

Rutkowska-Podolowska, Malgorzata; Szczygiel, Nina; Podolowski, Grzegorz

**Working Paper**

## VINOTHERAPY AND ITS IMPACT ON HEALTH ATTITUDES: THE INNOVATION PERSPECTIVE

Institute of Economic Research Working Papers, No. 94/2015

**Provided in Cooperation with:**

Institute of Economic Research (IER), Toruń (Poland)

*Suggested Citation:* Rutkowska-Podolowska, Malgorzata; Szczygiel, Nina; Podolowski, Grzegorz (2015) : VINOTHERAPY AND ITS IMPACT ON HEALTH ATTITUDES: THE INNOVATION PERSPECTIVE, Institute of Economic Research Working Papers, No. 94/2015, Institute of Economic Research (IER), Toruń

This Version is available at:

<http://hdl.handle.net/10419/219710>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/3.0/>



**Institute of Economic Research Working Papers**

**No. 94/2015**

**VINOTHERAPY AND ITS IMPACT ON HEALTH  
ATTITUDES: THE INNOVATION PERSPECTIVE**

**Małgorzata Rutkowska-Podołowska  
Nina Szczygieł  
Grzegorz Podołowski**

The paper submitted to

**VIII<sup>th</sup> INTERNATIONAL CONFERENCE ON APPLIED  
ECONOMICS  
CONTEMPORARY ISSUES IN ECONOMY  
*under the title*  
MARKET OR GOVERNMENT?**

Institute of Economic Research and Polish Economic Society Branch  
in Toruń

18-19 June 18-19, 2015, Toruń, Poland

**Toruń, Poland 2015**

© Copyright: Creative Commons Attribution 3.0 License

Małgorzata Rutkowska-Podołowska, Nina Szczygieł, Grzegorz  
Podołowski

[malgorzata.rutkowska-podolowska@pwr.edu.pl](mailto:malgorzata.rutkowska-podolowska@pwr.edu.pl); [szczygiel.nina@ua.ghata@o2.pl](mailto:szczygiel.nina@ua.ghata@o2.pl)

Wroclaw University of Technology  
Faculty of Computer Science and Management  
Department of Infrastructures of Management  
Wybrzeże Wyspiańskiego 27  
50-370 Wrocław, Poland  
University of Aveiro  
Campus Universitário de Santiago  
3810-193 Aveiro Portugal  
Gestamp Wrocław sp. Z o.o.

## VINOTHERAPY AND ITS IMPACT ON HEALTH ATTITUDES: THE INNOVATION PERSPECTIVE

**JEL Classification:** I12, O13, O30, O35

**Keywords:** *vinoteraphy; wine consumption; health attitudes; cardiovascular system; innovation*

### **Abstract**

Evidence from research has not only excluded negative consequence related to moderate consumption of wine, but associated consumption of skin, juice and seeds of grapes in any stage with a protective impact on health. Compounds of wine demonstrate anti-cancer, antioxidant and a defensive for the cardiovascular system results. The “French paradox” proves that the French suffer from 40% less heart attacks than the Americans consuming 30% more fat what is due to diet including regular modest amounts of wine. The central aspect of this logic is to turn a growing interest in wine consumption for health benefits into innovative solutions with different approaches and make for this purpose also use of areas that have undergone significant transformations over last decades as a results of global dynamical change which offer new consumption patterns seen now as driving forces for stagnating economies of the XXI century.

In an attempt to face this interesting tendency, we conducted a study aiming at determining wine consumption patterns in light of overall alcohol consumption and the dimension of health attitudes with perception and awareness of positive effects of moderate amounts of wine consumption on human health. Results demonstrate a still limited consumption of wine in Poland, also for health-related purposes,

although a high consciousness of its benefits and application in medicine indicating an increasing awareness in this matter.

## **Introduction**

In modern societies, adopting healthy attitudes and living healthy lifestyles has converted one of important values influencing human development and quality of life (Greenlund, Giles, Keenan, Croft, & Mensah, 2002). In today's world, healthy attitudes turn a stimulus to the development of the economy next to cultural and social values creating a kind of labour market in itself. Health is a value for a society as only healthy society allows for its growth (Efpia, 2014). This logic is largely seen in more developed societies where primary concern is focused on human and its well-being.

Current economic growth, social development, existence and entry to the market of new enterprises – all these constitute tasks of modern economy. A prerequisite to this task is to strengthen innovative attitudes on a country, regional and local levels. The concept of innovation can be considered in two aspects. Some authors understand innovation through changes in the sphere of production leading to new process resolutions and creation of new products; others interpret it much wider, believing that innovation is research and development processes aimed at application and use of improved technology and organizational solutions (Brzozowski, Kopczynski, & Przeniczka, 2001).

There are several economic and social determinants of an innovation process. Among the external factors the most important role play with no doubts market conditions. Innovations are a result of collaboration between research and development, and social needs, expressed in a suitable structure of demand. New products, on the other hand, are provided to the market under the form of supply. Innovations relate thus to the sphere of social and economic activity without which any development, structural change or improvement in economic efficiency of enterprises would not be possible in a long-term. An interesting and relevant aspect would be then to seek for changes taking place in the society through the lens of postures and attitudes toward own health finding a reflection in new market responses and structures. This mechanism shall lead us toward an analysis of the extent to which economic and social conditions are able to encourage or confine pro-health activities.

Vinotherapy is quite a new trend in wellness deriving from France and involving beneficial properties of grapes (Resch, 2010). Vinotherapy, according to the commonly accepted definition, means a programme of grapes, grape juice as well as gels formed on the basis of skin, flesh and

pips of grapes to effective treatments (Vinotherapy, 2015). Grapes are believed to have originated from southern Europe and Middle East. Cultivation of the grape started in the pre-historic or early historic times in southwest Asia or southern Transcaucasia. Grape skin is well known from its beneficial properties to health. It contains resveratrol, a form of oestrogen, in high concentration proven to have antioxidant, anti-coagulant, anti-inflammatory and anti-carcinogen effects. Resveratrol is said to raise the levels of HDL and decrease the level of LDL in the blood, hence having a preventive impact on heart attacks and cerebrovascular accidents. Proanthocyanidins in grape skin with their vitamins and minerals fight free radicals and boost antioxidant ability of the body. These potentials may be supportive in building the immune system and fighting severe malignant diseases and other infections (Celotti, Ferranini, Zironi, & Conte, 1996; Clement, Hirpara, Chawdhury, & Pervaiz, 1998; Gehm, McAndrews, Chien, & Jameson, 1997; Jang et al., 1997; Kopp, 1998; Soleas, Diamandis, & Goldberg, 1997). Vinotherapy is a philosophy of life based on expectation of a long life which can be achieved by appropriate treatments with the use of wine, and, on the other hand, is a combination of the energy of nature with the latest scientific achievements (Włudyka, 2010), 2010). If vinotherapy includes a philosophy of life, then it reaches a significant impact on attitudes of health benefits. It is, at this points, important, to clarify, concepts, of health, health attitudes and health behaviours.

Health is understood as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 1946, p. 100) and, consequently, provision of health care services is currently widening from being delivered to an ill person to approaching the general population, with efforts shifting beyond acute episodes to focus on health promotion, prevention and rehabilitation. Health is a multidimensional phenomenon and requires nowadays an intersectoral and network approach in order to give response to complex long-term chronic conditions (Salomon et al., 2003).

Attitude is told to represent a general evaluation of an object and, in this understanding, affect is considered the most indispensable feature of attitude. Another perspective considers attitude as multidimensional, comprised of related but at the same time independent elements (Rosenberg & Hovland, 1960). Health behaviour is a specific action that has a direct impact on health (Kulmatycki, 1999). Among the distinguished health behaviours, literature finds the ones conducive to health, such as balanced diet, maintaining the purity of the body and the environment, physical activity, maintenance of good relations between people, coping with stress, and the harmful behaviours, such as substance abuse, lack of exercise, prolonged use of the computer and the TV, irrational diet (Szaruga, 2010).

Research has pointed out the relation between attitude and behaviour constructs with early works indicating poor correlations and later ones turning into strong associations between them (Ajzen & Fishbein, 1977; Corey, 1937).

Scientifically proven amount of wine consumption beneficial to health suggested through research points out into (Pakulska, Rutkowska-Podołowska, & Podołowski, 2010):

- 1-2 glasses of wine a day for women;
- 2-3 glasses of wine a day for men.

### **Methodology of the research**

The study was carried out between March and May 2013 in the Lower Silesia region, Poland. Self-administered questionnaire was applied to visitors and guests of wineries, liquor stores, restaurants and hotels and aimed at understanding patterns of wine consumption and attitudes toward consumption of wine related with health behaviours.

The motivation of the study was twofold. Firstly, we were trying to find out patterns of wine consumption within overall alcohol consumption. Poland is not a country of a traditionally high wine consumption, however, lifestyles and approaches have been subject to adjustment and research has shown some interesting results in this matter in last years. Secondly, our objective was to determine attitudes toward health that respondents had, including general factors and those related to wine consumption.

The first part of the questionnaire contained items concerning general issues related to consumption of wine and its impact on factors differentiating health attitudes. The second part of the questionnaire sought for perceptions, knowledge and awareness of benefits of moderate wine consumption on health. Respondents were also asked whether they knew, and if so, what it meant to them, the concept of vinotherapy.

The questionnaire was anonymous. Participants were informed about objectives of the study and possibility of the denial of the participation. The interviewer did not intervene in the data collection given the specificity of the places (e.g. restaurant) and in order to guarantee privacy to respondents, however, was accessible on the place in case of any eventual doubts.

## Results

Questionnaires were initially distributed within 133 persons. From those, 16 persons refused to participate in the study and further 17 questionnaires were invalid after inspection. As a result, 100 questionnaires were validated for the study.

### **General issues of wine consumption differentiating attitudes of respondents**

The research found that wine is preferred by women aged 36-45; women aged 46-60 demonstrated a preference to beer, and younger ones, 18-25 and 26-35 consume wine and beer in the same amounts. Men at age 46-60, similarly to women, prefer consumption of beer. Wine is consumed by most of respondents 1-2 times per week, only females aged 36-45 admitted to consume it every day what points out some increase in awareness of positive effects of wine consumption for a human body. The study shows that respondents prefer mainly red wine. This wine is consumed by both, men and women, and in all age groups. Less commonly consumed is white wine, while the least frequently is rosé, what may be due to the lack of knowledge of this wine. Preferences for the taste of wine among subjects differed, and analysis showed no clear preference. Women prefer semi-sweet and semi-dry wine while men consume mostly dry and semi-dry wine. Sparkling wine are consumed occasionally. At the moment of purchase, the determining factors appear to be: the taste (58.62% of females and 61.90% of males), colour (24.14% of females and 19.05% of males), country of origin (27.57% of females and 23.81% of males), and price (24.14% of females and 38.09% of males). At the choice, respondents are driven firstly by taste. Men are more interested in price than women.

Subjects were asked to name factors differentiating positive attitudes to health. While having known the general issue, only about 33% of respondents were able to list the factors. Subjective factors collected through questionnaires included health care, habits, good habits taken from home, health education, development of imagination and health-oriented culture. Objective factors mentioned by participants of the study encompassed: financial resources, knowledge, and education – including nutritional education, diet, meetings with experts, lifestyle, physical and social environment, genetics and fashion.

## Current knowledge of vinotherapy and its impact on the formation of health attitudes

In the present study, it was observed that current state of knowledge on the subject vinotherapy of the Poles is limited. Respondents do consume wine, but that consumption is generally related to its taste, as well it derives from social purposes. Wine is consumed for therapeutic purposes by a few respondents, solely by 6 women and 2 men. It is also important to emphasise that only two men aged 46-60 years consume wine in excessive amount (Table 1).

**Table 1.** Purposes of wine consumption

| Gender /age | Aim         | 18-25 | 26-35 | 36-45 | 46-60 | 61-70 | Above 70 |
|-------------|-------------|-------|-------|-------|-------|-------|----------|
| M           | taste       | 2     | 1     | 8     | 6     | 2     | 0        |
|             | company     | 0     | 2     | 2     | 2     | 0     | 2        |
|             | therapeutic | 0     | 1     | 2     | 2     | 0     | 0        |
|             | abuse       | 0     | 0     | 0     | 2     | 0     | 0        |
|             |             |       |       | 0     |       |       |          |
| W           | taste       | 8     | 8     | 6     | 1     | 0     | 0        |
|             | company     | 2     | 4     | 10    | 4     | 0     | 0        |
|             | therapeutic | 0     | 0     | 4     | 4     | 0     | 0        |
|             | abuse       | 0     | 0     | 0     | 2     | 0     | 0        |
|             |             |       |       |       | 2     |       |          |

M - men; W - women

Source: Results of own study

According to respondents, wine should be consumed: 2-3 glasses a week (a distribution of responses is similar, 37.93% of females and 33.34% of males); 1 glass a day (34.48% of females and 57.14% of males) and all other responses (20.69% of females and 9.52% of males). Among men, more than a half of respondents believed that wine should be consumed one glass a day. Among women, however, these trends were shaped differently. Some of them claimed that the recommendation would be one glass a day and some pointed out 2-3 glasses a week. Other participants also believed that wine should be consumed less



frequently (Table 2). The concept of vinotherapy is therefore not widespread within the Polish society yet. Only 20.69% of women and 23.81% of men could define it. Most respondents explained that vinotherapy was a therapy (treatment) with wine. One person expanded this definition and believed that vinotherapy is “a philosophy of life based on the hope for eternal youth and long due to the consumption of wine in small quantities”.

**Table 2. Recommended wine consumption according to respondents of the study**

| Gender/<br>age | Frequency<br>1 glass<br>of wine | 1<br>8-25 | 2<br>6-35 | 3<br>6-45 | 4<br>6-60 | 6<br>1-70 | Ab<br>ove<br>70 |
|----------------|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------------|
| M              | once a<br>day                   | 2         | 1<br>0    | 4         | 0         | 2         | 2               |
|                | 1-3<br>times<br>a week          | 0         | 2         | 6         | 2         | 0         | 0               |
|                | less                            | 0         | 2         | 2         | 8         | 0         | 0               |
| W              | once a<br>day                   | 2         | 6         | 8         | 6         | 0         | 0               |
|                | 1-3<br>times<br>a week          | 4         | 0         | 4         | 4         | 0         | 0               |
|                | less                            | 2         | 6         | 8         | 1<br>0    | 0         | 0               |

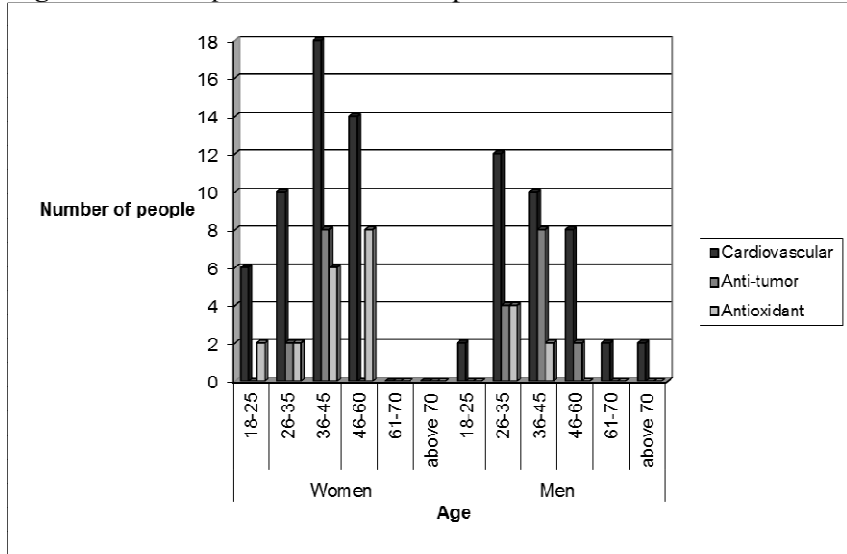
M - men; W - women

Source: Results of own study

At the same time, respondents believed that the consumption of wine has an effect (Figure 1):

- protecting the cardiovascular system – the most frequently provided response (82.76% of females and 85.71% of males);
- anti-cancer – with only 17.24% of females but 33.34% of males;
- antioxidant – 14.24% of females and 14.29% of males

**Figure 1.** The impact of wine consumption



Source: Results of own study

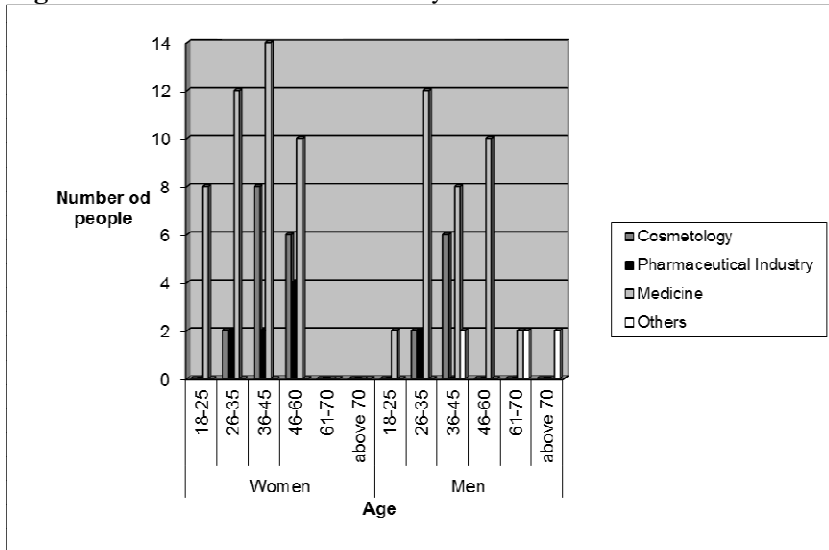
Affirmatively to the question regarding the relation between wine and positive attitudes on health responded generally participants aged 26-60 and especially men aged 46-60. Wine has prophylactic, therapeutic capacities, particularly for the cardiovascular system. Nevertheless, 28% of participants believed that wine does not have any impact for positive health attitudes and remaining 36% of respondents did not have any opinion in this matter.

Participants considered that the recommendable dosage of wine was a daily consumption – that opinion was given by 44% of the studied population. Consumption of 1-3 times per week was assumed by 22% of respondents, while 38% felt wine should be consumed less frequently, mostly due to particular celebrative occasions.

If considering consumption of wine specifically for health purposes, the awareness of positive effects of small amounts of wine on health is greater among women (75.86%) than men (38.09%), which is likely a result of women's concern about health and beauty thus making use of the fact that wine contains antioxidants and free radicals (Troup, Hutton, Hewitt, & Hunter, 1994). Men notice in this respect the effect of wine on the cardiovascular system (75.86%), with a few responses for antioxidant (10.34%) and anti-cancer (6.90%).

Two questions regarded the use and the positive impact of wine on the human body, and, consequently, human health. According to participants, wine is the most widely used in medicine (75.86% of women and 76.19% of men), in cosmetology (27.57% of women and 19.05% of men) and the pharmaceutical industry (13.79% of women and 4.76% of men). Moreover, among male respondents, 14.28% mentioned some other use of wine, such as gastronomy (Figure 2).

**Figure 2.** The use of wine in a variety of areas related to health



Source: Results of own study

## Conclusions

The conducted study allowed us to understand the patterns of wine consumption among Polish consumers and the dimension of health attitudes related to wine consumption. In a group of possible alcohols, wine is a preferable alcohol drink for males aged 26-35 and 36-45, and females aged 36-45; females of 18-25 and 26-35 consume both wine and beer. While most respondents consume wine once a week, females 36-45 years old consume wine daily, what can be explained with an increasing consciousness of a positive impact of wine on human health. Specifically for health purposes, respondents would recommend the consumption of one glass per day. While choosing wine, women seem to pay more attention to

its taste and a country of origin, while to men, taste matters as well, and they are highly more price-sensitive than women.

The understanding of the proper concept of vinotherapy is still limited in the Polish society. Nevertheless, the current state of knowledge regarding the effects of wine on health and related to it health attitudes is quite significant as over three quarters of respondents believed that wine is used in medicine. Interestingly, only a little above one third of participants was able to list some of the factors differentiating attitudes to health. Most of respondents indicated a positive impact of wine consumption on the cardiovascular system, there was, however, a window for other potentials, such as antioxidant effect. This shall start a discussion for future eventual possible business opportunities that vinotherapy brings.

Benefits from wine have been scientifically proven and a challenge nowadays resides in exploiting current knowledge and turning it into profitable industry and business solutions. Innovation is a driving force of the economy and a growing interest in wine consumption, also for health-related purposes, opens a door for new, different ideas. Evaluation of innovation is a prerequisite of determining the development, directions of change and strategic innovation programmes. There may be several obstacles to creating and implementing innovative solutions, with the main being those of raising funds, especially financial for implementing the innovation, and insufficient knowledge of the managerial personnel.

With this paper we intended to present the current situation of wine consumption and attitudes toward wine consumption related with health attitudes in Poland. While the concept of vinotherapy is still not widespread, the notion of beneficial effects of wine on health and its application in medicine is already significant. Yet, in practice, the consumption of wine, albeit higher over the course of last years as statistics demonstrate, is limited. We hope to have made our modest contribution to the debate of wine consumption anchored in the innovation strategy.

## References

- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84(5), 888-918.
- Brzozowski, M., Kopczynski, J., & Przeniczka, J. (2001). *Metody organizacji i zarządzania*. Poznan: Wydawnictwo Akademii Ekonomicznej w Poznaniu.

- Celotti, E., Ferranini, R., Zironi, R., & Conte, L., S. . (1996). Resveratrol content of some wines obtained from dried Valpolicella grapes: Recioto and Amarone. *Journal of Chromatography*, 730(1), 47-52.
- Clement, M. V., Hirpara, J. L., Chawdhury, S. H., & Pervaiz, S. (1998). Chemopreventive agent resveratrol, a natural product derived from grapes, triggers CD95 signaling-dependent apoptosis in human tumor cells. *Blood*, 92(3), 996-1002.
- Corey, S. M. (1937). Professed attitudes and actual behavior. *Journal of Educational Psychology*, 28(4), 271-280.
- Efpia. (2014). Health & growth: working together for a healthy Europe A vision towards a life sciences strategy for Europe. Brussels.
- Gehm, B. D., McAndrews, J. M., Chien, P., & Jameson, J. L. (1997). *Resveratrol, a polyphenolic compound found in grapes and wine, is an agonist for the estrogen receptor*. Paper presented at the Proceedings of the National Academy of Sciences U.S.A.
- Greenlund, K. J., Giles, W. H., Keenan, N. L., Croft, J. B., & Mensah, G. A. (2002). Physician advice, patient actions, and health-related quality of life in secondary prevention of stroke through diet and exercise. *Stroke*, 33(2), 565-571.
- Jang, M., Cai, L., Udeani, G. O., Slowing, K. V., Thomas, C. F., Beecher, C. W., . . . Pezzuto, J. M. (1997). Cancer chemopreventive activity of resveratrol, a natural product derived from grapes. *Science*, 275(5297), 218-220.
- Kopp, P. (1998). Resveratrol, a phytoestrogen found in red wine. A possible explanation for the conundrum of the 'French paradox'? *European Journal of Endocrinology*, 138(6), 619-620.
- Kulmatycki, L. (1999). Co to jest szkoła promująca zdrowie? *Lider*, 12.
- Pakulska, J., Rutkowska-Podołowska, M., & Podołowski, G. (2010). Nowoczesne formy działalności gospodarczej szansą rozwoju obszarów wiejskich. In B. Kryk & M. Malicki (Eds.), *Rolnictwo w Kontekście Zrównoważonego Rozwoju Obszarów Wiejskich*. Szczecin: Economicus.
- Resch, B. (2010). Winoterapia – młodość i uroda z winogron Retrieved 19 November 2010, from [http://www.yaacool-uroda.pl/index.php?article=1810#Winoterapia - mlodosc i uroda z winogron](http://www.yaacool-uroda.pl/index.php?article=1810#Winoterapia_-_mlodosc_i_uroda_z_winogron)
- Rosenberg, M. J., & Hovland, C. I. (1960). Cognitive, affective, and behavioral components of attitudes. In C. I. Hovland & M. J. Rosenberg (Eds.), *Attitude organization and change* (pp. 1-14). New Haven: Yale University Press.
- Salomon, J. A., Mathers, C. D., Chatterji, S., Sadana, R., Ustun, T. B., & Murray, C., J. L. (2003). Quantifying individual levels of health:

- definitions, concepts and measurements issues. In C. J. I. Murray & D. B. Evans (Eds.), *Health Systems Performance Assessment. Debates, Methods, Empiricism*. Geneva: World Health Organization.
- Soleas, G. J., Diamandis, E. P., & Goldberg, D. M. (1997). Resveratrol: A molecule whose time has come? And gone? *Clinical Biochemistry*, 30(2), 91-113.
- Szaruga, M. (2010). Kształtowanie postaw prozdrowotnych w rodzinie Retrieved 6 December 2010, from <http://www.profesor.pl/publikacja,20504,Artykuly,Kształtowanie-postaw-prozdrowotnych-w-rodzinie>
- Troup, G. J., Hutton, D. R., Hewitt, D. G., & Hunter, C. R. (1994). Free radicals in red wine, but not in white? *Free Radical Research*, 20(1), 63-68.
- Vinotherapy. (2015) Retrieved 8 March 2015, from [www.vinotherapy-vintrips.blogspot.pt](http://www.vinotherapy-vintrips.blogspot.pt)
- WHO. (1946). Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.
- Włudyka, B. (2010). Podróż do źródeł. *Magazyn Wino*, 3(45), 80.