



Higher education orientation in Türkiye: a cross-educational questionnaire validation and reliability study

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Abstract

The present study aims to validate the Higher Education Orientations Questionnaire (HEOQ) among Turkish university students. The research comprises two studies: 201 Turkish university students were recruited for study 1, while 371 students took part in study 2. The HEOQ was translated in study 1. In study 2, criterion validity was tested by forming a hierarchical regression model on career decision self-efficacy. The HEOQ had adequate fit and measures for validity and reliability in the Turkish sample. Career decision self-efficacy was positively predicted by profession and negatively predicted by external orientation. Implications are presented for career development of university students.

Keywords Career decision · Higher education · Higher education orientation

Résumé

La présente étude vise à valider le Questionnaire sur les Orientations de l'Enseignement Supérieur (HEOQ) parmi les étudiants universitaires turcs. La recherche comprend deux études. 201 étudiants universitaires turcs ont été recrutés pour l'Étude 1, tandis que 371 étudiants ont participé à l'Étude 2. Le HEOQ a été traduit dans l'Étude 1. Dans l'Étude 2, la validité du critère a été testée en formant un modèle de régression hiérarchique sur l'auto-efficacité de la décision de carrière. Le HEOQ avait un ajust-

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ement adéquat et des mesures pour la validité et la fiabilité dans l'échantillon turc. L'auto-efficacité de la décision de carrière a été positivement prédite par la profession et négativement prédite par l'orientation externe. Les implications sont présentées pour le développement de carrière des étudiants universitaires.

Zusammenfassung

Die vorliegende Studie zielt darauf ab, den Fragebogen zur Orientierung im Hochschulwesen (HEOQ) unter türkischen Universitätsstudenten zu validieren. Die Forschung umfasst zwei Studien. Für Studie 1 wurden 201 türkische Universitätsstudenten rekrutiert, während an Studie 2 371 Studenten teilnahmen. Der HEOQ wurde in Studie 1 übersetzt. In Studie 2 wurde die Kriteriumsvalidität durch Bildung eines hierarchischen Regressionsmodells zur beruflichen Entscheidungsselbstwirksamkeit getestet. Der HEOQ hatte eine angemessene Passform und Maßnahmen für Validität und Zuverlässigkeit in der türkischen Stichprobe. Die berufliche Entscheidungsselbstwirksamkeit wurde positiv durch den Beruf und negativ durch die externe Orientierung vorhergesagt. Implikationen werden für die berufliche Entwicklung von Universitätsstudenten vorgestellt.

Resumen

El presente estudio tiene como objetivo validar el Cuestionario de Orientaciones hacia la Educación Superior (HEOQ, por sus siglas en inglés) entre los estudiantes universitarios turcos. La investigación comprende dos estudios. Para el estudio 1, se reclutaron 201 estudiantes universitarios turcos, mientras que 371 estudiantes participaron en el estudio 2. El HEOQ fue traducido en el estudio 1. En el estudio 2, la validez de criterio se probó formando un modelo de regresión jerárquica sobre la autoeficacia en la toma de decisiones de carrera. El HEOQ tuvo un ajuste adecuado y medidas para la validez y fiabilidad en la muestra turca. La autoeficacia en la toma de decisiones de carrera fue predicha positivamente por la profesión y predicha negativamente por la orientación externa. Se presentan implicaciones para el desarrollo de carrera de los estudiantes universitarios.

Introduction

Career decision to attend university constitutes an essential turning point between entering the labor market and continuing education. For a long time, factors influencing this decision have been investigated (Cabrera & La Nasa, 2000; Cureton & Aguinaldo, 2023; Paloş & Drobot, 2020), and will continue to be examined as the society develops and evolves. In terms of career decision-making, students' reasons for starting higher education also form a noteworthy research area because educational aspirations can be stronger than occupational aspirations (Mau & Bikos, 2000). However, these reasons are mostly investigated to improve the quality of higher education (Bogler & Somech, 2002; Kember et al., 2008) instead of offering implications for career development. Willner et al. (2023) carried out a pioneering study combining higher education research with career development. They specified

the reasons for attending higher education and presented how these orientations relate to career decision-making process. However, these associations may differ from one country to another in that each country has its own higher education system and culture. Efforts to confirm these orientations in different cultures are likely to contribute to the understanding of these differences and the provision of career services sensitive to a specific system and culture. Although the cultures of Israel and Türkiye are similar in terms of collectivism, the higher education system in Türkiye is quite different, which is likely to influence students' educational aspirations.

Türkiye is a country with public universities with no tuition fees, unlike other countries such as the USA or Israel. Turkish students have to succeed in a nationwide exam and make choices on the basis of their exam scores to enter both public and foundation universities. In 2022, the number of students taking the university exam reached more than 3 million (Student Selection and Placement Centre, 2022). Therefore, the competition is steadily increasing. Moreover, Türkiye has a large youth population, and the youth unemployment rate is high, with 19% (ILO, 2023). Türkiye's unique circumstances and its higher education system seem to be influencing the higher education orientations of Turkish students. For instance, it makes sense to start university for social and knowledge purposes because university education is free of charge. The fact that universities are a gate opening to jobs and careers, coupled with the unemployment rates in Türkiye, make them more attractive in the eyes of the Turkish youth. However, Türkiye's specific economic and social system with such a high intensity of demand and desire to enter university, and the role of higher education in Turkish students' lives, have not been researched thus far.

In addition, no measurement tool for higher education orientations in the Turkish culture exists in the relevant literature. To investigate the orientations behind university choice as an important career decision, this study aimed to validate Willner et al.'s HEOQ in Turkish culture. The HEOQ was originally developed in Israeli culture. Although Israeli culture is similar to Turkish culture in terms of collectivist cultural elements (Hofstede, 2011), there are differences between the higher education and economic systems of these two countries, such as employment rates, university tuition fees, attendance policies, etc. When it comes to attending higher education, we believe that educational and economic culture are more important factors for young people. In this regard, economic conditions can be a career barrier as they are related to the university enrollment rate, especially for young people who aspire toward university with tuition fees (Bruckmeier & Wigger, 2014). In Türkiye, university entrance exam scores are also important since they shape career choice by preventing—in case of failure—young people from following their interests and values. If young Turkish adolescents do not get high exam scores, they have to prepare for the exam again or choose a department they would not love to work in as their first resort. Describing higher education orientations may help to make sense of these barriers as they present the meanings of the university. Therefore, the present study aimed to validate the Higher Education Orientations Questionnaire (HEOQ) in a Turkish sample and present its relationship with career decision-making processes as a preliminary study.

University choice

Higher education provides numerous benefits to individuals, such as vocational training, an educated social environment, prestige, and reaching, using, and producing intellectual knowledge. Schools make an effort to create an effective university culture to encourage students to attend higher education (Green et al., 2023). Furthermore, decision-making about attending university is a complex process that includes individual and contextual factors. For instance, several studies regarding minority and disadvantaged groups examined the role of school, family, and culture in university choice (Cureton & Aguinaldo, 2023; Maramba et al., 2018). In these qualitative studies, some participants indicated that they want to start university not only to attain a profession, but also to meet family expectations or gain prestige.

A number of studies focused on the reasons for preferring a specific profession. As individuals make decisions for their future profession, they can be influenced by their own interests and abilities, profession prestige, and the opinions of their close social circle (Eraslan-Çapan & Korkut-Owen, 2020; Korkut-Owen et al., 2012; Mikkonen et al., 2009; Şahin et al., 2011). However, these studies centered on obtaining a profession as a function of higher education, and excluded other reasons for starting university, such as building social relationships. Other studies presenting the expectations of university students toward higher education suggested that students value social and cultural opportunities as well as vocational training (Cetin & Dincer, 2020; Karacan-Özdemir, & As, 2022). Moreover, Willner et al. (2023) claimed that the reasons for attending university might also impact which department they would choose.

Willner et al. (2023) defined higher education orientation to account for why individuals would like to start university. Career values and academic motivation are similar concepts with higher education orientations in terms of pushing individuals to make a specific decision. However, higher education orientation differs from career values and academic motivation by focusing on a highly specific preference in a given time period. Therefore, taking into account conditions in a short period of time, higher education orientations may be a strong predictor of career behaviors. For instance, even if individuals who do not want to continue higher education have intrinsic career values including creativity, they feel they have to attend university because of the pressure from their social environment. There is a slight but noteworthy difference between academic motivation and higher education orientations. While academic motivation explains how individuals motivate themselves toward the educational environment (Ünal-Karagüven, 2012; Vallerand et al., 1992), higher education orientations define the expectations and outcomes related to why they prefer the educational environment.

Previous studies suggest that individuals want to start university for reasons such as obtaining a profession, acquiring knowledge, participating in social activities, and meeting family expectations (Bogler & Somech; Cote & Levine, 2000; Kember et al., 2008). Others may want to go to university to gain prestige. As a case in point, Ackerman et al. (2022) defined university as a prestigious product

and claimed that it is compatible with luxury consumption for the upper socio-economic status (SES). Accordingly, Willner et al. (2023) formed five higher education orientations: profession, knowledge, social, prestige, and external. Those who enter university to obtain a profession constitute the profession orientation. Knowledge refers to the purpose of knowledge acquisition and acculturation. Those with a social orientation utilize the university to create a social environment and make new friends. Prestige refers to going to university for the dignity that a university degree brings in social environments. Individuals with an external orientation continue university education due to external forces in their social environments. Previous studies conducted in collectivist cultures highlight family effects on career decisions (e.g., Cureton & Aguinaldo, 2023; Fouad et al., 2016; Maramba et al., 2018; Mau & Bikos; Lee & Kang, 2018; Leung et al., 2011). This is also important for individualistic cultures because different cultures have had to coexist due to the global wave of immigration. In this respect, external orientation may have an important role in career decisions for minority groups in individualistic cultures. Moreover, Turkish culture has collectivist elements in that parents interfere youth career decisions (Karacan-Özdemir, & As, 2022). Therefore, we consider external orientation a noteworthy factor in university choice.

Finally, we hypothesized whether the HEOQ would have compatible psychometrics with Turkish higher education culture.

H1 The HEOQ shows acceptable validity and reliability in the Turkish sample.

Intrinsic and extrinsic motivation

The self-determination theory (Deci et al., 1991; Ryan & Deci, 2000) discriminates the motivation arising from enjoyment and satisfaction with the behavior from the motivation resulting from external outcome of the behavior, such as gaining appreciation of others. In educational settings, intrinsic motivation is conceived of as the desire toward learning and development, and meaningfulness linked to academic and career development (Deci et al., 1991; Vallerand et al., 1992). Previous studies reported that intrinsic motivation enhances career decision self-efficacy (Choi et al., 2013; Doo & Park, 2019; Duffy & Blustein, 2005; Guay, 2005), serving as a notable factor in career development. Since both knowledge and profession predict productive coping directly, and career decision-making status indirectly, in Willner et al.'s (2023) study, they suggest that knowledge and profession are related to intrinsic motivation. However, these relationships have not been systematically tested yet.

Furthermore, as mentioned above, extrinsic motivation refers to being motivated for some behavior due to external outcomes or benefits for the individual from others (Deci et al., 1991; Ryan & Deci, 2000; Vallerand et al., 1992). Several studies indicated the potential of extrinsic motivation to hinder career development such as career indecision (Guay, 2005; Paixão & Gamboa, 2017) and maladaptive outcomes such as dropout intentions and anxiety (Howard et al., 2021). Willner et al. (2023) linked extrinsic motivation to the sub-dimensions of the HEOQ, social, prestige, and external orientations, because these orientations predicted unproductive ways

of coping with career decision difficulties. However, these relationships were not empirically supported. Accordingly, the present study also seeks to test the following hypotheses:

H2a Intrinsic motivation is positively related to profession and knowledge orientations.

H2b Extrinsic motivation is positively related to external, social, and prestige orientations.

Career decision-making self-efficacy

Career decision-making is one of the most salient aspects of career development. In the decision-making process, simply put, career decision self-efficacy is defined as self-confidence in making decisions (Betz et al., 1996; Büyüköze-Kavas, 2014). When individuals perceive themselves as competent about career decisions, they are unlikely to experience career indecision (Choi et al., 2013). Some higher education orientations may facilitate career decision-making and increase career decision self-efficacy. This is likely to matter for profession orientation. People with profession orientation may tend to be more motivated to enhance and control their career path, thereby feeling more self-efficacious in career decision. This is because individuals feel more competent to make decisions when they feel in control of their professional environment (Jiang, 2015). On the contrary, individuals with external motivation have to attend university for reasons not of their own will. Therefore, we might assume that they perceived less self-efficacy in making career decisions due to their limited sense of career control.

Willner et al. (2023) associated profession and knowledge orientation with intrinsic motivation and social, prestige, and external orientations with extrinsic motivation. Previous research also reported the positive relationship of intrinsic motivation with career decision self-efficacy, and negative or nonsignificant relationship with extrinsic motivation (Choi et al., 2013; Choi & Kim, 2013; Doo & Park, 2019; Duffy & Blustein, 2005; Guay, 2005; Paixão & Gamboa, 2017). Internal and external dynamics may enable students to be conscious of themselves and make confident career decisions through this awareness. Career decision self-efficacy consists of dimensions such as knowledge and goal maintenance, and to realize these dimensions, motivation is a prerequisite. Higher education orientations may predict career decision self-efficacy in a similar manner. While university students with profession orientation use higher education as a vehicle for future career making, others with external orientation do not have a straight intention toward higher education, and they may not know what to do in the future. Therefore, profession orientation is expected to relate with career decision self-efficacy positively, although external orientation may negatively relate with it. Therefore, we suggest that higher education orientations are related to career decision self-efficacy.

H3: After controlling for demographics and academic motivation, higher education orientations positively predict career decision self-efficacy.

Study 1: initial validation of the HEOQ Turkish version

Methods: study group 1

The first stage of this correlational study was carried out with 201 university students (81% female, $n = 170$, & 19% male, $n = 40$) from several state universities in Central Anatolia, Türkiye, sampling students from all over country. Participants were recruited voluntarily through convenient sampling using online forms in the 2022–2023 academic year. The participants were 49 (23%) tertiary English, 23 (11%) freshman, 46 (22%) sophomore, 59 (28%) junior, and 33 (16%) senior students from different departments and faculties. The participants were aged between 18 and 38 ($M = 22.43$, $SD = 5$). More than half of the participants (57%, $n = 119$) identified themselves with middle SES, while others with low (30%, $n = 62$) or high (13%, $n = 29$) SES.

Measurements

Higher Education Orientations Questionnaire (HEOQ). Willner et al. (2023) developed the HEOQ for the Israeli sample and translated it for the English sample. The HEOQ was administered to young adults at university or young adults intending or undecided to enter university. The HEOQ is a 7-point Likert scale ranging from 1 (completely disagree) to 7 (completely agree). It has 25 items in five sub-dimensions: profession (e.g., A college education will prepare me for the career I'm considering), knowledge (e.g., Learning new things is important to me), social (e.g., I would not be happy at a college where I could not meet a lot of new people), prestige (e.g., People who have a college degree receive more respect), and external (e.g., A college degree is more important to my family than to me).

Translation procedure

We followed the recommendations of Behling and Law (2019) to manage the translation process and ensure conceptual and semantic equivalence. The following steps were carried out: (1) Willner et al. (2022) were contacted via email for permissions; (2) the first and second authors translated the HEOQ into Turkish; (3) the third author, an academic in English Language Teaching, translated it back into English; (4) The back translation and the original items were sent to Willner et al. for review and checking; (5) since we agreed that the back translation and the original scale were mostly compatible, revisions were made on the final form according to the feedback from Willner et al.; (6) the final version was administered to study group 1; and (7) the data were analyzed for the statistical testing of conceptual equivalence, validity, and reliability.

Data analysis

Data analysis was conducted using Rstudio version 1.4, an open-source R language compiler (RStudio Team, 2021). After checking for assumptions using the *stats* package, confirmatory factor analysis (CFA) was performed using the *lavaan*

(Rosseel, 2012) and *semTools* (Jorgensen et al., 2022) packages. We preferred the robust maximum likelihood (MLR) estimator to obtain “robust” standard errors and test statistics on the basis of recommendations from previous studies (Hox et al., 2010; Lei & Shiverdecker, 2019). To assess reliability, we calculated both composite reliability (CR) and Cronbach’s alpha. CR was calculated using the *compRelSEM* function in the *semTools* package. This function provides omega (ω), which is suitable for structural equation modelling (SEM). It is calculated with factor model coefficients, which have been extended to account for multidimensionality and correlated errors (Jorgensen et al., 2022). Cronbach’s alpha was calculated using the *MBESS* package (Kelley, 2017).

Results

We used CFA to test five-factor theoretical model of HEOQ structure on the Turkish sample. Therefore, we conducted and compared three models, i.e., one-factor solution, four-factor solution, and five-factor solution, to test the multidimensional construct. Profession and knowledge merged into one sub-dimension in four-factor because their correlation with each other was higher than the others ($r = 0.72$). The one-factor [chi squared = 1077.98, $df = 275$, $p < 0.05$, CFI = 0.61, RMSEA = 0.13, CI (0.12, 0.13)] and four-factor model [chi squared = 552.01, $df = 269$, $p < 0.05$, CFI = 0.86, RMSEA = 0.08, CI (0.07, 0.08)], showed poor fit, while the five-factor model fitted adequately with the theoretical model [chi squared = 462.04, $df = 265$, $p < 0.05$, CFI = 0.91, RMSEA = 0.06, CI (0.05, 0.07)]. Scaled chi-squared difference test with Satorra–Bentler correction confirmed that the five-factor model showed better fit than the one-factor model [chi squared diff(6) = 364.51 $p < 0.001$], and four-factor model [chi squared diff(4) = 68.06 $p < 0.001$].

The goodness-of-fit indices of the five-factor model showed a reasonable fit. CFI value of 0.90 and above are considered adequate (Byrne, 2001), while for the RMSEA, values less than 0.06 indicate an acceptable fit (Hu & Bentler, 1999). Standardized factor loadings of the five-factor model were significant and accumulated between 0.60 and 0.70 (Table 1). M7, “I am going to college because I have no choice,” had a low factor loading (0.28). It is possible that M7 loads on other factors. M7 also had a higher mean than the other items in the external factor. Similarly, in Willner et al.’s (2023) study, this item had a lower factor loading than the others. However, we decided to keep this item because it is theoretically the most appropriate for external orientation as well as showing higher correlations with external orientation’s items than others. Furthermore, the general fit indices of the HEOQ were also at an acceptable level.

We tested reliability by using composite reliability (CR) and Cronbach’s alpha. CR and Cronbach’s alpha were lowest at external sub-dimension with 0.71, and highest at profession sub-dimension with 0.91. Table 1 presents the validity and reliability coefficients and descriptive statistics of the HEOQ.

To investigate discriminant validity, correlations among sub-dimensions were calculated. The strongest relationship was 0.72, being between profession and knowledge sub-dimensions. Correlations were concentrated around 0.30. As the

Table 1 Standardized factor loading, M, SD, CR, and Cronbach's alpha for HEOQ-TR items in study 1 and study 2

Items	Study 1					Study 2				
	M	SD	Factor loading	CR	Alpha	M	SD	Factor loading	CR	Alpha
<i>Profession</i>	5.46	1.37		0.91	0.91	5.66	1.17		0.84	0.84
M1	5.78	1.35	0.68			5.82	1.49	0.63		
M6	5.58	1.64	0.86			5.85	1.47	0.71		
M11	5.36	1.64	0.78			5.54	1.54	0.68		
M16	5.13	1.67	0.85			5.27	1.66	0.79		
M21	5.45	1.7	0.89			7.83	1.51	0.76		
<i>Knowledge</i>	5.38	1.16		0.85	0.84	5.64	1.04		0.81	0.84
M3	5.42	1.54	0.72			5.77	1.49	0.68		
M8	5.99	1.29	0.68			6.32	1.01	0.60		
M13	5.43	1.40	0.86			5.75	1.38	0.82		
M18	5.71	1.44	0.84			5.95	1.28	0.86		
M23	4.34	1.73	0.55			4.37	1.86	0.53		
<i>Social</i>	3.82	1.34		0.82	0.81	3.64	1.33		0.78	0.81
M5	3	1.5	0.64			2.87	1.57	0.60		
M10	3.66	1.91	0.55			3.22	1.95	0.54		
M15	3.56	1.79	0.78			3.47	1.89	0.74		
M20	5.19	1.71	0.65			5.12	1.84	0.59		
M25	3.69	1.89	0.82			3.51	1.91	0.75		
<i>Prestige</i>	3.72	1.26		0.71	0.70	3.74	1.41		0.77	0.70
M4	3.25	1.81	0.34			3.34	1.98	0.64		
M9	4.52	1.86	0.48			4.48	2.02	0.70		
M14	3.03	1.81	0.65			2.77	1.84	0.48		
M19	3.91	1.86	0.56			4.02	1.94	0.67		
M24	3.89	1.99	0.80			4.06	2.02	0.76		
<i>External</i>	2.68	1.19		0.71	0.71	2.33	0.94		0.54	0.71
M2	1.63	1.29	0.66			1.36	0.85	0.49		
M7	4.53	2.04	0.28			4.23	2.20	0.22		
M12	2.07	1.51	0.70			1.65	1.20	0.76		
M17	2.7	1.84	0.68			2.37	1.66	0.51		
M22	2.46	1.90	0.66			2.02	1.62	0.49		

correlation between two variables was less than 0.75, no discrimination issue arose (Cheung et al., 2023).

Study 2: criterion validity

Study group 2

The participant group of study 2 consisted of 371 university students (80% female, $n = 296$, & 20% male, $n = 75$) from the faculties of several state universities in Central Anatolia, Türkiye, sampling students from all over country. The students were asked to complete online forms in the 2022–2023 academic year. All the participants signed an informed consent form to take part in the study. We excluded three participants from the sample because their scores were far from the others. The participants included 82 (22%) freshman, 130 (35%) sophomore, 44 (12%) junior, and 67 (18%) senior undergraduates alongside 15 (4%) tertiary English students. In addition, 32 (9%) of the participants were recent graduates. The mean age was 22.43 years (SD 5). The majority of the students (58%, $n = 214$) identified with middle SES, while others with either low (33%, $n = 121$) or high (9%, $n = 36$) SES.

Measurements

Higher Education Orientations Questionnaire. We used the HEOQ developed by Willner et al. (2022) and translated into Turkish in study 1. The HEOQ was designed to assess the reasons why university students choose to attend university. These orientations accumulated under five sub-dimensions: profession, knowledge, social, prestige, and external. The HEOQ, a 7-point Likert-type scale ranging from 1 (completely disagree) to 7 (completely agree), includes 25 items and five different orientations.

Academic Motivation Scale. The Academic Motivation Scale, developed by Vallerand et al. (1992) and translated into Turkish by Ünal-Karagüven (2012), aims to measure intrinsic, extrinsic, and amotivation toward university. The self-report scale is 7-point Likert type and consists of 28 items with seven sub-dimensions. Responses range from 1 (not at all) to 7 (exactly). The scale includes sub-dimensions of intrinsic motivation (intrinsic motivation to know, intrinsic motivation to accomplish, and intrinsic motivation to experience stimulation), extrinsic motivation (external motivation, introjected motivation, and identified regulation), and amotivation. Therefore, we used total scores for intrinsic motivation, extrinsic motivation, and amotivation. Ünal-Karagüven (2012) reported Cronbach's alpha coefficients between 0.67 and 0.87.

Career Decision Self-Efficacy Scale Short Form. The Career Decision Self-Efficacy Scale Short Form, developed by Betz et al. (1996) and translated into Turkish by Büyüköze-Kavas (2014), aims to gauge university students' perceived self-efficacy in the career decision-making process. The scale consists of 25 items with 4 sub-dimensions: goal selection, problem solving, information gathering, and goal pursuit management. It is a 5-point Likert-type scale with responses ranging from 1

(no confidence at all) to 5 (complete confidence). Reliability ($\alpha = 0.88$) and validity were evidenced for the Turkish form (Büyüköze-Kavas, 2014).

Data analysis

Data analysis was performed using Rstudio version 1.4, an open-source R language compiler (RStudio Team, 2021). Assumption testing identified three outliers that were excluded from the sample. CFA with MLR estimator for construct validity was performed using the packages *lavaan* (Rosseel, 2012) and *semTools* (Jorgensen et al., 2022). Cronbach's alpha and CR were calculated using *MBESS* (Kelley, 2017) and *semTools* (Jorgensen et al., 2022) packages. Hierarchical regression analysis was used to examine the relationships between variables using the *psych* package (Revelle, 2023). To perform hierarchical regression analysis, three regression models were constructed using the *lm* function. They were then compared using the analysis of variance (ANOVA) test. Accordingly, we separated the association between higher education orientation and career decision self-efficacy from academic motivation and demographics.

Results

We again tested construct validity with CFA by comparing one-, four-, and five-factor models in study 2. The five-factor model [chi squared = 488.1, $df = 265$, $p < 0.05$, CFI = 0.92, RMSEA = 0.05, CI (0.04, 0.06)] fitted the data better than the four-factor [chi squared diff(4) = 81.16] and one-factor models [chi squared diff(6) = 461.65, $p < 0.001$] as in study 1. Similarly, study 2 supports the five-dimensional model with acceptable fit indices (Byrne, 2001; Hu & Bentler, 1999). Therefore, we concluded that the HEOQ comprises five factors in the Turkish sample.

Table 2 presents the relationships among HEOQ sub-dimensions and academic intrinsic and extrinsic motivation, amotivation, and career decision self-efficacy. Profession and knowledge correlated positively with intrinsic and external motivation, and negatively with amotivation. Furthermore, external motivation was not related with intrinsic and external motivation but it was positively related with amotivation. The highest correlation between the dimensions of the HEOQ is 0.63, indicating that there was no multicollinearity problem (Cheung et al., 2023).

Hierarchical regression analysis was performed to present the impact of higher education orientations on career decision making self-efficacy after controlling for demographics and academic motivation. Table 3 presents the three models: model 1 conducted for the impact of gender and SES, model 2 for the impact of academic motivation, and model 3 for the impact of higher education orientations. Model 2 [$F(6, 361) = 40$, $p < 0.001$] and model 3 [$F(11, 356) = 24.61$, $p < 0.001$] were significant, while model 1 [$F(3, 364) = 1.50$, $p = 0.21$] was not.

Academic motivation predicted career decision-making self-efficacy in both model 2 and model 3 and explained 40% variance of model 2 (Adj. $R^2 = 0.39$). After adding higher education orientations, the explained variance increased to 43% (Adj. $R^2 = 0.41$), and their contribution was significant (F for change in $R = 4.09$, $p < 0.01$). Therefore, higher education orientation had its own impact on career

Table 2 Correlations among variables

Variables	M	SD	1	2	3	4	5	6	7	8	9
1. Profession	5.66	1.17	1								
2. Knowledge	5.64	1.04	0.63***	1							
3. Social	3.64	1.33	0.18***	0.33***	1						
4. Prestige	3.74	1.41	0.31***	0.34***	0.38***	1					
5. External	2.33	0.94	-0.11*	-0.08	0.27***	0.29***	1				
6. Intrinsic motivation	4.67	1.59	0.36***	0.49**	0.24***	0.19***	-0.001	1			
7. Extrinsic motivation	4.75	1.47	0.41***	0.41***	0.30***	0.34***	0.09	0.82***	1		
8. Amotivation	2.21	1.40	-0.36***	-0.29***	0.13**	0.07	0.37***	0.03	0.08	1	
9. Career decision self-efficacy	3.71	0.84	0.39***	0.33***	0.12**	0.12**	-0.11*	0.55***	0.57***	-0.09	1

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 3 Coefficients of academic motivation and higher education orientation predicting career decision-making self-efficacy

<i>Predictors</i>	Career decision-making self-efficacy									
	Model 1			Model 2			Model 3			
	B	SE B	BETA	B	SE B	BETA	B	SE B	BETA	
Intercept	3.95***	0.028	0.03	2.23***	0.26	0.19	2.09***	0.33	0.22	
Gender ^a	-0.0.20	0.11	-0.24	-0.0.01	0.09	-0.01	-0.0.002	0.09	-0.002	
SES	0.006	0.06	0.007	-0.0.06	0.05	-0.07	-0.0.07	0.05	-0.08	
Age	-0.0.01	0.009	-0.06	0.004	0.007	0.02	-0.0.002	0.007	-0.01	
<i>Academic motivation</i>										
Intrinsic motivation				0.15***	0.04	0.28	0.14**	0.04	0.26	
Extrinsic motivation				0.22***	0.04	0.38	0.21***	0.04	0.36	
Amotivation				-0.08**	0.02	-0.14	-0.02	0.03	-0.03	
<i>Higher education orientation</i>										
Profession							0.13**	0.04	0.18	
Knowledge							-0.03	0.05	-0.04	
Social							-0.004	0.03	-0.01	
Prestige							-0.03	0.03	-0.05	
External							-0.11*	0.04	-12*	
R ²	0.01			0.40			0.43			
Adj. R ²	0.004			0.39			0.41			
F	1.50			40***			24.61***			
F for change in R				80.87***			4.09**			

decision-making self-efficacy. Among higher education orientations, profession and external were predictors of career decision-making self-efficacy. External orientation decreased career decision-making self-efficacy, while profession orientation increased it.

General discussion

The main purpose of the present study was to validate the HEOQ with a Turkish sample. Therefore, we conducted serial CFAs and presented correlations with similar constructs to test validity and reliability. Accordingly, CFAs showed that the construct of the HEOQ fitted well with the Turkish data. As the fit indices as well as the reliability measures have shown, HEOQ is a valid and reliable instrument for the Turkish context, supporting H1. The fit indices were similar to Willner et al.'s (2023) study conducted with the Israeli sample. Internal consistency coefficients were sufficient both in study 1 and study 2 (Cheung et al., 2023; Hair et al., 2009).

The results revealed that there was a strong relationship between knowledge and profession in contrast to the Willner et al.'s (2023) study. This could be explained

with differences in employment concerns between these countries. In Israel, youth unemployment rate was reported to be 6%, while this percentage more than triples (19%) in Türkiye (ILO, 2023). Turkish university students may be orienting themselves toward getting a job via higher education. They may be perceived as acquiring knowledge regarding and for the sake of profession. Therefore, knowledge may serve to profession, instead of being completely independent and separate orientation in its own right. Choi et al. (2013) emphasizes that finding a good job in times of economic instability may overshadow intrinsic motivation. Students with less employment anxiety might reach favorable conditions to enact their desire for knowledge. Furthermore, the Turkish education system can also make students feel that they need to learn to get a good job. The Korean education system is a working example. Korean students, like Turkish students, enter university through rankings and experience social pressure to attend university (Kwon et al., 2017). This may force students to learn more to gain admission to a more prestigious university, which will get them better jobs later on.

We also hypothesized that profession and knowledge orientation are related to intrinsic motivation (H2a). Although the results support these relationships, profession and knowledge also had a considerable association with extrinsic motivation. Some professionally oriented individuals may be motivated to attend university by inner fulfillment, self-realization, and sense of belonging to a particular profession likely to arise from the impetus to make a contribution to their selves and the society they are in, while others may prefer to do so to make prospective income and for the sake of dignity. Thus, profession orientation appears to involve both intrinsic and extrinsic goals, as detailed in previous research (Eraslan-Çapan & Korkut-Owen, 2020; Korkut-Owen et al., 2012). On the contrary, cultural dynamics may also play a role in the relationship between profession orientation and extrinsic motivation, as individuals in collectivistic cultures may be more motivated by extrinsic motivations than those in individualistic cultures (Choi & Kim, 2013; Hartung et al., 2010). Therefore, H2a was supported.

The results indicated that extrinsic motivation was related, with all HEOQ sub-dimensions positively ranked, except external orientation. Extrinsic motivation also had a positive relationship with intrinsic motivation, and predicted career decision self-efficacy positively. On the contrary, some research demonstrated that extrinsic motivation predicted career indecision (Guay, 2005; Paixão & Gamboa, 2017). However, Bradshaw et al. (2023) indicated that extrinsic motivation may be harmful when it overrides intrinsic motivation. In this study, extrinsic motivation increased together with intrinsic motivation ($r = 0.82$). Interestingly, external orientation was not related with extrinsic motivation. We consider this a notable finding because it suggests that university students with external orientation may not have academic motivation toward higher education. Accordingly, there was a considerable relationship between amotivation and external orientation.

Willner et al. (2023) described prestige, social, and external orientations as an extrinsic path. Our study supported it partially because there were moderate relationships among external, social, and prestige orientations. However, our study argued that external orientation is different from social and prestige in terms of their relationship with amotivation. External orientation had no significant relationship

with intrinsic and extrinsic, while it had a positive relationship with amotivation. An explanation could be that external orientation implies a strong external control. Someone with external orientation would not attend to university if they did not feel compelled and pressured. On the contrary, those with social and prestige orientations may have internalized purposes to attend university. For instance, prestige was reported as a common attribute among Turkish youth and their parents, who interfere in the career decision-making process (Karacan-Özdemir, & As, 2022). Therefore, H2b was partially supported.

The results show that profession and external orientations predicted career decision self-efficacy after controlling for demographics and academic motivation. Considering that profession has intrinsic values, the results are compatible with previous studies suggesting that intrinsic motivation related with career decision self-efficacy (Choi et al., 2013). Furthermore, profession orientation predicting career decision self-efficacy may also be relevant to university career services. As mentioned before, the exam score plays an important role in university selection in Turkey. If this is the case, students may struggle to choose a career path after they attend university since they may be forced to choose a particular career on the basis of their exam score to avoid retaking the exam. A similar pattern has been mentioned for Korean students (Kwon et al., 2017). Supporting these students' profession orientation may contribute to their career decision-making self-efficacy.

Career decision self-efficacy decreased as external orientation increased. Individuals feel more confident about their career decisions if they have a sense of control over their careers (Jiang, 2015). Individuals with external orientation are quite unlikely to have control over their decisions. Therefore, it is reasonable that external orientation negatively predicted career decision self-efficacy. Moreover, prestige and social orientations were not significant predictors of career decision self-efficacy. These orientations may lead to an internal conflict because the opinions of others come into play in career decisions. After all, higher education orientations explained career decision self-efficacy significantly in model 3; thus, H3 was supported.

Limitations and suggestions for future research

There are some limitations to this study that should be noted. First, the cross-sectional design falls short in establishing causal relationships between variables. Therefore, the relationships presented in this study should be interpreted with caution. Additionally, it would be a good idea to observe the change in orientation from one grade to the next with a longitudinal study. Second, the results relied on self-report measures, which are subject to biases and inaccuracies. Thirdly, this research was conducted in a sample with the majority of the participants from the middle SES. Thus, the means of orientations may differ in samples with high or low SES because high SES and disadvantaged groups may have different foci in their university decision-making (e.g., Ackerman et al., 2022).

Validating the HEOQ with diverse populations may contribute to generalizability. Moreover, especially in a country such as Türkiye, which has received intensive immigration in recent years, we recommend that future researchers use the HEOQ

to investigate orientations of minority and disadvantaged groups. The results also implied that external orientations had unfavorable outcomes, as shown in career decision self-efficacy. Future research may also clarify this point by examining relationships, for example, between external orientation and life satisfaction, academic achievement and career adaptability, and so on. Further, we strongly recommend qualitative examinations to understand how students experience different orientations in their career development. This would enhance and broaden our understanding of perceived barriers, motivations, and accomplishments.

Implications for policy and practice

The present study emphasizes the importance of higher education orientations regarding career development. In this regard, the HEOQ may help university students and young people raise awareness about the functions of universities. Young people facing economic and social barriers may benefit from seeing that universities not only have economic value in getting a job, but also provide social and intellectual development to students. In addition, by raising awareness, university administrators and policymakers can work together to amplify and make other functions visible to all students, as especially students with an external orientation can benefit from these policies.

Understanding the potential implications of higher education orientations can inform interventions and policies aimed at promoting career development. For example, this study highlighted external orientation, which related to amotivation and lower career decision self-efficacy. We also suggested that the university students with external orientations could be at risk because they do not want to attend university, rather, they had to do it as a result of the pressure felt. It might especially be a risk factor for cultures overcaring for family and society expectations, such as Turkish, Asian, and Indian cultures. Therefore, family interventions regarding youth career development seem to be a *sine qua non* approach in these cultures. Career services in high schools and universities should reach students with external orientation and help them find a suitable career path for themselves. Career counselors may utilize the HEOQ to detect and guide these students.

As Willner et al. (2023) indicated, university administrators can benefit from the HEOQ to shape university environment in line with students' orientations. Moreover, they can build on policies such as increasing academic achievement by using orientations. To exemplify, students with social orientations may benefit from study groups and academic clubs comprising students from diverse faculties. The prestige orientation may require activities to enable them to meet with leading professionals in the field. In planning policies and interventions, determining needs and demands is an integral consideration. Therefore, the HEOQ serves as a useful measurement for multiple disciplines such as career development, education management, and higher education studies.

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Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest. The authors have no relevant financial or non-financial interests to disclose.

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