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Risk factors of suicide with reference to the theory of social integration by Émile Durkheim

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Summary

Aim. The aim of the paper was to: (1) present economic, socio-demographic and other indicators related to suicide, useful from the perspective of social integration theory, and (2) identify new indicators of special importance to contemporary Poland.

Method. A narrative literature review on the sociological approach to suicide was undertaken by searching MEDLINE/PubMed, PsycINFO, Google Scholar databases using the following key words: *suicide*, *suicide risk factors*, *Durkheim's theory of suicide*, *integration and disintegration of society*, *sociodemographic factors*, *economic factors*, *religion*, and the time descriptors: 2000–2017.

Results. Suicide risk was analyzed in relation to: family integration (including the rates of divorce, marriage, fertility, and women's participation in the labour market); economy (including the unemployment rate, gross domestic product *per capita*, Gini social inequality index, and social welfare indicators); social issues (including the indicators of the healthcare system quality, the rates of alcohol consumption *per capita* and migration); religion (including the parameters of conventional religiosity, Gallup index, and percentage of religious books). The issues relevant for Poland were addressed while discussing Balanced Development Index in economic aspect, and *dominicantes* and *communicantes* rates in religious aspect.

Conclusions. This literature review may be useful in the assessment of suicide risk when designing suicide prevention programs and for mental health clinicians in their daily practice.

Key words: suicide, Durkheim's theory of suicide, suicide risk factors

Introduction

For the last hundred years, there has been a significant increase in the number of suicides in most countries around the world. According to the World Health Organization (WHO), over one million people die by suicide, which means that every minute two or more people die because of suicide [1, 2]. An upward trend is still being observed, which makes suicides increasingly challenging in the context of public health [2].

An individual decision to take one's life is certainly dramatic and – as follows from the research and clinical observations carried out so far – often conditioned by many factors [3, 4]. Basing on the analysis of farewell letters left by suicides, one can hardly draw a single motive, a situation that has led to a suicidal death, it is rather a number of adverse events combined with a chronic feeling of unsatisfied emotional or vital needs [3, 4]. Without diminishing the role of these individual motives of taking one's own life, one can look at suicide in a broader, social context, looking for causes that indirectly cause a particular social group to exhibit more or less suicidal tendencies.

Sociological approach to the phenomenon of suicides was initiated by Émile Durkheim, who in 1897, in the work *Le suicide* presented the theory of integration and disintegration of society [5]. He put forward the idea that suicides are a sensitive indicator of social integration, and the higher the rates of suicide death, the greater the disintegration of the population. He also distinguished four main types of suicides:

1) egoistic suicide, which results from a low integration of the individual with the community. These are the suicides of people who, despite the high civilization indices of the group, feel alienated, 'lonely in the crowd';
2) altruistic suicide, which is a manifestation of excessive integration with the group, too much identification with its goals at the expense of the individual's life. The actions of kamikaze pilots or suicide terrorists are examples of this phenomenon;
3) anomic suicide, which is an expression of disruption of social order, dysregulation of social mechanisms, which makes the individual less stimulated and controlled by the group;
4) fatalistic suicide, which is the result of a tragic situation of an individual, with no prospects for improvement. This group includes group suicides committed by sect members. This type of suicide was not examined by representatives of the Durkheim school [4, 5].

When the suicide rates from 2015 in European countries are compared, surprising differences can be found: for example, in Lithuania the rate was 32.7/100,000 inhabitants, in neighboring Poland 22.3/100,000, in Norway 10.9/100,000, while when in Greece only 4.3/100,000 inhabitants [6]. According to Durkheim as well as contemporary researchers, the differences in suicide rates in individual countries are based on different social, economic, cultural and religious conditions that lead to the disintegration of the individual [7–9].

Aim

The aim of the work, based on a review of the literature, was to: (1) present economic, socio-demographic and other indicators related to the phenomenon of suicides useful in the context of social integration theory, and (2) identify new indicators that may be particularly significant in contemporary Polish conditions.

Method

A narrative style review of the literature [10], analyzing the roots of suicide from a sociological perspective was conducted by searching the MEDLINE/PubMed, PsycINFO and Google Scholar databases, using the keywords: *suicide*, *suicide risk factors*, *Durkheim's theory of suicide*, *integration and disintegration of society*, *sociodemographic factors*, *economic factors,* and *religion*, and the time descriptors: 2000–2017. The search yielded 469 records, of which papers written in English, published in peer-reviewed journals were selected. Additionally, a manual search was undertaken, involving the reference lists and papers published in 2015 issues of the journal *Suicydologia*. Overall, 63 scientific publications were included in this review. In order to provide a wider context for the discussed subject matter, the publications of the Central Statistical Office [11, 12], the Institute for Catholic Church Statistics [13] and WHO databases were also used [1, 6]. Following the assumptions of Durkheim's theory of social integration and disintegration, factors influencing suicide rates were grouped based on family, economy, social and religion integration.

Results

Analysis of the available literature allowed for identifying the factors associated with increased suicide risk, in line with E. Durkheim's theory of social integration and disintegration. For the sake of clarity of the paper, the following issues will be discussed:

I. in terms of family integration: A. divorce rate, B. marriage rate, C. total fertility rate and general fertility rate, D. participation of women in the labor market;
II. in economic terms: A. unemployment rate, B. gross domestic product *per capita* and Gini coefficient, C. social welfare indicators;
III. in social terms: A. indicators of the healthcare system quality, B. *per capita* alcohol consumption rate, C. migration rate;
IV. in terms of religion: parameters of conventional religiosity (*dominicantes* and *communicantes*), Gallup index and percentage of religious books.

I. Indicators related to the risk of suicide in terms of family integration

A. Divorce rate and the risk of suicide

The family is the primary social group that has a great influence on the psychological well-being of all its members [14]. In the aspect of family integration and disintegration, the influence of divorces on the risk of suicidal behavior has been studied most often [15]. Divorce is a highly traumatic factor for family members; on the scale of stress measured in the so-called units of life changes according to Holmes and Rahe, it is placed in the second position, immediately after the death of the spouse [16]. Divorce is not a sudden event, it is often preceded by months or years of conflicts, negative attitude towards the spouse, making the marriage unpleasant and burdensome. On the other hand, the divorce itself, apart from the parting of the partners and the associated feeling of loss and loneliness, involves many other consequences. The problem is childcare, because usually one of the parents is significantly separated from the offspring, while the other one has to fulfill the parenting duties and satisfy the family's material needs. Divorce is not a widely accepted solution, thus deteriorating the social status of a divorced person, especially that of women [4]. The material status of a divorced person also changes. Divorce has also a huge impact on the emotional state and behavior of children, who more often than those from full families show self-destructive tendencies [4].

In the population of divorced persons, suicide factors are likely to occur more frequently than among the married couples. Among the divorced, a 40% increase in the prevalence of depression was noted, in this group also the mortality rate was 52% higher for men and 43% for women [17]. In Austrian studies of 1980s and 1990s, it was shown that the suicide rate among people after divorce was as high as 128.6/100,000, compared to 30.5/100,000 among married people [18]. Numerous analyzes have found a positive correlation of the suicide rate with the divorce rate in both women and men [19, 20]. The research conducted in Denmark, including the analysis of the years 1906–2006, shows that with an increase in the number of divorces by 1%, suicides among men grow by 0.52%, and among women by 1.12% [21]. According to one American study, the risk of suicide among divorced men was twice that of married men while no such relation was found for women [22].

A similar regularity as in the case of divorced people can also be noted among the widowed [23–26], but this does not apply to all unmarried persons. In many studies, the lowest suicide rate was observed in single women and men [3]. This may suggest that it is not the family status that prevents suicides, but rather a sudden change in marital status and the associated sense of loss contributes to the increase in suicidal tendencies [3, 4]. This thesis is confirmed by both studies from the 1960s – it was shown then that the number of suicides in the first year after the death of the spouse is twice as large as in subsequent years [3], as well as more recent studies that state that the risk of death is the greatest within three months of the partner's death [27].

B. Marriage rates and suicide risk

Numerous studies also investigated the correlation between the marriage rate and suicidal death rates, expecting the opposite relationships than in case of divorce rates [19]. Marriage, according to Durkheim, gives a sense of community and regulates moral and sexual behavior, imposes a number of restrictions and duties, reduces anomie, and thus prevents suicides [28]. Interestingly, in the study of Neumayer [19], the impact of the marriage rate on reduction of suicides was confirmed only in the case of men. However, in the work of Milner et al. [29], there was no correlation between the marriage rates and suicide rates in both sexes. In turn, in the Danish study covering the years 1906–2006, the protective effect of marriage was demonstrated in both women and men. A one-percent increase in the number of marriages reduces the number of suicides by 0.77% for men and by 0.63% for women [21]. It is possible, however, that the protective effect of marriage is culturally conditioned: according to research from China, family-related stress may increase the risk of suicide among married women [30].

Marital status, in addition to religious affiliation and parameters related to the size of the social network, was a part of the social integration rate, created for the needs of a 24-year cohort study of the risk of suicide death among men – the healthcare workers in the United States. The study showed more than double lower risk of suicide among the participants with high social integration during the whole period of observation [31].

Marriage has a protective effect while evaluating an individual's suicide risk [21]. However, from a social perspective the marriage rate not always has an influence on the suicide rate [29], or influences only the male suicide rate [19]. Therefore, the marriage rate is losing its value as a determinant of family integration nowadays. More and more couples and families are living without formalizing their relation and such an arrangement is increasingly accepted by society [11]. The marriage that was supposed to serve 'to regulate passions' [27] does not fulfill this role anymore, given general acceptance of premarital sex. The growing prevalence of divorce and greater acceptance of dissolution of marriage brings yet another serious consequence for society – marriage has lost its value as a permanent commitment [11]. According to Durkheim [5], there is a positive relationship between the divorce rate and the suicide rate, because divorce creates an 'unstable balance' in the lives of divorced people and eliminates an important factor of social regulation (i.e., marriage) in their lives. Durkheim classifies divorce as a form of permanent family anomie, because 'where there are many divorces, there must be many families more or less close to divorce' [5, p. 263].

C. Birth rate and general fertility rate and the risk of suicide

The presence of children can also be a determinant of family integration. Durkheim noted that the low birth rate testifies to the weakening of social integration and causes an increase in the number of suicides [7]. This thesis was confirmed in subsequent studies, at the same time suggesting that the presence of children protects women more

than men [32, 33]. Neumayer's study [19] showed a negative correlation between the birth rate and suicide rates in both sexes, while no correlation was found with the indicator determining the average number of people in the household. The total fertility rate TFR (the number of children per woman of childbearing age) was used in the study by Milner et al. [29] and a negative correlation with the suicide rate in men was found, without significant impact on women's suicides.

D. The rate of women's participation in the labor market and the risk of suicide

Only one hundred years ago, the model of family life assumed that a man was working professionally and earning money, and the role of a woman was to take care of children and keeping the house. The emancipation of women and their participation in the labor market set new challenges for the family institution – for the wife the need to combine professional activity with household duties, and for her husband to accept a woman's stronger position in the family and to participate in keeping the house [3].

Addressing this issue, Jack P. Gibbs and Walter T. Martin proposed the theory of status integration. A special aspect of this theory is the dual status of a woman as a mother and wife and an employee, and its relationship with the suicide rate [3]. The level of women's participation in the labor market was examined (FLFP rate – *female labor force participation* rate), which in Canada in 1931 was 19.3%, and in 1981 it was 52%. It was noted that FLFP rate was positively correlated with the suicide rate of women and men in 1971 in Canada, while in 1981 the positive correlation of FLFP concerned only the male suicide rate. Similar observations were made in the United States – in the years 1948–1963 the increase in FLFP rate was associated with an increase in suicidal death rates in both sexes, while in 1964–1980 it had an effect on increasing suicides only in men. It seems that the initial period of women entering the labor market was difficult for both genders and hence the steady increase in the suicide rate [18]. However, in subsequent years, when the level of women's participation in the labor market increased significantly and became common and obvious, FLFP levels ceased to be correlated with suicide rates in women, however, the relationship with suicides of men was maintained [18].

The study which included data from 35 countries from the years 1980–2006 showed a positive correlation between FLFP rates and suicide rates for both women and men, but in the case of men the relationship was stronger. The authors concluded that the impact of changes in gender roles assigned to men is greater for men [29]. In Neumayer's study, which included data from 68 countries over the period 1980-1999, a similar positive correlation between FLFP rates and suicide rates in both sexes was demonstrated [19]. In turn, in the study by Kõlves et al. [20], covering data from 13 countries of the former Soviet bloc, no significant correlation was found between FLFP rates and suicide rates. The author explained this by the influence of communist ideology, in which work was an ethical duty for both genders [20]. M. Jarosz [3]

draws attention to social changes related to the emancipation of women in a broader context. She notes that women are better educated and competitive on the labor market. The growing position of women is associated with greater expectations and requirements of life and partners. These changes in the perception of gender and the fact that there are no specific roles belonging to women and men are also symptoms of Durkheim's anomie [3].

II. Indicators related to the risk of suicide in economic terms

A. Unemployment rate and the risk of suicide

Durkheim devoted a lot of attention to the economic and financial aspect in his theory of social integration and disintegration [7]. He put forward the thesis that a sudden change in economic conditions, both favorable and unfavorable, causes anomie, decreases social control over the individual, which results in an increase in the suicide rate. Interestingly, change for the better can also contribute to the increase of suicidal tendencies. In the historical study by Stack [34], it was shown that economic growth is positively correlated with suicide rates. Another study, on the contrary, showed that suicide rates decrease in times of prosperity and increase during economic crisis [35]. Research is ambiguous, therefore it is even more worth looking at more detailed indicators testifying to the economic growth or crisis.

Unemployment, measured by the unemployment rate, is one of the most interesting indicators, mainly because its interpretation goes beyond the economic aspect, also affecting the family and health [4]. Unemployment means not only a lack of means for living, and, consequently, a deterioration of the financial situation, loss of economic security, family conflicts against the financial background, but also lower self-esteem, greater risk of depression and alcohol abuse [4]. High unemployment rate in the society also affects employees who are concerned about their job security. Also, the length of staying without employment brings huge negative consequences: over time, faith in returning to the labor market and motivation become smaller, while discouragement and a sense of hopelessness grow [18]. On many occasions, people who find employment after a long period of being out of work get a job that requires less qualifications and is lower-paid, this relative deprivation also contributes to an increased risk of suicide [18].

In 1984, Platt compared suicide rates in one of the London regions and found that suicide rates for the unemployed was 73.4/100,000 compared to 14.4/100,000 for the whole population [18]. The study by Kõlves et al. [20] showed that the unemployment rate positively correlates with suicide rates in both women and men, similar conclusions were drawn by Neumayer [19] and Fernquist and Cutright [28]. Also in the United States in 1999–2009 a higher suicide rate was reported in counties with higher unemployment [36]. However, in the research by Andrés from 2005 [37], no such relationship was found. An interesting analysis concerns the situation in Lodz after the political transformation – in a city famous for its textile industry, after 1990

most of the production plants went bankrupt, leaving the population without work. For many years, both unemployment rates, including long-term unemployment, and suicide rates in this city have been among the highest in Poland [38].

Also the analysis of suicide risk in connection with the situation on the labor market in 2001–2011 in England and Wales brought interesting observations. Mass redundancies and unemployment related to the economic crisis in 2008 did not affect the suicide rate in women, but it significantly raised it in men aged 35–45, while in the group of younger men the other indicators of the economic crisis were crucial, i.e., personal debts and house repossession [39]. Durkheim himself did not write about unemployment in *Le Suicide*, however, since the great crisis of 1929–1933, unemployment has been recognized and studied as a risk factor for suicides [4].

B. Gross domestic product and Gini social inequality coefficient and the risk of suicide

The economic growth or crisis is directly evidenced by the income – gross domestic product (GDP) in total or per capita, including the purchasing value of money [40]. While individual income may undoubtedly be more important from the perspective of the person receiving it, the GDP value may suggest what means the society is able to devote to healthcare, education, social security, which better testifies to its welfare. The distribution of income in the population is determined by the so-called Gini social inequality coefficient, the values of which range from 0 to 1, and the higher the value of the coefficient, the greater the differences in income [41].

It can be assumed that greater inequality in incomes in developed countries results in greater anomie, because then the common idea of equality is violated, and on the other hand a significant group of people comparing themselves to the richest ones may feel a kind of failure in pursuit of economic success [28]. Similar conclusions were reached by a study conducted in Stockholm. It turns out that the highest rates of suicide occur in the richest districts of the city, however, mainly the poorest inhabitants of these districts commit suicides. On the other hand, it was noted that the risk of suicidal death among beneficiaries of social assistance is lower if they live in the vicinity of other people receiving social benefits [42].

In the aforementioned work by Kõlves et al. [20], a negative correlation between GDP *per capita* and suicide rates in both women and men and a positive correlation between the Gini coefficient and suicides of women was proved. The latter relationship is surprising, because it might seem that men will be more sensitive to income differences [20]. With this assumption a different study was designed [6], which, however, did not show any significant relationship between economic and suicide rates in both sexes.

C. Indicators of social welfare and risk of suicide

The goal of economic development is not to generate GDP or to increase another economic indicator, but to improve people's living conditions, that is, to increase their welfare. In 1990, the Pakistani economist Mahbub ul Haq developed a composite index, the Human Development Index (HDI) measuring the prosperity in three dimensions: 'long and healthy life', 'knowledge' and 'a decent standard of living'. Since 1993, the HDI index has been used by the United Nations to create the ranking of countries with the highest welfare (in the 2016 report Poland occupied 36th place) [43]. When comparing HDI and suicide rates in individual countries, it was observed that the highest number of suicides occurs in highly developed countries, then in highly developed and moderately developed countries [44].

In Poland, a similar indicator was proposed – BDI (*Balanced Development Index*), which combines four aspects: external and internal economic conditions, social situation in the country, and expectations and hopes of the population based on CBOS research (Center for Public Opinion Research). BDI has been estimated since 1999 and so far it was the highest in 2007. The authors of the index compared its dynamics of change with the changing mental condition of Poles (assessed on the basis of the CBOS survey *Mental Health of Poles* and an objective suicide rate), noting a strong negative correlation [45].

III. Indicators associated with the risk of suicide in the social aspect

A. Indicators of the healthcare system quality and the risk of suicide

The disease of an individual can be considered not only in the aspect of biological dysfunctions of the human body, but also in reference to the psychosocial functioning. The disease may prevent the performance of existing roles in family or professional life, it influences not only the sick person, but also the members of the person's family, co-workers, which reduces the social integration [46]. An important role in dealing with the effects of the disease is played by the healthcare system. Health professionals should provide not only medical advice, but also psychological support [47]. In the context of suicide it is very important to recognize at the primary care physician level the symptoms suggestive of an increased risk of suicide. In the work by Kõlves et al. [20], analyzing the relationship between the number of family doctors per 100,000 inhabitants and the suicide rate, a negative correlation was found in the case of male suicides. In the study by Milner et al. from 2012 [29], expenditure on health *per capita* was treated as a determinant of the quality of healthcare and a negative correlation was found between this indicator and suicide rates in both sexes.

B. The alcohol consumption rate *per capita* and the risk of suicide

Alcohol consumption as the factor increasing the risk of suicide was underestimated by Durkheim, he perceived alcoholism as a 'psychotic state', which was attributed to the entire evil of civilization at the time [19]. Modern researchers see the huge impact of harmful alcohol consumption on the increase in suicidal tendencies, both by chronic negative social effects – family breakdown, problems with maintaining employment, and increasing the risk of aggressive and self-aggressive behavior due to acute poisoning [4, 48]. There is also a concept underlining the inverse cause-effect relationship: poor social integration creates an environment conducive to alcohol abuse [4, 20]. Numerous studies confirmed the expected positive correlation between alcohol consumption *per capita* and suicide rates in both sexes [19, 37]. However, in the work by Kõlves et al. [20] this relationship was not demonstrated in men, and in women (residing in the European Union in 1990–2008), a negative correlation was found.

At the social level, these relationships can be different depending on gender, universality and the type of alcohol available, as well as the attitude to alcohol consumption in society [49–55]. For example, the relationship between suicide and alcohol consumption *per capita* seems to be much more pronounced in countries with high levels of high-proof alcohol consumption (as in Eastern Europe), compared to countries in which moderate alcohol drinking is practiced [54, 56–58]. These results indicate the importance of a culturally-based attitude to alcohol as well as the actual prevalence of alcohol consumption in a given country.

C. Social migration rate and the risk of suicide

From the perspective of contemporary Poland, interesting conclusions could be provided by comparing international migration rates with suicide rates. Since 2004, when European labor markets opened up for Polish citizens, many of them have left Poland in search of a better life. According to the UK statistics, at least once a month suicide is completed by an immigrant from Poland, and Poles die by suicide more often than other nationalities [4, 59]. This involves the separation from the loved ones, difficulties in adapting to new cultural conditions, often with a language barrier, which prevents the use of the help of a psychologist or a social worker. Emigration causes also suffering of families, spouses and children, often brought up without one or both parents [18].

In a study published in 2015 describing suicidal behavior of immigrants from European countries, a greater risk of suicide was not confirmed in this group in general. However, special risk groups were distinguished; these are immigrants from Eastern and Northern European countries for whom the suicide rate is above average; young women from Turkey, eastern Africa and southern Asia, and older people [60].

In a study carried out in 2008–2010 in rural areas of China, the impact of social disintegration, related both to migration within the country and ethnic diversity, on the increased risk of suicidal death was confirmed [61].

Factors such as a shorter period of residence [62] and the fact of being in a relationship (e.g., higher risk among single immigrants) [63] may also affect the level of suicides among those who decide to leave their resident country. A study by Ott et al. [64] suggests a higher risk of suicide in the second generation of emigrants than their parents.

IV. Indicators related to the risk of suicide in terms of religion

Durkheim emphasized the role of religion as a protective factor, both because of doctrine (Christian religions, Judaism and Islam are strongly opposed to suicide), and social integration related to common religious practices. Comparing religions, he noticed, among others, that Protestants commit suicides more often than Catholics and put forward a thesis that this is due to the lower institutionalization of the Protestant religion, greater independence in participating in religious observances, which reduces social integration. The followers of Judaism were the least likely to commit suicide [7].

A cohort study conducted in Switzerland based on the 2000 national census showed that such associations still exist, with the greatest suicide risk for individuals with no religious affiliation, the lowest for Roman Catholic people, and the average for Protestants [65].

Recent years, in the era of progressing social changes, including the processes of secularization in many countries, bring questions about the validity of Durkheim's observation, as well as the determination of the most reliable measures assessing religious commitment. In 2008, the results of a survey conducted in 67 countries, in which respondents were asked three questions about religiosity: whether religion was an important part of their life, whether they had participated in religious practices the week before and whether they knew religious organizations from their country, were published. Gallup religion index was developed, which reflected the percentage of positive answers to these questions. A negative correlation was found ($r = – 0.64$; $p < 0.001$) between this index and the suicide rate in a given country [66].

The results of research by Torgler and Schaltegger from 2014 [67] indicate that for Roman Catholics committing or accepting suicides is less likely than for Protestants. This difference remains even after controlling for such confounding factors as the size of social and religious networks. In addition, the authors observed that while religious networks reduced the number of suicides among Protestants, the influence of going to church was more dominant in Catholics. In the study, religious commitment and religiosity strongly reduced the suicide acceptance [67].

The meta-analysis of studies on religiosity and suicide risk conducted in 2015 also confirmed the protective influence of religion, but it was noted that it is particularly important in older age groups, in religiously homogeneous areas and in countries of Western culture [68]. Similar conclusions were reached by another study which confirmed that religiosity, defined by a personal declaration of faith and religious service

attendance at least 25 times a year, protects against suicide ideation, particularly in people aged 65 or older [69].

A study conducted in Wales, England and Scotland in 2001–2010 did not confirm the impact of declared religious affiliation on suicide risk, however, the authors pointed out that the declaration does not necessarily mean participation in religious practices and a coherent system of beliefs, which means that it is worth looking for indicators that would reflect actual religious commitment and assess their value in predicting suicide risk [70].

In Poland, where 87.6% of the population declares Christian faith, the vast majority of them are Roman Catholics [12], comparing the impact of a particular religion on suicides seems to be of little reliability. For this reason, Poland seems to be the optimal country for conducting research on the links between engagement in religious practices and suicide risk. Since 1980 research has been conducted in Poland on precisely this aspect of religiosity by directly counting people attending Sunday Mass (*dominicantes*) and taking Holy Communion (*communicantes*). Whereas the *dominicantes* index refers to the strength of a religious community, which in Poland also has a traditional dimension, the *communicantes* index describes the number of the most devoted believers. Since the data have been collected, the *dominicantes* index has fallen from 51% in 1980 to 39.8% in 2015 while the *communicantes* index has risen from 7.8% in 1980 to 17% in 2015 [13]. This may show that there is a quantitative decline in traditional Sunday attendance, but on the other hand, the number of more devout church-goers is on the increase. These two manifestations of Sunday worship, referred to as parameters of conventional religiosity, may be the best indicator of the intensity of religious life in Poland, although to date no studies have been carried out in terms of their relationship to suicide rates.

In many studies, the percentage of books with religious content among books published in a given year is taken as the indicator of religious commitment, regardless of religion. The study by Fernqurist and Cutright [28] confirmed a negative correlation of this index with suicide rates. However, in the study y Neumayer [19], using the percentage of followers of Catholicism and Islam in society to evaluate religious integration beside literature, no significant correlation was found with the rates of suicidal death.

Recapitulation

It has been more than a century since *Le suicide* was first published, yet it has lost none of its relevance. Family bonds still have a protective effect against suicide and an increase in divorce rates correlates with suicide rates growth in many countries [17, 19–22]. Similarly, suicide rates are still significantly correlated with economic factors, including the unemployment rate [19, 20, 28, 36–39] and social inequality measured with Gini coefficient [20, 42] in particular. It is noteworthy that these two factors can be interpreted in terms of social adjustment and exclusion [20]. Despite progressing secularization, religion still has a strongly protective effect against suicide

[66–68]. An adverse impact of alcohol abuse on suicidal tendencies, underestimated by Durkheim, was confirmed and seems to be the most pronounced in countries where high-proof alcohol is the dominant beverage of choice (including Poland) [54, 56–58]. The specificity of Polish conditions was addressed while discussing *Balanced Development Index* in the part related to economy [45] and *dominicantes* and *communicantes* indices in the part related to religion [13].

There are many other scientific studies that clarify the causes of suicides on the basis of sociological indicators using the various indices described above [19, 20, 28, 29, 37]. Rapid social changes and the complexity of problems related to suicides make it impossible to indicate one indicator that would best reflect the phenomenon of social anomie. On the basis of these observations, other theories broadening and complementing Durkheim's concept of social integration were also proposed [9], among others, the theory of modernization, confirming the impact of rapid industrialization [71, 72], but also the influence of development of science and communication on suicidal tendencies in a population approach [73]. There are also theories on the influence of culture, together with its ethical and legal models and value systems, on suicidal behavior [73, 74], and a model of transmission of such behaviors by mass media and pop culture was developed [18, 73, 75]. The significance of the index referred to as the culture of suicide is also considered, defined as the degree to which a given normative order condemns or accepts acts of self-destruction [76].

The results of research are not always unambiguous, which can be seen in the quoted review of the literature, but they are constantly bringing us closer to understanding social processes that lead to the increase in suicide rates observed in Poland. This literature review of measures relevant to Durkheim's theory of social disintegration may be useful in the assessment of suicide risk when designing suicide prevention programs and for mental health clinicians in their daily practice.

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