EXPLORATORY FACTOR STRUCTURE OF PROFESSIONAL TRAINING EXPECTATIONS.

ESTRUCTURA FACTORIAL EXPLORATORIA DE LAS EXPECTATIVAS DE FORMACIÓN PROFESIONAL

EXPLORATORY FACTOR STRUCTURE OF PROFESSIONAL TRAINING EXPECTATIONS

Cruz García Lirios*

*Estudios de Postdoctorado en Ciencias de la Complejidad. Centro de Estudios Políticos y Sociales. Universidad Autónoma del Estado de México, Unidad Académica Profesional Huehuetoca. ORCID: https://orcid.org/0000-0002-9364-6796.

Dirección para recibir correspondencia: cgarcial213@profesor.uaemex.mx

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ABSTRACT

OBJECTIVE: The main objective of this work is the exploration of two preponderant dimensions of professional training.

MATERIAL AND METHOD: An experimental study was carried out with a non-probabilistic selection of 300 students, considering their insertion in professional practices and social service in organizations allied with the public university.

RESULTS: A dual structure of norms and values found with eight indicators explain the formation of job expectations in future professionals.

CONCLUSION: The design limited the findings to the research scenario, suggesting the inclusion of other factors as well as the comparison of the model in other vocational training contexts such as the companies that participate in government subsidies to promote the first job in young graduates.

CONCLUSIÓN: El diseño limitó los hallazgos al escenario de investigación, sugiriendo la inclusión de otros factores, así como la comparación del modelo en otros contextos de formación profesional, como las empresas que participan en los subsidios del gobierno para promover el primer empleo en jóvenes graduados.


INTRODUCTION

The theory of human capital essentially means that there is an indirect relationship between vocational training and job placement. Leadership and leadership styles are mediators in this process, because they transfer values and norms that guide needs and expectations, as well as skills and knowledge in order to carry out the tasks and achieve the achievements (López, Vilchis, Morales, Delgado, Olvera, Mendoza & García, 2019).

The purpose of this research is to specify a model of dependency relations between the variables determining and indicative of vocational training and job placement in the Social Work degree of a public university in Mexico City (Fierro, Nava & García, 2018).

A non-experimental, documentary, cross-sectional and exploratory study was carried out with a non-probabilistic selection of sources indexed to leading repositories in Latin America. The information was processed in content analysis matrices with the purpose of specifying the model of reflective dependency relations between the constructs of professional formation and labour insertion (Sanchez, Villegas, Sanchez, Espinoza & Garcia, 2018).

The documentation to be analysed was selected considering the publication period from 2000 to 2019, the conceptualization of the keywords: human capital, vocational training and labour insertion, as well as its ISSN (International Standard Serial Number) and DOI (Digital Object Identifier).
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The analysis of the content was based on the symptom technique, which consists in processing the concepts and their relationship in a network based on the breakdown that the authors perform and the discussion they establish regarding the keywords (Hernandez, Carreon, Bustos & Garcia, 2018).

The specification of the model was carried out assuming that the constructs of human capital, vocational training and labour insertion maintain relations of dependability testable. In this way the routes of conceptual relations were drawn (Sanchez, Hernandez, Quintero, Espinoza & Garcia, 2018).

Within the framework of the Organization for Economic Co-operation and Development (OECD) in 2015 report, the university degree is more profitable for women than for men when compared to other educational levels (Abreu, 2002). University graduates earn 41% more than high school graduates, while in men this difference is 32%. The university students also have a level of unemployment (6.9% among the graduates) much lower than other educational levels (14.3% among the graduates of compulsory secondary).

The relative salary of university students compared to workers with lower secondary education has dropped by 40%. The university advantage in terms of unemployment has also declined. The unemployment rate of secondary school graduates has increased from 27% higher than that of university students to 17% between 1995 and 2005. The same rate has not changed in the case of comparing it with workers with pre-secondary education (Around 40% higher than university students). The difference in the employment rate among graduates of compulsory education and university graduates has dropped from 19 to 13 points between 1997 and 2004 (Adenike, 2011).

52.2% of the university graduates interviewed continue to live in their parents' homes despite their high occupancy and average age (28 years). The vast majority of graduates (74.8%) attended courses they chose as the first option. University graduates take an average of 6.2 months to find their first job after college (Almedon, 2005).

Early contacts with the world of work often involve a temporary contractual relationship (74.9% in the first job) after three years graduates reach a much higher level of job stability. In the last employment, the indefinite contracts represent 45.1% of the total contracts of the graduates of the sample (Alonso, 2008).
In the last job, 27.6% had a higher education level and 10.4% dissociated the tasks from their job with the university degree. 70.7% of graduates are quite satisfied or very satisfied with their current job, although only 47.7% of respondents are quite or very satisfied with their salary (Barranco, 2009).

72% would return to do the same race in the same university. However, 17.7% of the graduates of the sample indicate that if they had to take the decision again for university studies, there would not do it with a high degree of probability (Casas, 2003).

The official unemployment rate in the period in which they were surveyed (11.2%) is somewhat lower than the median cited by the respondents (15%). The unemployment rate estimated by the students is close to that when they began their studies, so the explanation could be certain inertia in their expectations (Castro, 2006).

The perception of the labour market situation is very close to reality. The unemployment rate for young university graduates (under 30) is 15% (real rate in 2003: 15.5%) while 10% of the unemployment rate for young people are graduates and / or Vocational training (Chattopahyay, 2001).

**Theory of human capital**

Within the framework of Human Development in which health, education and employment are its most prevalent dimensions. The concept of human capital alludes to a balance between demands and resources, opportunities and capacities, as well as skills and knowledge each and every one oriented towards insertion in a global and local labour market (Cortés, 2010).

Thus, human capital involves a set of strategies, intentions and actions dedicated to the application of knowledge and the development of skills so that, based on objectives and tasks of cooperation, goals are obtained, which are disseminated among a group that can reproduce the process with the same quality (Díaz, 2012).

However, the theory of human capital warns that there are barriers and facilitators that inhibit or potentiate the realization of purposes (Escofet, 2011). This is the case of the relationship between vocational training and job placement. Because syllabus seems to be disconnected from the
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demands of the global or local market, vocational training increasingly conforms to the requirements of the working environment (Sanchez, Carreon, Molina y Garcia, 2018).

Although vocational training is close to the skills and knowledge required by micro, small and medium-sized organizations that employ 90% of the workforce, labour insertion involves a selection process involving different professionals competing for a reduced number of vacancies (Fioretino, 2008).

In this way, the human capital theory in its formative aspect indicates that the contents and the practices conform to the real cases of the organizations that employ the graduates (Guillén, 2007).

Nevertheless, the global labour market increasingly requires greater entrepreneurship, innovation and competitiveness without underestimating the empathy, commitment and satisfaction that employees must have to efficiently perform their work (Hermosa, 2006). Therefore, the formation of human capital also implies a degree of freedom of decision and action oriented to the transformation of organizations.

In this sense, human capital theory warns that vocational training depends on the formation of transformational rather than traditional leadership. This is because entrepreneurship, innovation and competitiveness depend on high doses of trust, commitment and job satisfaction (Herreros, 2004). In that sense, human capital is the essential growth factor in an organization.

As an organization's currency, human capital requires continuous training and even anticipation of uncertainty and risk scenarios (Kundu, 2007). The coping of threats suggests the formation of leaders who transform the organization and do not chain it into a traditional, vertical and univocal style of leadership.

In this way, the formation of human capital will correspond to labour insertion whenever the market demands more and more innovative products and services that satisfy the consumers (López, 2001).

In the case of Higher Education Institutions (HEIs), the formation of human capital and labour insertion depends on a high degree of institutional isomorphism that human capital theory
EXPLORATORY FACTOR STRUCTURE OF PROFESSIONAL TRAINING EXPECTATIONS. Garcia considers fundamental to carry out the task of anticipating unemployment scenarios (Luna, 2003a).

Roughly, institutionalism consists of a set of values and norms that affect the culture and the work climate of the relationships and the work climate of the tasks (Luna, 2003b). This is because organizations are confined to business development policies, or to alliances with the state that determine them in terms of their business relationships (Garcia, 2017).

In this institutional framework, human capital theory suggests that leaders share goal-oriented styles of management regardless of the skills and knowledge that guide innovation, but they regulate the proposals that emerge from organizations associated with state institutions (Martínez, 2003).

However, when organizations need to transcend and enter the global market they establish strategic alliances with other organizations that condition their association according to the degree of entrepreneurship, innovation and competitiveness (Maruco, 2012). In this context, human capital theory explains the process by which individuals establish networks of knowledge and, based on their capacity for information processing, decision making and execution skills, achieve a level of competence according to local and global demands (Fierro, Garcia & Delgado, 2018).

If entrepreneurship consists of balancing financial opportunities, establishing business opportunities and producing goods with a high demand, then human capital is an essential part of the entrepreneurship process, since, based on continuous training in processing Information and dissemination of proposals has competitive advantages (McGee, 2006).

In the case of innovation, understood as the generation of initiatives according to a demand and the feasibility of being reproduced to reach a quota of productivity, human capital formation also shows competitive advantages over organizations dedicated to reproducing knowledge (Meagher, 2003). That is to say that producing knowledge not only applicable but reproducible generates prestige and this is crystallized in patents (Carreon, Hernandez, Quintero & Garcia, 2016).

In this way, the formation of human capital is increasingly close to guarantee labour insertion due to its high degree of transformation and expectations of knowledge reproduction (Melano, 2007).
State of knowledge of human capital

Human capital studies indicate that the intensive uses of information technologies, as well as the orientation of traditional leaders that establish deliberate, planned and systematic processes are determinants of professional training and even labour insertion (Morales, 2002). In this sense, as software learning intensifies and traditional leaders are learned, labour insertion is closer to being achieved.

However, in organizations with a more democratic, open, participative, horizontal and intercultural work culture, information and communication technologies, including digital networks, are not determinants of professional training and insertion in local marking (Neave, 2001). This means that the diversity of demands and resources seems to corroborate the hypothesis that entrepreneurship and innovation do not necessarily correspond to productivity and competitiveness, but to job satisfaction (Carreon, Hernandez, Quintero & Garcia, 2017).

In fact, the type of work culture affects the climate of relations, the climate of goals, the climate of task and the climate of innovations (Omar, 2010). It is the electronic technologies and devices that enhance the learning of skills that the global market requires, but inhibits opportunities in the local market (Garcia, 2019).

That is to say, the differences between the global market and the local market consist of the values and norms that in the first case are more practical and oriented to the consumption; it will show that in the second case the satisfaction is a common good that is persecuted in a locality (Pastor, 2012).

The differences between a locality and a city determine the type and size of the organization, but also condition the reach and expectations of human capital (Ramírez, 2005). From values and norms that can be local or institutional, transformational leaderships are not always the factor that organizations require to be inserted in one or another global or local scope.

In this way, the formation of human capital is determined by a series of variables that precede or proceed, although depending on the type and size of the organization will be the factor of change, entrepreneurship, innovation and competitiveness, but if this is possible in a labor environment
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where trust, commitment and satisfaction do not prevail, then human capital will lose its influence (Ruiz, 2009).

Specification of a model for the study of human capital

The relationship between human capital formation and labour insertion would be mediated by leadership, which in a sense is also a training process, but unlike employees, leaders are mediators of vocational training and job placement (Hernandez, Sanchez, Morales, Sanchez & Garcia, 2018).

In the case of the formation of human capital, this involves factors that reflect it as is the case of values, norms, demands, learnings, skills, knowledge and intentions. About labour insertion, this would be indicated by levels of needs, expectations, opportunities, capacities, supports, tasks and achievements (Fierro, Alvarado & Garcia, 2018).

MATERIAL AND METHOD

The research was carried out in a locality in the central part of Mexico with a low level of human development, considerable birth rate, low level of income per capita and professional instruction, as well as high citizen participation in municipal issues of fundraising, social entrepreneurship and innovation in the commercialization of products and services.

A non-experimental, cross-sectional, exploratory and correlational study was carried out with a non-probabilistic selection of 300 students from a public university, considering the system of professional practices and social service, as well as the framework of strategic alliances between the institution, Universidad Autónoma del Estado de México and dedicated organizations to the creation of knowledge (see table 1).
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Table 1

Descriptive sample

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Income</th>
<th>Civil Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>M = 24.3 SD = 2.4</td>
<td>M = 6'823.2 SD = 456.5</td>
<td>Singleness (56%), Married (32%), Other (12%)</td>
</tr>
<tr>
<td>Male</td>
<td>M = 25.4 SD = 3.2</td>
<td>M = 6'789.2 SD = 567.4</td>
<td>Singleness (58%), Married (30%), Other (12%)</td>
</tr>
</tbody>
</table>

Source: Elaborated with data study.

The Training Expectancy Scale of the Garcia (2018) was used, which measures eight dimensions relative to; 1) values, 2) norms related to the optimization of resources and process innovation. All reagents are answered with any of the options ranging from 0 "not likely" to 5 = "quite likely".

The Delphi technique was used to select, compare and integrate the allusive reagents to each of the two dimensions, following the evaluations and recommendations of expert judges in the field.

The students were surveyed in the facilities of their university, provided written guarantee of anonymity and confidentiality of their responses to the possible effects of the results of the investigation.

The information was processed in the statistical analysis package for social sciences (SPSS version 20.0). The parameters of normality, reliability, adequacy, sphericity, validity, fit and residual were estimated in order to contrast the null hypothesis regarding the significant differences between the theoretical relationships of the variables with respect to the empirical relationships to be observed.

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RESULTS

Table 2, shows the psychometric properties of the responses to the reagents included in the instrument. It is possible to notice the normal distribution that precedes the reliability analysis. The general scale (alpha of 0.780) and the two subscales (0.760 and 0.770) had values above the minimum necessary. In the case of validity, both factors were established through exploratory factor analysis of principal axis with promax rotation, with the factor of values explaining the highest percentage of the total variance.

Table 2
Descriptive Instrument

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>M</th>
<th>S</th>
<th>K</th>
<th>A</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>r1</td>
<td>3.12</td>
<td>1.21</td>
<td>1.43</td>
<td>0.801</td>
<td>0.574</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r2</td>
<td>3.14</td>
<td>1.23</td>
<td>1.78</td>
<td>0.832</td>
<td>0.403</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r3</td>
<td>3.54</td>
<td>1.13</td>
<td>1.09</td>
<td>0.803</td>
<td>0.491</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r4</td>
<td>3.52</td>
<td>1.15</td>
<td>1.71</td>
<td>0.861</td>
<td>0.583</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r5</td>
<td>3.21</td>
<td>1.19</td>
<td>1.34</td>
<td>0.832</td>
<td>0.506</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r6</td>
<td>3.04</td>
<td>1.01</td>
<td>1.23</td>
<td>0.853</td>
<td>0.591</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r7</td>
<td>3.10</td>
<td>1.27</td>
<td>1.18</td>
<td>0.821</td>
<td>0.465</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r8</td>
<td>3.21</td>
<td>1.01</td>
<td>1.19</td>
<td>0.781</td>
<td>0.405</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r9</td>
<td>3.25</td>
<td>1.03</td>
<td>1.10</td>
<td>0.732</td>
<td>0.512</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r10</td>
<td>3.46</td>
<td>1.04</td>
<td>1.16</td>
<td>0.743</td>
<td>0.382</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r11</td>
<td>3.42</td>
<td>1.05</td>
<td>1.15</td>
<td>0.756</td>
<td>0.493</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r12</td>
<td>3.01</td>
<td>1.02</td>
<td>1.41</td>
<td>0.701</td>
<td>0.821</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r13</td>
<td>3.24</td>
<td>1.05</td>
<td>1.43</td>
<td>0.782</td>
<td>0.721</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r14</td>
<td>3.21</td>
<td>1.07</td>
<td>1.67</td>
<td>0.781</td>
<td>0.493</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r15</td>
<td>3.54</td>
<td>1.54</td>
<td>1.57</td>
<td>0.780</td>
<td>0.561</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r16</td>
<td>3.25</td>
<td>1.08</td>
<td>1.36</td>
<td>0.776</td>
<td>0.549</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

R = Reactive, M = Median, S = Standard Deviation, K = Kurtosis, A = Alpha removed value item. 
$\chi^2 = 345.3 \text{ (25gl) } p < .01; \text{ KMO = .782}$ Method: Principals; Rotation: Promax. F1 = Values (24% total explained variance), F2 = Attitudes (16% total explained variance).

Source: Elaborated with data study.

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The data shows that reagent 6 alluding to "I value constant and permanent training" (M = 3.04, SD = 1.01, K = 1.83) is the indicator of the value factor (factorial weight 0.531). This means that the expectations of the surveyed sample are focused on continuous professional training rather than on annual, semi-annual or quarterly training programs. This means that the sample surveyed seems to have a dependence on a traditional leadership style, but with motivating features since the permanent training suggests motivational incentives rather than economic or salary with which the updating strategies would be more linked.

In the case of the attitudinal factor, reagent 12 "I will listen to the recommendations of the experts" (M = 3.01, SD = 1.02, K = 1.41) represents the favorable provisions for continuing professional training, as well as an intention to carry out the instructions that day by day and for a period of time merit a promotion.

Once the two factors that explained 40% of the total variance explained, we proceeded to estimate their correlations and covariances with the purpose of observing their structural composition in a model of equations (see table 3 and figure 1).

Table 3

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>S</th>
<th>F1</th>
<th>F2</th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>24,34</td>
<td>12,17</td>
<td>1,000</td>
<td>0,435*</td>
<td>1,987</td>
<td>0,456</td>
</tr>
<tr>
<td>F2</td>
<td>29,28</td>
<td>14,19</td>
<td>1,000</td>
<td>1,876</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F1 = Values, F2 = Attitudes: * p < 0,01; ** p < 0,001; *** p < 0,0001

Source: Elaborated with data study.

The association between the value factor and the attitudinal factor, centered on continuous professional training, seems to be close to a sporadic relationship (r = 0.435, p <0.01, cov = 0.456). This means that they seem to be mediating the influence of a third variable with respect to an action as would be the case of utility perceptions or risk expectations when carrying out training or training.
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Figure 1. Structural equation modelling.
F1 = Values, F2 = Attitudes, R = Indicator: \( \cap \) relations between factor; \( \leftrightarrow \) relations between measurement error and indicators; \( \Rightarrow \) relations between factors and indicators.

Source: Elaborated with data study.

The structure of relations between the factors and indicators seems to show that these are mediating variables of the effects of other variables such as the training and training programs on the performance, competitiveness and satisfaction of the respondent.

The parameters of adjustment and residual \( \chi^2 = 24,3 (14gl) p < .01; GFI = 0,990; CFI = 0,997; RMSEA = 0,009 \) suggest the non-rejection of the hypothesis null relative to the significant differences between the theoretical relations with respect to the structural model that explains the expectations of training.
**Final considerations**

The contribution of this work to the state of knowledge and the revision of the literature consists of the specification of a model for the study of human capital formation, transformation leadership and labour insertion.

In relation to the Salgado (2005) review in which human capital formation depends on the level of scientific and technological development, the present study warns that technologies, devices and information networks are a key factor in the explanation of organizations dedicated to the Establishment of strategic alliances but ignored in the cooperative societies as competitive advantage.

The formation of human capital seems to be determined by the context and culture of the organization. In that sense, the specification of a model will allow the contrast of the normative and normative determinants of the organizations with respect to the internal capacities and resources.

Salgado (2005) warns that vocational training is a result of business development policies that include constant evaluation processes. In this sense, the quality of the processes inside the organizations determines its structure and also the requirements of selection and training of personnel.

In contrast, the present paper argues that the formation of human capital depends on the level of talent crystallized in skills and knowledge rather than the climate of relationships and tasks that are established in organizations dedicated to the quality of their processes and products.

The formation of human capital, in relation to labour insertion, would be closer to the mediation that the transformational leadership exerts on the employee and the commitment that he acquires and develops before the demands of his leader. It is a process in which the learnings have a greater impact than training and therefore condition labour satisfaction.

Scheper (2008) notes that the work commitment is the result of a climate of empathic relationships between leaders and followers, but also entails the learning of norms and values of cooperation that, in the case of corporations, seem to be distant from their objectives, tasks and goals.
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In the present work, the specification of a model for the study of vocational training is based on the establishment of values and norms as reflective indicators, but in relation to the expectations and capacities of the insertion in the labour market.

However, Sepulveda (2010) believes that the course and personal trajectory differs from group goals, tasks and goals. Even with the formation of networks of knowledge, personal expectations and abilities seem to follow performance schemes acquired from leaders, but especially from peers. In this sense, the inclusion of factors that inhibit vocational training and job placement such as stress, burnout and mobbing is recommended.

Vargas (2011) points out that cases of job satisfaction do not depend on skills or knowledge, but rather on skills that in the case of emotional intelligence are a preponderant factor in performance, innovation and job satisfaction. The present study does not include these emotional, affective and sentimental variables, but it is recognized that, coupled with the intensive use of technologies, devices and electronic networks, it potentiates the formation of human capital and gives competitive advantages for labour insertion.

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