

DEVELOPMENT OF TWO SCALES FOR MEASURING ACADEMIC PSYCHOLOGICAL CAPITAL AND LOCUS OF CONTROL IN FRESH GRADUATES

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Abstract. *This work develops within PETERE, a project of the University of Padova that investigated how fresh graduates interact with the labour market in order to improve placement plans. A set of psychological characteristics have been identified as crucial resources for the occupational success: the positive psychological capital (PsyCap) dimensions (hope, resilience, self-efficacy, and optimism) and locus of control (LoC) dimensions (internal and external). Two instruments have been developed for the evaluation of these individual dispositions among fresh graduates: the Academic PsyCap and the LoC scales. In the final form, the two tools consist of 26 and 7 items respectively, which have been selected, through factor analyses, from an initial pool of items specifically developed for fresh graduates. Results suggested adequate psychometric properties for both the Academic PsyCap and the LoC scales. The factor structure of the two instruments was confirmed, and reliability indices were satisfactory for all the subscales of the tools. The Academic PsyCap and the LoC scales, in addition, showed significant relationships with the occupational status of respondents, with their entrepreneurial disposition, and with the number of actions taken when they are looking for a job.*

Keywords: *Academic psychological capital, Locus of control, Placement, Fresh graduates.*

1. INTRODUCTION

The present work develops within PETERE (Preferences for Employment and Training as Elected by REcent graduates), a project of the University of Padova that investigated how fresh graduates interact with labour market. One of the aims of the project was the identification of psychological patterns that could help graduates to stand the labour market in times of crisis. According to the literature, the attention

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was focused on psychological capital (PsyCap; Luthans, Avolio et al., 2007; Luthans, Youssef and Avolio, 2007) and locus of control (LoC; Rotter, 1966). PsyCap has been defined as an individual's positive psychological state of development characterized by: having confidence to take on and put in the effort requested to accomplish given attainments (self-efficacy); making a positive attribution about succeeding now and in the future (optimism); persevering toward goals and, when necessary, redirecting paths and strategies toward goals (hope); and sustaining and bouncing back when facing difficulties (resilience). LoC is the extent to which individuals believe that they have control over their own fate. Rotter (1966) differentiates internal and external LoC. Individuals with internal LoC believe that they are the masters of their fate, and perceive a strong link between their actions and consequences. Conversely, individuals with external LoC believe that they do not have direct control of their fate, and tend to attribute personal outcomes to external factors or luck.

PsyCap and LoC have been extensively related to important work outcomes, including job satisfaction, job performance, and organisational commitment (see, e.g., Avey et al., 2010; Avey et al., 2011; Judge and Bono, 2001). Moreover, it has been empirically demonstrated that, through targeted interventions, PsyCap can be improved (Luthans et al., 2008), and LoC can be shifted toward an internal orientation (Stanton, 1982).

Scales for measuring PsyCap and LoC exist in the literature. The PsyCap Questionnaire (PCQ; Luthans, Avolio et al., 2007) is meant for worker population. Since PETERE project focused on fresh graduates who were about to enter the world of work, PCQ may be not adequate for our target population. With respect to LoC, there is a scale, called Academic Locus of Control Scale (Trice, 1985), which is intended for students. This scale is based on a unidimensional conceptualization of LoC, which is not supported by research in this field. Levenson (1973, 1974, 1981), for instance, found that internality and externality are two distinct dimensions. This work aims at developing and validating two scales for the measurement of academic PsyCap and LoC. These scales will be composed of items specifically developed to fit with the target population of fresh graduates.

2. METHOD

2.1 PARTICIPANTS AND PROCEDURE

Participants to the study were graduates at the University of Padova in the year 2015. A first sample of 985 graduates (66.3% females), contacted within three months after graduation, was used for the development and refinement of the items.

The original survey consisted of 98 items evaluated on a 4-point agreement scale (from 1-Strongly disagree to 4-Strongly agree). In addition, other information was collected such as age, gender, work activities carried out before graduation, and status at the time of the interview. The survey was administered paper and pencil to the first 47 participants, and via a CAWI (Computer-Assisted Web-based Interviewing) system to the remaining 938 participants. Items with redundant content, low discrimination, or low loadings on all the factors were removed. This process has reduced the number of items from 98 to 48. Among them, 35 items were assumed to measure the dimensions of Academic PsyCap, and 9 items were assumed to measure LoC. The remaining 4 items, meant to highlight insincere responses, are not taken into account in the present study.

A second sample consists of 2,979 graduates (61% females), who were contacted two years after graduation. This new sample of respondents was presented with a new survey via a CAWI system. This survey included the items of PsyCap and LoC, and questions aimed at investigating socio-demographical variables, actions undertaken to search for a job, opinions, expectations, and attitudes regarding the labour market.

All the analyses presented in this article have been run on the 2,790 graduates (out of 2,979; 93.66%) of this second sample who (1) were Italian citizens, (2) responded to more than 75% of the items of PsyCap and LoC, and (3) did not give the same response to all the items of PsyCap and LoC. The latter choice is motivated by the fact that responding all the items in the same way denotes a response behaviour that is not consistent with content and type of the items (e.g., reverse coded items). Among the 2,790 graduates, 1,261 (45.2%) declared they were still studying, 1,186 (42.5%) declared they were working, 281 (10.1%) declared they were looking for a job, and 62 (2.2%) declared they were neither studying, nor working, nor looking for a job. The largest part of those who were studying was attending a Master's degree course (1,069; 84.8%), followed by those who were attending a Ph.D. course (78; 6.2%), or another postgraduate course (52; 4.1%), and those who were preparing for taking the exam for professional practice (24; 1.8%). The largest part of those who were working declared that it was a job that started after graduation (896; 75.5%), and that the job was from enough to very consistent with what learned during University (887; 75.0%). The most used channels among those who were looking for a job were sending curriculum vitae to employers (259; 92.2%), contacting private selection agencies and temp agencies (117; 41.6%), contacting the public placement system (115; 40.9%), placing advertisements or responding to advertisements (111; 39.5%; multiple responses allowed). The reasons for not looking for a job that most frequently have been reported by those

who were neither studying, nor working, nor looking for a job were the wait to start an internship (8; 12.9%), to give birth to children (7; 11.3%), or to start own business (6; 9.7%; multiple responses allowed). Only 9 respondents out of 62 (14.5%) declared that they were not looking for a job because they did not need to work or were not interested in working, or because interesting job offers were lacking. Finally, the 2.6% of graduates declared that they started up or were starting up own businesses.

2.2 ANALYTIC APPROACH

The factor structure of the Academic PsyCap and LoC scales was tested through parallel analyses (PAs), exploratory factor analyses (EFAs), and confirmatory factor analyses (CFAs). These analyses aimed to: (a) determine the appropriate number of common factors underlying the scales, (b) identify and select the items with the best psychometric properties (e.g., high factor loading on the intended factor, low cross-loadings), and (c) obtain satisfactory fit indices. The analyses were performed separately on the items of the two scales.

The sample of 2,790 graduates was randomly split into two subsamples of equal size. The first subsample was used for running the PAs and the EFAs, whereas the second subsample was used for running the CFAs.

Two PAs and two EFAs were run on the first subsample, one on the 35 items of the Academic PsyCap and the other on the 9 items of LoC. PA is one of the most recommended methods for determining the number of factors to retain in EFA and Principal Component Analysis (Ledesma and Valero-Mora, 2007). The two PAs were run using 500 random polychoric correlation matrices, and the principal component extraction method with Promax rotation (Lorenzo-Seva, 1999). For both scales, the number of factors was given by the number of eigenvalues, estimated on the real data, larger than the 95th percentile of the distribution of the eigenvalues estimated on the 500 random correlation matrices. The two EFAs were run using the Geomin oblique rotation.

Two CFAs were run on the second subsample, one on the 35 items of the Academic PsyCap and the other on the 9 items of LoC. The two CFAs were performed using the items as indicators and the WLSMV estimator (weighted least squares mean and variance-adjusted; Muthén and Muthén, 2012); this method is recommended for categorical observed data (e.g., Flora and Curran, 2004; Brown, 2006). Factors were allowed to correlate to each other.

The goodness of fit of the models was evaluated by means of several fit indices: χ^2 , Comparative Fit Index (CFI; Bentler, 1990), Standardised Root Mean Square Residual (SRMR; Bentler, 1995), and Root Mean Square Error of Ap-

proximation (RMSEA; Browne and Cudeck, 1993) with its 90% confidence interval (90% CI). A solution fits the data when χ^2 is non-significant ($p \geq .05$). Since this statistic is sensitive to the sample size, the other fit measures were also taken into account in the evaluation of models. Specifically, CFI indices close to .95 (.90 to .95 for reasonable fit), SRMR values less than .08, and RMSEA smaller than .06 (.06 to .08 for reasonable fit) are indicative of good model fit (see Brown, 2006; Hu and Bentler, 1999; Marsh et al., 2004).

Reliability of all the subscales was evaluated by means of Cronbach's α and composite reliability (Bagozzi and Yi, 1988; Bentler, 2009).

Three regression analyses were run on the data of the 2,790 graduates. In particular, a logistic regression was run in which the standardised scores on the dimensions of Academic PsyCap and LoC were the factors, and the occupational status of respondents was the dependent variable. Only employed individuals (coded with 0) and people looking for a job (coded with 1) were considered in this analysis. Students at the time of the interview were excluded from the analysis because the PETERE project was mainly focused on fresh graduates who were about to enter in the labour market; while respondents who declared that they were neither studying, nor working, nor looking for a job were excluded because they represented a very small and heterogeneous group (see Section 2.1). A second logistic regression was run in which the standardised scores on the dimensions of Academic PsyCap and LoC were the factors, and the dependent variable was the entrepreneurial disposition of respondents (i.e., those who started-up a business, coded with 1, and those who did not start-up any business, coded with 0).

The Wald test was used to evaluate β regression coefficients and odds ratio was considered to evaluate the effect size (for the odds ratios larger than 1, values of 1.22, 1.86, and 3.00 denote small, medium, and large effect sizes; for the odds ratios lower than 1, values .82, .54, and .33 denote small, medium, and large effect sizes; Olivier and Bell, 2013).

Finally, a multiple linear regression was run in which the dimensions of Academic PsyCap and LoC were the factors, and the number of actions undertaken by respondents looking for a job (e.g., job interviews in private selection agencies; participation in open recruitment competitions; public scholarships or community service, etc.) was the dependent variable. Cohen's f^2 was used to evaluate effect size ($f^2 \geq .02$, .15, and .35 denote small, medium, and large effect sizes; Cohen, 1988).

3. RESULTS

3.1 ACADEMIC PsyCap

PA and EFA suggested the adequacy of the four-factor solution (fit indices of the four-factor EFA: $\chi^2(461) = 3075.002$, $p \leq .001$; RMSEA = .064 [.062, .066]; CFI = .927; SRMR = .041). However, several items exhibited cross-loadings or low factor loadings on the intended factor (see Table 1). The items of the self-efficacy and the optimism scales showed a well-defined structure, consistent with theoretical expectations, whereas the items of the resilience and hope scales showed several cross-loadings. In fact, the CFA run using all the items of the Academic PsyCap did not fit the data ($\chi^2(554) = 6236.484$, $p \leq .001$; RMSEA = .086 [.084, .088]; CFI = .836; SRMR = .073). Some items, therefore, were progressively removed, according to the suggestions of EFA and CFA modification indices. Specifically, due to cross-loadings, two items were removed from the resilience, optimism and self-efficacy scales, whereas three items were eliminated from the hope scale. The final Academic PsyCap includes 26 items: six for the resilience and hope scales, and seven for the self-efficacy and optimism scales (see Appendix 1).

The model tested with these 26 items showed an adequate fit ($\chi^2(293) = 2400.783$, $p \leq .001$; RMSEA = .072 [.069, .074]; CFI = .917; SRMR = .062; see Table 2). Results of EFA and CFA were consistent (see Tables 1 and 2). Reliability coefficients were adequate for all the four scales dimensions of Academic PsyCap (see Table 5).

We note in passing that the structure of the Academic PsyCap is similar to that of the PCQ (Luthans, Avolio et al., 2007), which consists of 24 items, six for each dimension. However, the items of the former are meant for fresh graduates, whereas those of the latter are meant for workers.

3.2 LOCUS OF CONTROL

EFA and PA were run using the nine items of the LoC scale, and the results suggested a two-factor structure (fit indices of the two-factor EFA: $\chi^2(19) = 230.795$, $p \leq .001$; RMSEA = .089 [.079, .100]; CFI = .964; SRMR = .040). However, some items showed cross-loadings (see Table 3). These items were progressively removed following the suggestions of EFA and CFA modification indices. Specifically, one item was removed from the external locus of control scale because it loaded on both factors, whereas one item was removed from the internal locus of control scale due to a negative loading on this factor. Therefore, the final LoC includes 7 items: four for the external locus of control scale, and three for the internal locus of control scale (see Appendix 1).

Tab. 1: Exploratory Factor Analysis on Academic PsyCap

| Item | Resilience | Self-Efficacy | Optimism | Hope |
|------|-------------|---------------|-------------|-------------|
| S_1 | .015 | .740 | -.031 | .042 |
| S_2 | -.030 | .792 | .086 | -.048 |
| S_3 | .060 | .719 | -.030 | -.025 |
| S_4 | .293 | .470 | .104 | -.205 |
| S_5 | .220 | .595 | -.073 | .084 |
| S_6 | -.013 | .794 | .054 | -.079 |
| S_7 | .034 | .757 | -.048 | .017 |
| S_8 | .070 | .526 | .085 | .093 |
| S_9 | -.002 | .695 | .198 | -.036 |
| O_1 | -.035 | .381 | .429 | -.005 |
| O_2 | .027 | .026 | .745 | -.001 |
| O_3 | -.010 | -.064 | .647 | .335 |
| O_4 | .056 | -.054 | .577 | .392 |
| O_5 | -.021 | .230 | .506 | -.123 |
| O_6 | .251 | .143 | .461 | -.130 |
| O_7 | .044 | .037 | .568 | -.032 |
| O_8 | -.005 | .066 | .817 | .044 |
| O_9 | -.047 | .276 | .187 | -.039 |
| R_1 | .484 | .128 | .087 | -.078 |
| R_2 | .797 | -.101 | .034 | -.082 |
| R_3 | .532 | -.003 | .323 | .089 |
| R_4 | .410 | .153 | .363 | -.116 |
| R_5 | .331 | .032 | .443 | .128 |
| R_6 | .653 | .155 | .034 | .006 |
| R_7 | .428 | .069 | .370 | -.175 |
| R_8 | .621 | -.056 | .219 | .058 |
| H_1 | .361 | .227 | .233 | .084 |
| H_2 | -.021 | .079 | .033 | .815 |
| H_3 | .783 | .001 | .112 | .004 |
| H_4 | -.016 | .027 | -.037 | .757 |
| H_5 | .552 | .253 | -.227 | .114 |
| H_6 | .248 | .221 | -.027 | .422 |
| H_7 | .570 | .28 | -.206 | .055 |
| H_8 | .203 | .461 | .105 | .122 |
| H_9 | .869 | -.171 | -.078 | -.095 |

Note. The letter in the label of the item denotes the factor: R = Resilience; S = Self-efficacy; O = Optimism; H = Hope. Factor loadings higher than .350 in bold.

Tab. 2: Confirmatory Factor Analysis on Academic PsyCap

| Item | Resilience | Self-Efficacy | Optimism | Hope |
|-------------------------------------|------------|---------------|----------|-------|
| R_1 | 0.573 | | | |
| R_2 | 0.669 | | | |
| R_3 | 0.688 | | | |
| R_5 | 0.711 | | | |
| R_6 | 0.760 | | | |
| R_8 | 0.713 | | | |
| S_1 | | 0.707 | | |
| S_2 | | 0.768 | | |
| S_3 | | 0.696 | | |
| S_4 | | 0.767 | | |
| S_6 | | 0.819 | | |
| S_7 | | 0.792 | | |
| S_9 | | 0.811 | | |
| O_2 | | | 0.683 | |
| O_3 | | | 0.542 | |
| O_4 | | | 0.522 | |
| O_5 | | | 0.608 | |
| O_6 | | | 0.745 | |
| O_7 | | | 0.597 | |
| O_8 | | | 0.793 | |
| H_2 | | | | 0.160 |
| H_3 | | | | 0.876 |
| H_5 | | | | 0.653 |
| H_6 | | | | 0.489 |
| H_7 | | | | 0.671 |
| H_9 | | | | 0.723 |
| Correlations between factors | | | | |
| S | | R | | .719 |
| S | | O | | .638 |
| S | | H | | .635 |
| R | | O | | .644 |
| R | | H | | .898 |
| O | | H | | .424 |

Note. R = Resilience; S = Self-efficacy; O = Optimism; H = Hope.
All the factor loadings are significant $p \leq .001$.

The CFA model tested with these 7 items showed satisfactory fit indices ($\chi^2(13) = 107.112, p \leq .001$; RMSEA = .072 [.060, .085]; CFI = .976; SRMR = .043; see Table 4). Reliability coefficients were sufficient for both scales, although lower for the internal locus of control scale (see Table 5).

The factorial structure of the LoC scale supports that literature (e.g., Levenson, 1973, 1974, 1981) which claims that internality and externality are distinct, although correlated components rather than opposite poles of the same continuum.

Tab. 3: Exploratory Factor Analysis on Locus of Control

| Item | External LoC | Internal LoC |
|------|--------------|--------------|
| EL_1 | .798 | .074 |
| EL_2 | .489 | -.239 |
| EL_3 | .893 | .000 |
| EL_4 | .405 | -.394 |
| EL_5 | .614 | -.172 |
| IL_1 | -.017 | .618 |
| IL_2 | .126 | .421 |
| IL_3 | .088 | -.579 |
| IL_4 | .052 | .730 |

Note. EL = External locus of control; IL = Internal locus of control. Factor loadings higher than .350 in bold.

Tab. 4: Confirmatory Factor Analysis on Locus of Control

| Item | External LoC | Internal LoC |
|------|--------------|--------------|
| EL_1 | .682 | |
| EL_2 | .614 | |
| EL_3 | .892 | |
| EL_5 | .651 | |
| IL_1 | | .795 |
| IL_2 | | .473 |
| IL_4 | | .610 |

Note. EL = external locus of control; IL = internal locus of control. All the factor loadings are significant $p \leq .001$. Correlation between factors = $-.396$.

3.3 REGRESSION ANALYSES

Results of the logistic regressions showed that graduates with lower levels of internal locus of control and resilience, and with higher levels of hope, external locus of control, and optimism were more likely to be jobseekers than workers (small to medium effect sizes; see Table 7). In addition, graduates with higher levels of self-efficacy were more likely to show an entrepreneurial disposition than

individuals who did not start any business (medium effect size; see Table 8). Descriptive statistics are reported in Table 6.

Finally, multiple linear regression showed that the larger the level of external locus of control ($\beta = .105, t = 4.054, p \leq .001$) and the lower the level of internal locus of control ($\beta = -.076, t = -2.772, p \leq .01$), the larger the number of actions undertaken by respondents for the job seeking (see Table 9). The results of the multiple linear regression must be interpreted with caution because effect sizes are very small.

The aforementioned results indicate that the psychological dimensions under consideration are not associated with the work-related indicators in the same way. For instance, self-efficacy is the only dimension related with entrepreneurial disposition, whereas LoC (both internal and external) is the only construct related with the number of actions undertaken by fresh graduates for the job seeking. Except for self-efficacy, all dimensions were found to be related with the occupational status of respondents (job seekers or employed individuals). This pattern of results suggests the usefulness of considering all the dimensions of PsyCap and LoC for predicting work-related outcomes among fresh graduates.

Tab. 5: Reliability coefficients and descriptive statistics for the factors

| | <i>N</i> of items | Mean ^(a) | <i>SD</i> | Cronbach's α | Composite reliability |
|---------------|-------------------|---------------------|-----------|---------------------|-----------------------|
| Self-efficacy | 7 | 3.090 | 0.469 | .86 | .91 |
| Resilience | 6 | 3.319 | 0.480 | .78 | .84 |
| Optimism | 7 | 2.880 | 0.510 | .78 | .83 |
| Hope | 6 | 3.102 | 0.468 | .69 | .78 |
| Internal LoC | 3 | 2.493 | 0.629 | .59 | .67 |
| External LoC | 4 | 2.662 | 0.651 | .76 | .81 |

Note. ^(a) Scale ranges from 1-Strongly disagree to 4-Strongly agree

Tab. 6: Descriptive statistics for individuals looking for a job, employed individuals, entrepreneurs and individuals who did not start any business

| | Individuals looking for a job | Employed individuals | Entrepreneurs | Individuals who did not start any business |
|---------------|-------------------------------|----------------------|----------------------|--|
| % female | 74.4 | 61.0 | 36.5 | 61.7 |
| Age (Mean) | 27.6 | 28.6 | 30.0 | 26.6 |
| Self-efficacy | 3.039 ^(a) | 3.110 ^(a) | 3.282 ^(a) | 3.084 ^(a) |
| Hope | 3.128 ^(a) | 3.081 ^(a) | 3.137 ^(a) | 3.101 ^(a) |
| External LoC | 2.872 ^(a) | 2.632 ^(a) | 2.615 ^(a) | 2.664 ^(a) |
| Internal LoC | 2.166 ^(a) | 2.536 ^(a) | 2.459 ^(a) | 2.459 ^(a) |
| Optimism | 2.862 ^(a) | 2.923 ^(a) | 3.000 ^(a) | 2.877 ^(a) |
| Resilience | 3.221 ^(a) | 3.338 ^(a) | 3.320 ^(a) | 3.319 ^(a) |

Note. ^(a) Scale ranges from 1-Strongly disagree to 4-Strongly agree

4. FINAL REMARKS

This work developed within PETERE, a project of the University of Padova which investigated how fresh graduates interact with the labour market in order to understand how to improve placement policies and support plans. The identification of psychological patterns that could help young people to effectively cope with the challenges of the labour market in times of economic crisis was one of the main goals of the project. In particular, the attention was placed on the dimensions of the psychological capital (Luthans, Avolio et al., 2007; Luthans, Youssef and Avolio, 2007) and of the locus of control (Rotter, 1966). These individual dispositions, in fact, have been recognised as crucial resources for the occupational success which may be effectively improved through well-designed training plans (see, e.g., Avey et al., 2010; Avey et al., 2011; Judge and Bono, 2001; Luthans et al., 2008; Stanton, 1982).

Tab. 7: Logistic regression: Individuals looking for a job (coded with 1) vs employed individuals (coded with 0)

| | β | Wald | Odds-ratio |
|---------------|---------|-----------|------------|
| Self-efficacy | -.126 | 1.959 | .882 |
| Hope | .337 | 13.114*** | 1.400 |
| External LoC | .224 | 10.060*** | 1.251 |
| Internal LoC | -.515 | 42.981*** | .597 |
| Optimism | .237 | 6.898** | 1.267 |
| Resilience | -.293 | 8.508 *** | .746 |

Note. ** $p \leq .01$, *** $p \leq .001$

Tab. 8: Logistic regression: Entrepreneurs (coded with 1) vs individuals who did not start any business (coded with 0).

| | β | Wald | Odds-ratio |
|---------------|---------|-----------|------------|
| Self-efficacy | .571 | 14.172*** | 1.769 |
| Hope | -.018 | .015 | .982 |
| External LoC | -.093 | .578 | .911 |
| Internal LoC | -.139 | 1.157 | .870 |
| Optimism | .175 | 1.360 | 1.191 |
| Resilience | -.355 | 4.209 | .701 |

Note. *** $p \leq .001$

The work aimed at developing and validating two scales for the measurement of academic PsyCap and LoC in fresh graduates. In their final forms, the Academic PsyCap and the LoC scales consist of 26 and 7 items, respectively. These items have been selected from a starting pool of 48 items specifically developed to deal with

fresh graduates. EFAs and CFAs, performed separately for the two scales, allowed the identification of the items with poor performances (i.e., low factor loadings on the intended factor and cross-loadings) which were excluded from the final versions of the instruments. Reliability indices, computed through both Cronbach's α and composite reliability, provided satisfactory results, supporting the internal consistency of the instruments.

Academic PsyCap and LoC scales, in addition, showed significant relations with the occupational status of respondents, with their entrepreneurial disposition, and with the number of actions taken when they were looking for a job. In particular, graduates with lower levels of internal locus of control and resilience were more likely to be jobseekers than workers, whereas individuals characterized by higher levels of self-efficacy had a greater probability of starting their own businesses. Finally, the external locus of control orientation showed a positive effect on the number of actions taken by individuals for the employment seeking, whereas a negative effect was related to the internal locus of control orientation. The relations observed between the psychological dimensions under consideration and work-related indicators are expected to change if relevant control variables (e.g., gender, academic curriculum, family and social background, job search process) were taken into account. This will be the subject of future research.

LoC and Academic PsyCap scales demonstrated of being two suitable instruments for the screening of fresh graduates. These scales might be used to identify individuals whose psychological profile is inadequate to face the labour market and, at a different level, to devise targeted projects to intervene on individuals in difficulty.

Tab. 9: Multiple linear regression of the number of actions undertaken for job seeking

| | β | t | Cohen's f^2 |
|---------------|---------|----------|---------------|
| Self-efficacy | -.020 | -.619 | .001 |
| Hope | .040 | 1.256 | .001 |
| External LoC | .105 | 4.054*** | .010 |
| Internal LoC | -.076 | -2.772** | .005 |
| Optimism | .045 | 1.462 | .002 |
| Resilience | -.014 | -.386 | .001 |

Note. $R^2 = .021$; ** $p \leq .01$; *** $p \leq .001$

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APPENDIX 1

Academic PsyCap Scale

- S_1) Usually when I face a problem I am able to identify different solutions. [*Di solito quando devo affrontare un problema sono in grado di individuare diverse soluzioni*].
- S_2) In difficult situations I think I am able to find the way out. [*Nelle situazioni difficili ritengo di essere in grado di trovare il modo per uscirne*].
- S_3) I have the resources I need to manage also unforeseen situations. [*Ho le risorse necessarie per riuscire a gestire anche le situazioni impreviste*].
- S_4) When I am really committed, I can solve even the most difficult problems. [*Quando mi impegno seriamente riesco a risolvere anche i problemi più difficili*].
- S_6) If I were in a difficult situation, I could find the way out. [*Se fossi in una situazione di difficoltà saprei trovare il modo per uscirne*].
- S_7) I think I can analyse a problem and identify a possible solution. [*Ritengo di essere in grado di analizzare un problema e di identificare una possibile soluzione*].
- S_9) I am sure I can effectively handle even unexpected events. [*Sono sicuro di riuscire ad affrontare efficacemente anche eventi inaspettati*].
- O_2) I always try to believe that behind every cloud there is the blue sky. [*Cerco sempre di credere che dietro ogni nuvola ci sia il cielo azzurro*].
- O_3) When I think to my life, I expect that more negative than positive situations will occur. [*Pensando alla mia vita mi aspetto che si verifichino più situazioni negative che positive*]. *

- O_4) I rarely pay attention to the positive things that may happen to me. [*Raramente presto attenzione alle cose positive che mi accadono*]. *
- O_5) In critical situations I usually expect that everything will solve for the best. [*Nelle situazioni critiche di solito mi aspetto che si risolvano per il meglio*].
- O_6) I am convinced that my willpower will gain the upper hand on bad luck. [*Sono convinto che la mia buona volontà avrà la meglio sulla sfortuna*].
- O_7) Often I think that things can only improve. [*Spesso penso che le cose possano solo migliorare*].
- O_8) In spite of everything, I always try to see the glass as half full. [*Nonostante tutto cerco sempre di vedere il bicchiere mezzo pieno*].
- R_1) So far, my successes are largely dependent on the choices I have made. [*Fino ad oggi, i miei successi sono dipesi in gran parte dalle scelte che ho fatto*].
- R_2) The difficulties and obstacles I've overtaken in my study course have certainly made me stronger and more combative. [*Le difficoltà e gli ostacoli che ho superato nel mio percorso di studio, sicuramente, mi hanno reso più forte e combattivo*].
- R_3) I am proud of everything I have achieved so far. [*Sono orgoglioso di tutto quello che fino a oggi ho realizzato*].
- R_5) My life has value. [*La mia vita ha valore*].
- R_6) My efforts and my skills are the basis of my achievements. [*I miei sforzi e le mie abilità sono alla base dei risultati da me raggiunti*].
- R_8) Having completed my study or being in the process of doing so make me proud. [*Avere portato a termine il mio corso di studio o essere in procinto di farlo mi rende orgoglioso*].
- H_2) If I do not reach my goals it is because sometimes I miss determination. [*Se non raggiungerò i miei obiettivi è perché a volte mi manca la determinazione*]. *
- H_3) The goals I have achieved so far are due to my determination. [*Gli obiettivi che ho raggiunto finora sono dovuti alla mia determinazione*].
- H_5) I usually plan things to do to achieve my goals. [*Di solito pianifico le cose da fare per raggiungere i miei obiettivi*].
- H_6) I am struggling to plan things to do when I have to reach a goal. [*Faccio fatica a pianificare le cose da fare quando devo raggiungere un obiettivo*]. *
- H_7) The goals I have achieved so far are due to my planning ability. [*Gli obiettivi che ho raggiunto finora sono dovuti alla mia capacità di pianificazione*].
- H_9) Willpower was crucial to obtain the academic title. [*La forza di volontà è stata fondamentale per ottenere il titolo accademico*].

Original Italian items in brackets; * = reverse coded items; R = Resilience; S = Self-efficacy; O = Optimism; H = Hope.

LoC scale

EL_1) Luck and fate are crucial to find the “right” job.

[La fortuna e il caso sono determinanti per trovare il lavoro “giusto”].

EL_2) Having the right contacts is more important than personal skills to find a good job.

[Avere i contatti giusti è più importante delle capacità personali nella ricerca di un buon posto di lavoro].

EL_3) Fortune is a crucial resource to gain a good position.

[La fortuna è determinante per avere una buona posizione].

EL_5) Very often, good working positions are obtained via completely random factors.

[Molto spesso si raggiungono buone posizioni lavorative per fattori del tutto casuali].

IL_1) If you are serious and prepared you will always find a satisfactory position. *[Se sei serio e preparato troverai sempre una posizione soddisfacente].*

IL_2) Although it is not always true, there is a relationship between the worth of an individual and his earnings. *[Anche se non è sempre vero, c'è una certa relazione tra quanto uno vale e il suo guadagno].*

IL_4) I am convinced that the university choice I have made will allow me to have good working opportunities. *[Sono convinto che la scelta universitaria che ho fatto mi permetterà di avere buone opportunità lavorative].*

Original Italian items in brackets; IL = Internal locus of control; EL = External locus of control.