

**Earnings May Help in Studying Reliability of (Self) Assessment**

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**Abstract**

*Competence is a determinant of earnings (Roy, 1951; Semeijn et al., 2006, etc.) and the earnings are explained by (the use and the level of) one's acquired competence (Loo & Semeijn, 2004). Whereas, the subtlety of competence assessment is, appropriately, a critical research question; and the self-assessment of competence becomes even more subtle. The researchers have been using various methods for the (self) assessment (Shah, 2009) and rating scale seems a workable method for the competence measurement. This paper explores into the reliability of (self) assessment of level of competence. Data set of the Reflex project has been analysed; and we are thankful to the team of Reflex project. This dataset was collected through convenient sampling technique. OLS Regression analyses were done in Stata. We find the reliability of (self) assessment (acquired and required level of the competence). Results of this study are reinforced by the work of many researchers, for example, Heijke et al. (2002), and Busato et al. (2000). The study concludes with the confirmation of reliability of competence (self) assessment.*

**Keywords:** (Self) Assessment, Competence, Higher Education, Earnings, Occupation, Gender, Labour Market

**Introduction**

Reliability of (self) assessment of individuals' competence(s) has been a matter of serious concern to the researchers in Education, Economics, Management and the related fields. Various ways have been proposed in this regard; and the debate is on continuously. Far reaching objective of such a continued arduous activity is to prepare individuals through education and retraining so that they may get adjusted in real work situation. Underlying question of this debate is how to better match people with their work. Researchers believe that competence assessment may help in deciding how to match people with their jobs and tasks (Spencer & Spencer, 1993).

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Earnings have been defined primarily on the basis of, initially, the number of successful years in schooling, and at later stage, the time spent in employment. The time in schooling and/or employment is in fact responsible for adding to the *competence* (human capital) possessed by the individual through their lifelong learning experiences. In rather simple words, it is the *competence* (the cumulative effect of school and work) possessed by an individual which is in fact responsible for their earnings. Therefore, now it is not strange to consider competence(s) as a determinant of earnings (Roy, 1951; Hartog, 2001; Semeijn et al., 2006; Nijhof, 1998). According to Loo and Semeijn (2004) it is the *use* and the *level* of competences possessed that determines individuals' earnings.

Nijhof (1998) considers *labour market oriented* knowledge and skills are decisive for individuals' success in their job. There are many researchers (Heijke et al., 2002; Busato et al., 2000; Garcia-Aracil et al., 2004; Teichler & Kehm, 1995) who have been working on competence and the earnings; they are interested to ascertain more appropriate competences for professional success of 21<sup>st</sup> century graduates.

Concerns over match between individuals' qualification (higher education) and employment have attracted many researchers (Garcia-Aracil et al., 2004; Heijke et al., 2002; Busato et al., 2000; Teichler & Kehm, 1995) for better output both at micro and macro level. Trade-off between specific and generic competences kept researchers divided indiscriminately. Many researchers like Mane (1998), Campbell and Laughlin (1991), and Kang and Bishop (1989) believed in superiority of specific competences over the generic; whereas, some others, Teichler (1999) and Bowen (1977), revealed contradictory empirical evidences. Garci-Aracil and van der Velden (2008) revealed strong relationship between acquired competences and the required competences (characteristics of the job). Relationship between *earnings* and *competences* was found by Allen and van der Velden (2001), however, it was a weak relationship.

An extensive work on (self) assessment was carried out by Falchikov and Baud (1989) who scrutinized studies of 48 related works; and afterwards, it was worked out to 67 by Ward et al. (2002). Researchers have been assessing competences through the proxies like academic degrees, earnings etc. On the other hand, there are direct assessment ways and means. These methods include peer- and (self) assessment. Peer-assessment is also known as expert rating. Palpably, there are concerns in both assessment methods. Ward et al. (2002) recommended assessment by many assessors to correct eventual inconsistency in expert/peer assessment.

The research question in this paper is “*to what extent the individuals' (self) assessment of their competence is reliable*”. Our objective defines that the earnings are the function of (the *acquired* and the *required* level of) competence. The term *self-assessment* refers to the participants' assessment of their *acquired* level of competence; whereas, the term *assessment* refers to their assessment of the *required* level of those

competences at their work place. The rule of parsimony urges us to write (*self*) *assessment* to take in both terms meaningfully. We maintain that on having *consistent* and *coherent* findings, this objective would have been achieved. Popper's theory of *falsifiability* allows us to theorise that (self) assessment of individuals is reliable. However, in this paper we neither intend to prove this relationship nor tend to propose competence as an excellent determinant for the earnings. Making use of long studied *competence-earnings* phenomenon in a different way we want to the reliability of competence (self) assessment.

### **Methodology**

The dataset we are exploiting in present study is the outcome of the REFLEX\* research project. We are thankful for their granting us permission to use in our research. The acronym REFLEX (it is a research project which provides the dataset we are exploiting in present study) refers to a large-scale European survey among higher education graduates. It is invest in as a Specific Targeted Research Project (STREP) of the European Union's Sixth Framework Programme. It is coordinated by *The Research Centre for Education and the Labour Market* (ROA) which is a research institute of the *Maastricht University School of Business and Economics* (the Netherlands).

The REFLEX project focuses on the demands that the modern knowledge society places on higher education graduates, and the degree to which higher education equips graduates with the competencies to meet these demands. Therefore, we consider this dataset appropriate for our study. This data set contains information from about 40,000 individuals some three to four years after their graduation. It is comprehensible that higher competence level points towards higher earnings. But it is appropriate to those cases where higher education is relevant.

To establish the relationship of individuals' *earnings* and their *competences*, we investigated individuals' (self) assessed acquired level of competences (in their higher education), and their (self) assessed required level of competences (in their work); and subsequently, the net (difference in acquired and required) level of competences for any probable element of interest. Then we use this *competence-earning* relationship as a *priori* in determining the reliability of the (self) assessment. The *coherence* and *consistency* parameters are crucial to decide upon the reliability of (self) assessment.

We suppose that *earnings* of an individual  $i$  ( $Y_i$ ) is a function of *country* ( $X_1$ ), *occupation* ( $X_2$ ), *competence* ( $X_3$ ), and *gender* ( $X_4$ ). *Country* and *gender* are included in the model as control variables. The *error term* ( $\epsilon_i$ ) includes all the left out factors and/or for inaccurate measurements. The identifiers  $j$ ,  $k$ ,  $l$  and  $m$  are the markers for

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\* <http://roa.sbe.maastrichtuniversity.nl/?portfolio=reflex-international-survey-higher-education-graduates>

country, occupation, competence and gender respectively. Mathematical form of the model is given below.

$$\ln Y_i = \beta_0 + \sum_1^j \beta_j X1_{ij} + \sum_1^k \beta_k X2_{ik} + \sum_1^l \beta_l X3_{il} + \sum_1^m \beta_m X4_{im} + \varepsilon_i$$

This OLS regression model is used to analyse the Reflex dataset in Stata. It is one of the most common models in this field of research. Our focus is not on proposing a new model. To our understanding, OLS regression model is the most suitable way in present context; and we find it the most suitable and direct way in our study. Results are described here in the following section. The basic statistics of the variables of interest are given in the appendix. Readers are invited to consult the appendix for complementary information on these variables.

## Results

We intend to study that the

- ★ earnings are the function of acquired level of competence
- ★ earnings are a function of required level of competence
- ★ earnings are a function of net level of competence

**Table 1**

*Level of Competence*

	$n_A$	$\bar{x}_A$	$\sigma_A$	$n_R$	$\bar{x}_R$	$\sigma_R$	$n_N$	$\bar{x}_N$	$\sigma_N$
1. Willingness to question your own and others' ideas	27801	5.387	1.166	27426	4.942	1.479	27414	-0.443	1.486
2. Mastery of your own field or discipline	27819	5.300	1.069	27445	5.313	1.468	27436	0.013	1.411
3. Analytical thinking	27806	5.339	1.203	27424	5.104	1.460	27412	-0.231	1.330
4. Ability to write reports, memos or documents	27799	5.399	1.267	27429	5.170	1.592	27414	-0.227	1.491
5. Ability to work productively with others	27803	5.601	1.099	27429	5.418	1.439	27417	-0.183	1.344
6. Ability to use time efficiently	27804	5.376	1.196	27429	5.580	1.329	27415	0.203	1.477
7. Ability to use computers and the internet	27804	5.854	1.182	27434	5.445	1.458	27421	-0.410	1.347
8. Ability to rapidly acquire new knowledge	27809	5.650	1.067	27439	5.360	1.369	27425	-0.288	1.379
9. Ability to perform well under pressure	27809	5.420	1.246	27434	5.552	1.409	27424	0.132	1.406
10. Ability to make your meaning clear to others	27797	5.334	1.151	27426	5.388	1.374	27412	0.053	1.428
11. Ability to coordinate activities	27804	5.460	1.177	27425	5.354	1.438	27414	-0.107	1.367
12. Ability to come up with new ideas and solutions	27795	5.317	1.151	27421	5.160	1.473	27406	-0.156	1.472

“A” and “R” are the subscripts respectively referring to the *Acquired* and the *Required* (competences level)

Competence-earning relationship is empirically evidenced for competences acquired level, required level and net level in Table 2. Acquired level of 5 competences (in bold) have been marked statistically insignificant; other 7 are noted statistically significant out of which three are with negative sign. Coefficient estimates with negative signs are unusual. We suspected it for likely *multicollinearity* and attempted unsuccessfully the centring techniques for its correction. In all through the analyses we have observed certain competences with negatively significant difference.

We tried to correct likely *multicollinearity* through centring technique which improved nothing at all. Then we go for checking whether there is multicollinearity or not. We compute variance inflation factor (VIF) as well as tolerance (Tol) which is reciprocal to VIF. Value of VIF >10 (or <0.1 value of tolerance) may be regarded as a signal for the presence of multicollinearity among the variables in the model under study (Jeeshim & Kucc, 2002). Values of standard errors are also not very large. We, finally, tumble on no multicollinearity. We reflect that this incongruity may arise, for either competence is not vital in labour market or not in accordance with work individuals were doing at the time of survey.

As a matter of fact, the demanding professions require higher competence level. Individuals in lower occupations have lower earnings and those in higher occupations have earnings compared to the *Professionals* (reference). Other occupation subcategories show earnings lesser than that of the *Professionals*. All occupation titles strongly determined earnings in present model as expressed through *excellent* significant difference.

Competence required levels shows strongly positive relation with *earnings* as have previously been witnessed in competence acquired level. It is surprising to notice statistically significant competences (these are three) with negative sign. However, competence-earning relationship is empirically evidenced for competences required level. Competence-earning relationship is also empirically evidenced for net level of competences as shown in the Table 2.

**Table 2**  
*Earnings, Competence, country, Occupation Title and Gender*  
 Earnings (n=27252;  $\bar{x} = 2376.4$ ;  $\sigma = 1558$ )

COMPETENCE	Acquired Level				Required Level				Net Level			
	$\beta$	SE	t	VIF	$\beta$	SE	t	VIF	$\beta$	SE	t	VIF
Willingness to question your own and others' ideas	-0.01 <sup>††</sup>	0.003	-4.66	1.63	<b>0.00</b>	0.002	0.14	2.10	0.01 <sup>††</sup>	0.002	4.89	1.75
Mastery of your own field or discipline	-0.01 <sup>††</sup>	0.003	-4.76	1.47	<b>0.00</b>	0.002	1.46	1.43	0.01 <sup>††</sup>	0.002	4.63	1.33
Analytical thinking	0.03 <sup>††</sup>	0.003	12.14	1.56	0.03 <sup>††</sup>	0.002	13.46	1.70	0.01 <sup>††</sup>	0.002	3.80	1.72
Ability to write reports, memos or documents	<b>0.00</b>	0.002	0.61	1.38	0.00 <sup>**</sup>	0.002	2.19	1.49	0.01 <sup>**</sup>	0.002	2.30	1.43
Ability to work productively with others	0.01 <sup>†</sup>	0.003	2.95	1.51	0.01 <sup>††</sup>	0.002	3.64	1.60	0.01 <sup>†</sup>	0.002	3.06	1.46
Ability to use time efficiently	<b>0.00</b>	0.003	0.63	1.62	-0.01 <sup>††</sup>	0.003	-3.71	1.86	-0.01 <sup>†</sup>	0.002	-3.09	1.59
Ability to use computers and the internet	0.02 <sup>††</sup>	0.003	6.78	1.40	0.02 <sup>††</sup>	0.002	9.58	1.45	-0.01 <sup>††</sup>	0.002	4.51	1.33
Ability to rapidly acquire new knowledge	<b>0.01</b>	0.003	1.61	1.75	-0.01 <sup>††</sup>	0.002	-3.30	1.84	-0.01 <sup>††</sup>	0.002	-3.53	1.79
Ability to perform well under pressure	0.04 <sup>††</sup>	0.003	14.27	1.56	0.03 <sup>††</sup>	0.002	12.47	1.57	<b>0.00</b>	0.002	0.05	1.44
Ability to make your meaning clear to others	- <b>0.00</b>	0.003	-1.54	1.55	<b>0.00</b>	0.002	0.04	1.69	<b>0.00</b>	0.002	0.74	1.54
Ability to coordinate activities	<b>0.01</b>	0.003	1.57	1.83	0.01 <sup>†</sup>	0.002	3.17	1.82	<b>0.00</b>	0.002	1.61	1.73
Ability to come up with new ideas and solutions	-0.01 <sup>††</sup>	0.003	-4.94	1.80	-0.01 <sup>††</sup>	0.003	-4.06	2.21	- <b>0.00</b>	0.002	-0.42	1.94
<b>COUNTRY</b> (28091)												
Japan	-0.13 <sup>††</sup>	0.01	-9.16	1.94	-0.20 <sup>††</sup>	0.014	-14.48	1.86	-0.22 <sup>††</sup>	0.014	-15.60	1.96
United Kingdom	0.07 <sup>††</sup>	0.02	4.54	1.44	0.07 <sup>††</sup>	0.015	4.39	1.44	0.09 <sup>††</sup>	0.015	5.88	1.43
Germany	0.29 <sup>††</sup>	0.02	19.33	1.47	0.27 <sup>††</sup>	0.015	18.60	1.48	0.31 <sup>††</sup>	0.015	21.01	1.46
France	-0.15 <sup>††</sup>	0.02	-9.51	1.42	-0.15 <sup>††</sup>	0.015	-9.77	1.42	-0.16 <sup>††</sup>	0.015	-10.21	1.41
Czech Republic	-1.05 <sup>††</sup>	0.01	-98.87	2.61	-1.09 <sup>††</sup>	0.011	-102.35	2.63	-1.06 <sup>††</sup>	0.011	-99.79	2.55
Italy	-0.40 <sup>††</sup>	0.01	-28.24	1.52	-0.42 <sup>††</sup>	0.014	-29.79	1.53	-0.40 <sup>††</sup>	0.014	-28.31	1.52
Switzerland	0.47 <sup>††</sup>	0.01	42.60	2.30	0.46 <sup>††</sup>	0.011	42.06	2.31	0.49 <sup>††</sup>	0.011	44.08	2.25
Spain	-0.43 <sup>††</sup>	0.01	-36.42	2.05	-0.44 <sup>††</sup>	0.012	-37.46	2.05	-0.45 <sup>††</sup>	0.012	-37.39	2.03
Austria	<b>0.01</b>	0.02	0.72	1.46	<b>0.00</b>	0.015	0.10	1.47	0.05 <sup>††</sup>	0.015	3.30	1.44
Belgium	0.09 <sup>††</sup>	0.02	5.68	1.40	0.082 <sup>††</sup>	0.015	5.40	1.40	0.083 <sup>††</sup>	0.015	5.42	1.40
Portugal	-0.63 <sup>††</sup>	0.02	-30.62	1.20	-0.64 <sup>††</sup>	0.020	-31.45	1.20	-0.62 <sup>††</sup>	0.021	-30.09	1.19
Norway	0.41 <sup>††</sup>	0.01	30.81	1.63	0.41 <sup>††</sup>	0.013	30.77	1.63	0.40 <sup>††</sup>	0.013	30.04	1.61
Finland	0.07 <sup>††</sup>	0.01	5.70	1.66	0.06 <sup>††</sup>	0.013	4.63	1.66	0.07 <sup>††</sup>	0.013	4.98	1.65
Estonia	-1.05 <sup>††</sup>	0.02	-58.79	1.28	-1.05 <sup>††</sup>	0.018	-60.28	1.29	-1.06 <sup>††</sup>	0.018	-58.68	1.28
Netherlands												
<i>(Reference)</i>												
<b>OCCUPATION</b> (27157)												
Low Skilled Workers	-0.29 <sup>††</sup>	0.04	-6.80	1.01	-0.25 <sup>††</sup>	0.043	-5.85	1.02	-0.30 <sup>††</sup>	0.043	-7.02	1.01
Service and Craft Workers	-0.25 <sup>††</sup>	0.02	-14.79	1.05	-0.21 <sup>††</sup>	0.017	-12.19	1.08	-0.23 <sup>††</sup>	0.017	-13.49	1.06
Office Workers	-0.17 <sup>††</sup>	0.01	-15.82	1.23	-0.16 <sup>††</sup>	0.012	-13.43	1.26	-0.11 <sup>††</sup>	0.012	-14.34	1.24
Technicians	-0.05 <sup>††</sup>	0.01	-7.37	1.12	-0.04 <sup>††</sup>	0.007	-6.36	1.13	-0.056 <sup>††</sup>	0.007	-6.70	1.13
High Officials	0.17 <sup>††</sup>	0.01	18.04	1.08	0.17 <sup>††</sup>	0.009	18.24	1.08	0.19 <sup>††</sup>	0.009	19.59	1.07
Other Workers	-0.40 <sup>††</sup>	0.04	-10.43	1.02	-0.32 <sup>††</sup>	0.039	-8.15	1.03	-0.37 <sup>††</sup>	0.039	-9.30	1.03
Professionals												
<i>(Reference)</i>												

<b>GENDER</b> (27961)												
Male	0.21 <sup>††</sup>	0.01	37.74	1.16	0.21 <sup>††</sup>	0.005	40.26	1.09	0.22 <sup>††</sup>	0.005	41.97	1.06
Female (Reference)												
<b>CONSTANT</b>	7.32 <sup>††</sup>	0.02	317.15		7.28 <sup>††</sup>	0.018	413.04		7.67 <sup>††</sup>	0.009	831.08	
$R^2 =$	<b>0.65</b>				<b>0.65</b>				<b>0.64</b>			
$n =$	<b>26991</b>				<b>26936</b>				<b>26900</b>			
$F =$	<b>1487.35<sup>††</sup></b>				<b>1504.84<sup>††</sup></b>				<b>1442.61<sup>††</sup></b>			

## Discussion

Strong relationship between acquired competences and the required competences, found by Garci-Aracil and van der Velden (2008), encouraged us to make analyses for both acquired and required level of competences. Loo and Semeijn (2004) cited Green (2004) who proposed to use (self) assessment of required competence level in jobs as the indicator of individuals' acquired competence level. It is summarised that higher earnings are genuinely related with the higher required competence levels which in turn is profoundly related to higher acquired level of competence. It is found that both *higher acquired* as well as *required competence levels* are better paid. Analyses of net level of competences also show the same relationship. Findings of Allen and van der Velden (2001) had been supportive to our study. Henceforth, using such an established relationship as a *priori*, we set off for the establishment of the reliability of (self) assessment. Principles of *independent similarity* and *coherent consistency* convinced us to conclude that (self) assessment is reliable. Falsifiability theory of Popper (1963), encouragingly, strengthened our empirically researched idea.

## Conclusion

Convinced with the proposal of Allen and van der Velden (2005), we decided to analyse both the *acquired* and *required* levels of competences. We found our conclusion coherent in theory and practice. It is a signal for the reliability of assessment of competence by the individuals. As nothing unexplained incongruence has been observed in our analyses, (according to Popper, 1963) we may say that competence assessment is reliable, however, to a modest echelon. Assessment of acquired and required (along with the net) competence level is, however, objectively, proved to be reliable.

We think that our findings would be arising curiosity among educationists, economists, administrators, policy makers, and the other stakeholders in the labour market, and the higher education institutions. This study may be used as a reference for future researches appropriately. It may also be used in policy as well as practice with a greater level of confidence. We recommend investigating the other available datasets (for example, HEGESCO – <http://www.hegesco.org/>) for better generalizability of the findings.

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**APPENDIX A (Variables)**

The individuals were required to tell their occupation twice in the Reflex Master Questionnaire; first and current job. After graduation (Section D; First Job) “What was your occupation or job title at that time (e. g. civil engineer, lawyer, assistant accountant, nurse)?”

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**F2** Please describe your current main tasks or activities.  the same as listed above for the first job  
 (e.g. *analysing test results, making diagnoses, teaching classes, developing a marketing plan*)  other (please specify):

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The dataset included 10 subcategories of occupation titles. The first two (“Armed Forces”, and “Legislators, Senior Officials, and Managers”) were regrouped under a new title as High Officials. Second one is Professionals. The third was “Technicians and Associate professionals”. Fourth was the “Office Workers”. The next subcategory comprised “service workers”, “shop and market sales workers”, and “craft and related workers” and is renamed as “Service and Craft Workers”. Second last subcategory, “Low Skilled Workers”, included two subcategories (“skilled agriculture and fishery workers”, and “plant and machine operators and assemblers”). The last subcategory was the “Other Workers”. Earnings (total monthly earnings from all sources) were logged to normalise the variable. Following was the question in earnings in the Reflex Master Questionnaire.

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**F7** **What are your gross monthly earnings?** about         EURO per month

From contract hours in main employment

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From overtime or extras in main employment about         EURO per month

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From other work about         EURO per month

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Competence was the main variable of focus in present study. We selected 12 competences with high mean values on the basis of individuals’ responses.

**H1** Below is a list of competencies. Please provide the following information:

. How do you rate your own level of competence?

. What is the required level of competence in your current work?

*If you are not currently employed, only fill in column A*

**A Own level**

Very high <-----> low

1 2 3 4 5

6 7

**B Required level in current work**

Very high <-----> low

1 2 3 4 5

6 7

a	Mastery of your own field or discipline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b	Knowledge of other fields or disciplines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c	Analytical thinking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d	Ability to rapidly acquire new knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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e	Ability to negotiate effectively	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
f	Ability to perform well under pressure	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
g	Alertness to new opportunities	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
h	Ability to coordinate activities	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
i	Ability to use time efficiently	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
j	Ability to work productively with others	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
k	Ability to mobilize the capacities of others	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
l	Ability to make your meaning clear to others	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
m	Ability to assert your authority	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
n	Ability to use computers and the internet	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
o	Ability to come up with new ideas and solutions	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
p	Willingness to question your own and others' ideas	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
q	Ability to present products, ideas or reports to an audience	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
r	Ability to write reports, memos or documents	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
s	Ability to write and speak in a foreign language	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

The variable gender includes male and female (reference subcategory) in this analysis.

**K1** Gender

- male  
 female