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## **Trust in nutrition information sources used by university students**

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### **Introduction**

College students usually leave home and begin to assume greater responsibility for their life matters, including health and well-being. Having accurate and appropriate information can improve youth's abilities to manage their health matters successfully. Older studies (Agosto and Hughes-Hassell 2006; Nwagwu 2009) and more recent ones (Rafedzi and Abrizah 2016; Wartella et al. 2016; Bopape et al. 2017; Ibegbulam et al. 2018; Martinović, Bakota, and Badurina 2018; Martinović, Kim, and Stanarević Katavić 2021; Huang et al. 2021) show that the youth need health-related information. An essential part of managing one's health situation is healthy eating habits, and accurate and appropriate information is among the core elements in ensuring that youth develop such habits. Some youth use online health information to help them eat healthier and can be particularly interested in diet and fitness (Wartella et al. 2016). Studies carried out in Croatia showed that leaving the family to study and live independently generally worsens the quality of college students' diets (Lončarić, Jelić, and Tolušić 2017). Educational programs that would inform college students about health, nutrition, and eating habits are needed (Lončarić, Jelić, and Tolušić 2017; Pavičić Žeželj et al. 2019; Šmuljić, Mišigoj Duraković, and Šatalić 2019). In this context, it is essential to understand which information sources college students trust. As young people find the information they need mainly in the web context, it is essential to investigate their needs and trust in the sources they engage. Some recent studies (Känsäkoski et al. 2021) and projects (CogAHealth 2016-2020) investigated young people's trusted and influential information sources, such as their assessment of credible health information sources. When looking for health information, youth are aware of the importance of trustworthiness (St. Jean et al. 2018)

There are various health information sources that participants use, such as parents, physicians, and the internet (Wartella et al. 2016; Lončarić, Jelić, and Tolušić 2017; St. Jean et al. 2018; Martinović, Kim, and Stanarević Katavić 2021). Also, according to previous research, people trust different sources, such as nutritionists (Šmuljić, Mišigoj Duraković, and Šatalić 2019), physicians and nurses (St. Jean et al. 2018; Šmuljić, Mišigoj Duraković, and Šatalić 2019), and parents (Martinović, Kim, and Stanarević Katavić 2021).

Trustworthiness is a primary facet of cognitive authority, especially when searching for medical information, although further research is needed to explore it in detail (Rieh 2002, 153). According to Chen et al. (2018), factors that are critical to health decision-making are: seeking, understanding, and using health information. Health literacy and trust in health information sources were topics of several previous research (Chen et al. 2018; Hassan and Masoud 2021). People perceive that libraries can teach digital skills and help them decide what information to trust and how to find trustworthy and reliable information (Horrigan 2016; Geiger 2017).

### **Theoretical framework**

This study uses a theoretical framework based on Wilson's conceptualization of cognitive authority, which explains how people trust others to gain information (Wilson 1983). Cognitive authority is a source of information that influences one's thinking. The influence is proper because the source is considered credible or worthy of belief. Two main components of credibility are competence and trustworthiness (Wilson 1983, 15). This theoretical framework can be applied to investigating trust in information sources, relying specifically upon Rieh's operationalization of Wilson's definition of cognitive authority, defined as "the extent to which users think that they can trust the information" (Rieh 2002, 146). People judge information sources based on different cues and concerning their different needs.

### **Research questions**

RQ1: Do students have and what are their specific nutrition needs?

RQ2: How often do students use various nutrition information sources, and how much do they trust in the accuracy of information from each source?

RQ3: Do frequency of use and trust in information sources depend on specific nutrition needs?

### **Methodology**

A mixed-method approach used in this study included two research phases. In the first phase, the data were collected through individual interviews carried out via Skype and combined with the think-aloud technique. The convenient and purposive sample included six female students (N=6). Based on the results, a survey instrument was developed and used for data collection in the second research phase. The survey sample was convenient and purposive (N=138). The majority of surveyed students were female (82%). Interview data was collected in December 2020, and survey data in April 2021. Data analysis was conducted with MAXQDA and TIBCO Statistica.

### **Research Results**

#### **RQ1. Nutrition needs**

The results from the first research phase showed that the interviewed participants managed their diet to maintain their overall health, which included a healthy lifestyle, body fitness, and physical appearance. The results from the survey show that more than half of surveyed students do not have special nutrition needs (57%), while some students are on a diet related to training (21%), weight management (16%), and health problems (17%). Students' health problems ranged from thyroid disorders, gastritis, allergies, and anemia to skin problems. The sum of percentages is over 100% because some students have various combinations of dietary needs and preferences. The percentages represent precisely only this sample (N=138) since it can be assumed that the students interested in this topic participated in the survey more than others.

**RQ 2. Use of and trust in sources of information**

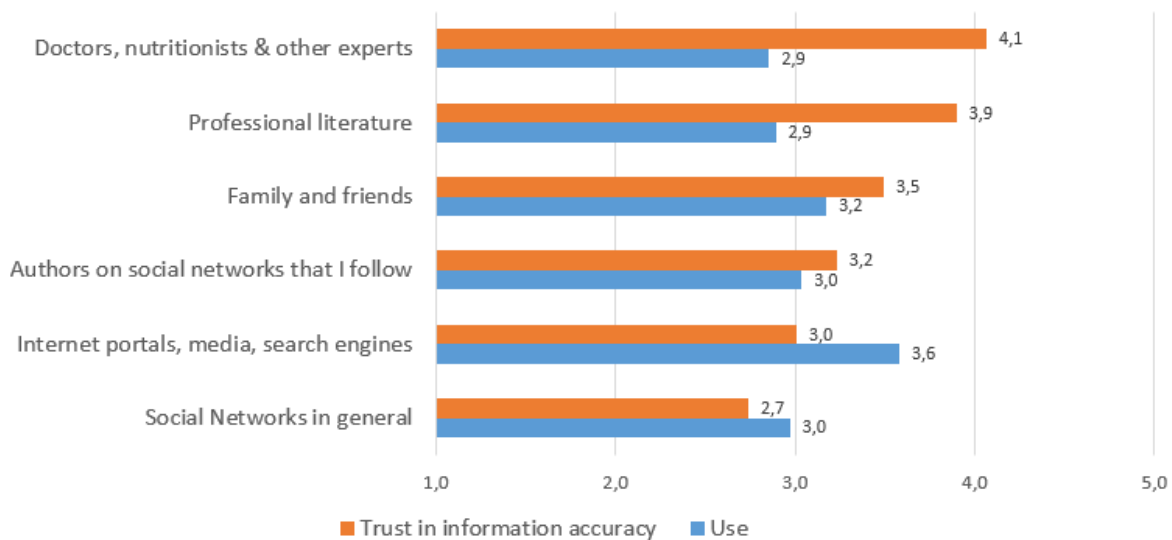


Figure 1. Use of information sources and trust in the accuracy of information from those sources

The results from the survey show that students mainly used Internet portals, media, and search engines to access nutrition information (M = 3.6), followed by family and friends (M = 3.2), while they rarely used the advice of doctors and other experts (M = 2.9; Figure 1). They had the highest trust in the information from experts and literature. Family and friends are the following sources they trusted the most regarding the accuracy of nutrition information. Furthermore, levels of average trust in authors on social media and networks, as well as internet portals, media, and search engines, are moderate. The lowest was the average trust in social media in general. Among the students who have used specific social networks at least occasionally, the levels of trust in these networks are moderately high. However, users of social networks had a slightly higher level of trust in nutrition information from Instagram (M = 3.2) and YouTube (M = 3.3) than from TikTok (M = 2.7), Facebook (M = 2.8), and other networks (M = 3.0). Also, they most often used Instagram (M = 3.3) and YouTube (M = 3.1) to get information on healthy eating.

### **RQ3. Meeting specific nutrition needs**

To explore possible differences (ANOVA) in information use depending on the specific nutrition needs, students were grouped into three nutrition needs groups: no specific needs (57%), weight and training (26%), and health problems (17%). To meet these needs, the participants use various information sources. Students on a diet to maintain weight and/or practice sports use YouTube more often and follow specific authors on social networks. Students who have health problems are more likely to follow the advice of doctors and other professionals. Professional literature is less used by students who do not have specific needs for nutrition-related information. Other information sources are used by all students approximately equally often, regardless of whether they have special nutrition needs. These sources include family, friends, the internet, and other social networks, except YouTube.

Interestingly, there were fewer differences in trust in the accuracy of information from various sources between the three nutrition needs groups of students (health problems, weight, and training, none). All students have a similar level of trust in doctors and other professionals, professional literature, and various other sources. However, there are two exceptions. Among students on a diet to maintain weight and/or practice sports, the level of trust in specific authors on social networks ( $M=3,68$ ) and the level of trust in Youtube ( $M=3,55$ ) as a source of information are higher than in two other groups of students.

### **Discussion**

The discussion section will relate to the interpretation of our findings in relation to previous literature, research gaps, and identifying topics for further research.

### **Conclusion**

Libraries could reach out to users by engaging with domain experts such as nutritionists and physicians on social media, raising awareness of the existing professional literature in the libraries and library services, including information literacy workshops. Librarians can teach people digital skills and help them decide what information to trust and how to find trustworthy and reliable information. In line with these needs, this research will have practical implications for further engagement of librarians in educating users in evaluating sources they use in different contexts, and regarding their needs, such as nutrition information needs.

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