
2009	2873	1889	20514	14.00%	90.79%
2010	2553	1710	18456	13.83%	90.73%
2011	2103	1407	16142	13.02%	91.28%
2012	2231	1529	15704	14.21%	90.27%
2013	1989	1365	14492	13.73%	90.58%
2014	1913	1288	13287	14.40%	90.30%
2015	1668	1130	12030	13.86%	90.61%
2016	1575	1061	11320	13.91%	90.63%
2017	1493	1000	10076	14.82%	90.07%
2018	1359	909	8277	16.42%	89.02%
2019	1248	846	7118	17.54%	88.11%
2020	1106	741	5937	18.63%	87.52%
2021	855	557	5271	16.22%	89.43%
2022	728	490	5271	13.81%	90.70%

Source: own calculations based on the CSO's Demographic Yearbooks. The percentages do not add up to 100%, since men aged 19 and under also became fathers of children born to women aged 20 and over.

The data in Table 3 highlights key trends and relationships regarding the ages of fathers and the number of teenage births in Poland between 2007 and 2022. The table provides information on the total number of fathers aged 19 and under, the subset of whose partners were in the same age group, and the total number of births to women in this age group. It also includes the percentage of fathers aged 19 and under in relation to all births in this group, as well as the percentage of fathers aged 20 and older.

The data unmistakably indicate a steady decline in the number of fathers aged 19 and under throughout the analyzed period. In 2007, this group accounted for 2,701 individuals, but by 2022, the number had dropped dramatically to 728. A similar downward trajectory is evident among fathers aged 19 and under whose partners were also teenagers, with numbers falling from 1,689 in 2007 to just 490 in 2022. The overall number of births to teenage mothers exhibits a parallel decline, as it decreased from 19,866 in 2007 to 5,271 in 2022. This consistent downward trend is observed year after year, spanning the period from 2008 to 2021, which reflects a broader reduction in births among teenage mothers.

This declining pattern is evident across the years analyzed (2008–2021). Despite the absolute numbers declining, the percentage share of fathers aged 19 and under relative to all births among teenage mothers has remained relatively stable, albeit with slight fluctuations from 13.02% in 2011 to a peak of 18.63% in 2020. Conversely, the percentage of fathers aged 20 and older in relation to births among women aged 19 and under was consistently high, ranging from 91.50% in 2007 to 87.52% in 2020, and then increasing again to 90.70% in 2022. These figures underscore that the majority of fathers of children born to teenage mothers are aged 20 or older.

The declining trend in the number of fathers aged 19 and under is further corroborated by an analysis of births to women aged 20 and older. Table 3 delineates the number of men who became fathers at 19 or younger, categorized by the age of the mother, for the years 2014 and 2022. During this period, the number of fathers younger than 19 with partners aged 20–24 plummeted from 564 in 2014 to 220 in 2022. Similarly,

the number of young fathers with partners aged 25–29 fell sharply from 45 to 13, while those with partners in the 30–34 age group declined from 11 to just 4. In the 35–39 age group, the number of young fathers decreased from 4 to 1, and in the 40–44 age group, it dropped from 1 to 0.

Table . Number of Men Aged 19 and Under Who Became Fathers by Mother's Age in 2014 and 2022

Mother's age	Year	
	2014	2022
19 years and under	1288	490
20–24	564	220
25–29	45	13
30–34	11	4
35–39	4	1
40–44	1	0

Source: 2015 and 2023 demographic yearbooks of the Central Statistical Office.

A comparison of data from 2014 and 2022 reveals a significant decline in the number of juvenile parents, both among men and women. The number of fathers aged 19 and under decreased across all age categories of female partners, demonstrating an overall downward trend. Particularly notable is the sharp decline in the number of fathers aged 19 and under with female partners in the same age group, as well as with those aged 20–24. This decline aligns with the general pattern of decreasing births among teenage girls and reductions in the number of young fathers aged 19 and under.

Conclusion

This article examines the issue of adolescent sexual initiation (individuals aged 19 and under), focusing on two questions: first, what changes in patterns of adolescent sexual behaviors can be observed

when comparing survey data from the early 20th century to the early 21st century; and second, whether survey findings on adolescent sexual initiation correspond with statistics from Poland's Central Statistical Office regarding pregnancies and births among teenagers.

Regarding the first question, a comparison of survey results from the early 20th century and the early 21st century uncovers significant shifts in the patterns of adolescent sexual initiation. Averaged data spanning 1898–1938 suggest that, at the start of the 20th century, a relatively higher proportion of boys engaged in sexual activity at a young age compared to the later years of that century. For girls, however, a consistent upward trend in early sexual initiation has been evident since the 1970s, with a growing number of young women engaging in sexual activity before reaching legal adulthood. This upward trend in early sexual activity among girls has contributed to an overall rise in the number of teenagers engaging in sexual activity during adolescence. These findings show that broader socio-behavioral changes over the decades have had a considerable impact on adolescent behavior, particularly among young women.

Turning to the second question, an analysis of statistical data from the CSO regarding births among teenage girls reveals a noteworthy paradox. Despite the rising percentage of adolescents reporting early sexual initiation, the number of births in this demographic has been steadily declining since 2004. Between 2010 and 2022, teenage birth rates dropped to historically low levels, which stands in stark contrast with the observed increase in sexual activity. A similar downward trend has also been noted among teenage fathers. This phenomenon may be attributed to improved sexual education, better access to contraceptives, and shifting societal norms.

Particularly striking are the figures concerning the youngest cohort of girls, aged 15 and under. Although the absolute number of births within this demographic has continued to decrease, the percentage of these births as a share of all teenage births has risen from 1.40% in 2004 to 3.24% in 2022. Additional research is needed to provide a comprehensive understanding of these trends and to assess their long-term social, educational, and health implications.

The findings indicate the salient importance of comprehensive sexual education in shaping adolescent sexual behaviors. Broader access to such education, along with content tailored to the needs of young people today, has undoubtedly contributed to the decline in teenage pregnancies. However, there is room for further improvement. Strengthening teachers' skills in conducting sex education classes and equipping teachers to support the healthy sexual development of children and adolescents could amplify the positive impact. With such measures in place, sex education can become a key tool in promoting health and preventing risky sexual behavior and its consequences.

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References

- Babik, M. (2010). *Polskie koncepcje wychowania seksualnego w latach 1900–1939* [Polish concepts of sexual education in 1900–1939]. WAM.
- Beisert, M. (2006). Rozwojowa norma seksuologiczna jako kryterium oceny zachowań seksualnych dzieci i młodzieży [Developmental sexological norms as a criterion for evaluating sexual behaviors of children and adolescents]. *Dziecko Krzywdzone*, 5(3(16)), 43–57.
- Bukowski, L. J. (1933). *Figle i psoty młodzieży szkolnej* [Pranks and mischief of school youth]. Poznańskie Towarzystwo Psychologiczne.
- Izdebski, Z. (1992). *Seksualizm dzieci i młodzieży w Polsce. Raport z badań* [Sexuality of children and youth in Poland: Research report]. Wydawnictwo WSP.
- Izdebski, Z. (2012). *Seksualność Polaków na początku XXI wieku. Studium badawcze* [Sexuality of Poles at the beginning of the 21st century: A research study]. Wydawnictwo Uniwersytetu Jagiellońskiego.
- Jaczewski, A., & Radomski, J. (1980). Raport z badań nad seksualizmem dzieci i młodzieży w Polsce [Report on research on the sexuality of children and youth in Poland]. In M. Kozakiewicz (Ed.), *Młodzież wobec seksu, małżeństwa i rodziny* [Youth in relation to sex, marriage, and family] (pp. 34–40). Instytut Wydawniczy Związków Zawodowych.
- Kowalski, Z. J. (1898). *Stan zdrowia i warunki higieniczne studentów Uniwersytetu Warszawskiego w świetle cyfr* [Health status and hygienic conditions of students of the University of Warsaw in the light of statistics]. N. P.
- Łazowski, T. J., & Siwicki, K. (1905–1906). *Życie płciowe warszawskiej młodzieży akademickiej według ankiety z roku 1903* [Sexual life of Warsaw academic youth according to the 1903 survey]. *Czystość* [Purity], 1905, 139–143; 1906, 172–175; 181–187; 205–207; 214–218; 234–236; 258–268; 282–288; 294–303.
- Makarewicz, J. (1932). *Kodeks karny z komentarzem* [Criminal code with commentary]. Zakład Narodowy im. Ossolińskich.
- Mazur, J., & Małkowska-Szcutnik, A. (Eds.). (2011). *Wyniki badań HBSC 2010. Raport techniczny* [HBSC 2010 study results: Technical report]. Instytut Matki i Dziecka.
- Mazur, J., & Małkowska-Szcutnik, A. (Eds.). (2018). *Zdrowie uczniów w 2018 roku na tle nowego modelu badań HBSC* [Student health in 2018 in the context of a new HBSC research model]. Instytut Matki i Dziecka.

- Moszczeńska, I. (1904). *Czego nie wiemy o naszych synach. Fakta i cyfry dla użytku rodziców* [What we don't know about our sons: Facts and figures for parents' use]. Księgarnia Naukowa.
- Ozorowski, M. (2002). Cele małżeństwa w nauczaniu teologów średniowiecza [Goals of marriage in the teachings of medieval theologians]. *Studia Teologiczne*, 20, 88–100.
- Welfle, T. (1938). *Życie płciowe młodzieży akademickiej* [Sexual life of academic youth]. *Zagadnienia Rasy*, (2), 101–125.
- Woynarowska, B., Szymańska, M., & Mazur, J. (1999). *Zdrowie młodzieży w Polsce. Wiedza i przekonania o HIV/AIDS. Zachowania seksualne. Raport z badań wykonanych w 1998 roku* [Health of youth in Poland: Knowledge and beliefs about HIV/AIDS, sexual behavior. Report on research conducted in 1998]. Instytut Matki i Dziecka.
- Wróblewska, W. (1998). *Nastoletni Polacy wobec seksualności* [Teenage Poles and sexuality]. Instytut Spraw Publicznych.
- CSO demographic yearbooks of Poland from 2004 to 2023, Accessed on 15 July 2024 for individual yearbooks:
- Central Statistical Office. (2004). *Demographic Yearbook of Poland 2004*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-statystyczny-rzeczypospolitej-polskiej-2004,2,12.html>
- Central Statistical Office. (2005). *Demographic Yearbook of Poland 2005*. Statistical Publishing Establishment. <https://stat.gov.pl/en/topics/statistical-yearbooks/statistical-yearbooks/statistical-yearbook-of-the-republic-of-poland-2005,2,11.html>
- Central Statistical Office. (2007). *Demographic Yearbook of Poland 2007*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2007,3,1.html>
- Central Statistical Office. (2008). *Demographic Yearbook of Poland 2008*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2008,3,2.html>
- Central Statistical Office. (2009). *Demographic Yearbook of Poland 2009* Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2009,3,3.html>

-
- Central Statistical Office. (2010). *Demographic Yearbook of Poland 2010*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2010,3,4.html>
- Central Statistical Office. (2011). *Demographic Yearbook of Poland 2011*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2011,3,5.html>
- Central Statistical Office. (2012). *Demographic Yearbook of Poland 2012*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2012,3,6.html>
- Central Statistical Office. (2013). *Demographic Yearbook of Poland 2013*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2013,3,7.html>
- Central Statistical Office. (2014). *Demographic Yearbook of Poland 2014*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2014,3,8.html>
- Central Statistical Office. (2015). *Demographic Yearbook of Poland 2015*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2015,3,9.html>
- Central Statistical Office. (2016). *Demographic Yearbook of Poland 2016*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2016,3,10.html>
- Central Statistical Office. (2017). *Demographic Yearbook of Poland 2017*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2017,3,11.html>
- Central Statistical Office. (2018). *Demographic Yearbook of Poland 2018*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2018,3,12.html>
- Central Statistical Office. (2019). *Demographic Yearbook of Poland 2019*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2019,3,13.html>
- Central Statistical Office. (2020). *Demographic Yearbook of Poland 2020*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2020,3,14.html>

-
- Central Statistical Office. (2021). *Demographic Yearbook of Poland 2021*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2021,3,15.html>
- Central Statistical Office. (2022). *Demographic Yearbook of Poland 2022*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2022,3,16.html>
- Central Statistical Office. (2023). *Demographic Yearbook of Poland 2023*. Statistical Publishing Establishment. <https://stat.gov.pl/obszary-tematyczne/roczniki-statystyczne/roczniki-statystyczne/rocznik-demograficzny-2023,3,17.html>