"I want to study Psychology": vocational interests and values of university preparatory students with a preference for studying Psychology

Vicente Hernández-Franco[1]**, Belén Charro Baena**[2]**,**
María Prieto-Ursúa[2]**, Laura Bermejo Toro**[2]

[1] Department of Education, Pontificia Comillas University, Madrid
[2] Department of Psychology, Pontificia Comillas University, Madrid

Spain

Correspondence: Vicente Hernández-Franco. C/ Universidad Comillas, 3, 28049 Madrid. Spain.
E-mail: vhernandez@comillas.edu

Abstract

Introduction. The aim of this study was to explore the specific vocational identity of secondary school students whose first choice of degree program is Psychology. In particular, this study analyzes when their interest in Psychology began, the curriculum track taken in high school and their profile of vocational interests and values.

Method. The sample was made up of 4715 subjects in their final year of secondary education at public or private schools in the Greater Madrid region (Spain); 43.9% were male, and the mean age was 17.38 years (SD= .64). Subjects completed the Project Orion battery of guidance questionnaires. A subsample of 509 students wished to study Psychology; their mean age was 17.38 years (SD= .69), and 76.2% were female.

Results. The results showed significant differences in the profile of vocational interests and values of students who wished to study Psychology, in comparison to the others. Specifically, students opting for Psychology showed greater interest in the area of Healthcare, followed by interests in the vocational area of Teaching and Guidance. Furthermore, the vocational values that characterize students who wish to study Psychology were: *Helping people*, *Doing something useful and important* and *Pursuing higher values*. The guidance they had received from teachers and school counselors about which curriculum track to follow in upper secondary school was appropriate.

Discussion and conclusions. The stability of this interest over time, after its appearance at some time during adolescence, shows the field of Psychology to be something eminently vocational. The present study demonstrates the importance of guidance activities during the first year of post-compulsory secondary education (11th grade). It also contributes to improved guidance processes in compulsory and post-compulsory secondary education, and toward a better understanding of the identity of this profession in current society.

Key words: Psychology, vocational values, vocational interests, social cognitive career theory

Resumen

Introducción. El objetivo de este estudio fue explorar la identidad vocacional específica de los estudiantes de 2º de Bachillerato que tienen como opción de estudios preferente el Grado de Psicología. En concreto, analiza el momento de inicio de su interés hacia los estudios de Psicología, la rama de Bachillerato cursada y su perfil de intereses y valores vocacionales.

Método. La muestra fue de 4715 sujetos de 2º de Bachillerato de centros públicos y privados de la Comunidad de Madrid (España), el 43,9% de ellos varones, con una edad media de 17.38 años (DT= .64) que completaron la batería de cuestionarios de orientación del Proyecto Orión. De la submuestra de 509 estudiantes que quieren estudiar Psicología, con una edad media de 17.38 años (DT= .69), el 76.2% eran mujeres.

Resultados. Los resultados indicaron diferencias significativas en los perfiles de intereses y valores vocacionales de los estudiantes que desean estudiar Psicología en relación con el resto. Específicamente, los alumnos que tienen como opción Psicología presentan mayor interés por el área de Sanidad, seguido del interés hacia el área vocacional de Enseñanza y Orientación. Además, los valores vocacionales que caracterizan a los alumnos que quieren estudiar Psicología son: Ayudar a las Personas, Realizar algo Útil e Importante y Desarrollar Valores Trascendentes. La orientación que han recibido por parte de tutores u orientadores de centro en cuanto a la modalidad de Bachillerato que han de cursar ha sido adecuada.

Discusión y conclusiones. La estabilidad de este interés, surgido en el transcurso de la adolescencia muestra a la Psicología como una carrera eminente "vocacional". El presente trabajo pone de manifiesto la importancia de las actividades de orientación durante 1º de Bachillerato, y contribuye a mejorar los procesos de orientación de los estudiantes de Secundaria y Bachillerato y a proporcionar un mejor conocimiento de la identidad de esta profesión en la sociedad actual.

Palabras clave: Psicología, valores vocacionales, intereses vocacionales, teoría social cognitiva de la carrera.

Introduction

In Spain, interest in studying Psychology has been increasing at such a pace that this degree is now among the top 10 degree programs desired by students in post-compulsory education (Martínez-Martínez et al., 2016). In public universities, there are approximately 3.5 applications for each opening, far surpassing not only the availability of the degree, but also the real demand for the profession (Guàrdia et al, 2012). The number of women who apply for admission to a degree program in Psychology is much higher than the number of men (Martínez-Martínez et al., 2016), probably due to a gender bias that identifies the care of others (associated with this degree) with the typical tasks of women (Barberá, Candela & Ramos, 2008; Candela, 2008; Santana, Feliciano & Jiménez, 2012). Beyond the gender bias, however, little is known about the variables that young people take into consideration when they choose this option at the end of secondary education, or whether their vocational profile differs from the profile of other students. Moreover, given that the Psychology degree in Spain has undergone substantial modifications in order to comply with the European Higher Education Area (EHEA) (Ramiro-Sánchez, Bermúdez & Buela-Casal, 2016), it is of interest to learn about the vocational profiles of students interested in Psychology and to see whether they are well matched to the current study programs.

In relation to secondary students' decision-making process, the theoretical models for studying vocational choice generally consider *work-related* or *vocational interests* and *values* to be fundamental (Holland, 1997; Super, 1957). Thus, within the framework of *Social Cognitive Career Theory,* in which this investigation is conceptually grounded (Bandura, 1987, 1997; Blanco, 2009; Lent, Brown & Hackett, 1994, 2000; Rottinghaus, Larson, & Borgen, 2003), *professional interests* are defined as behavior patterns that include attractions, rejections and indifference toward a set of relevant activities and occupations. *Vocational values* refer to specific qualities or rewards that one desires from work, such as money or security (Pryor, 1981), and these are conceptualized in terms of preferences for certain reinforcements, acquired through basic processes of social learning (Dawis & Lofquist, 1984). Exploration of these values constitutes a key dimension of career development theory (Lobato, 2002) and forms part of vocational guidance programs during the stage of post-compulsory secondary education (Pizarro, Martín & Di Giusto, 2011; Santana, Feliciano & Cruz, 2010). Their im-

portance stems from their substantial effect both in motivating the choice of a field of study or occupation (Hernández, Parra, Campoy & Molina, 2014; Rounds & Armstrong, 2005), and on one's degree of work satisfaction in the practice of that occupation (Lent, 2008; Sortheix, Chow & Salmela-Aro, 2015). During the last 70 years, research has shown that vocational interests are relatively stable traits that can be validly assessed at the time of late adolescence and after (Low, Yoon, Roberts & Rounds, 2005; Martínez-Vicente, 2007; Mártinez-Vicente, García-Martínez & Segura-García, M. A., 2015), although these interests will later be confirmed or refuted based on one's formative and work experiences (Verquer, Beehr & Wagner, 2003), eventually becoming an important element of the subject's vocational identity beliefs during adult years (Jin & Rounds, 2011; Nye, Su, Rounds & Drasgow, 2017).

As for the question of possible specific keys to the choice of Psychology, Hernández-Franco (2004a; 2004b) found that students in post-compulsory secondary education with vocational preferences in the area of Healthcare (wherein we find Psychology) anticipate altruistic consequences from their occupation, and show less of a tendency to anticipate occupational consequences of prestige-power. In studies with students who are already pursuing a Psychology degree, Guàrdia et al. (2012) used a sample of 872 first-year students who had selected the Psychology degree as their first choice, and found that both social factors (the high regard for the profession) and individual factors (contact with the topic areas) played a part, but they were also deeply influenced by contextual factors, such as the grade point average (GPA) required for admission, or the number of places available. For Gámez, Marrero, Díaz and Urrutia (2015), there were four factors that described the motives of first-year students who had chosen to study Psychology: achievement (both academic-related and relating to a desire to help others), power (e.g., having prestige), affiliation (seeking communication and relations with other people) and overcoming personal problems --with achievement having the predominant place among the rest. Candela (2008), using a different sample of first- to fifth-year university students, compares Engineering students to Psychology students, and analyzes their motives for choice of study program, classifying these into three factors (Extrinsic Motivation -EM-, Capacity and Effort -CE-, and Intrinsic Motivation -IM-). Psychology students were found to score higher in the CE factor, which includes abilities and giftings for practicing a profession, vocation, and effort; and in IM (novelty and originality of the career, enjoyment in working with people, and meeting a critical challenge), where CE scores were higher in the fifth-year students than in the others.

There are a few studies on the transition from secondary education to the university (Alvarez & Fita, 2005; Álvarez; Figuera & Torrado, 2011; Hernández-Franco, 2014b; Romero & Figuera, 2016), and they seem to reflect that students who choose Psychology – even though they take into account the GPA requirement and the places available – also care about the content to be studied, they find the subject matter new and interesting, they have high esteem for the profession, are not concerned with attaining prestige or power, they seek communication and relations with others, are oriented toward caring for others, want to help others, and are interested in personal growth and meeting challenges. Nonetheless, these conclusions stem mainly from contact with students who had already begun their Psychology degree program, there is little inquiry into the vocational profile of the potential Psychology student. It seemed important, therefore, for the sake of proper vocational guidance, to better understand the profile of interests and values of students in post-compulsory secondary education who wish to study Psychology. Moreover, to better understand this profile, other data are also of interest, such as the stage of education when interest in Psychology emerges, or interest in a particular curriculum track.

Objectives and hypotheses

Taking all this into account, the general objective of this study was to explore the vocational identity of students in their final year of secondary education, whose first choice for higher education is the Psychology degree program. More specifically, we wished to analyze the moment when their interest in studying Psychology began to emerge, the curriculum track that they were enrolled in, and their profile of vocational interests and values. [*T.N. Students entering* Bachillerato *in Spain (11th and 12th grades) must select one of four possible curriculum tracks for these two years of post-compulsory secondary education.*]

In this context, and based on prior empirical evidence, we expected to find an early interest in Psychology studies, especially in students from the Healthcare and Social Sciences tracks. Moreover, we expected to find differences from the other students in their final year of secondary education in terms of higher scores in *vocational interests* with a social-humanistic nature, personal care, teaching and guidance, and healthcare; and lower scores in the areas of engineering, administrative activities, economics and business, and technical trades. On the other hand, we expected to find significant differences in *vocational values*, with higher scores than their peers in the desire to do something useful and important, to develop one's

personal potential and to help others, while lower scores were expected in the desire to carry out managerial functions, have a steady full-time job, and wealth and economic profit.

Greater knowledge of the vocational values and academic circumstances wherein students make the choice to pursue Psychology would make it possible to enrich the content of academic and vocational guidance programs, it would allow students to understand how they have come to make their choices from the available academic and professional activities, and could help eliminate misalignment in the socioeducational supply and demand.

Method

Participants

For this study, we used a nonprobabilistic convenience sample of students in their final year of secondary education. The sample was made up of 4715 students in their final year of secondary education, from 78 schools in the Greater Madrid region of Spain (32% public and 68% private schools); the mean age of participants was 17.38 years (SD= .64). A specific subsample was taken from the total sample, comprising the 509 students who had indicated Psychology in their top four choices for higher education (10.8% of the total sample); mean age was 17.38 years (SD= .69).

Table 1. *Subject distribution in the samples*

		Total Sample N = 4715	Psychology n = 509
Gender	Male	2071 (43.9%)	121 (23.8%)
	Female	2644 (56.1%)	388 (76.2%)
	2013	1372 (29.1%)	140 (27.5%)
Cohort	2014	973 (20.6%)	105 (20.6%)
	2015	1038 (22%)	104 (20.4%)
	2016	1332 (28.3%)	160 (31.4%)

Instruments

Cuestionario on-line de Valores Vocacionales, VALVOC-2010 [Online vocational values questionnaire] (Hernández-Franco, 2004b, 2014c). This instrument was used to assess vocational values, where students express their opinion about the consequences that they look forward to or expect to attain when thinking about their future occupation. The questionnaire

contains 14 items that the subject must assess on a Likert-type scale from 0 (Rejection. Not important in my choice of future occupation) to 10 (Preferred. Critical to me, I would not consider a possible job unless it gave this compensation). All items were preceded by the same phrase that sets the situation: "When I think about my future ideal job, I mainly hope to ...", for example, "Help other people ... work for others' benefit, be involved in solving their problems and improving their opportunities and living conditions, both in the individual and social sphere". In previous studies, reliability for the total scale (Cronbach alpha for internal consistency) produced values of .718 (Hernández-Franco, 2004b) and a clear factor structure around four first-order factors (safety, prestige-power, independence and altruism); the total explained variance from these four factors was 61.69%.

After completing the values questionnaire, the system offers each student a chart with his/her response profile, from which they must select (1) their four priority vocational values, and (2) of these four, which one they consider most important when thinking about their future work; the resulting value from this choice is their *Preferred Vocational Value.*

Cuestionario on-line de Intereses Básicos Académico Profesionales, CIBAP-2010 [Online questionnaire of expressed basic academic-professional interests] (Hernández-Franco, 2004a, 2014c). The CIBAP was used to assess expressed vocational interests (Silvia, 2001; Martínez-Vicente et al., 2015) belonging to twenty Vocational Basic Groups, for which students must rate their degree of interest, between 0 and 10, according to their degree of inclination toward each, where 0=Rejection and 10=One of my favorites. Each basic interest group incorporate a number of fields of study and occupations that share common aspects with each other and at the same time differentiate them from other groups (Healthcare, Legal, Teaching, Engineering, etc.). Validation studies of this instrument (Hernández-Franco, 2004a) showed high criterion validity and test-retest reliability of .707, with data ranging from .791 to .563.

Once the students have expressed their degree of interest toward each of the twenty areas, a new screen shows them a chart of their response profile; they must then decide, from the twenty areas that make up their personal profile of vocational preferences, which are their top 4 areas of interest. Next, they compare each of these options with the other three; for each pair they decide which of the two is more interesting to them. Of the four areas selected, the one that has most often been chosen over the others becomes the *Preferred Vocational Group of*

Interest, that is, the area in which the student is most likely to find the profession or studies that he or she would like to pursue in his/her vocational life.

The *moment when interest in studying Psychology began* was assessed by the following *ad hoc* item: "I've been interested in studying or practicing the profession that I like the most in my vocational area ..." with the following response options: a) in recent weeks; b) since the beginning of the school year (12th grade), c) since last year (11th grade); d) since I started secondary school; e) since primary school. One specific question was included to identify the curriculum track that the student was following in upper secondary school, with four response options: a) Natural Sciences and Healthcare; b) Humanities and Social Sciences; c) Technology; and d) Arts.

Procedure

In order to facilitate the task of vocational guidance, the "Observatory on Interests, Values and Study Preferences of Secondary Students in the Madrid Region" (Orion Project) was launched (school year 2002-03). The observatory studies the future-oriented of interests, vocational values and preferences for continued academic and vocational studies of students in compulsory and post-compulsory secondary education in the Madrid Region. This represents a genuinely new approach to this type of study in our country, due to the sample size as well as the longitudinal aspect.

Students' participation in the study was voluntary. They used their personal computers to complete the questionnaires online, as directed by their guidance counselors, within the framework of the school's Academic-Vocational Guidance Plan. It was presented to them as a meaningful activity for vocational reflection and a helpful, clarifying instrument for the career planning process. Students were offered the chance to discuss their results privately with their homeroom teacher and the school's guidance counselor. The complete version of these questionnaires can be accessed by registering as a guest user in the e-vocational portfolio "MyVip": www.upcomillas.es/myvip.

All the research participants and the information obtained have been treated in accordance with the ethical principles for scientific research.

Data analyses

When analyzing differences of means between how the two groups rated their vocational interests and values, we took into account the difference in sample size between the two groups and the fact that the homogeneity of variance assumption was not fulfilled in all cases. We therefore proceeded to verify the null hypothesis that both samples belonged to the same population, using the Mann-Whitney U nonparametric test. In addition, we also offer results from Student's t test and effect sizes of the differences found. Finally, we used multivariate analysis of variance (MANOVA) to check whether there were significant differences between students who want to study Psychology and the remaining students, in their occupational interests and vocational values. The analyses were carried out primarily with SPSS v. 24.

Results

Regarding the *moment when interest in studying Psychology first appeared*, results show that subjects' responses are distributed in a significant, unequal manner across the five response options for this variable (χ^2= 1261,68; df= 4; *p*=.000). As seen in Table 2, less than half of the sample report a recent interest, the vast majority have been interested in studying Psychology for years. Specifically, 20% report having a preference for this area of study since primary school, and 32.9% report this interest from the time they began secondary education. From the perspective of guidance programs, it is also noteworthy that 30% of subjects report that their interest in Psychology emerged during the first year of post-compulsory secondary education.

Table 2. *Moment when interest first appeared in the student's preferred field of study: comparison between those who choose Psychology (N= 509) and all others (N=4115)*

When you became interested in your preferred field of study	Choice of studies		Total N= 4298
	Other degrees N= 4115	Psychology N= 509	
1: In recent weeks	*7.0%*	*7.2%*	*7.0%*
2: Since the start of this schoolyear (12th grade)	*12.2%*	*10.6%*	*12.0%*
3: Since last schoolyear (11th grade)	*34.2%*	*29.3%*	*33.7%*

4: Since I started secondary school	*30.5%*	*32.9%*	*30.8%*
5: Since primary school	*16.1%*	*20.0%*	*16.5%*
Total	*100.0%*	*100.0%*	*100.0%*

0 boxes (0.0%) have an expected frequency of less than 5. The minimum expected frequency is 35.15.
Pearson's Chi-squared = 9.104; df= 4; p=.059

In relation to the student's high school *curriculum track*, the largest group was currently enrolled in Natural Sciences and Healthcare (N= 381; 74.9%), followed by those in Humanities and Social Sciences (N= 118, 23.2%) and a small group in the Arts track (N= 10; 2.0%).

Next, we analyze crystallized vocational identity by looking at *profile of interests* and *profile of vocational values*. Figure 1 offers profiles of means of students' *vocational interests* as a function of the variable "preferred option for university degree": Psychology (N= 509) and Other University Degrees (N= 4205).
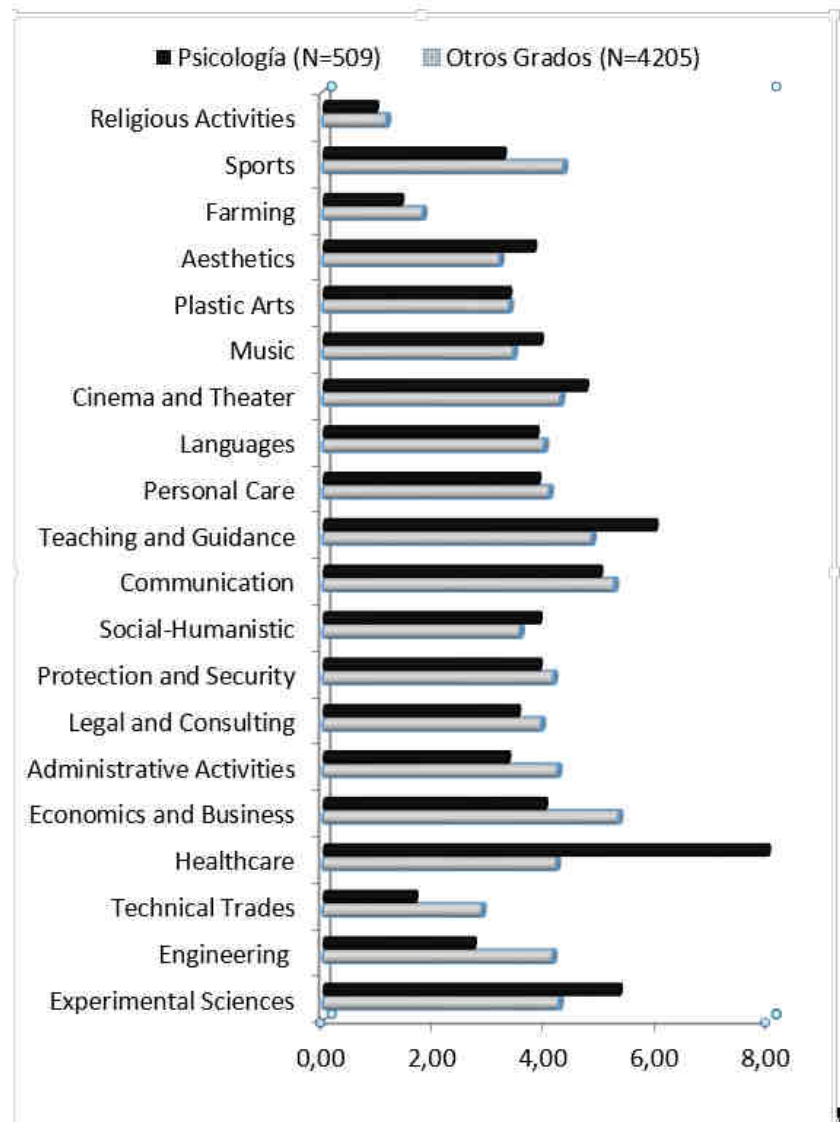
Figure 1. Comparison of vocational interest profiles of students who want to study Psychology vs. other university degrees

As observed in Tables 3 and 4, there are statistically significant differences (p< .001) between the two groups in 16 of 20 vocational areas. Students who opt for "other degrees" have significantly higher scores (p< .0001) than students who prefer Psychology in the following five basic vocational interest groups: *Engineering* (η_p^2=.016), *Technical trades* (η_p^2=.018), *Economics and business* (η_p^2=.017), *Administrative activities* (η_p^2=.010), *Legal and consulting* (η_p^2=.002), *Communication* (η_p^2=.001), *Farming* (η_p^2=.003), *Sports* (η_p^2=.010) and *Religious activities* (η_p^2=.001), although effect sizes show low values.

Table 3. *Basic Vocational Interest Groups with significantly higher scores in students who wish to study other degree programs (N= 4205)*

VOCATIONAL AREA		Mean	Standard Deviation	Mann-Whitney U Sig.	t[1] d.f. Sig.	Eta^2	Cohen's d
Engineering	Other degrees	4.11	3.526		11.395*		
	Psychology	2.69	2.537	846,650.500	768.224	.016	-.414
	Total	3.96	3.461	.000	.000		
Technical Trades	Other degrees	2.84	2.838		12.262*		
	Psychology	1.64	1.973	827,297.000	788.322	.018	-.436
	Total	2.71	2.782	.000	.000		
Economics and Business	Other degrees	5.29	3.118		9.889*		
	Psychology	3.97	2.823	808,478.500	667.354	.017	-.429
	Total	5.15	3.115	.000	.000		
Administrative Activities	Other degrees	4.20	2.836		7.864*		
	Psychology	3.30	2.389	878,219.000	693.738	.010	-.323
	Total	4.11	2.805	.000	.000		
Legal and Consulting	Other degrees	3.91	3.081		3.185*		
	Psychology	3.48	2.835	994,202.000	662.058	.002	-.141
	Total	3.86	3.058	.008	.000		
Communication	Other degrees	5.21	2.785		2.201*		
	Psychology	4.95	2.512	1,010,010.000	668.652	.001	-.094
	Total	5.19	2.758	.036	.000		
Farming	Other degrees	1.79	2.286		4.334*		
	Psychology	1.39	1.910	987,223.000	696.911	.003	-.178
	Total	1.74	2.251	.003	.000		
Sports	Other degrees	4.31	3.360		7.492		
	Psychology	3.23	3.034	876,925.000	668.287	.010	-.325
	Total	4.19	3.343	.000	.000		
Religious Activities	Other degrees	1.13	1.903		2.390*		
	Psychology	.94	1.718	1,011,615.000	668.371	.001	-.101
	Total	1.11	1.885	.021	.000		

(1) Student's t. *Levene's test, equal variances were not assumed.

On the other hand, students who opt for Psychology have significantly higher mean scores in the following basic vocational interest groups: *Experimental Sciences* (η_p^2=.010), *Healthcare* (η_p^2=.113), *Social-Humanistic* (η_p^2=.001), *Teaching and guidance* (η_p^2=.015), *Cinema and theater* (η_p^2=.002), *Music* (η_p^2=.002) and *Aesthetics* (η_p^2=.004). On this occasion as well, estimated effect sizes had very low values except for the vocational area of Healthcare, which showed a very large effect size and can be considered representative of students interested in Psychology.

Table 4. *Basic Vocational Interest Groups with significantly higher scores in students who wish to study Psychology (N= 509)*

VOCATIONAL AREA		Mean	Standard Deviation	Mann-Whitney U Sig.	t [1] d.f. Sig.	η^2_p	Cohen's d
Experimental Sciences	Other degrees	4.22	3.285		-7.716*		
	Psychology	5.30	2.939	1,275,578.500	671.347	.010	.333
	Total	4.34	3.266	.000	.000		
Healthcare	Other degrees	4.18	3.365		-30.630*		
	Psychology	7.95	2.525	1,716,086.000	745.557	.113	1.149
	Total	4.58	3.487	.000	.000		
Social Humanistic	Other degrees	3.53	2.901		-2,510*		
	Psychology	3.87	2.899	1,146,002.000	637.445	.001	.117
	Total	3.56	2.902	.000	.012		
Teaching and guidance	Other degrees	4.81	2.858		-8.755*		
	Psychology	5.94	2.729	1,319,572.000	650.483	.015	.398
	Total	4.94	2.866	.000	.000		
Cinema and Theater	Other degrees	4.25	3.081		3.186*		
	Psychology	4.70	2.950	1,163,264.500	649.582	.002	.147
	Total	4.30	3.070	.000	.002		
Music	Other degrees	3.41	2.993		-3.424		
	Psychology	3.89	3.074	1,168,408.000	4712.	.002	.160
	Total	3.46	3.005	.000	.001		
Aesthetics	Other degrees	3.17	2.973		-4.343		
	Psychology	3.77	2.899	1,206,569.500	4712.	.004	.203
	Total	3.23	2.971	.000	.000		

(2) Student's t. *Levene's test, equal variances were not assumed.

Finally, the MANOVA analyses reveal a significant multivariate effect between the whole profile set of 20 vocational areas for the two groups (Wilks' Lambda= .850; $F_{(20, 4693)}$ = 41,340; p< .001; Partial eta squared = .150). Effect size (η^2_p = .150) is seen to be important, whereby we may affirm that students interested in Psychology present a vocational interest profile that is significantly different from that of students who wish to do other degree programs, and interest in the vocational area of Healthcare is the most representative area of the first group.

Regarding *vocational values,* Figure 2 offers profiles of means of students' *vocational values* as a function of the variable preferred option for university degree: Psychology (N= 503) and Other University Degrees (N= 4169).
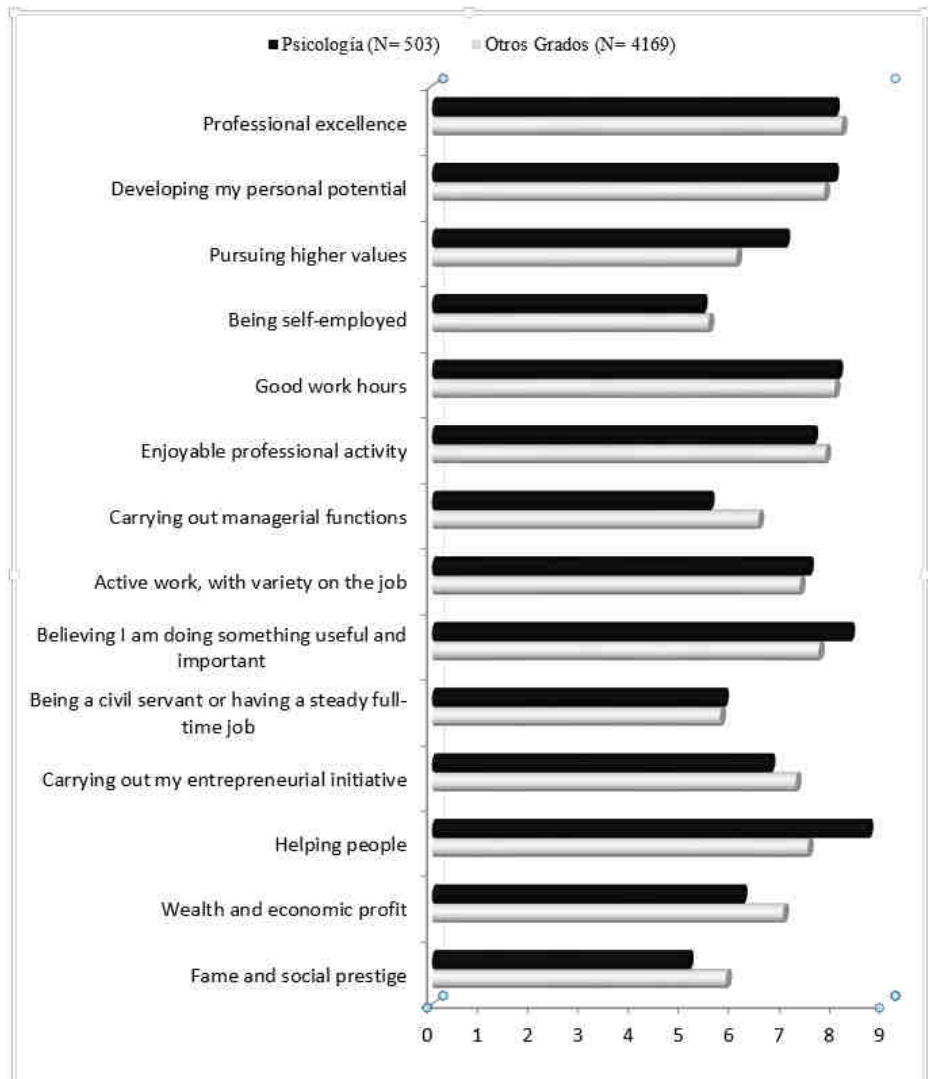
Figure 2. Comparison of vocational values profiles of students who wish to study Psychology vs. other university degrees

As seen in Tables 5 and 6, there are statistically significant differences ($p<.001$) in the mean scores on seven of these vocational values. Students who opt for "Other degrees" obtain significantly higher scores ($p<.001$) than students who opt for Psychology in the following vocational values: *Fame and social prestige* ($\eta^2_p = .008$), *Wealth and economic profit* ($\eta^2_p = .012$), *Entrepreneurial initiative* ($\eta^2_p = .006$) and *Carrying out managerial functions* ($\eta^2_p = .015$, although effect sizes have very low values.

Table 5. *Vocational values with significantly higher scores in students who wish to study other degree programs (N= 4169)*

VOCATIONAL VALUE	Mean	Standard Deviation	Mann-Whitney U Sig.	$t^{(1)}$ d.f. Sig.	η^2_p	Cohen's d

VOCATIONAL AREA		Mean	Standard Deviation	Mann-Whitney U Sig.	t^1 d.f. Sig.	η_p^2	Cohen's d
Fame and social prestige	Other degrees	5.84	2.661		5.703*		
	Psychology	5.08	2.849	888,668.500	612.324	.008	-.283
	Total	5.76	2.692	.000	.000		
Wealth and economic profit	Other degrees	6.97	2.299		7.580		
	Psychology	6.15	2.362	826,786.000	4672	.012	-.357
	Total	6.88	2.320	.000	.000		
Carrying out my entrepreneurial initiative	Other degrees	7.22	2.160		5.097		
	Psychology	6.70	2.210	901,304.000	4672	.006	-.240
	Total	7.16	2.171	.000	.000		
Carrying out managerial functions	Other degrees	6.48	2.462		8.510		
	Psychology	5.49	2.408	794,880.500	4672	.015	-.403
	Total	6.37	2.475	.000	.000		

(1) Student's t. *Levene's test, equal variances were not assumed.

On the other hand, as observed in Table 6, students who prefer to study Psychology have significantly higher mean scores ($p< .001$) than students who opt for "Other degrees" in the following three vocational values: *Helping people* ($\eta_p^2= .030$); *Doing something useful and important* ($\eta_p^2= .008$); and *Pursuing higher values* ($\eta_p^2= .012$). Effect sizes were very small in this case as well.

Table 6. *Vocational values with significantly higher scores in students who wish to study Psychology (N= 503)*

VOCATIONAL AREA		Mean	Standard Deviation	Mann-Whitney U Sig.	t^1 d.f. Sig.	η_p^2	Cohen's d
Helping people	Other degrees	7.46	2.126		-15.341*		
	Psychology	8.64	1.566	1,406,958.000	745.308	.030	.569
	Total	7.59	2.105	.000	.000		
Believing I am doing something useful and important	Other degrees	7.68	2.076		-7.108*		
	Psychology	8.28	1.761	1,224,850.000	682.262	.008	.293
	Total	7.74	2.053	.004	.000		
Pursuing higher values	Other degrees	7.79	1.868		-8.088*		
	Psychology	7.96	1.799	1,272,989.000	650.812	.012	.091
	Total	7.81	1.861	.002	.000		

(1) Student's t. *Levene's test, equal variances were not assumed.

Likewise, results from Student's *t* test concur with those found on the nonparametric tests mentioned above. The multivariate analyses of variance (MANOVAs) reveal a significant multivariate effect between the profile set of fourteen vocational values of students who want to pursue other degrees and the profile set found in those who choose Psychology (Wilks' Lambda= .937; $F(14, 4657)= 24.412$; $p<.001$; $\eta_p^2 = .063$).

In conclusion, we may affirm that the vocational values profile of students interested in the Psychology degree is significantly different from that of students who wish to pursue other studies. Table 7 offers a ranking of the percentage of students who selected each of the values included in the values questionnaire as their *Preferred Vocational Value*. One may observe significant differences between the two groups (Pearson's chi squared = 255.218, df= 13; p<.001) and, if we analyze the standardized residuals, we find significant differences between the two groups in all the preferred vocational values except "Having a steady job". The *preferred vocational value* most often chosen by students who want to study Psychology is *Helping people,* selected by 47.1% of those interested in this degree, as compared to 18.3% in the set of students who choose other degree programs.

Table 7. *Preferred vocational values in students from the two samples*

	Psychology			Other degrees		
	Rank	N	%	Rank	N	%
Helping people	1	236	47.1%	1	758	18.3%
Believing I am doing something useful and important	2	58	11.6%	4	394	9.5%
Wealth and economic profit	3	37	7.4%	2	614	14.8%
Enjoyable professional activity	4	29	5.8%	3	408	9.8%
Developing my personal potential	5	29	5.8%	7	319	7.7%
Active work, with variety on the job	6	23	4.6%	8	277	6.7%
Professional excellence	8	21	4.2%	5	366	8.8%
Good work hours	7	21	4.2%	6	348	8.4%
Pursuing higher values	9	18	3.6%	12	92	2.2%
Carrying out my entrepreneurial initiative	10	10	2.0%	9	178	4.3%
Being a civil servant or having a steady full-time job	11	7	1.4%	13	77	1.9%
Fame and social prestige	12	6	1.2%	10	140	3.4%
Carrying out managerial functions	13	5	1.0%	11	130	3.1%
Being self-employed	14	1	0.2%	14	47	1.1%
Total		501	100%		4148	100%

0 checkboxes (0.0%) have an expected frequency of less than 5. The minimum expected frequency is 5.17.
Pearson's Chi-squared = 255.218; df= 13; *p*=.000

Discussion and Conclusions

The main hypotheses of our study have been confirmed. In other words, there are significant differences in the profile of vocational interests and values of students who wish to study Psychology in comparison to students who prefer to pursue other university degrees. Specifically, we found that students who have opted for Psychology generally show greater interest in the area of Healthcare, followed by interest in the vocational area of Teaching and Guidance. This data supports findings from the study by Martínez-Martínez et al. (2016), where students who enroll in the fields of Healthcare and Teaching at the University of Granada identify three vocational areas, and also concurs with recent studies using Holland's RIASEC model (Ferreira, Rodrigues & Da Costa Ferreira, 2016), where there is a strong relationship between the social dimension and preferences for clinical and educational areas in Portuguese Psychology students, as well as strong links between the entrepreneurial dimension and the organizational area. Furthermore, the vocational values that characterize students who wish to study Psychology are: Helping people, Doing something useful and important and Pursuing higher values. In fact, in the ranking of Preferred Vocational Value, 47.1% select *Helping people* as their top choice. The other members of the sample give higher value to *Fame and social prestige*, *Wealth and economic benefit*, *Entrepreneurial initiative* and *Carrying out managerial functions*. These data concur with those found in Hernández-Franco (2004b) and Gámez et al (2015), as indicated above, and are consistent with those found in research studies on vocational values in other helping professions such as Primary Education (Hernández-Franco, 2012); Nursing (Hernández-Franco, 2014a) and Social Work (Hernández-Franco, 2014b).

Nearly 75% of the sample is enrolled in the curriculum track of Natural Sciences and Healthcare, consistent with the recent reassignment of Psychology to the area of Health Sciences. This seems to indicate that the guidance they had received from teachers and school counselors about which curriculum track to follow in upper secondary school had been appropriate.

One of the more interesting results of the study that more than half of the sample began to think about studying Psychology in early secondary education or even before. The sta-

bility of this interest, appearing at some time during adolescence, suggesting that Psychology is a kind of calling. Another 30% of the subjects reported that their interest in Psychology emerged during the first year of upper secondary education (11th grade). This underscores the importance of guidance activities at this point in school, whether to confirm the choice taken at the end of compulsory secondary education (10th grade), or to discover one's preferred option on which to base their academic goals in 12th grade. The data also clearly show that very few students had chosen Psychology in recent weeks. This does not exclude a change in preferences at the end of secondary education, due to external variables like grade point average or economic resources, as has been shown in other studies (Guàrdia et al., 2012; Martínez-Martínez et al., 2016), where economic limitations, limited places for new students, required grade point average, or family concerns may lead to a change in the final decision.

Even considering the sample *limitations* of this study, we are firmly convinced that studies that explore the vocational values of Psychology students, and how they become consolidated mainly during the practicum that forms part of the degree program, would no doubt help us better understand the identity of this profession in current society as well as how to improve initial training processes and in-service development. In addition, it would be of great interest to verify the results established here using longitudinal studies, with quantitative and also qualitative design. This type of study would allow us to analyze the evolution and characterization of vocational values in students belonging to the same 12th-grade cohort, who want to study Psychology, over the four-year duration of their degree program. It would also allow us to analyze the role of their student peers in consolidating their professional interests and goals when they finish their university studies in Psychology (Thielea, Sauera, Atzmueller, & Kauffelda, 2018). Finally, as in certain studies performed in other countries, we would consider it highly useful that specific instruments be developed in Spain for the assessment of Psychology graduates' professional interests in the main occupational activities to which one gains access through different post-graduate specializations that are offered in Psychology (Boglu, Rizeanua, & Burtăverde, 2015).

We are convinced that the results presented in this study will be of interest to guidance counselors and will help improve guidance processes for students in compulsory and post-compulsory secondary education who may be interested in the Psychology degree, and help facilitate their transition toward these studies in higher education.

References

Álvarez, M., Figuera, P. & Torrado, M. (2011). La problemática de la transición Bachillerato-Universidad en la Universidad de Barcelona. [Issues in the transition from high school to university at the University of Barcelona.] *REOP-Revista Española de Orientación y Psicopedagogía, 22(1), 15-27*

Álvarez, M., & Fita, E. (2005). La intervención orientadora en la transición Bachillerato-Universidad. [Guidance intervention in the high school-university transition.] *Bordón: Revista de Orientación Pedagógica, 57*(1), 5-25

Bandura, A. (1987). *Pensamiento y acción.* [Thought and action.] Barcelona: Martínez Roca.

Bandura, A. (1997). *Self-efficacy. The exercise of control*. New York: Freeman.

Barberá, E., Candela, C. & Ramos, A. (2008). Elección de carrera, desarrollo profesional y estereotipos de género. [Career choice, vocational development and gender stereotypes.] *Revista de Psicología Social, 23*(2), 275-285.

Blanco, A. (2009). El modelo cognitivo social de desarrollo de la carrera. Revisión de más de una década de investigación empírica. [The social cognitive model of the career. Reviewing more than a decade of empirical research.] *Revista de Educación, 350*, 423-445.

Boglu, A., Rizeanua, S. & Burtăverde, V. (2015). Vocational Guidance for Undergraduate Psychology Students. Psychometric Properties of the Questionnaire of Vocational Interests in Psychology. *Procedia - Social and Behavioral* Sciences, 187, 713 – 71. https://doi.org/10.1016/j.sbspro.2015.03.133

Candela, C. (2008). *Motivaciones y expectativas profesionales. Análisis desde la perspectiva de género.* [Vocational motivations and expectations.] Doctoral dissertation. Valencia: Servicio de Publicaciones de la Universidad de Valencia.

Dawis, R.V., & Lofquist, L.H. (1984). *A psychological theory of work adjustment: And individual differences model and its applications*. Minneapolis: University of Minnesota Press.

Ferreira, A. I., Rodrigues, R. I. & Da Costa Ferreira, P. (2016). Career interests of students of psychology specialties degrees: psychometric evidence and correlations with the RIASEC dimensions. *International Journal of Vocational Guidance, 16*, 91-111. https://doi.org/ 10.1007/s10775-015-9289-3

Gámez, E., Marrero, H., Díaz, M.J. & Urrutia, M. (2015). ¿Qué esperan encontrar los alumnos en los estudios de Psicología? Metas y motivos personales de los estudiantes en su primer año en la universidad. [What do students expect to find in Psychology studies? Students' personal goals and motives in their first year at university.] *Anales de Psicología, 3*(2), 589-599. https://doi.org/10.6018/analesps.31.2.171851

Guàrdia, J., Peró, M., Hervás, A., Capilla, R., Soriano, P.P. & Porras, M. (2012). Factores asociados con la decisión de cursar estudios universitarios de Psicología. Una aproximación mediante modelos de ecuaciones estructurales. [Factors associated with the decision to major in Psychology. An approach using structural equations.] *Anuario de Psicología*, *42*(1), 85-102.

Hernández-Franco, V. (2004a). Evaluación de los intereses básicos académico- profesionales de los estudiantes de Secundaria. [Assessing basic academic-professional interests in secondary students.] *Revista Española de Orientación y Psicopedagogía, 15*(1), 117-141.

Hernández-Franco, V. (2004b). Expectativas vocacionales de resultados en los estudiantes de secundaria. [Vocational expectations of results in secondary students.] *Revista de Investigación Educativa*, *22*(1), 89-112

Hernández-Franco, V. (2012). ¿Qué esperan conseguir los estudiantes de Magisterio cuando piensan en el desempeño futuro de su profesión? Estructura de los valores vocacionales de los estudiantes de Magisterio desde una perspectiva cognitivo social. [What do university students of Primary Education expect to gain from exercising their future profession? Structure of vocational values in future primary school teachers from a social cognitive perspective.] In J. Torres Puente (coord.), *Educación y nuevas sociedades: la formación inicial del profesorado de Infantil y Primaria.* (267-311). Madrid: Servicio Publicaciones Universidad Pontificia Comillas.

Hernández-Franco, V. (2014a). Los valores vocacionales de los estudiantes de segundo de Bachillerato interesados por los estudios de Magisterio y Enfermería como indicadores de su identidad profesional. [Vocational values of 12-grade students interested in studying Primary Education or Nursing as indicators of their vocational identity.] In C. Cardona, & E. Chiner (editors). *Investigación educativa en escenarios diversos, plurales y globales (*357-370). EOS: Madrid.

Hernández-Franco, V. (2014b). La transición del bachillerato a la universidad: perfil vocacional de los alumnos de bachillerato con preferencia por los estudios de trabajo social.

[The high school-university transition: vocational profile of upper secondary students whose preference is to study social work.] *Miscelánea Comillas*, *72*(140-141), 93-141.

Hernández-Franco, V. (2014c). La orientación profesional, una llave para la igualdad de oportunidades para todos. [Vocational guidance, a key to equal opportunity for everyone.] *Padres y Maestros*, *355*, 41-49.

Hernández, J.Á., Parra, J.M.A., Campoy, J.M.F., & Molina, M.S. (2014). El prestigio profesional y social: determinante de la decisión vocacional. [Professional and social Prestige: a determining factor in vocational choice.] *REOP-Revista Española de Orientación y Psicopedagogía*, *25*(2), 40-55. https://doi.org/10.5944/reop.vol.25.num.2.2014.13519

Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd ed.). Odessa, FL: Psychological Assessment Resources.

Jin, J., & Rounds, J. (2011) Stability and change in work values: A meta-analysis of longitudinal studies, *Journal of Vocational Behavior*, *80*(2), 326-339. https://doi.org/10.1016/j.jvb.2011.10.007

Lent, R.W. (2008). Understanding and promoting work satisfaction: An integrative review. In S. D. Brown, & R. W. Lent (Eds.), *Handbook of counseling psychology* (462–480) (4th ed.). New York: Wiley.

Lent, R.W., Brown, S.D. & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice and performance. *Journal of Vocational Behavior*, *45*(1), 36-49. https://doi.org/10.1037//0022-0167.47.1.36

Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: a social cognitive analysis. *Journal of Counselling Psychology*, *47*(1), 36-49. https://doi.org/10.1037//0022-0167.47.1.36

Lobato, C. (2002). Psicología y asesoramiento vocacional. [Psychology and vocational counseling.] *Revista de Psicodidáctica*, *13,* 117-130.

Low, K.S.D., Yoon, M., Roberts, B.W., & Rounds, J. (2005). The stability of vocational interests from early adolescence to middle adulthood: A quantitative review of longitudinal studies. *Psychological Bulletin*, *131*, 713–737. https://doi.org/10.1037/0033-2909.131.5.713

Martínez-Vicente, J.M. (2007). Vocational and career counseling using the Self-Directed Search (SDS). *Electronic Journal of Research in Educational Psychology 5* (1), 233-258.

Mártinez-Vicente, J. M., García-Martínez, I. & Segura-García, M. A. (2015). Características de los intereses inventariados y expresados en educación secundaria. [Characteristics of

interests inventoried and expressed in secondary education.] *Bordón. Revista de Pedagogía,* 67(4), 107-123. https://doi.org/ 10.13042/Bordon.2015.67403

Martínez-Martínez, A., Zurita-Ortega, F., Castro-Sánchez, M., Chacón-Cuberos, R., Hinojo-Lucena, M.A. & Espejo-Garcés, T. (2016). La elección de estudios universitarios superiores en estudiantes de último curso de Bachillerato y ciclos formativos. [Choosing university studies in university-preparatory students and students of vocational education.] *Revista Electrónica Educare*, *20(1),* 1-28. https://doi.org/doi.org/10.15359/ree.20-1.14

Nye, C. D., Su, R., Rounds, J., & Drasgow, F. (2017). Interest congruence and performance: Revisiting recent meta-analytic findings. *Journal of Vocational Behavior, 98*, 138–151. https://doi.org/10.1016/j.jvb.2016.11.002

Pizarro, J.P., Martín, M.E., & Di Giusto, C. (2011). Valores laborales en adolescentes. [Work-related values in adolescents.] *Revista de Psicodidáctica*, 16 (2), 381-399

Pryor, R. G. (1981). Interests and values as preferences. *Australian Psychologist, 16*, 258-272. https://doi.org/10.1080/00050068108255899

Ramiro-Sánchez, T., Bermúdez, M.P. & Buela-Casal, G. (2016). Titulación de Psicología en el EEES: comparación entre licenciados y graduados españoles. [The Psychology degree in the EHEA: comparison between Spanish *licenciados* and recipients of the EHEA degree.] *Revista de Psicodidáctica, 21*(1), 175-189. https://doi.org/10.1387/RevPsicodidact.13923

Romero, S., & Figuera, P. (2016). La Orientación en la Universidad. [Guidance at the university.] In A. Manzanares & C. Sanz. (coord.). *Orientación profesional: fundamentos y estrategias*. (pp. 167-196). Cuenca: Universidad de Castilla-La Mancha

Rottinghaus, P., Larson, L. & Borgen, F. (2003). The relation of self-efficay and interest. A meta-analisys of 60 samples. *Journal of Vocational Behavior*, *62*(2), 203-388. https://doi.org/10.1016/S0001-. 8791(02)00039-8

Rounds, J. B., & Armstrong, P. I. (2005). Assessment of needs and values. In S. D. Brown, & R.W. Lent (Eds.), *Career development and counseling: Putting theory and research to work* (305–329). Hoboken, NJ: Wiley & Sons.

Santana, L.E., Feliciano, L.A. & Cruz, A.E. (2010). El Programa de Orientación Educativa y Sociolaboral: un instrumento para facilitar la toma de decisiones en Educación Secundaria. [The Program of Educational and Socio- and Work-related Guidance: a instrument

to faciliate decision-making in secondary education.] *Revista de Educación*, *351,* 73-105.

Santana-Vega, L.E., Feliciano-García, L. & Jiménez-Llanos, A.B. (2012). Toma de decisiones y género en Bachillerato. [Decision-making and gender in upper secondary education.] *Revista de Educación, 359,* 357-387. https://doi.org/10-4438/1988-592X-RE-2010-359-098

Silvia, P. J. (2001). Expressed and measured vocational interests: Distinctions and definitions. *Journal of Vocational Behavior, 59*, 382–393. https://doi.org/10.1006/ jvbe.2001.1805

Sortheix, F.M., Chow, A., & Salmela-Aro, K. (2015). Work values and the transition to work life: A longitudinal study. *Journal of Vocational Behavior, 89,* 162-171. https://doi.org/10.1016/j.jvb.2015.06.001

Super, D.E. (1957). *The psychology of careers.* New York: Harper & Row.

Thielea, L., Sauera, N.C., Atzmueller, M. & Kauffelda, S. (2018). The co-evolution of career aspirations and peer relationships in psychology bachelor students: A longitudinal social network study. *Journal of Vocational Behavior, 106,* 48–61. https://doi.org/10.1016/j.jvb.2017.12.005

Verquer, M.L., Beehr, T.A., & Wagner, S.H. (2003). A meta-analysis of relations between person-organization fit and work attitudes. *Journal of Vocational Behavior*, *63*, 473–489. https://doi.org/10.1016/S0001-8791(02)00036-2