Article

The COVID-19 Pandemic and the Interest in Prayer and Spirituality in Poland According to Google Trends Data in the CONTEXT of the Mediatisation of Religion Processes

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Abstract: The research undertaken in this article uses the Google Trends tool to study the degree of interest in prayer and general spirituality during the initial phase of the COVID-19 pandemic in Poland and Europe. The authors assumed that for people interested in prayer during the COVID-19 pandemic, the Internet served as a virtual prayer book. The main research questions addressed the frequency of typed queries, referring not only to the word "prayer" but also to specific types of prayer. In addition, interest in prayer was compared with interest in the word "prophecy" to explore the relationship between religiosity and interest in the supernatural sphere in its broadest sense. The analysis shows that there is distinct recurrence regarding the terms searched, with some of them noticeably intensifying with the outbreak of the COVID-19 pandemic. The findings also show that keywords related to prophecies were searched more frequently at significant moments in Polish history (2005—the death of John Paul II, 2010—the plane crash in which the President of Poland died) than in the months of 2020 when the pandemic struck and escalated. At that time, searches related to religion were more frequent. It can also be concluded that the outbreak of the pandemic contributed to an increase in the religious activity of Poles. The article is interdisciplinary in nature, referring primarily to Religion Studies and Mass Media and Communication Studies.

Keywords: religiosity in Poland; Google Trends; mass media studies; mediatisation; Internet; prayer; prophecy; COVID-19

1. Introduction

Considering the contexts discussed below, the authors adopted the following objectives for the article:

1. To investigate whether the trend of increased interest in the topic of prayer on the Internet, as indicated by Bentzen, is reflected in the Polish-language Internet.
2. To examine specific queries on Google referring to a selection of specific prayers and religious practices.
3. To analyse the factors that may have created information overload and influenced the results shown in Google Trends.
4. To examine whether an interest in prayer also means an increased interest in predictions and prophecies.
5. To investigate whether there is a noticeable connection between the popularity of particular queries and religiosity in a given region of Poland, as reflected in secondary data (annual surveys conducted by the Institute of Catholic Church Statistics in Poland—ISKK).

At this stage, the authors did not formulate research hypotheses as the study was exploratory.

The articulation of the objectives is embedded in the following contexts:

1.1. Crisis Situations and Interest in Religion and the Supernatural

In the past few decades, we have seen a change in Christian attitudes towards disasters. An approach that envisions disasters as being primarily caused by extreme physical events has been largely replaced by one in which disasters are studied as social constructs (Chester and Duncan 2010). Women give higher priority to security and religion. Security is strongly related to feelings that God is important in people's lives. When life is vulnerable and dangerous, religion fills a void and provides a sense of safety and well-being (Norris and Inglehart 2008).

There are numerous studies on the COVID-19 pandemic regarding its impact on religious life and interest in religion and the supernatural domain in its broader sense. Most findings confirm a significant positive influence of religion on strategies for coping with the anxiety and depression triggered by the COVID-19 pandemic (Kimhi et al. 2021; Pirutinsky et al. 2020). This model is consistent with previous research on the increase in religiosity when faced with difficult or crisis situations such as natural disasters, catastrophes, difficult family experiences, illnesses, or the death of someone loved (Aten et al. 2019; Bentzen 2019; Belloc et al. 2016).

Research conducted in April 2020 in Poland found that 21.3% of people said they spent more time praying and engaging in other religious practices during the pandemic than before; 61.3% of those who had previously practised religion several times a week spent more time on these activities. The percentage of religious practices also increased among those who had previously practised either very rarely (15.9%) or never (7.4%). Interestingly, spending more time on religious practices has been shown to be associated with, for example, a greater tendency to believe in conspiracy theories (Boguszewski et al. 2020).

Research conducted by the Center for Public Opinion Research (CPOR) shows that Poles' faith in prophecies and fortune-telling is decreasing. In 2011, 59% of respondents believed that some people could predict the future (Center for Public Opinion Research 2011). In contrast, in a survey conducted in 2018, 45% of Poles admitted that they read horoscopes (however, in 2011, as many as 55% made such a declaration). Among those who declared reading horoscopes, only 3% followed their indications, while 57% never did so. Furthermore, 85% of Poles have never visited a fortune teller, while 9% of respondents have visited a fortune teller once in their life (Center for Public Opinion Research 2018).

The increase in religiosity could also be reflected in the growing interest in the subject of prayer in Google searches. In the first few months of the pandemic, the number of Google searches on prayer increased by 30% compared to all Google searches, thus reaching the highest level ever recorded. Overall, the number of prayer searches in 2020 was 10% higher than in previous years, particularly in Europe and the Americas. The level of participation in prayer searches in March 2020 was over 50% higher than the average in February 2020. The increase in online searches for various prayers at the start of the pandemic was a global phenomenon. Prayer-related searches intensified on all continents and for all types of religions except Buddhism (Bentzen 2020; Bentzen 2021). Mac Zewei Ma and Shengquan Ye, based on Google Trends research, also demonstrated the large role of religion and religiosity in dealing with the COVID-19 pandemic among Americans (Ma and Ye 2021). According to a 2020 Pew Research Center survey, a significant number of Americans said the pandemic had strengthened their personal religious beliefs (Pew Research Center 2021). Among the citizens of Turkey, during the COVID-19 pandemic, religious commitment increased satisfaction with life by reducing depression (Koçak 2021). As far as Poland is concerned, studies show that the pandemic, in its initial phase, contributed to the strengthening of religiosity of some Poles, especially those who had already shown above-average religious commitment. On the other hand, the pandemic accelerated the process of abandoning

religious practices among people who had, for some time, been loosening their connection with the institutional Church (Bożewicz and Boguszewski 2021).

During the COVID-19 pandemic, access to churches in Poland was limited. The degree of restrictions depended on the different phases of the pandemic and the decisions of state and church authorities. The churches were not closed formally, but the number of people who could participate in the services was significantly limited. More details on this can be found in the articles of Przywara et al. (2021), (Gonera 2020). and Boguszewski et al. (2020).

1.2. Religiosity and Level of Religious Knowledge among Poles

Research from 2019 shows that people's opinion of the Catholic Church in Europe is becoming increasingly worse. This is also true in Poland (see Topidi (2019) and Pace (2021)). However, this opinion of the Church is still better than in Europe and worldwide. Just over half (53%) of the respondents said the Church was good; almost two in five answers (39%) gave a bad opinion. Compared to previous years, the increase in criticism of the Church is noticeable (Głowacki 2019). It is worth mentioning that over 90% of Poles declare themselves to be believers. This percentage remained stable until the 1990s (96%) but began to decline systematically. In 2020, the lowest level of 91% was recorded. However, the percentage of deep believers has remained stable at 8% since 2011. There has been a slow increase in the percentage of people who identify themselves as partial or complete non-believers (Bożewicz 2020a).

There is also a noticeable slow decline in the percentage of those who regularly (that is, once a week or more often) participate in mass, worship services, and religious gatherings—47% as of 2018. Taken together, declarations of faith and religious practice show that 47% of Poles are classified as believers who practice regularly, while 37% are considered believers who practice irregularly (Bożewicz 2020a).

The COVID-19 pandemic situation has significantly affected the sacramental life of the Polish people. For baptisms performed in 2020, a decrease of slightly more than 16% was recorded when compared to the previous year. There was also a noticeable decline in the sacrament of confirmation (34% less than in 2019) and marriage (over 26% less). In contrast, a 20% increase was seen in the sacraments of First Holy Communion (Institute for Catholic Church Statistics 2020).

In terms of religious practice, the research shows that three-quarters of Poles found their religious involvement during the pandemic to be at the same level as before; 12% stated that their involvement increased, while 10% thought that their religious activity dropped (Bożewicz 2020b).

1.3. Mediatisation of Religion

According to Winfried Schulz's concept, mediatisation involves changes associated with the means of communication and their development. In the process, it is media that play a fundamental role, implemented in four ways: extension, substitution, amalgamation, and accommodation. As regards religion, Stig Hjarvard observes that mediatisation is a process whereby religious ideas and practices become significantly dependent on media (Guzek 2016).

The use of Internet tools and Big Data technologies to study religion is one of many ways in which the mediatisation of religion is manifested. This concept is widely described in the literature and includes issues such as research to identify the interests of global youth or to explore the position of religion in their lives (Micó-Sanz et al. 2021); it also recognises the ethical problems associated with generating and interpreting data and proposes solutions to these problems based on a combination of theology and data science (Fuller 2017).

The literature also provides publications on the mediatisation of religion in Poland based on S. Hjarvard's concept of mediatisation (Stachowska 2017), analyses the use of social media as marketing tools (Kaczmarek-Śliwińska et al. 2022; Leonowicz-Bukała et al. 2021), and analyses Instagram profiles as manifestations of religious communities (Cabak

2020). There are also references to the structure of Catholic media and their role in the Polish media system (Guzek 2016) as well as to pop culture combined with theology and the need for the Church to adjust to this reality (Majewski and Kokoszczyńska 2020).

The indicated topics are only a fraction of the issues related to the link between religion and media. As can be seen, the mediatisation of religion is widely studied from various angles. It is a complex phenomenon that is characterised, for example, by the fact that it develops as a result of technological progress and that its form depends on the religion and the type of medium; it also involves the penetration of traditional religious practices into virtual space or the existence of practices that are alternative to traditional ones (Guzek 2015).

1.4. The Internet as a Source of Information

There is a wealth of literature addressing the Internet as a source of knowledge on various topics. It applies to practically every area of knowledge and skills (Jeffres et al. 2012; Mohamadali 2015; Janc et al. 2019; Świtoniak et al. 2018). It also includes knowledge of religion, regardless of denomination (Krueger 2004; Rogers and Howell 2009; Fakhruroji 2019). There are four narratives on the religious use of the Internet: (1) the Internet as a spiritual medium that facilitates spiritual experience; (2) the Internet as a sacramental space suitable for religious use; (3) the Internet as a tool to promote religion and religious practice; (4) the Internet as a technology for affirming religious life. In this third narrative, the Internet can perform three functions: seeking religious information, fostering spiritual relationships, and reconfiguring traditional religious activities (Barreau 2021; Campbell 2005).

The trend of gaining knowledge from the Internet is strongly visible, especially among the younger generation (Babich 2019), and has been intensified with the COVID-19 pandemic outbreak; for example, 72% of Polish teenagers aged 14–17 use YouTube for school learning (Piasecki 2021). This enthusiastic approach to the Internet as a source of knowledge is not affected by the fact that, according to research, people who gain knowledge from the Internet tend to overestimate their knowledge—in fact, they remember and assimilate less knowledge than they think (Fisher et al. 2015; Fisher et al. 2021). Moreover, when people search for information online, they cannot accurately distinguish between knowledge stored internally (in their memory) and knowledge stored on the Internet. Using Google, they predict that in the future, they will know more without the help of the Internet, which is a misconception and leads to overconfidence when the Internet is no longer available. As a result, they may lose track of where their own knowledge ends and online knowledge begins (Ward 2021). It could even be said that "the Internet has become a primary form of external or transactive memory, where information is stored collectively outside ourselves" (Sparrow et al. 2011). The online learning experience during the COVID-19 pandemic has definitely proved the need for media competence development (Gralczyk 2021).

In the context of the topic of this article, it should be noted that the Internet is taken into account primarily as a source of religious knowledge: information on the content of prayers (as a kind of virtual prayer book) or on the content of various types of prophecies and predictions.

1.5. Internet Users in Poland

According to the "Information Society in Poland in 2021" report, published by the Central Statistical Office, 92.4% of households have access to the Internet, which is two percentage points more than in the previous year. There are differences in access to the Internet and the type of connection, depending on the type of household, the place of residence and the degree of urbanisation. The analysis shows that households with children (99.7%) are more likely to have access to the Internet than those without (88.8%). The detailed statistics contained in the report show that Poles are increasingly willing to use new technologies when it comes to official formalities or shopping (Central Statistical Office 2021).

The report published by IAB Polska (IAB Polska 2021) shows that in December 2020, there were more women than men aged 45 to 54 using the Internet (a difference of 1.2%).

In the 55+ age group, the difference was even more noticeable: 3.3%. As regards the most frequently chosen devices, the most common was the smartphone for daily Internet browsing. It is used by an average of 24.4 million users; 24.1 million people use a computer to consume Internet content. However, these devices are no longer the first choice: the computer is used daily by 11.4 million Polish Internet users. The time Poles spend using the Internet is, on average, 6 h and 44 min a day (Kemp 2021).

For several years now, Google group services have recorded the highest reach of 28.3 million users, including 25.8 million via mobile devices and 22.3 million on desktop and laptop computers. They are followed by YouTube and Facebook. In terms of time spent (in hours), YouTube ranks first (175.7 million hours per month), followed by Facebook (103.9 million hours) and the Google group (79.5 million hours) (IAB Polska 2021).

1.6. The Google Group and Google Trends

Services and tools of the Google group are the most popular Internet sites visited by users. The group includes YouTube, Google Drive, Gmail, Google Search, Translate, Google Maps, Google News, Google Play, Google Meet, Google Docs, and many others. Additionally, the results of analyses of the most popular search engines show that Google is unbeatable in this respect. In 2021, Google was the most popular search engine in Poland (the percentage of its users amounted to 96.88%). For comparison, the Bing search engine was used in Poland in this period by 2.24% of Poles, Yahoo by 0.55%. The DuckDuckGo, YANDEX, and Ecosia search engines were also included—their percentage of use was below 0.20% (Wanat 2022).

One of Google's tools is Google Trends (GT), launched in 2006 and followed in 2008 by Google Insights for Search, an advanced and more detailed service providing data on search trends. In 2012, these two tools were merged into one (Jun et al. 2018). It offers a free, limited insight into the number of searches for selected keywords. GT was originally intended to be a tool for Internet marketing specialists, allowing them to build websites that perfectly meet the needs of Internet users on the basis of popular searches (Wawrzała 2016).

Google Trends analyses refer to various areas (such as medicine, sociology, and economics); therefore, the literature review was treated in an interdisciplinary manner. The query "Google Trends" alone in Google Scholar generated over 35,000 results, while the same query in the Scilit.net database of scientific papers generated over 12,000 results.

There is considerable interest in the use of GT among medical researchers. Recently, more and more studies have been based on the use of this tool for inference in medical and economic studies (Jun et al. 2018; Ginsberg et al. 2009). The topics include health and health policy (Vishal et al. 2019), infodemiology and infoveillance (Mavragani and Ochoa 2019), and predicting outbreaks of influenza and other seasonal diseases (Zhang et al. 2018) and the severity of symptoms associated with the COVID-19 virus (Walker et al. 2020), which may contribute to providing warnings about increases in seasonal problems. Scientists have also addressed questions such as whether GT can improve control over type 2 diabetes (Tkachenko et al. 2017).

Sociological analyses have explored issues such as disability and the presentation of GT as a useful tool for researchers such as sociologists, psychologists, special education workers, and social welfare politicians (Całek 2020) and also immigration trends estimated on the basis of the GT tool (Wanner 2021).

In the economic approach, Google Trends analysis has been applied to deal with topics related to unemployment (Malinowski 2021; Naccarato et al. 2018), to predict the rate of return of the WIG20 index (Niedzielska 2018) and to forecast the direction of other stock markets (Hu et al. 2018). Researchers have also studied the characteristics of Bitcoin users (Yelowitz and Wilson 2015). By looking at the number of searches, it is also possible to analyse the financial market (Preis et al. 2013).

It appears that neither Polish nor international literature has so far shown great interest in the use of Google Trends in the field of religion research. After entering the keywords *Google Trends, religion* into the Scilit.net database of scientific papers, 43 publications were

found in which these words appear in the title or the abstract. In Google Scholar, there were far more results (keywords: "*google trends*" + *religion*—4920, "*google trends*" *religion*—5150), although the results did not always refer to both Google Trends and religion at the same time. So far, research has focused on topics such as: combining the fields of medicine and religion to analyse the correlation between Muslim religious gatherings in Saudi Arabia and influenza outbreaks, where GT was used to identify the seasonality of individual *Umrah* pilgrimages (Elhussein et al. 2020); measuring Christian religiosity using the GT tool (Yeung 2019); measuring ethnic and religious identity in sub-Saharan Africa (Green 2018); and attempting to understand the role of religion in shaping international and national attitudes and interest in abortion, homosexuality and pornography (Adamczyk et al. 2021). It was also explored how family ties and religiosity, as two extended components of in-group socialisation, predicted group-level COVID-19 severity in the United States (Ma and Ye 2021); issues related to taxation and religion were also tackled, indicating a correlation between higher levels of religiosity in specific US states and paying taxes on time and looking for different tax strategies and additional information on these issues (Kurt and Kurt 2021). The use of Google Trends in studies on religiosity was also analysed by Yeung. According to this author, this tool is also useful in research on religiosity, despite its numerous disadvantages or possible errors. An additional difficulty comes from the fact that Google Trends is constructed as a relative measure (Yeung 2019).

2. Method

Google Trends is a tool that measures the popularity of search queries in terms of geography and time. It uses data from the Google search engine. Using this service, it is possible to analyse search trends for particular keywords in selected periods. Data analysis refers to a given search term typed in Google compared to the total number of inquiries over a selected period.

In the Google Trends application, the data on the chart are normalised and presented on a scale from 0 to 100. They do not present absolute numbers of searches for a given keyword. The Google Trends application also offers the possibility of analysing a comparative map that shows the frequency of search queries in particular regions (such as voivodeships in Poland or states in the USA). The more intense the colours of each region, the higher the percentage of searched keywords in that region.

The application can also compare interest when searching with two or more keywords. Comparability by sub-region using the colour intensity of each region gives a clear picture for data analysis (see: https://support.google.com/trends/answer/4365533?hl=en, accessed on 8 September 2021).

We are going to investigate the frequency of search of the words *the Call of Jasna Góra*, the *litany*, the *Litany of Loreto*, *prayer*, *confession* and *prophecy*. All the words mentioned refer to religiosity. The Call of Jasna Góra is an evening prayer addressed to the Mother of God for the fatherland and the Church. Jasna Góra is a sanctuary and monastery of the Pauline Order in Częstochowa. Jasna Góra is one of the most important places of the Marian cult in Poland. The image of Our Lady of Częstochowa is considered by Catholics to be miraculous. The data are either weak data or data from the last 5 years. The detailed time periods are indicated in the pictures.

Characteristics of the Research

The data on which the research is based come from the Google Trends dataset. The study examines the frequency of searches for a given keyword in the Google search engine. It is possible to select a region and a time period. We begin with a brief overview of the data available in Google Trends, which are based on answers to frequently asked questions. Google Trends support provides the following information about the type of samples available:

1. Real-time data are samples covering the last seven days.

2. Non-dynamic data are separate samples that cover the period from 2004 to 36 h before the search.

The data in Google Trends are not provided in absolute numbers. In order to facilitate the comparison of keywords, the data are normalised. The normalisation with respect to the time and location of searches is performed in the following way:

1. Each data point is divided by the total number of queries in that region and period to assess its relative popularity. Otherwise, regions with the most queries will always be ranked highest.
2. The result is then scaled from 0 to 100 based on the proportionality of the topic to all queries of all topics.
3. If the search interest for a selected keyword is the same in different regions, it does not mean that the total number of queries is also the same in those regions.

It is also possible to select sub-regions. This fact is used later in the article. Data from Google Trends are anonymised, categorised and aggregated. It is worth emphasising that the data coming from Google Trends is not survey data; it is only a reflection of the interest in a given keyword.

This study is based on the assumption that for those interested in prayer during the COVID-19 pandemic, the Internet was a virtual prayer book. As Bentzen remarks, "When googling prayer, what you find is specific prayer texts to use when praying. Prayers may be recited from memory, read from a book of prayers, or composed spontaneously as they are prayed. These books or verses of prayer can be found on the Internet" (Bentzen 2021). In our study, however, we wanted to go slightly further than Bentzen (Bentzen 2020; Bentzen 2021), so we analysed the frequency of enquiries not only about the word "prayer" but also about specific types of prayers. In addition, we compared the interest in prayer with the interest in the word "prophecy" in order to find answers to the question of the relationship between religiosity and interest in the supernatural sphere in its broadest sense, bordering on superstition or belief in unspecified prophecies.

3. Research

3.1. Keyword Observation: "The Call of Jasna Góra" (Polish: "Apel Jasnogórski")

In 2021, we monitored the hourly frequency of the interest in the keyword "The Call of Jasna Góra". A seven-day period was randomly selected for measurement. The data include the relative number of queries starting at 11 p.m. on 1 September and ending at 10 p.m. on 8 September, as seen in Figure 1.
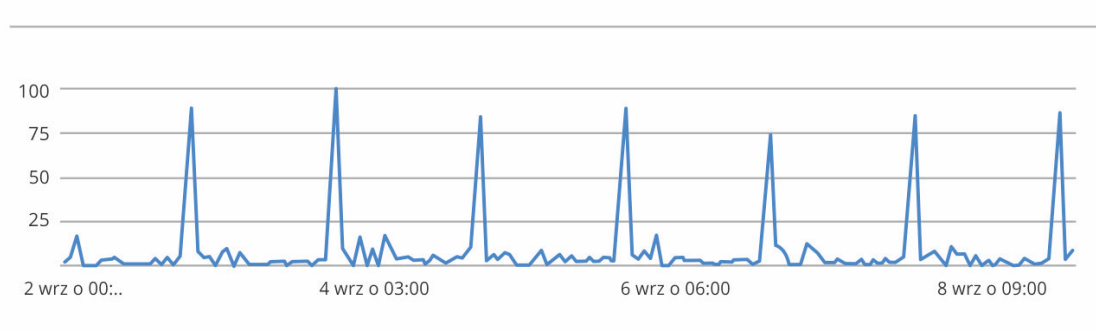

Figure 1. Keyword: "The Call of Jasna Góra"; Data source: Google Trends, https://www.google.com/trends (accessed on 8 September 2021).

Increased interest in the keyword is clearly seen around 9 p.m. The data also indicate the recurrence of the query.

Another observation was of the interest in the keyword "The Call of Jasna Góra" over the last 5 years (2016–2021, Figure 2).
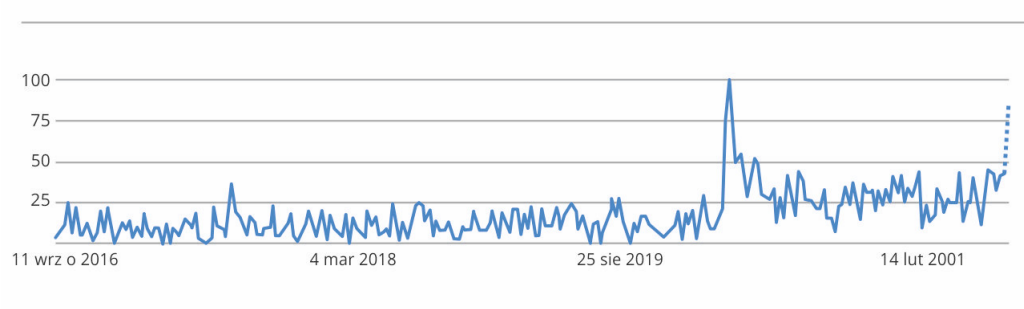
Figure 2. Keyword: "The Call of Jasna Góra" in 2016–2021; source: Google Trends, https://www.google.com/trends (accessed on 8 September 2021).

The data show that the keyword search intensity increased markedly from 15 March to 15 April in 2020; this is the time that began the COVID-19 pandemic period in Poland. Analysing the absolute data from this period, we note that the search activity from March 2020 to August 2021 is twice as high as the period from July 2016 to February 2020.

3.2. Keyword Observation: "litany" (Polish: "litania")

A similar phenomenon can be observed when analysing the word "litany". In this case, there are two time points of increased interest in the query: around 5 a.m. and around 11 p.m. (Figure 3).
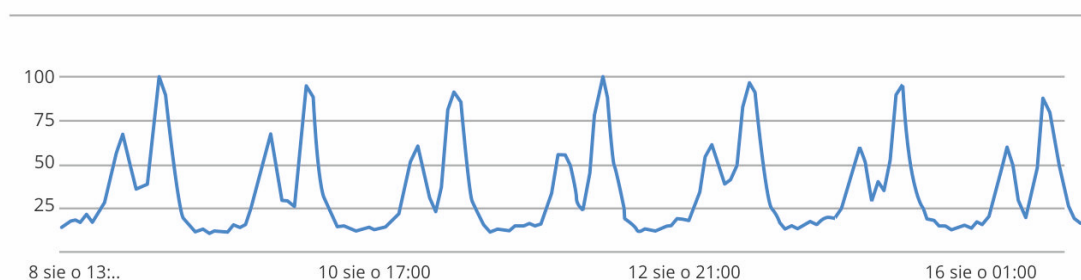

Figure 3. Frequency of searches for the keyword "litany" over a week; source: Google Trends, https://www.google.com/trends (accessed on 16 August 2021).

It is worth noting that for the selected week, the relative number of queries about the keyword "litany" at 5 a.m. was (respectively, from Monday to Sunday): 98, 92, 89, 100, 95, 88, and 84, and at 11 p.m.: 64, 64, 59, 54, 60, 58, and 58. The data indicate that the interest at 11 p.m. is slightly lower than at 5 a.m.

Let us consider two groups of observations: the relative number of "litany" queries at 11 p.m. and at 5 a.m. during the studied week. When treating these values as observations from two populations, we can apply the test of comparing means in the populations. One of the assumptions of Student's t-test, used to compare means in populations, is the assumption of the normality of the distribution. In order to verify this assumption, the Shapiro–Wilk normality test was used. Test calculations (both in this example and in the following examples) were made using the R environment. By performing the Shapiro–Wilk test for the observations at 11 p.m., we obtained the p-value of 0.9065, while for the query sample at 5 a.m., the p-value was 0.4448. Performing a one-sided Student t-test with the alternative hypothesis of a population mean in the 11 p.m. query group that is higher than the 5 a.m. query group gives a p-value close to zero (approximately 0.00000008).

This suggests that the population mean for queries at 11 p.m. is significantly higher than for queries at 5 a.m. This result indicates that the time for prayer is in the evening.

Next, the analysis of the interest in the keyword "litany" between August 2016 and August 2021 is presented (Figure 4).
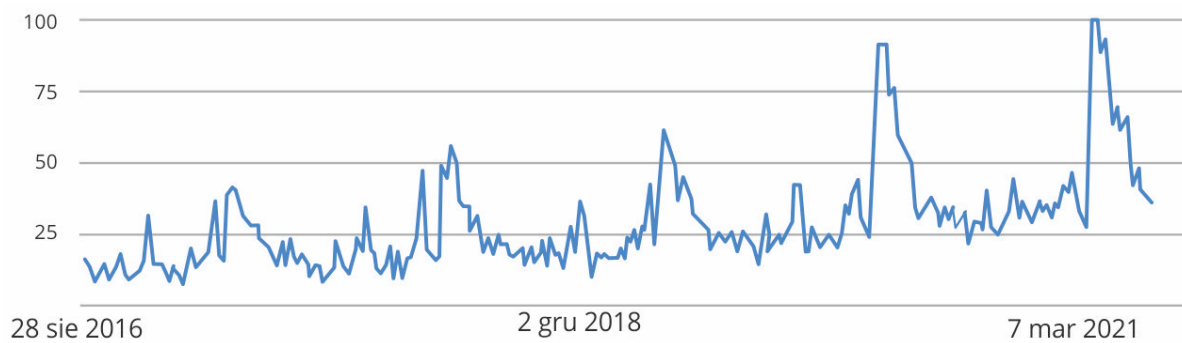
Figure 4. Frequency of searches for the keyword "litany" over the last five years; source: Google Trends, https://www.google.com/trends (accessed on 23 August 2021).

The highest increase is observed in the period between 9 and 15 May 2021. The analysis of the data shows that periods of very high intensity of enquiries occur in May and June, with the years 2016 to 2019 being about 50% of the level of enquiries in May and June in 2020 and 2021 (the period of the COVID-19 pandemic). The graph also shows periods of higher intensity of enquiries in the second half of December (for example, December 2018). The enquiries are three times lower compared to May 2021. December is the time of Christmas confession and the prayer penance often given by confessors.

As for the popularity of the keyword "litany" with respect to particular regions (Figure 5), the highest interest in the examined period was in Podlaskie voivodeship (100%) and Lubelskie voivodeship (96%). It was slightly lower in Podkarpackie—90%, in Małopolskie—86%, and in Świętokrzyskie—72%. The lowest percentage was in Lubuskie, Dolnośląskie, Zachodniopomorskie and Opolskie. Other voivodeships show an average percentage of above 50% but below 70% in relation to the number of searches in Podlaskie.
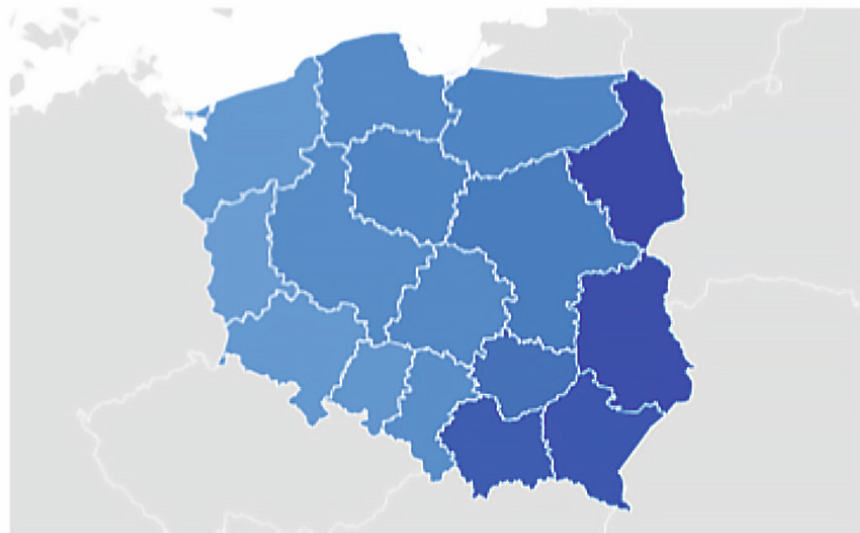

Figure 5. Frequency of searches for the keyword "litany" in the last five years by region; source: Google Trends, https://www.google.com/trends (accessed on 23 August 2021).

3.3. Keyword Observation: "Litany of Loreto" (Polish: "Litania Loretańska")

The graph shows the frequency of searches for the phrase "Litany of Loreto" from June 2016 to June 2021 (Figure 6).
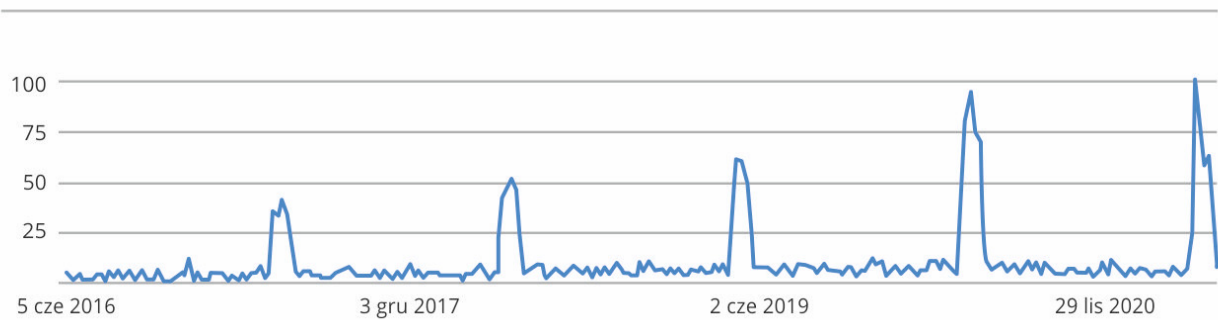
Figure 6. Frequency of searches for the keyword "Litany of Loreto" over the last five years; source: Google Trends, https://www.google.com/trends (accessed on 10 July 2021).

The data in the graph show a clear increase in the interest in the keyword in May each year. However, the average frequency of queries in May each year is not the same. There are five periods considered, that is, May from 2016 to 2021 is treated as a separate population. The average number of queries in the respective sub-periods are: 63.22, 59.77, 65.39, 78.8, and 73.1.

Analysis of the data indicates that the average frequency in 2020 and 2021 (the pandemic period) is higher than in 2016–2019. Due to the lack of daily data, Student's *t*-test cannot be directly applied. Nevertheless, the application of Student's *t*-test to the averaged data confirms the above thesis.

Using Google Trends, a change can be observed between May and June (2021) regarding the search for the Litany of Loreto and the Litany of the Sacred Heart of Jesus (Figure 7). In Poland, Catholics tend to be more attached to the Litany of Loreto than to the Litany of the Sacred Heart of Jesus.

Figure 7. Search frequency for the keywords "Litany of Loreto" and "Litany of the Sacred Heart of Jesus" (Polish: "*Litania do Najświętszego Serca Pana Jezusa*") in May/June 2021; source: Google Trends, https://www.google.com/trends (accessed on 4 June 2021).

3.4. Keyword Observation: "prayer" (Polish: "modlitwa")

The data show that there was a very marked increase in search intensity for the keyword "prayer" in the week of 5–11 April 2020; this period will be treated as a most significant one. High search activity for the keyword in the five-year period under study occurred from 22 March to 18 April 2020 and from 28 March to 3 April 2021. In these periods, the frequency was two or even three times higher than in the other periods of

the five-year observation (Figure 8). In 2020, Easter fell on April 12, which meant that Holy Week was from 5 April to 11 April 2020. This trend is consistent with the worldwide tendency, as mentioned in the previously cited studies.
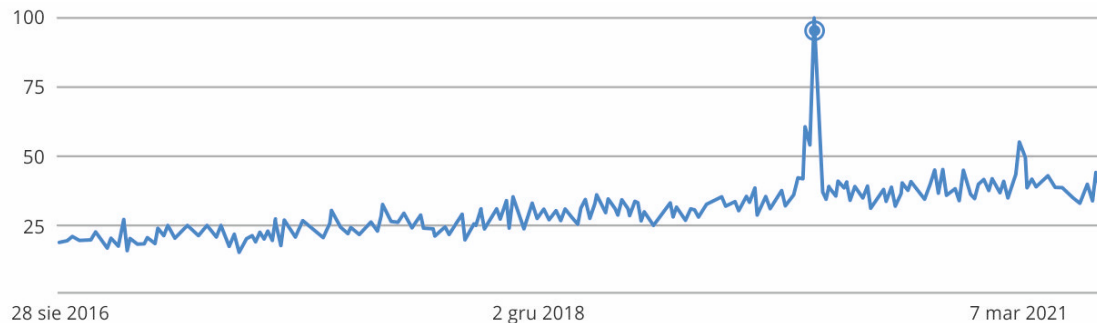

Figure 8. Frequency of searches for the keyword "prayer" over the last five years; source: Google Trends, https://www.google.com/trends (accessed on 23 August 2021).

As far as the regional analysis is concerned, the Podkarpackie voivodeship has the highest level of searches in the analysed period and is, therefore, the reference for all the other regions. The Lubelskie (92%) and Podlaskie (84%) voivodeships showed a high level of interest in the keyword "prayer" compared to Podkarpackie. In the Małopolskie and Świętokrzyskie voivodeships, the search percentage was around 80%. The search rates in Dolnośląskie (49%) and Zachodniopomorskie (45%) were at the opposite end of the scale. The remaining voivodeships had search rates between 50% and 70% in relation to the search rate in the Podkarpackie voivodeship (Figure 9).
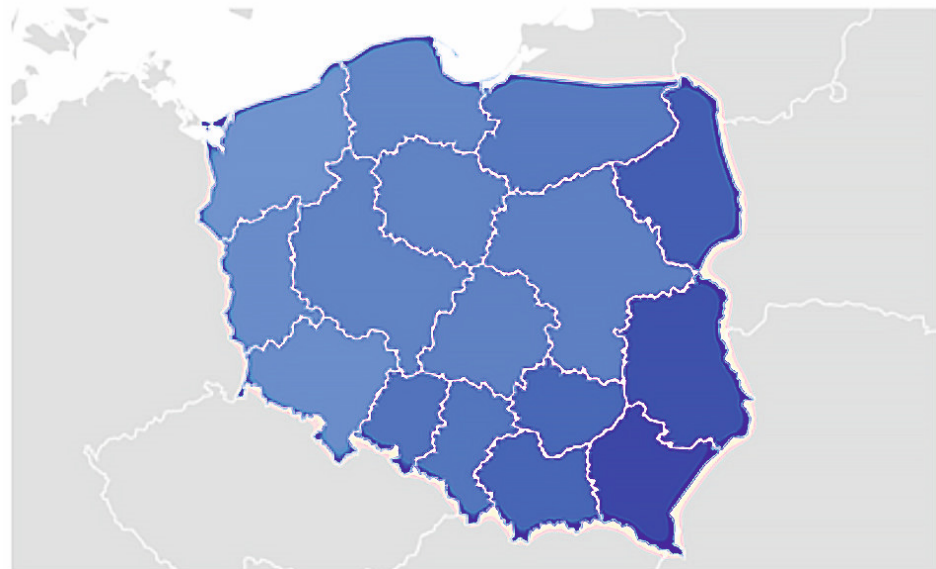

Figure 9. Frequency of searches for "prayer" over the last five years by region. Google Trends, https://www.google.com/trends (accessed on 23 August 2021).

3.5. Keyword Observation: "confession" (Polish: "spowiedź")

Figure 10 shows the interest in the search term "confession" over the last five years.

The data show that in the weeks 18–24 December 2016, 9–15 April 2017, 17–23 December 2017, 25–31 March 2018, 16–22 December 2018, 14–20 April 2019, and 15–21 December 2019 there was a relative weekly average of queries above 50, normalised against the highest number of queries in the five-year period studied.
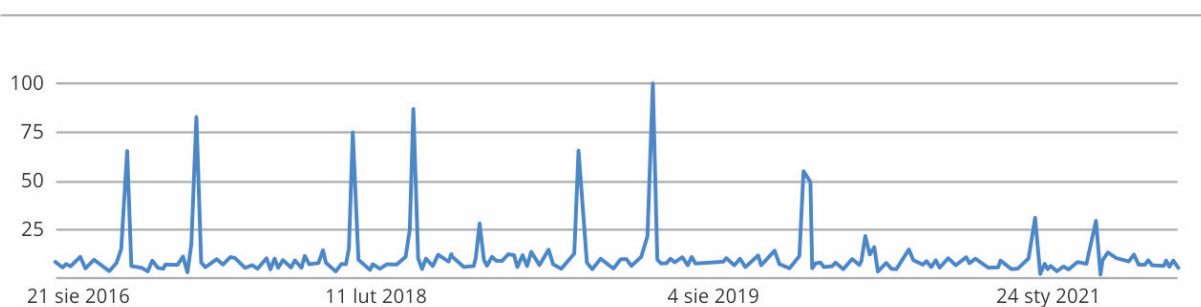
Figure 10. Frequency of searches for the keyword "confession" over the last five years; source: Google Trends, https://www.google.com/trends (accessed on 23 August 2021).

For the other Christmas and Easter periods, increases in enquiries were at significantly lower levels. The number of enquiries during festive periods decreased more than twice between 2016–2019 and 2020–2021 (the pandemic period).

As regards the regional analysis of the studied phenomenon, there were two regions with the highest number of searches for the keyword "confession" from August 2016 to August 2021. The data show that the greatest interest in the keyword was from the Podkarpackie voivodeship, followed by the Małopolskie voivodeship, with about 81% of the search interest in relation to the Podkarpackie voivodeship. The lowest interest in the search term in relation to the number of queries from the Podkarpackie voivodeship was observed in Lubuskie (30%), Zachodniopomorskie and Warmińsko-Mazurskie voivodeships (31% each), and the Podlaskie voivodeship (35%). In other regions, the level of interest was between 40% and 60% in relation to the number of searches in the Podkarpackie voivodeship (Figure 11).
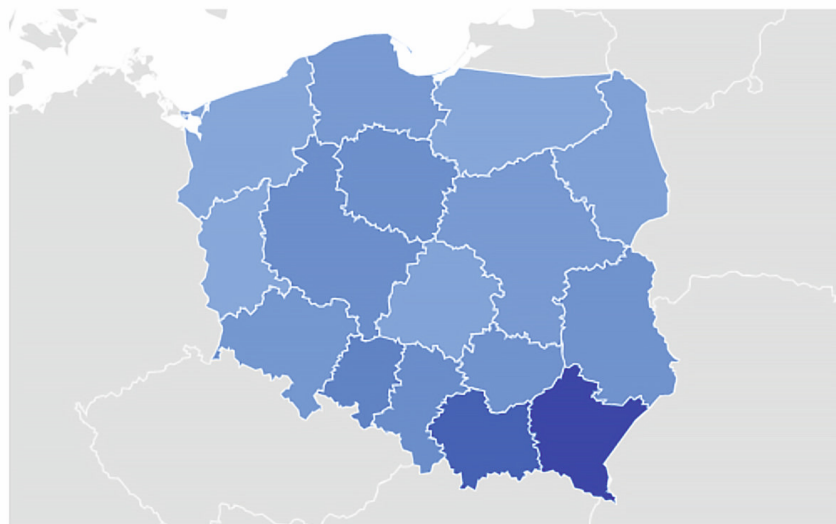

Figure 11. Frequency of searches for the keyword "confession" in the last five years by region; source: Google Trends, https://www.google.com/trends (accessed on 23 August 2021).

3.6. Keyword Observation: "prophecy" (Polish: "przepowiednia")

With regard to the interest in the subject of prayer on the Internet, the question arises as to what extent this interest is limited only to prayer understood as a form of contact with God and to what extent it is more wide-ranging and leads to an interest in the supernatural sphere in its broadest sense (this also includes all kinds of predictions and prophecies, not necessarily connected with religion, but sometimes proclaimed by various clairvoyants). There is also the question of whether and to what extent such interest is triggered by various historical moments that are connected to the experience of trauma and/or a sense of insecurity.

The 21st century in Poland has witnessed two events which evoked people's emotions on a mass scale. One of them was the death of Pope John Paul II, and the other was the crash of a Polish government plane in Smolensk, Russia, in 2010 (96 passengers died, including the Polish President).

Peaks can be seen for the word "prophecy" (Polish: "*przepowiednia*") and "prophecies" (Polish: "*przepowiednie*") in April 2005 (death of John Paul II) and April 2010 (the Smolensk air disaster) (see: Figure 12). Interestingly, those events did not stimulate much interest in prayer on the Internet. During the COVID-19 pandemic outbreak in March–April 2020, there was much less interest in prophecies than in the two previously mentioned periods, with far greater interest in prayer. The word "of foods" (Polish: "*pokarmów*") in the search suggests that the interest in the prayer was partially generated by the search for a prayer to be said during the blessing of foods. In Poland, this is traditionally done on Holy Saturday in churches; it is a very powerful part of the tradition, often practised by people who are not very religious. One might even say that sometimes the so-called *święconka* basket is brought to church even by people who declare themselves atheists and do not approach it as a strictly religious activity but as a part of tradition. Since churches were closed on Holy Saturday in 2020, with a lockdown and a ban on congregations, priests recommended that each family should perform food blessings on their own during the festive Easter breakfast. Hence, presumably, the phrases "prayer of consecration of food" and "prayer of blessing of food" raised the overall number of queries about the word "prayer". It is questionable, however, to what extent these queries can be viewed as a sign of increased religiosity rather than a technical search for a prayer by people who would have normally taken their Easter baskets to church.
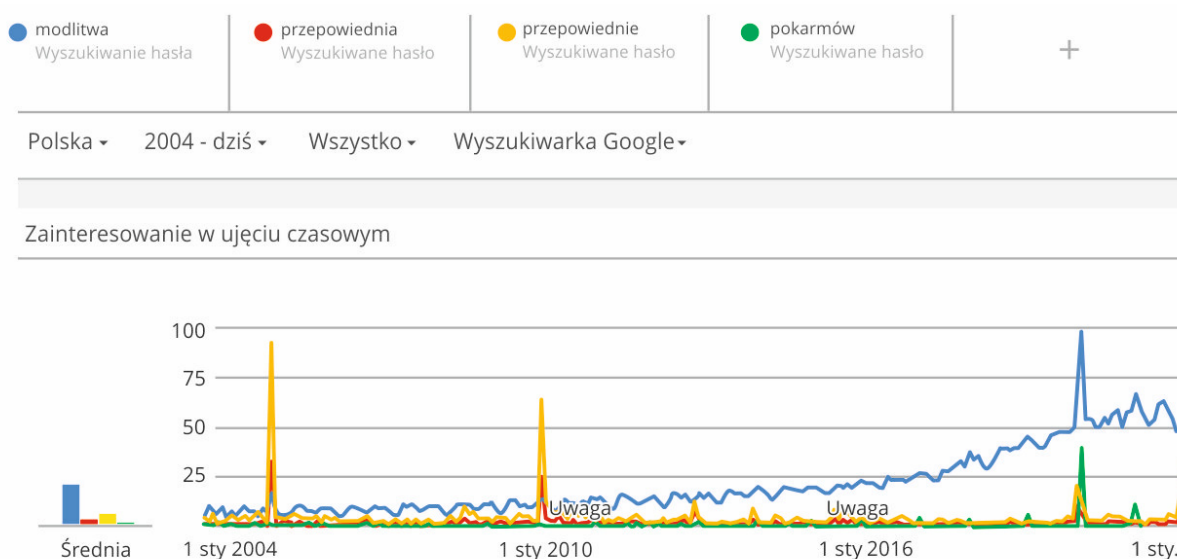

Figure 12. Frequency of searches for the keyword "prophecy" and its linguistic variations over the last five years; source: Google Trends, https://www.google.com/trends (accessed on 23 August 2021).

A rising peak for the words "prophecy" and "prophecies" is noticeable in February 2022. This, however, can no longer be linked to the pandemic but rather to Russia's attack on Ukraine on 24 February 2022.

It is also interesting to compare the queries on the words "prophecy" and "prophecies" with territorial division. The greatest interest in the word "prayer" can be observed in the Podlaskie, Podkarpackie, Opolskie, Lubelskie and Świętokrzyskie voivodeships, while the word "prophecies" had highest interest from the Łódzkie, Mazowieckie, Wielkopolskie, Pomorskie and Kujawsko-Pomorskie voivodeships. When overlaying these data on the map of religiosity of different regions of Poland, based on Sunday mass attendance data (Figure 13), one might notice that interest in prayer is more typical of areas with higher

religiosity, while enquiries about prophecies are more likely to appear in areas with lower religiosity. It is not possible to carry out a precise statistical analysis here because Google provides data by voivodeships, while data on religiosity are based on the administrative division of the Church into dioceses and parishes. These two divisions are incompatible with each other—the borders of voivodeships do not overlap with those of dioceses. Nevertheless, the authors decided to superimpose the outlines of individual voivodeships on a map of Poland's religiosity, as provided by the GIS Expert company.
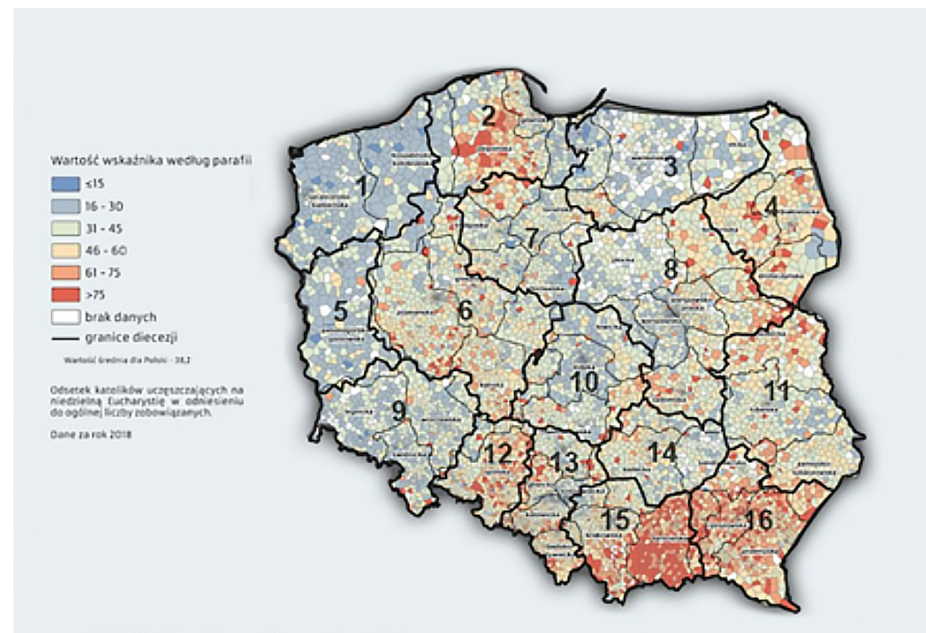

Figure 13. Religiosity in Poland 2021; source: https://www.gis-expert.pl/mapy-religijnosci-polakow (accessed on 23 August 2021).

From the above analyses, it can be concluded that the years 2005 and 2010, although they brought events that aroused great collective emotions, did not generate noticeably more interest in prayer, with much more interest in the topics of prophecy and predictions. However, with the 2020 pandemic, the opposite was true. Why? Perhaps the pandemic triggered a much greater sense of danger and underlying fear of death, which resulted in a need to contact God and plead with Him. In 2005 and 2010, there was trauma, but there was no sense of immediate danger. It seems that in those years, the dominant motivation was a desire to explain reality and to know the future. Secondly, during the events of 2005 and 2010, Poles experienced their emotions collectively. They gathered in squares, streets and churches, joining in collective prayers or simply remaining silent. During the pandemic, there was a lockdown and it was not possible to gather together. Emotions were experienced indoors, in solitude; hence, probably, their different focus.

4. Conclusions

The percentage of Internet users from Poland using the Google search engine in August 2020 was 98.91%, with the total number of Internet users in Poland reaching 27.2 million. The average number of page views per day was over 260 million; the average user time was about 22 min. There is no doubt that the Google search engine can be a source of data analysis. Many scientific studies have confirmed that Google Trends is a reliable tool.

In the context of the objectives set by the authors and the answers to the research questions, it should be stated that:

1.   The tendency for increased interest in the topic of prayer on the Internet, indicated by Bentzen (Bentzen 2020; Bentzen 2021), is reflected in the Polish-language Internet. The results essentially overlap with those obtained by Bentzen.

2. The study shows that in addition to general queries such as "prayer", Internet users also made specific, detailed searches. This can be seen in the increased interest in queries such as "litany" or "The Call of Jasna Góra". On the other hand, we can see less interest in confession, probably due to its non-availability but also, perhaps, because of a fear of infection. This area is open to possible in-depth research.

3. Certain factors may have created information overload and influenced the results shown in Google Trends; this can be seen in the increased frequency of the search for the food blessing prayer—the question is whether it was more a result of an attachment to tradition or the need to pray.

4. The interest in prayer during the COVID-19 pandemic did not mean increased interest in prophecies and predictions. While moments of collective trauma, such as the death of John Paul II or the Smolensk disaster, have generated such interest, it was hardly evident in the initial phase of the pandemic.

5. Although it is difficult to put into statistical models, there is a noticeable connection between the popularity of particular queries and religiosity in a given region of Poland, which is reflected in secondary data (annual surveys conducted by the Institute of Catholic Church Statistics in Poland—ISKK). The frequency of search queries about prayer coincided geographically with the data on the religiosity of Poles. In contrast, interest in prophecies and predictions was higher in areas with lower levels of religiosity.

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