

## **Implementation of Psychosocial Risk Variation in MIPYMES of Fabrics in Bogotá D.C**

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### **Abstract**

The psychosocial risk that workers are exposed at the moment of carrying out with their activities in the industry, become incident elements in their work performance, affecting with its variations the personal efficiency levels and therefore the productivity of their organizations. Based on this outlook we pretend to approach the impact that such risk generates on the workers from the textile's economic area and the clothing industry in Colombia, particularly in the micro, small and medium-sized companies (MIPYMES, Spanish acronym) dedicated to the fabrics production in Bogotá, with the purpose of establish the labor efficiency variations levels that can be attributed to this factor in a quantitative way, considering that we approach a productive system with greater physical effort and harder conditions for the worker.

This investigation has a quantitative focusing character, starting from the use of a measuring instrument based in the ISTAS21 model (CoPsoQ) to measure the psychosocial risk factors. The ISTA21 is an evaluation instrument oriented to the prevention, because it identifies the risks to the less conceptual level possible, eases the problems localization and he adequate solutions design; and provides population reference values that represents a reasonable exposure objective manageable in a short term for the companies. The results of the ISTAS21 usage

must be considered as opportunities for the identification of areas to be improved in the tasks organization.

**Keywords:** Psychosocial risk, Clothing industry, (MIPYMES, Spanish acronym), Efficiency

## **1 Introduction**

Defending health as a fundamental right for the workers, whatever company and area in which it provides its services in exchange of a salary. Even today this priority requires, unfortunately, an intense protest labor against the “work-related accidents”, therefore creates the need to concentrate efforts and resources to avoid that the workers to lose its “physical health” or even their lives during their work activities. Nevertheless, it can’t be disregarded, or underestimated, the indications and commitments provided by the most prestigious international organizations in work health field. Such highly authorized and competitive institutions had been insisting since the early beginnings of the 21st century in the need of adopting new approaches in the prevention of professional risks area and to attend “new” or “emergent”, risks, up to the point of placing as principal problems in labor health the increasing presence from the “ergonomic risks” and the “psychosocial risks”..

## **2 Justification**

As is known, the textile and clothing area, from a long tradition, it has been subjected to intense restructuring processes caused by the huge impact that the economic globalization and the commerce liberation, its having on it, to the point of requiring specific interventions or support “plans”. In this context the mentioned problems go further than “labor dissatisfaction” that generates the fierce disloyal competition that this area is submitted to, since it’s about realities that affects very negatively the textile and clothing workers health, so it’s not only the uncertainty around the continuity of their jobs what is at risk.

Therefore, in this area the difficulties for the prevention of the “psychosocial risks”, especially because of the extence “factors” catalog that unchained and provoke them, seems higher, as for it will be estimated that a labor health policy of this characteristics increases the costs in a time in which the competition for a low costs is overwhelming. Now, if is seen in unmistakable that an activity of managing in the company its possible leading to the reduction or at least the control of them.

In this way, is pretended to study the economic area of the textile and clothing industry in Colombia, particularly in the micro, small, and medium sized company’s (MIYMES) dedicated to the production of fabrics in Bogota, to determine in a quantitative way the psychosocial risk impact on the performance of its employees in terms of time an efficiency at the moment of performing their tasks.

### 3 Methodology

The research was developed in three clothing companies in the city of Bogotá, Colombia. The measuring instrument is the survey of ISTAS21 short version that consists in 38 questions distributed in the following way.

Chart 1: Test ISTAS21 short version.

<b>PARAGRAPH 1</b>
1) Do you have to work very fast?
2) The tasks distribution is uneven and causes work to be accumulated?
3) Do you have time to keep up with work?
4) Is it difficult for you to forget the problems at work?
5) Is your work, in general, emotionally draining?
6) Does your work requires you to hide your emotions?
<b>PARAGRAPH 2</b>
7) Have you any influence on the quantity of work that is assigned to you?
8) Is your opinion taken in to consideration when you get tasks assigned to you?
9) Have you influence on the order in which you perform the tasks?
10) Can you decide when you take a break?
11) If you have a personal or family issue, can you leave your working place at least an hour without having to ask for a special permission?
12) Does your work requires that you have initiative?
13) Does your job allow you to learn new stuff??
14) Do you feel committed to your profession?
15) Does your tasks make sense?

16) Do you refer with enthusiasm about your company to other people?
<b>PARAGRAPH 3</b>
17) Are you worried about how difficult it would be to find another job in case you get in strike?
18) Are you worried if they change your job against you will?
19) Are you worried if your salary changes? (That does not get updated, that it gets reduced, that variable salary is introduced, getting pay whit something else than money, etc.)?
20) Are you worried by a schedule change (shift, days of the week, hours of arrival and closing) against your will?
<b>PARAGRAPH 4</b>
21) Do you know exactly what margin of autonomy you have at your work?
22) Do you know exactly what tasks are of your responsibility?
23) Does your company informs you with sufficient anticipation about the changes that can affect your future?
24) Do you receive all the information that you need to execute properly your job?
25) Do you receive help and support of your co-workers?
26) Do you receive help and support of your immediate Superior?
27) Is your working place isolated of your co-workers?
28) At work, do you feel part of a group?
29) Does your current immediate superior plan tasks properly?
30) Does your current immediate superiors communicate well with the employees?

<b>PARAGRAPH 5 (answer only if you live with someone) - if you live alone go to paragraph 6 directly</b>
31) What part of the family and domestic tasks you do? Only if you live with someone - I am the person in charge and do most of the family and domestic tasks. - I do approximately the half of the family and domestic tasks - I do more or less a fourth part of the familiar and domestic task - I only do specific tasks - I do not do any or almost none of those tasks
32) If you are absent some day of the house, do the domestic tasks that you are in charge of remain unfinished?
33) When you are in the company, do you think about the domestic and family tasks?
34) Is there are any moments in which you need to be at the company and at home simultaneously?
<b>PARAGRAPH 6</b>
35) My Superiors give me the recognition that I deserve
36) In the difficult situations at work I receive the necessary support
37) At work I am treated unfairly
38) If I think about all the work and effort that I have realized, the recognition i receive at work seems fair to me

The answers to every question are:

Always	A lot of times	Sometimes	Only once	Never
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The size of the sample of the surveys applied is N=140 distributed among operators and administrative staff of the three companies. The sample was chosen throughout a non-probable sampling.

The ISTAS21 model it's available in three versions: long, medium and short. It's about an instrument designed for every type of work. The short questionnaire includes 6 psychosocial work dimensions, which cover most of the possible diversity spectrum of the psychosocial exposures that might exist in the current

labor world, but the double presence dimension, related to the double work and domestic shift for most of the females workers. The importance for the health of each in one of these dimensions among the numerous professions and areas of activity might be different (for example the exposure to psychological and emotional demands is more relevant in labors that require contact with clients than among industrial workers), but the use of the same definitions and the measuring instrument allows a comparing between all of them. This fact quite important for the investigation (since makes possible results in different stocks, but obtained throughout the same methods), and for the prevention in different aspects. In one hand eases the stock contextualization of the specific results obtained in each company and allows comparing different unities among themselves, eventhough exist different stocks and activities. This implies the best possible information base for the prioritization of issues and preventive activities in the companies that, for fact, constitutes on themselves managing integrated unities. On the other hand, is the most reasonable alternative to determine the reference and quality standards levels. The opposite alternative, the analysis trough specific methods by activity areas or profession, is unable of producing general conclusions applicable to most of the companies (since the measuring methods are specific for each activity. that means: they are different!), and even on its different unities and work areas. (since in reality, a company of any nature coexists numerous specific activities and numerous professions), as for it can only produce partial approximations, most likely of limited impact to small stocks (those who share activity and occupation).

The data provided by the survey, are analyzed through the program SPSS statistics which is a global system for data analysis. SPSS can acquire data from almost any type of file and used to generate tabular reports, graphics and distribution diagrams and tendencies, statistical descriptive and complex statistical analysis.

#### **4 Results Presentation And Discussion**

The structure of the survey its build the following way:

- 1) Psychological requirements.
- 2) Active and development possibilities (influence, skills development, schedule control).
- 3) Insecurity.
- 4) Social support and leadership quality.
- 5) Double presence.
- 6) Empathy.

The first two sections allow the characterization of the social conditions, including the requirements of the familiar and domestic work, and work and employment conditions (occupation, work relationship, hiring, schedule, shift, salary). Some of the questions can be adapted to the reality of the unity to evaluate

and/or suppressed obeying to the guarantee of remaining anonymous. The other sections damages and effects on health and psychosocial dimensions are universal questions for all kind of professions and activities.

- Dimensions

A pragmatic preventive orientation is a way to ease the risk identification in the lowest conceptual complexity level possible, which makes easier the research of organizational alternatives. The instrument presented conceptualizes the 6 dimension described as follow:

a. work psychological requirements, that are conceptually compatibles with the dimension of psychological requirements of the demand model – R.karasek, paragraph 1.

b. influence and skills development, that constitutes positive work aspects, conceptually compatibles with the demand-control control dimension. (Autonomy, development possibilities, participation). Paragraph 2.

c. The few work compensations and work insecurity, conceptually comparable, although in a partial way, with status control dimension (work stability, promotion perspectives, on-wanted changes) of the compensation-effort model from J. Siegrist and empathy (recognition, adequate support, fair treatment) paragraphs 3 and 6.

d. social support within the company and leadership, conceptually comparable with the social support dimension of the demand-control model expanded by J. Jhonson. Paragraph 4.

e. Another factor that affects the health, is the double presence resides mainly in most of the women that are in charge of most of the domestic and familiar work, what implies a double load of work if compared with male. Besides, familiar and domestic work implies requirements that must be assumed simultaneously with the work requirement, and the organization of it difficulties or ease the alignment of both. Paragraph 5.

- Validity of the measuring scale

The validity of the content of (CoPsoQ) was previously analyzed by the Danish authors trough the experts opinion and the contrast with the bibliography and previous knowledge. For the study of the validity of the construct, reliability and for the reduction of the scales of the Spanish version, using the base in which the medium and short version were created, a representative survey was applied to the population occupied in the foral community of Navarra (N=859), in which information in regards to the totality of the long scales was obtained. The sampling was multi-staged, sampling companies randomly (base: companies of the Navarra's CF census) and establishing installments (base: survey of the two previous trimesters to the active stock) by economic activity area (large groups), gender, age groups (three group) professional category (5 categories) size of the company (two groups).

The assignation of the subjects to the sample performed randomly by the interviewers, once they were in the companies about the previously assigned base. A descriptive analysis of the stock was performed as well as all of the variables and it was proved that the study stock was, as it was pretended, representative of the Navarra population and until which point of the Spaniard population trough the comparing with the previous trimester of the service from the active Spaniard and Navarra population. The factorial analysis was used with a varimax rotation to describe the factors that explains the data and the crombach alpha was calculated to know the inner consistency of the scales.

- Factors analysis

The factor analysis is the generic name that is given to multivariate statistic methods which main purpose is to bring out the underlying structure in a data matrix. Analyses the structures of the interrelationship among a big number of variables without demanding any kind of distinctions between dependent and independent variables. Using this information it calculates a group of latent dimensions, known as FACTORS that try to explain such interrelationships. That's why is a data reduction technique given that if is hypothesis is fulfilled, the information within the data matrix could be expressed, without too much distortion, in a lower number of dimensions represent by such FACTORS.

According to the analysis performed by the SPSS, the determining value generated by the data studied is 2,87E-9, what indicates that the factorial analysis is a pertinent technique to analyses such variables, the determiners near to 0 indicates that the variables used are lineally related (Pardo & Ruiz 2002; Jhonson 2000). Additionally the measure of sample adequacy KMO provided a value of 0.694, as shown in the following chart:

Chart 2 measure sample of the adequacy KMO (Spanish)

**Measure of sample adequacy (kmo) and Bartlett test**

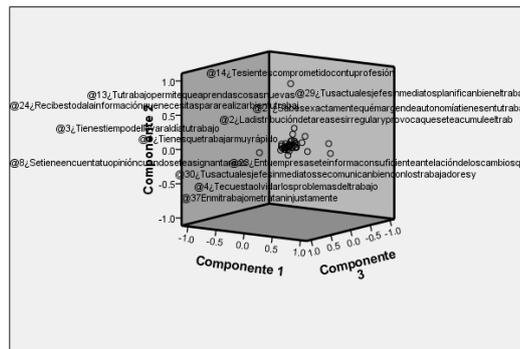
Kaiser-Meyer-Olkin Measure of Sample Adequacy.	.694
Bartlett Chi-sphericity test.	1602.930
Gl sig	703 000

Kaiser, Meyer and Olkin advise that if  $KMO \geq 0,75$  the idea of performing a factorial analysis good, if  $0,75 > KMO \geq 0,5$  the idea is acceptable and if  $KMO$

< 0,5 is unacceptable, for such motive the study is acceptable, since there are factors that associate the data.

At last, the Varimax rotation method is to be found, which minimizes the number of variables that has saturation in each factor. After 10 iterations, the following items were identified and represented in the following chart, which allows explaining the 77,201% of the total varying:

Chart 1: rotated space components graphic.



Represented factors are:

- 1) Do you have to work very fast?
- 2) The tasks distribution is uneven and causes work to be accumulated?
- 3) Do you have time to keep up with work?
- 4) Is it hard to forget the work problems?

PARAGRAPH 2

- 8) Is your opinion taken in to consideration when you get tasks assigned to you?
- 13) Does your job allow you to learn new stuff?
- 14) Do you feel committed to your profession?
- 16) Do you refer with enthusiasm about your company to other people?

PARAGRAPH 4

- 21) Do you know exactly what autonomy margin do you have in your job?
- 30) Your current immediate bosses communicate properly with the employees?

PARAGRAPH 6

- 37) In my job I am treated unfairly.

- Scale reliability analysis

The inner consistency method based in Cronbach's alpha allows to estimate the reliability of a measuring instrument trough a group of items that are expected to measure the same construct or theoretical dimension. The validity of an instrument refers to the way the instrument measures what is supposed to measure. And the reliability of the instrument's inner consistency can be estimated with the Cronbach's alpha. The reliability measure trough Cronbach's

alpha establishes that the items (measured in a Likert scale) measure the same construct and are highly related (Welck & Cormer, 1988). The closer the alpha value is to 1 the inner consistency of the analyzed items is higher. The reliability of the scale must be obtained through the data of each sample to guarantee a reliable measure of the construct in the concrete investigation sample. The tool ISTAS21 has a Cronbach alpha between 0,66 and 0,92 and according to the data provided by SPSS, such reliability is validated, since the alpha founded of 0.7 is acceptable (George & Mallery, 2003) as is shown in the following chart.

Chart 3. Reliability statistics

Cronbach Alpha	Cronbach Alpha based on the typified elements	Number of elements
.739	.756	38

## 5 Conclusions

- According to the obtained results from the surveys applied to the three textile companies and throughout the usages of statistical analysis, the survey ISTAS21, is a tool that allows the proper managing of information for the Bogota MIPYMES.
- The questionnaire ISTAS21 (CoPsoQ) certifies its validity in the scale measuring since the short and medium versions, were generated from the analysis of the long version, trough the usage of statistical tools as the ones mentioned in this investigation.
- From the factor analysis, it can be identified that the paragraphs psychological demands, active work and development possibilities, social support, quality leadership and empathy, are the psychosocial risk factors perceived in the usage of the MIPYMES surveys.
- Once the reliability analysis is performed a data guarantee is obtained, since the coefficient of correlation within classes is between the 0.658 and 0.808 with a confidence level of 95%, as shown in the following chart.

Chart 4. Coefficient of Correlation within classes.

	correlation within classes	confidence interval 95%	
		Low limit	Top limit
Individual measures	.069	.048	.100
Average measured	.739	.658	.108

- In general the ISTAS21 questionnaire method:  
Guarantees the confidentiality and anonymity of the people that takes it.  
Is a method with contrasted scientific validity and with real positive experiences In other European countries.  
The risks identification can only be done through the active and direct participation of the employees since they know their work and work conditions better than anyone else.  
Is a method that measures work conditions, this means how the work is performed and how the company's activities are organized.  
Is a method that eases a very useful piece of information for later being able to intervene in the improve of the work conditions.

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