



Original research article

# What shapes students' interest in working in different health care settings? A case study of dietetics students in Slovenia

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## Abstract

**Introduction:** A holistic and prevention-oriented health care system relies, among other things, on educational institutions that prepare future professionals for the various specialties. Previous research shows that working in primary health prevention is less attractive to students of health sciences.

**Objectives:** The study examined the career interests of dietetics students, and the role of acquired skills, satisfaction with their studies, and length of study on these interests.

**Methods:** Three scales measuring self-assessed competencies, satisfaction with studies, and career interests were validated and used in the study on a sample ( $N = 123$ ) of dietetics students in Slovenia. Reliability and dimensional structure analyses of the scales, descriptive statistics, and linear regression analyses were performed.

**Results:** Students were primarily interested in becoming public health dietitians and showed little interest in the work of an administrative dietitian. Self-assessed competencies, satisfaction with the programme, and length of study explained a moderate amount of the variance in career aspirations for work as a clinical dietitian and for research in dietetics. However, the factors studied did not explain career preferences for administration or public health dietitian.

**Conclusions:** The study shows that preferences and interests for different occupational subfields in dietetics are determined by different factors and that a general predictive model is not a valid approach for studying preferences and interests for work.

**Keywords:** Career development; Career preferences; Dietetics students; Health care system; Labour market; Satisfaction with studies; Self-assessed competencies

## Introduction

The competencies, knowledge, and skills of nutrition and dietetics professionals have never been more tested than in the current era (Palermo, 2020). Studies confirm the role of nutrition as a factor in susceptibility to COVID-19 and the increased vulnerability of at-risk groups (Akseer et al., 2020; Butler and Barrientos, 2020). A holistic prevention process during the COVID-19 pandemic requires a multilevel model at the individual, local, state, and global levels (Naja and Hamadeh, 2020). Educational institutions must prepare future professionals to meet complex challenges. An important element of such preparation is the development of career insight. A student's sense of calling is an important factor in learning, career, work success, and well-being (Ensher and Ehrhardt, 2020). It also helps to prevent occupational shortages in deficient occupational fields (Kao and Jager, 2018).

In Slovenia, awareness and recognition of nutrition-related professions is still developing. However, in accordance with the standards of the European Federation of Associations of Dietitians – EFAD (2019; 2020a), open employment opportunities are available to current graduates in the profession of foodservice (administrative dietitian), clinical dietitian, public health dietitian, and researcher in dietetics.

In recent years, Slovenia has worked to strengthen preventive health care among the population (Johansen et al., 2020). To this end, it has introduced the Model of the Community Approach to Health Promotion and Reduction of Health Inequalities (MoST) in municipalities. As part of this project, Health Promotion Centres were established in 25 Health Centres in Slovenia, where various health professionals work together using an interdisciplinary approach to provide a comprehensive and individualised approach to maintaining individual and community health (Johansen et al., 2020). The professional teams in the Health Promotion Centres consist of registered

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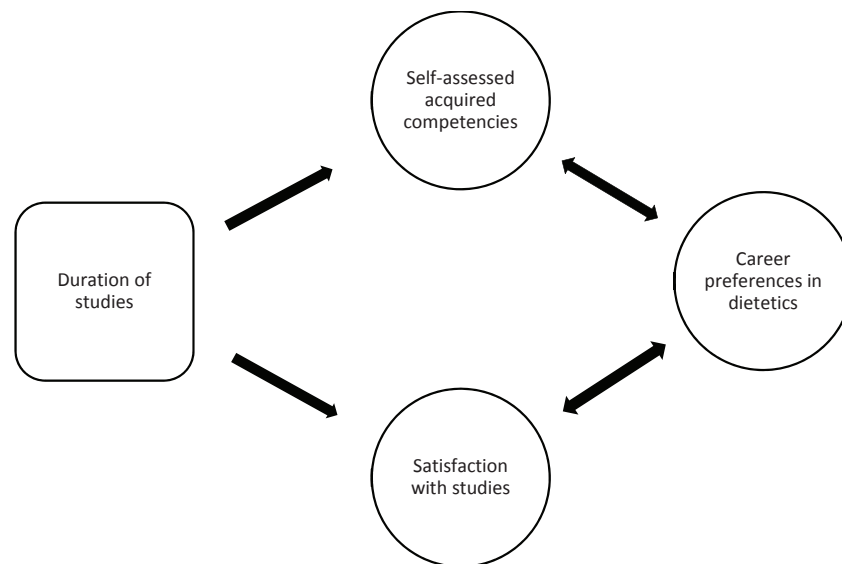
nurses, dietitians, physiotherapists, kinesiologists, and psychologists. Health Promotion Centres are stand-alone units within local Health Centres and are managed by qualified nurses with specialised skills (Ministry of Health of the Republic of Slovenia, 2020).

Similar to other countries (e.g., Hughes and Desbrow, 2005), in Slovenia (Babnik et al., 2015) we find that the field of primary health care –(and particularly primary prevention) is a less desirable field of work for health science students. Therefore, we investigated the career aspirations of dietetics students enrolled in an accredited dietetics programme in Slovenia and possible factors for their career aspirations.

Career theories attempt to describe and explain individual career preferences and career paths by considering the characteristics of individuals along with the characteristics of the environment (Lent and Brown, 2019). Social cognitive career theory (SSCT) (Lent and Brown, 2019) describes how people develop academic, work, and career preferences, make decisions, achieve different levels of career performance and stability, and experience satisfaction during education and in their work environment. The SSCT explains career preferences in relation to two basic constructs: self-efficacy beliefs (self-assessment of one's ability to perform an activity) and outcome expectations (Hansen and Wiernik, 2018). Career preferences are developed as a result of beliefs about one's effectiveness

and expectations of positive outcomes when engaging in an activity. When individuals engage in a variety of activities, they develop skills that lead to further goal attainment and increase perceived self-efficacy and outcome expectations for those activities (Hansen and Wiernik, 2018). Other contextual, personal, and behavioural factors also influence individual educational and career pathways (Lent and Brown, 2019).

In the present study, the SSCT was the starting point. We then adapted this to the target population, *i.e.*, dietetics students. We considered the association of three factors related to the study of dietetics and career preferences (Fig. 1). Following the SSCT, we operationalised (i) students' self-efficacy beliefs (Lent and Brown, 2019) as self-assessment of acquired competencies, (b) the quality of students' study experience (Lent et al., 1994) as satisfaction with their studies, and (c) identified career preferences in dietetics. Another noteworthy factor is (d) the duration of studies, which indicates the level of accumulated knowledge and expertise in dietetics and thus the objective possibilities for the formation of career preferences. The SSCT interpretive model of career preferences is a dynamic model with causal reciprocity of relationships (Lent and Brown, 2019). Therefore, in the theoretical model we assume an interrelationship between study duration, self-assessed competencies, satisfaction with studies, and career preferences in dietetics.



**Fig. 1.** Empirical model of career preferences

Career preferences are relatively enduring differences in the attractiveness or likeability of certain aspects of work (Hansen and Wiernik, 2018). They are most commonly defined in terms of career interests, which outline preferences for particular work activities and work environments (Hansen and Wiernik, 2018). In recent years, interest in career preference issues has increased (Wille et al., 2015). Career interests determine the fit between the individual and the environment (Wille et al., 2015), and predict study persistence (Allen and Robbins, 2010), job performance, job knowledge, and continuance intentions (Van Iddekinge et al., 2011). The most common interest expressed by dietetics degree applicants is as a clinical dietitian and researcher. Interest in working in public health is expressed less frequently, and interest in working in

food service management is not expressed at all (Hughes and Desbrow, 2005).

Competencies are sets of behaviours and serve as a tool for achieving desired outcomes (Bartram, 2005). They represent a set of individual characteristics and are expressed in work situations (Landy and Conte, 2013). Various efforts have resulted in a comprehensive description of competencies in dietetics (Begley et al., 2020; EFAD, 2020b; ICDA, 2020), providing a framework for describing the performance standards required in different work positions of a dietitian and forming the basis for competency-based assessment (Palermo et al., 2018). European academic and practitioner standards for dietetics set the starting points for higher education in dietetics in Europe and the expected educational and learn-

ing outcomes (EFAD, 2019; 2020a). As the study by Palermo et al. (2018), confirms, model teaching by clinical educators/mentors in the context of working practice is very important in terms of developing representations of the competencies and work of a dietitian.

An attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour (Eagly and Chaiken, 1993, p. 1), formed in interaction with direct or indirect behavioural experiences with the attitude object (Fazio et al., 1978). Like job satisfaction, satisfaction with studies can be operationalised as general satisfaction or facets of study satisfaction (Landy and Conte, 2013). Measuring satisfaction among higher education students through various aspects of study offers opportunities for targeted improvements in the educational environment (Zineldin et al., 2011).

According to Fig. 1, our research was guided by the following research questions: (i) how dietetics students assess their acquired competencies, (ii) what their level of satisfaction with their studies is, (iii) what their career preferences in dietetics are, and (iv) what is the role of self-assessed competencies, satisfaction, and duration of studies in predicting career preferences.

## Materials and methods

We conducted a quantitative descriptive cross-sectional study (survey) among the students of the first and second cycle of the Bologna degree programme in dietetics at the only Slovenian faculty providing education for this profession according to the EFAD standards.

We invited all students enrolled in the Bologna first- and second-degree dietetics program in the 2019/2020 academic year ( $N = 226$ ) to participate in the survey. The survey was completed by 123 students (54.4% of those invited). Fifty-four first-year, 23 second-year, and 14 third-year students in the first-degree Bologna dietetics program, and 17 first- (fourth-) and 11 second- (fifth-) year students in the second-degree Bologna dietetics program participated in the survey, representing 54.4% ( $N = 226$ ) of the total number of students in the 2019/20 academic year. Regarding the structure of students by gender, most participants identified themselves as female (89.3%). The average age of the participants was 22.87 years, with a standard deviation of  $\pm 4.43$  years.

We used a paper-pencil questionnaire that included: demographic characteristics (gender, age, and year of study), self-assessment of competencies, satisfaction with studies, and career preferences.

### Self-assessment of competencies scale

This study used a previously developed questionnaire (Čuk et al., 2015) for dietetics students based on the EFAD recommendations (EFAD, 2019). The questionnaire referred to 12 competencies (Table 1). Each item was rated by participants using a 5-point Likert scale (1 – strongly disagree, 5 – strongly agree). We conducted an exploratory factor analysis using the maximum likelihood method and varimax rotation (Kaiser–Meyer–Olkin (KMO) test of Sampling Adequacy = 0.93; Bartlett's test of sphericity = 814.56;  $p < 0.001$ ). One factor solution explained 51.36% of the variance. The factor loadings of the items ranged from 0.61 to 0.80. The 12 items could be explained by a common factor of self-assessed competencies. Cronbach's alpha coefficient showed good internal consistency of the scale ( $\alpha = 0.93$ ).

### Satisfaction with studies scale

The satisfaction with studies scale (Čuk et al., 2015) was used, comprising three items, as shown in Table 2. The items were rated by the participants using a 5-point scale of agreement (a higher score indicated a higher level of agreement). Exploratory factor analysis was conducted using the maximum likelihood method and varimax rotation (KMO = 0.71; Bartlett's test = 137.36;  $p < 0.001$ ). Factor analysis extracted one factor that explained 62.27% of the variance. The factor loadings of the items ranged from 0.71 to 0.87, so all three items could be explained by a common factor of satisfaction with studies. Cronbach's alpha showed adequate internal consistency ( $\alpha = 0.83$ ).

### Career preferences scale

Based on the EFAD professional profile of a dietitians (EFAD, 2019; 2020a) and the existing employment opportunities for dietitians in Slovenia, we developed a scale for measuring career preferences for the positions of: (i) administrative dietitian (AD), (ii) clinical dietitian (CD), (iii) public health dietitian (PHD) and (iv) researcher in dietetics (RD). We formulated the items based on definitions of career interests (Hansen and Wiernik, 2018) with elements of calling (Kao and Jager, 2018) for a career in one of the fields. The original scale included 15 items. Items were rated by participants using a 5-point agreement scale (a higher score indicates a higher preference). Exploratory factor analysis using the maximum likelihood method and varimax rotation across 15 items revealed two items with inadequate factor loadings – less than  $\pm 0.30$  (Hair et al., 1998) and were therefore excluded. Factor analysis across 13 items extracted four factors that explained 62.33% of the variance (KMO = 0.75; Bartlett's test = 732.61;  $p < 0.001$ ). As shown in Table 3, the first factor summarises the items describing the work of a CD, the second factor indicates the preferences of a RD, the third factor summarises the descriptions of the work of a PHD, and the fourth factor is applicable to the AD. Three factors (CD, PHD, and RD) had adequate internal reliability ( $\alpha > 0.70$ ), whereas the factor AD had lower internal reliability ( $\alpha = 0.52$ ). The individual mean of the factors was used in further analyses.

In accordance with internal faculty rules, we obtained faculty consent to administer the survey to a sample of students prior to administering the survey. All participants gave informed consent before completing the questionnaire. There were no rewards or bonuses associated with participation in the survey. Data were analysed using the statistical software IBM SPSS Statistics 25. Because the values of the asymmetry and kurtosis coefficients were not significantly different from  $\pm 1$ , we used parametric statistics in the analysis.

## Results

Table 1 shows the descriptive statistics and factor loadings for the self-assessment of competencies scale. Participants rated their competencies relatively highly, as mean scores on the competency ratings ranged from a mean of 3.11 (SD = 1.18) for the item describing self-assessed independence in conducting nutrition interventions to a mean of 3.84 (0.94) for self-assessed level of critical thinking.

Table 2 shows the descriptive statistics for the satisfaction with studies scale. Participants gave the highest rating to satisfaction with lecturers and quality of studies with a mean of 3.87 (0.94), and the lowest rating to practical training with a mean of 3.63 (0.99).

**Table 1. Descriptive statistics and factor loadings for the competencies self-assessment scale**

During my studies I have acquired skills and abilities that enable me to...	Mean <sup>a</sup> (SD)	Skewness (SE)	Kurtosis (SE)	Factor loadings
Apply the knowledge I have acquired	3.67 (0.94)	-0.53 (0.22)	0.01 (0.44)	0.74
Master various professional activities	3.55 (0.96)	-0.51 (0.22)	-0.11 (0.44)	0.80
Practice critical thinking	3.84 (0.94)	-0.73 (0.22)	0.06 (0.44)	0.69
Identify clients' needs	3.69 (0.97)	-0.71 (0.22)	0.41 (0.44)	0.71
Effectively communicate with clients	3.62 (1.01)	-0.49 (0.22)	-0.28 (0.44)	0.61
Carry out professional interventions independently	3.11 (1.18)	-0.06 (0.22)	-0.88 (0.44)	0.75
Provide nutritional therapy	3.35 (1.16)	-0.43 (0.22)	-0.46 (0.44)	0.74
Pursue ethical and professional values	3.69 (1.05)	-0.85 (0.22)	0.38 (0.44)	0.71
Solve professional and organisational problems	3.33 (1.01)	-0.01 (0.22)	-0.78 (0.44)	0.79
Cooperate and practice teamwork	3.64 (1.04)	-0.49 (0.22)	-0.40 (0.44)	0.63
Teach different users	3.30 (1.06)	-0.30 (0.22)	-0.41 (0.44)	0.65
Maintain high quality and safe work processes	3.75 (0.10)	-0.40 (0.22)	-0.65 (0.44)	0.76
Mean (SD) Scale				3.55 (0.76)
Skewness (SE) Scale				-0.35 (0.22)
Kurtosis (SE) Scale				0.08 (0.44)

Note: SD – Mean standard deviation; SE – Skewness and Kurtosis coefficients standard error; <sup>a</sup> N = 122.

**Table 2. Descriptive statistics and factor loadings for the satisfaction with studies scale**

Items In general, I am satisfied with the...	Mean <sup>a</sup> (SD)	Skewness (SE)	Kurtosis (SE)	Factor loadings
Lecturers and the quality of the education	3.87 (0.94)	-0.84 (0.22)	0.53 (0.44)	0.87
Mentors and the quality of training in the work environment	3.63 (0.99)	-0.55 (0.22)	0.32 (0.44)	0.71
Knowledge, skills, and abilities acquired to perform professional activities	3.80 (0.97)	-0.63 (0.22)	-0.03 (0.44)	0.78
Mean (SD) Scale				3.77 (0.83)
Skewness (SE) Scale				-0.66 (0.22)
Kurtosis (SE) Scale				0.78 (0.44)

Note: SD – Mean standard deviation; SE – Skewness and Kurtosis coefficients standard error; <sup>a</sup> N = 122.

Table 3 shows descriptive statistics and four subscales of career preferences identified through factor analysis: AD, CD, PHD, and RD. Participants expressed the greatest interest in a PHD with a mean of 4.09 (0.72) and showed little interest in a career of an AD with a mean of 2.84 (0.81).

Spearman's rho correlation coefficients (Table 4) show the strength and direction between the variables studied. A more positive attitude towards studies was associated with a higher evaluation of the competencies achieved ( $p < 0.01$ ). Higher satisfaction with studies and higher self-assessed competencies were associated with interest in CD ( $p < 0.01$ ) and in RD ( $p < 0.01$ ). Competencies were also associated with interest in PHD ( $p < 0.05$ ). A more pronounced interest in CD ( $p < 0.01$ ) and PHD ( $p < 0.05$ ) was also associated with interest in RD. Year of study, as an objective factor for acquired competencies and experience with specific areas of dietetics, was positively associated only with interest in RD, but not with other variables studied.

The correlation coefficients confirmed some relationships between the variables studied, so we performed a linear regression to determine the predictive power of year of study, self-assessed competencies, and satisfaction with studies to

predict career preferences for a CD, PHD, and RD. The correlations (Table 4) showed no significant relationship between the independent variables and preference for the AD, so no regression analysis was performed for this interest.

The first regression model predicting preference for a CD based on study duration, competencies, and study satisfaction explained 20% of the variance (adjusted  $R^2 = 0.203$ ;  $F = 11.17$ ,  $p < 0.001$ ). Of the three independent variables, self-assessed competencies ( $\beta = 0.223$ ;  $t = 1.986$ ;  $p = 0.49$ ) and satisfaction ( $\beta = 0.293$ ;  $t = 2.601$ ;  $p = 0.01$ ) were relevant, but study duration ( $\beta = -0.226$ ;  $t = -0.311$ ;  $p = 0.76$ ) was not. The regression model predicting preferences for a RD explained 11.4% of the variance (adjusted  $R^2 = 0.114$ ;  $F = 6.17$ ,  $p = 0.001$ ). Only year of study ( $\beta = 0.203$ ;  $t = 2.342$ ;  $p = 0.02$ ) and satisfaction ( $\beta = 0.284$ ;  $t = 2.394$ ;  $p = 0.02$ ) played a significant role. The regression model predicting preferences for a PHD was not statistically significant (adjusted  $R^2 = 0.020$ ;  $F = 1.83$ ,  $p = 0.145$ ). Based on the three regression models, the three variables (year of study, self-assessed competencies, and satisfaction with studies) explained only a small portion of the variance in career preferences.

**Table 3. Descriptive statistics of items and factor loadings for the four factors of career preferences scale**

Items	M <sup>a</sup> (SD)	Skewness (SE)	Kurtosis (SE)	Factor loadings			
				CD	RD	PHD	AD
When I graduate as a dietitian...							
I would like to work mainly with healthy people	3.27 (1.02)	-0.37 (0.22)	-0.29 (0.43)				0.34
I would like to incorporate knowledge of food purchasing and quality into my work and engage in nutrition planning on a larger scale	2.54 (1.22)	0.46 (0.22)	-0.73 (0.43)				0.44
I would like to work as an administrative dietitian	2.70 (1.13)	0.20 (0.22)	-0.65 (0.43)				0.92
I would like to work in the field of nutritional care for sick people	3.53 (1.13)	-0.50 (0.22)	-0.47 (0.43)	0.88			
I would like to work at different levels of healthcare	3.89 (1.07)	-0.92 (0.22)	0.41 (0.43)	0.75			
I would like to use knowledge of diagnostics and treatment of patients in my work	4.03 (1.09)	-0.95 (0.22)	0.49 (0.43)	0.78			
I would like to work as a clinical dietitian	3.62 (1.25)	-0.46 (0.22)	-0.91 (0.43)	0.85			
I would like to work mainly in the field of nutrition prevention and nutrition literacy	3.98 (0.95)	-0.64 (0.22)	-0.24 (0.43)			0.65	
I would like to work in preparing counselling programs on proper nutrition	4.07 (0.89)	0.99 (0.22)	1.24 (0.43)			0.75	
I would like to work mainly on reducing health risks	4.21 (0.81)	0.78 (0.22)	0.02 (0.43)			0.74	
I would like to research different aspects of the relationship between nutrition, health, and disease	4.17 (0.98)	1.14 (0.22)	1.02 (0.43)		0.63		
I would like to work in research institutions involved in research in the field of dietetics	3.74 (1.17)	0.74 (0.22)	0.24 (0.43)		0.84		
I would like to work in dietetics research	3.57 (1.29)	0.58 (0.22)	0.77 (0.43)		0.95		
% of explained variance				24.01	1.54	17.20	1.10
Cronbach alpha Subscale				0.89	0.88	0.75	0.52
Mean (SD) Subscale				3.76 (0.97)	3.83 (1.03)	4.09 (0.72)	2.84 (0.81)
Skewness (SE) Subscale				0.81 (0.22)	0.70 (0.22)	0.63 (0.22)	0.12 (0.22)
Kurtosis (SE) Subscale				0.24 (0.43)	0.25 (0.43)	0.52 (0.43)	0.35 (0.43)

Note: SD – Mean standard deviation; SE – Skewness and Kurtosis coefficients standard error; CD – clinical dietitian; RD – research in dietetics; PHD – public health dietitian; AD – administrative dietitian; <sup>a</sup> N = 123.

**Table 4. Correlation coefficients between variables: study year, self-evaluated competencies, satisfaction with study, career preferences for administrative dietitian, clinical dietitian, dietitian in public health, and researcher in dietetics**

Variables	SY	SC	SS	AD	CD	PHD
SC	0.040	1				
SS	0.062	0.723**	1			
AD	0.081	0.068	0.162	1		
CD	0.105	0.428**	0.420**	0.146	1	
PHD	0.170	0.200*	0.112	0.116	0.005	1
RD	0.274**	0.254**	0.356**	0.047	0.349**	0.214*

Note: SY – study year; SC – self-evaluated competencies; SS – study satisfaction; AD – administrative dietitians; CD – clinical dietitian; PHD – public health dietitian; RD – research in dietetics; \* p value < 0.05 (N = 122, 2-tailed); \*\* p value < 0.01 (N = 122, 2-tailed).



## Discussion

In this study, we investigated the level of acquired competencies, satisfaction with studies, and the relationship of the latter with career preferences among students in the accredited degree program in dietetics. Participants rated the competencies they acquired during their studies very highly, although the year of study was not significantly associated with self-rated competencies. This result suggests an overestimation of the professional competencies achieved. The SSCT model incorporates perceived self-efficacy, which is an individual's belief that he or she can organize and perform the tasks and challenges that he or she faces or may face in the future (Bandura, 1997). Self-evaluations are the result of self-awareness and feedback that students receive regarding their performance during their studies. The lack of relationship between self-assessed competencies and study duration raises the question of whether assessment during study is related to the expected standards of a dietitian's work (Palermo et al., 2018). Feedback is a key factor during study, yet it is not always optimally delivered (Paterson et al., 2019). Traditional assessment promotes extrinsic motivation and reduces students' understanding of the achievement of learning outcomes (Pope et al., 2020). Competency-based assessment is first encountered by research participants in the second year of undergraduate study during compulsory practice. Our research confirms the need to develop a professional standards-based assessment system that provides students with feedback not only on their achievement of knowledge standards, but also on their progress in developing essential competencies for work.

Satisfaction with studies was strongly positively associated with self-assessed competencies. The scale of satisfaction with studies used in this research measures different aspects of the study experience and focuses mainly on the quality of the pedagogical process, but not on the technical and infrastructural aspects of the educational institution (Zineldin et al., 2011). Therefore, the high correlation between self-assessed competencies and study satisfaction is not surprising.

Among the applicants to study dietetics, interest in CD and RD predominated, in contrast to PHD and AD (Hughes and Desbrow, 2005). In our study, students expressed the strongest interest in the field of PHD and RD. The work of an AD was least desired among the participants. Differences in career interests do not result from study duration, the exception being interest in RD – as study duration and the occurrence of this interest were positively related. In the later semesters, students acquire knowledge, skills, and competencies for conducting research in dietetics and thus may also develop a greater interest in the work of a RD. Using a sample of first-year dietetics students, Babnik et al. (2015) found that an interest in nutrition and a desire to work with and help people is an important factor supporting the decision to study dietetics. The initial interest in working with people and caring for their nutrition is maintained and strengthened during the study through a specific orientation to the field of work of a PHD and a CD. The work of an AD is not recognized by participants as an area of realization of their initial study interest (working with people, helping people), but as a relatively technical way of providing safe and healthy nutrition in larger food operations.

Career preferences for a CD were predicted to a greater extent by self-assessed competencies and satisfaction with studies, while career preferences for a RD were predicted by length of study and satisfaction with studies. The variables examined could not satisfactorily explain the different possible career

preferences. The only exception was the relatively high (20%) predictive power of variables for predicting preference for a position of a CD. Participants with higher self-assessed competencies and higher satisfaction with their studies tended more towards a CD career. In Slovenia, only second-cycle graduates in dietetics (who have completed five years of study) can apply for a CD position, as they must first complete a six-month internship in a health care facility and pass a professional competency exam at the Ministry of Health. These conditions also contribute to the findings of this study, as students who are less successful and satisfied during their studies are less likely to continue their education in the second Bologna cycle.

The regression models suggest that other individual characteristics, such as an initial interest in studying dietetics (Van Iddekinge et al., 2011; Wille et al., 2015), factors of the wider environment (employment opportunities and attractiveness of a particular field of work) (Babnik et al., 2015), and the narrower environment (knowledge of the fields of dietetics) play a more important role in predicting career preferences than the variables studied. It is therefore appropriate to focus further research efforts on building an integrated decision model for career preferences in dietetics after graduation.

The limitations of the study relate to the sample size. Although we invited the entire student population enrolled in 2019/20 to participate, only a smaller proportion chose to do so. Participant self-selection may have had a significant impact on the homogeneity of the sample and thus on the lower variability of the data collected. The selected scales were previously designed and validated (Čuk et al., 2015), but only on samples of dietetics students in Slovenia. Prior validation of their construct validity is required for use in another setting. The presented career preference scale is a good starting point for further development of a career guidance tool in dietetics, which is also supported by the uniform standards of dietetics at the European Union and beyond.

## Conclusions

The study confirmed that interest in working in the field of dietetics in public health is high among students. This is a positive starting point for the development of primary health prevention in Slovenia. The model for predicting preferences for the field of work proved to be adequate only for predicting preferences for work in the field of clinical dietitian and research in dietetics. However, the predictive models for public health dietitian and administrative dietitian work preferences did not prove valid. This is important follow-up information for the study of work preferences in different areas of the health professions. It shows that preferences and interests for different occupational subfields are determined by different factors and that a general predictive model is not a valid approach for studying preferences and interests for work. The role of an educational institution in the process of forming preferences and interests for work is primarily to provide various opportunities to learn about work areas, to ensure the acquisition of competencies and to ensure students' satisfaction with various aspects of their studies. All of these are likely to help students persevere through their studies and increase their knowledge of the profession and the formation of interests that will provide a comprehensive system of health care in society.

## Authors' declaration

KB, DBM, TPV designed and planned the study. TPV, TJ, MS, and DBM collected the data for the study. KB was involved in

the data analysis. KB and TPV drafted the manuscript. DBM, TJ, and MS revised the manuscript. All authors contributed to and approved the final version of the manuscript.

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### Ethical aspects and conflict of interests

The authors confirm that they have no conflict of interests associated with this publication.

## Co formuje zájem studentů o práci v různých zdravotnických zařízeních? Případová studie studentů dietologie ve Slovinsku

### Souhrn

**Úvod:** Systém zdravotní péče zaměřený na holistickou a preventivní péči se mimo jiné opírá o vzdělávací instituce, které připravují budoucí odborníky pro různé specializace. Předchozí výzkumy ukazují, že práce v primární zdravotní prevenci je pro studenty zdravotnických oborů méně atraktivní.

**Cíl:** Studie zkoumala profesní zájmy studentů dietetiky a roli získaných dovedností, spokojenost se studiem a délku studia na tyto zájmy.

**Metody:** Tři škály měřící sebehodnocení kompetencí, spokojenost se studiem a profesní zájmy byly validovány a použity ve studii na vzorku ( $N = 123$ ) studentů dietetiky ve Slovinsku. Byly provedeny analýzy spolehlivosti a dimenzionální struktury škál, deskriptivní statistiky a lineární regresní analýzy.

**Výsledky:** Studenti se zajímali především o práci dietologa ve veřejném zdravotnictví a projevíli malý zájem o práci dietologa v administrativě. Sebehodnocení kompetencí, spokojenost s programem a délka studia vysvětlovaly mírné rozdíly v profesních aspiracích na práci klinického dietologa a na výzkum v oblasti dietologie. Zkoumané faktory však nevysvětlovaly profesní preference pro práci dietologa v administrativě nebo ve veřejném zdravotnictví.

**Závěr:** Studie ukazuje, že preference a zájmy pro různé profesní podoblasti v dietetice jsou určeny různými faktory a že obecný prediktivní model není platným přístupem ke studiu preferencí a zájmů pro práci.

**Klíčová slova:** profesní preference; profesní rozvoj; sebehodnocení kompetencí; spokojenost se studiem; studenti dietetiky; systém zdravotní péče; trh práce

## References

1. Akseer N, Kandru G, Keats EC, Bhutta ZA (2020). COVID-19 pandemic and mitigation strategies: implications for maternal and child health and nutrition. *Am J Clin Nutr* 112(2): 251–256. DOI: 10.1093/ajcn/nqaa171.
2. Allen J, Robbins S (2010). Effects of interest-major congruence, motivation, and academic performance on timely degree attainment. *J Couns Psychol* 57(1) 23–35. DOI: 10.1037/a0017267.
3. Babnik K, Bizjak M, Ličen S, Poklar Vatovec T, Pucer P, Štemberger Kolnik T, Žvanut B (2015). Dejavniki poklicnega odločanja v zdravstveni negi in v prehranskem svetovanju – dietetiki. In: D. Hozjan (Ed). *Razvijanje kakovosti na Univerzi na Primorskem* (pp. 121–134). Založba Univerze na Primorskem. [online] [cit. 2019-01-10]. Available from: <http://www.hippocampus.si/ISBN/978-961-6963-66-4/mobile/index.html#p=137>
4. Bandura A (1997). *Self-efficacy: The exercise of control*. W H Freeman/Times Books/ Henry Holt & Co.
5. Bartram D (2005). The Great Eight competencies: a criterion-centric approach to validation. *The J Appl Psychol* 90(6): 1185–1203. DOI: 10.1037/0021-9010.90.6.1185.
6. Begley A, Bird A, Palermo C (2020). Developing National Conceptual Understanding to Describe Entry-to-Practice Dietetics Competence. *J Nutr Educ Behav* 52(4): 351–358. DOI: 10.1016/j.jneb.2019.08.003.
7. Butler MJ, Barrientos RM (2020). The impact of nutrition on COVID-19 susceptibility and long-term consequences. *Brain Behav Immun* 87: 53–54. DOI: 10.1016/j.bbi.2020.04.040.
8. Čuk V, Štemberger Kolnik T, Ličen S, Stubelj M, Poklar Vatovec T, Žvanut B, Pucer P (2015). Razvoj kompetenc v zdravstveni negi in prehranskem svetovanju – dietetiki. In: Hozjan D (Ed). *Razvijanje kakovosti na Univerzi na Primorskem* (pp. 135–153). Založba Univerze na Primorskem. [online] [cit. 2019-01-15]. Available from: <http://www.hippocampus.si/ISBN/978-961-6963-66-4/mobile/index.html#p=137>
9. Eagly AH, Chaiken S (1993). *The Psychology of Attitudes*. Harcourt Brace Jovanovich College Publishers.
10. EFAD (2019). European academic and practitioner standards for dietetics, 2005. [online] [cit. 2019-09-10]. Available from: [http://www.efad.org/media/1442/efad\\_benchmarkjune2005\\_uk.pdf](http://www.efad.org/media/1442/efad_benchmarkjune2005_uk.pdf)
11. EFAD (2020a). European academic and practitioner standards for dietetics, 2018. [online] [cit. 2020-10-11]. Available from: <http://www.efad.org/media/1633/efad-academic-standards-revised-june-2018.pdf>
12. EFAD (2020b). Revised Dietetic Competence and the six domains of dietetic competency in Europe, 2016. [online] [cit. 2020-10-10]. Available from: <http://www.efad.org/media/1418/revised-dietetic-competence-and-6-domains-of-competency.pdf>
13. Ensher E, Ehrhardt K (2020). Antecedents and outcomes of callings for university students: An examination of mentoring and insight experiences. *J Career Dev* 49(2). DOI: 10.1177/0894845320941103.
14. Fazio RH, Zanna MP, Cooper J (1978). Direct experience and attitude-behavior consistency: An information processing analysis. *Pers Soc Psychol Bull* 4(1): 48–51. DOI: 10.1177/014616727800400109.
15. Hair JF, Black WC, Babin BJ, Anderson RE, Tatham RL (1998). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall, 745 p.
16. Hansen J-IC, Wiernik BM (2018). Work preferences: Vocational interests and values. In: Ones DS, Anderson N, Viswesara C, Sinangil HK (Eds). *The SAGE Handbook of Industrial, Work and Organizational Psychology*. Personal Psychology and Employee Performance, 2nd ed. (pp. 408–448). SAGE.

17. Hughes R, Desbrow B (2005). Aspiring dietitians study: A pre-enrolment study of students motivations, awareness and expectations relating to careers in nutrition and dietetics. *Nutr Diet* 62(2/3): 106–109. DOI: 10.1111/j.1747-0080.2005.00015.x.
18. ICDA (2020). International Competency Standards for Dietitian-Nutritionist, 2016. [online] [cit. 2020-10-29]. Available from: <https://www.internationaldietetics.org/Downloads/International-Competency-Standards-for-Dietitian-N.aspx>
19. Johansen AS, Vracko P, West R (2020). The evolution of community-based primary health care, Slovenia. *Bull World Health Organ* 98(5): 353–359. DOI: 10.2471/BLT.19.239616.
20. Kao AC, Jager AJ (2018). Medical students' views of medicine as a calling and selection of a primary care-related residency. *Ann Fam Med* 16(1): 59–61. DOI: 10.1370/afm.2149.
21. Landy FJ, Conte JM (2013). *Work in the 21st Century*. 4th Ed. Hoboken, 720 p.
22. Lent RW, Brown SD (2019). Social cognitive career theory at 25: Empirical status of the interest, choice, and performance models. *J Vocat Behav* 115: 103316. DOI: 10.1016/j.jvb.2019.06.004.
23. Lent RW, Brown SD, Hackett G (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *J Vocat Behav* 45(1): 79–122. DOI: 10.1006/jvbe.1994.1027.
24. Ministry of Health of the Republic of Slovenia (2020). Health Promotion. [online] [cit. 2020-06-20]. Available from: <https://www.krepitev-zdravja.si/eng/>
25. Naja F, Hamadeh R (2020). Nutrition amid the COVID-19 pandemic: a multi-level framework for action. *Eur J Clin Nutr* 74(8): 1117–1121. DOI: 10.1038/s41430-020-0634-3.
26. Palermo C (2020). Leadership and practice in times of complexity and uncertainty. *Nutr Diet* 77(5): 487–489. DOI: 10.1111/1747-0080.12646.
27. Palermo C, Dart J, Begley A, Beck EJ, Bacon R, Tweedie J, et al. (2018). Dietetics students' construction of competence through assessment and placement experiences. *Nutr Diet* 75(3): 307–315. DOI: 10.1111/1747-0080.12359.
28. Paterson C, Paterson N, Jackson W, Work F (2019). What are students' needs and preferences for academic feedback in higher education? A systematic review. *Nurse Educ Today* 85(1): 104236. DOI: 10.1016/j.nedt.2019.104236.
29. Pope L, Parker HB, Ultsch S (2020). Assessment of specifications grading in an undergraduate dietetics course. *J Nutr Educ Behav* 52(4): 439–446. DOI: 10.1016/j.jneb.2019.07.017.
30. Van Iddekinge CH, Putka DJ, Campbell JP (2011). Reconsidering vocational interests for personnel selection: The validity of an interest-based selection test in relation to job knowledge, job performance, and continuance intentions. *J Appl Psychol* 96(1): 13–33. DOI: 10.1037/a0021193.
31. Wille B, De Fruyt F, Dingemanse SA, Vergauwe J (2015). A closer look at the psychological diversity within Holland interest types: Construct validation of the Career Insight Questionnaire. *Consult Psychol J* 67(3): 234–257. DOI: 10.1037/cpb0000041.
32. Zineldin M, Akdag HC, Vasicheva V (2011). Assessing Quality in Higher Education: New Criteria for Evaluating Students' Satisfaction. *Qual High Educ* 17(2): 231–243. DOI: 10.1080/13538322.2011.582796.