



**ISFOL**

# The “PIAAC Italy Survey”

*Empirical Research Paper*

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DIREZIONE GENERALE PER LE POLITICHE ATTIVE,  
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**Programmi operativi nazionali  
per la formazione e l'occupazione**

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# BACKGROUND



## ISFOL - Institute for the Development of Vocational Training for Workers

### The Organization Learning Competences (OLC) PROJECT:

- 2004/2006: the “Employees Survey” (3,650 completed interviews via CAPI)
- 2007/2008: the “Employers Survey” (1,820 completed interviews via CAPI)

**2011-2012: PIAAC–OECD (Round 1) in Italy: 4,621 respondents**

**2013: OLC-PA: 2,000 civil servants in all government levels and sectors interviewed via CAPI (Department for Public Administration of the Italian Prime Minister’s Office with FormezPA and ISFOL)**

**2014: PIAAC–ITALY: 2,000 respondents yet interviewed in the «PIAAC OECD», re-interviewed without tests, but with a new BQ**

**2015: 53 interviews via CAPI to Italian employers on generic, work and foundation skills**



# BACKGROUND: WHAT IS PIAAC?

PIAAC is the OECD Programme for the International Assessment of Adult Competencies (adult population 16-65 year-olds) held in 2011-2012 in 24 participating countries (1<sup>th</sup> Round)

## **“Key information-processing skills”** 21<sup>st</sup> century skills

These skills are necessary for fully integrating and participating in the labour market, education and training, and social and civic life; highly transferable, in that they are relevant to many social contexts and work situations; and “learnable” and, therefore, subject to the influence of policy” (OECD 2013b, p. 18).

# PROBLEM STATEMENT



There is no doubt about the relevance of the cognitive skills assessed in the OCSE-PIAAC survey and the importance represented by the stock of "human capital" of which people must equip themselves to successfully achieve the objectives set by working, social and family life.

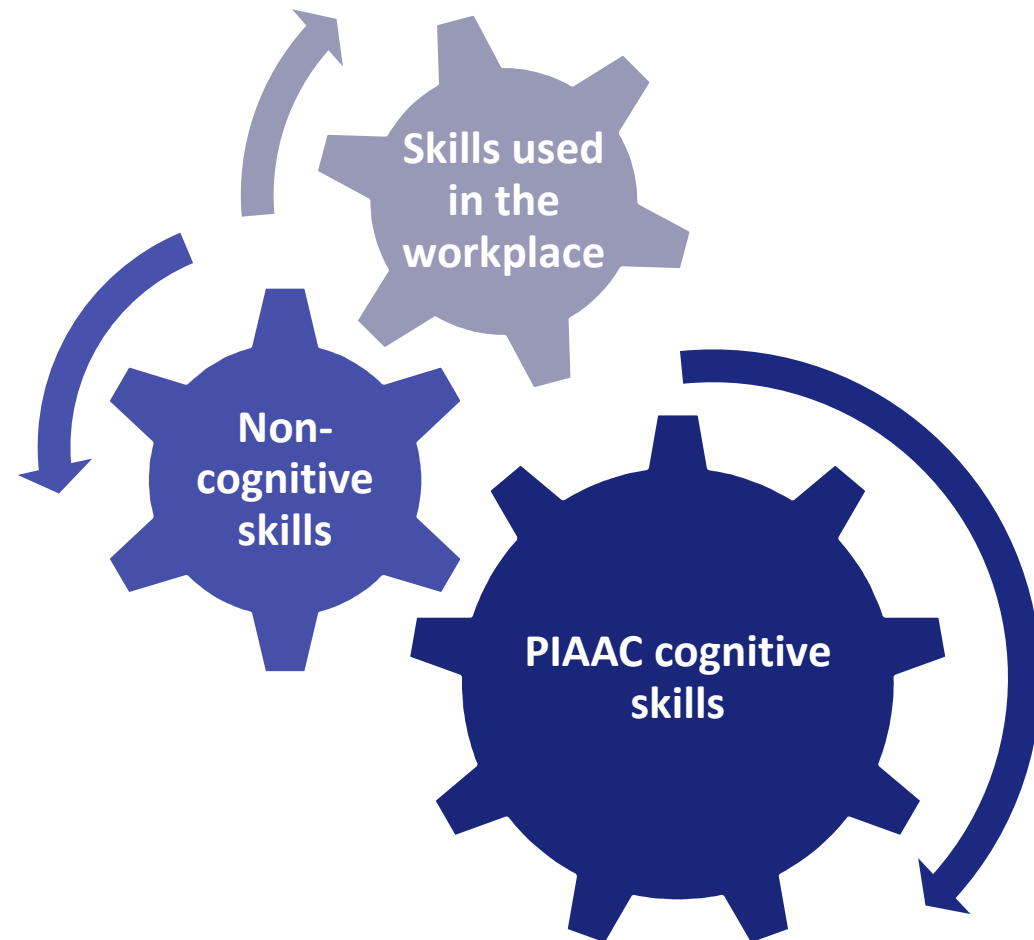
Nevertheless other abilities, which are weakly related to cognition are potentially as important as cognitive skills for individual development and economic success. These abilities include social skills, motivation and leadership, are typically non cognitive and involve important personality traits" (Brunello and Shottler 2011, p. 3).

Moreover competencies may be possessed but not completely required or not required at all; several skills in the workplace can not be directly assessed. "The underlying measurement principle of task-based research is that the use of skills can be reliably observed through reports about the tasks that workers perform" (Green 2013, p. 47).

# PIAAC–ITALY SURVEY AIMS



To go beyond the traditional categories of analysis of competences in order to validate a conceptual framework able to connect different variables



# PIAAC - ITALY SURVEY DESIGN



## 2.003 computer assisted personal interviews (CAPI)

*collected in the period September – December 2014*

## *Target population*

*- A panel sample 4043 respondents (18-68 years old) of the OECD-PIAAC main survey (retired and disables excluded)*

## A representative sample at national level

*-Estimates produced referring to the OCSE-PIAAC survey and other national surveys*

A joined dataset includes  
*PIAAC cognitive skills (LT/NM) collected at T1 (2011/2012) and “non-cognitive skills” collected at T2 (2014) for the same respondents*

# PIAAC – ITALY SURVEY QUESTIONNAIRE

The ISFOL logo is located in the top right corner. It features a large, light gray, stylized wave or 'S' shape that curves from the top right towards the center. To the right of this shape, the word 'ISFOL' is written in a blue, serif font. The 'I' and 'S' are connected, and the 'F' and 'O' are also connected.

ISFOL

The PIAAC – ITALY survey based on a revised PIAAC OECD “Survey of Adult Skills” CAPI questionnaire lasts on average about 45 minutes

## 6 SECTIONS

**0. Respondents screening to check the changing of the occupational status at T2**

**1. General Information (all respondents)**

**2. Personal traits/motivations or “non-cognitive dimensions” (all respondents)**

**3. Job search strategies (unemployed at T2)**

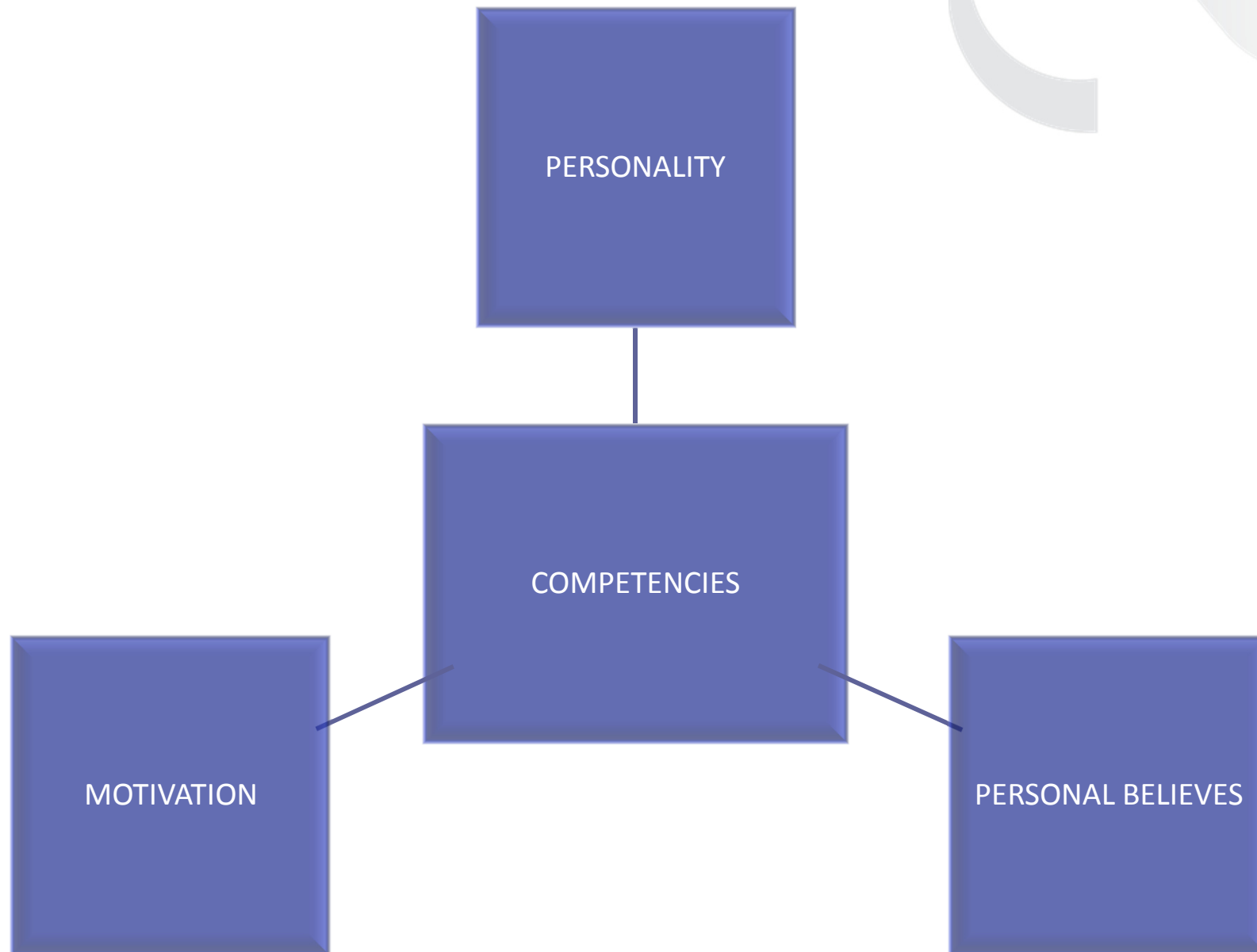
**4. Current job (employed at T2 and employed have changed their role or organization)**

**5. Skills used in the workplace (employed at T2)**

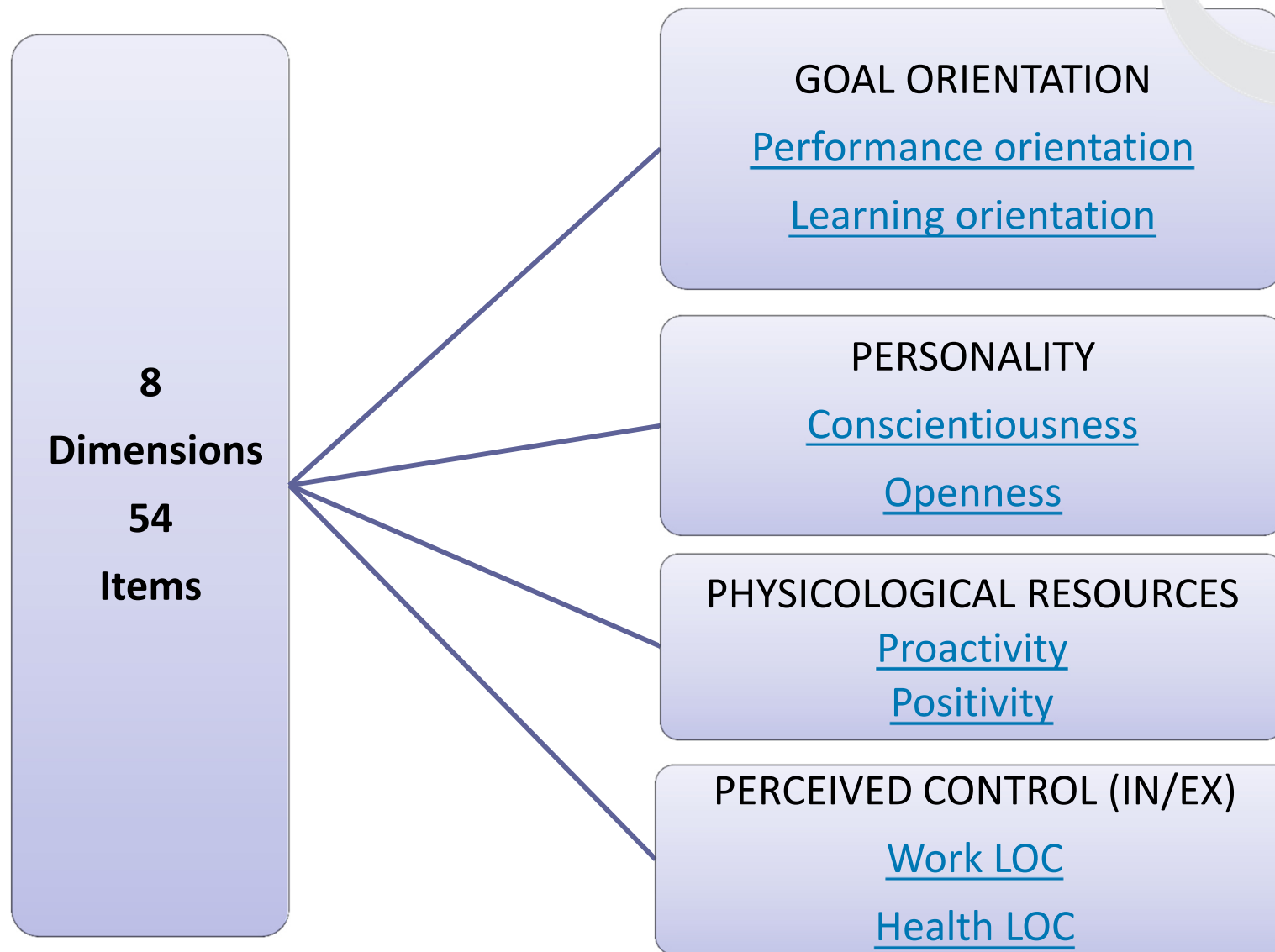
**6. Education and training activities (all respondents)**



# CONCEPTUAL FRAMEWORK



# NON-COGNITIVE DIMENSIONS



# WORK LOCUS OF CONTROL SCALE



**Argentero (1996)**

Five points Likert scale (from «strongly disagree» to «strongly agree»)

***Internal locus of control items:***

*“A job is what you make of it”*

*“Most people are capable of doing their jobs well if they make the effort”*

*“Promotions are given to employees who perform well on the job”*

***External locus of control items:***

*“In order to get a really good job, you need to have family members or friends in high places”*

*“Getting the job you want is mostly a matter of luck”*

*“Promotions are usually a matter of good fortune”*

# HEALTH LOCUS OF CONTROL



Wallston and Wallston (1976) / Fasol, Fraccaroli e Sarchielli (1998)

Five points likert scale (from «strongly disagree» to «strongly agree»)

➤ *Internal HLC items:*

*“If I take care of myself, I can avoid illness”*

*“I am directly responsible for my condition getting better or worse*

*“Whatever goes wrong with my health is my own fault.*

➤ *External HLC Items:*

*“My good health is largely a matter of good fortune”*

*“Even when I take care of myself, it's easy to get sick*

*“It seems that my health is greatly influenced by accidental happenings*

# THE BIG FIVE FACTORS MODEL

Caprara, Barbaranelli, Borgognoni (2000)

## Examples of Items randomly selected

Five points Likert scale (from «strongly disagree» to «strongly agree»)

### *for CONSCIENTIOUSNESS*

*“I make plans and stick to them*

*“Continue until everything is perfect”*

*“Waste my time” (Reverse item)*

### *for OPENNESS*

*“I am full of ideas”*

*“I do not have a good imagination” (Reverse item)*

*“I love to think up new ways of doing things”*

# THE SCALE OF PROACTIVITY



**Examples of items from the shortened version of Bateman and Crant scale (1993)**

Five points Likert scale (from «strongly disagree» to «strongly agree»)

*“I am constantly on the look out for new ways to improve my life”*

*“ I excel to identifying opportunities ”*

*“ I am always loooking for the better ways to do things”*

# THE SCALE OF POSITIVITY



Caprara et al. 2012

Five points Likert scale (from «strongly disagree» to «strongly agree»)

*“I have great faith in the future “*

*“I am satisfied with my life “*

*“I generally feel confident in myself”*

# THE GOAL ORIENTATION SCALE



Goal Orientation scale of Button, Mathieu & Zajac (1996)

## Five points Likert scale

### **Learning orientation**

*“The opportunity to do challenging work is important to me”*

*“I prefer to work on tasks that force me to learn new things”*

*“I do my best when I’m working on a fairly difficult task “*

### **Performance orientation**

*“I’m happiest at work when I perform tasks on which I know that I won’t make any errors”*

*“The things I enjoy the most are the things I do the best”*

*“I like to work on tasks that I have done well on in the past”*



# EXAMPLES OF JOB REQUIREMENTS



## [F\_Q01]

IN YOUR JOB, HOW FREQUENTLY DO YOU ACT THE FOLLOWING BEHAVIOURS [1 Every day; 2) At least once a week but not every day; 3) Less than once a week but at least once a month; 4) Less than once a month; 5) Never, not requested]

- *giving attention to details*
- *completing work in time*
- *analyzing in depth of complex problems*
- *working in independent way*
- *working in teams*
- *listening colleagues*
- *learning by reflecting on mistakes*
- *going ahead with the work despite the difficulties*
- *concentrating on future objectives*
- *joining a group effort*
- *working hardly without a supervisor*
- *taking decisions for the future of organization*

...

# RESULTS: NON COGNITIVE VARIABLES RELIABILITY



Variable	Cronbach's Alpha	N. of Items	Reliability
External LOC	0,78	8	**
Internal LOC	0,63	9	*
Proactivity	0,65	5	*
Openness	0,78	7	**
Conscientiousness	0,79	8	**
Positivity	0,71	4	**
Performance orientation	0,75	5	**
Learning orientation	0,81	6	***

Legend of Reliability:

\* Acceptable (alpha di Cronbach .60-.70)

\*\* Good (.71-.80)

\*\*\* Excellent (>.80)

External and internal LOC were constructed by work and health LOC

Source: Piac-ITALY Survey (2014)

# JOB REQUIREMENTS VARIABLES RELIABILITY



<i>Factor/job requirements</i>	<i>Cronbach's Alpha</i>	<i>n. items</i>	<i>Explained variance</i>
1) Working with data	.897	8	15,9%
2) Cooperation and teamwork	.852	5	12,88%
3) Problem solving and problem setting	.816	5	14,2%
4) Leadership and managing others	.788	6	12,65%
5) Physical work	.671	2	7,59%

Source: Piacac-ITALY Survey (2016)

Concerning the PCA analyses, the variance explained by the data, once extracted and rotated the components, is around 62%.

# Correlations between non-cognitive dimensions, job requirements and LT and NM

	1	2	3	4	5	6	7	8	9	10	11	12	13	PV LT1	PV NM1
1. External LOC	1														
2. Internal LOC	-0,009	1													
3. Proactivity	0,053	,314**	1												
4. Openness	-,063*	,189**	,493**	1											
5. Conscientiousness	-,093**	,306**	,413**	,357**	1										
6. Performance orientation	,308**	,293**	,120**	-,076**	,127**	1									
7. Learning orientation	-,080**	,278**	,539**	,519**	,427**	0,036	1								
8. Positivity	-,178**	,323**	,357**	,333**	,364**	0,009	,363**								
9. Working with data	-,257**	-,092**	,096**	,274**	,056*	-,223**	,207**	,120**	1						
10. Cooperation	-,189**	-,073**	,061*	,194**	,097**	-,163**	,196**	,133**	,446**	1					
11. Problem solving/setting	-,235**	-0,007	,163**	,232**	,222**	-,116**	,301**	,159**	,483**	,361**	1				
12. Leadership	-,236**	-,071**	,138**	,296**	,082**	-,194**	,278**	,155**	,646**	,425**	,584**	1			
13. Physical work	,098**	,056*	-0,013	-,061*	0,023	,100**	0,007	0,019	-,244**	0,049	,056*	-,114**	1		
PVLT1	-,164**	-,160**	0,007	,106**	0,012	-,180**	,080**	0,007	,362**	,212**	,238**	,264**	,202**	1	
PVNM1	-,198**	-,155**	0,006	,107**	0,006	-,202**	,098**	0,01	,423**	,212**	,265**	,304**	,190**	,801**	1

Taking into account the correlations between the job requirements and the cognitive variables, they would seem to be the most reliable predictors among those considered here (and more than the variables on the non-cognitive dimensions) with respect to the "Literacy" and "Numeracy" test results.

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Piac-ITALY Survey (2014)

# CONCLUSION



- ✓ Skills assessed through testing may not be the sole source of data for scholars interested in the analysis of competences or skills
- ✓ We need several and different elements to better understand how scholars, policy makers and practitioners should proceed and intervene at a theoretical or practical level.
- ✓ The non-cognitive dimensions, for example, could covariate with or explain the level of proficiency and could give a better explanation of several phenomena, together with classical variables such as education or occupation.
- ✓ The Job Requirements module also seems to be a valid instrument to analyze skills requested at work and to collect useful information about them.
- **As Green explains, “It seems unlikely that skills will fade from arenas of public importance, it can be expected that future decades will see ongoing improvements in the availability of suitable indicators. Measurement is worth doing, and these improvements worth having. Whether these developments will lead to better analysis and policy-making in future is another matter” (Green2013, p. 54).**

THANK YOU FOR YOUR ATTENTION

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