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ORIGINAL ARTICLE

CONSTRUCTION AND VALIDATION OF MENTAL HEALTH MEASURE INVENTORY FOR TELEWORKERS

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ABSTRACT

Objective: constructing and validating an instrument for measuring the mental health of professionals working in telework. **Methods:** methodological study applied to 456 teleworkers from different work areas and regions of Brazil for the validation process. Data were evaluated using descriptive statistics, exploratory factor analysis and the evaluation of internal consistency by Cronbach's alpha. **Results:** the instrument consisted of 39 items and the factor analysis revealed the existence of six factors distributed in these items. These factors explain 59% of the variance of the construct, have Cronbach's alpha indexes greater than 0.75 and items with factor loads greater than 0.30 and are negative aspects of telework, positive aspects of telework, work overload, ergonomic aspects, management and communication in teleworking and consequences of teleworking**. Conclusions:** the instrument in question received positive evaluation from experts and validators and the statistical tests performed demonstrated valid psychometric properties; the six factors identified showed good psychometric qualities and corroborate with the mental health indicators found in the literature.

Keywords: Mental health. Job. Worker's health. Telework. Surveys and questionnaires.

INTRODUCTION

In Brazil, distance work has grown gradually. Due to the characteristics of the labor market, in 2020, Brazil had approximately 20.8 million people in telework. This type of work is that developed outside the traditional work environment, that is, away from the company. And this is only possible with the use of technologies such as the internet, computers, among others. At the same time, it takes work to the worker, rather than taking it to the work environment, as well as results in new opportunities for labor relations[1, 2].

It is the mode of work carried out outside the employer's dependencies, with the use of technological resources and that do not fit into the idea of external work, that is, the work that, due to its nature, is performed in external places, as is the case with drivers, commercial representatives, sellers, among others. Its main characteristics are to be work done, most of the time, outside the employer's dependencies, to use technological resources and not to be external[3].

Teleworking at home is the usual provision of work activity by the worker in his own home. This modality has been frequently used with new adaptations that, due to physical proximity to work and domestic activities, can be a worthy cause of anxiety and stress[4]. This is because teleworking is a modality that every day has stood out in different sectors of the professional market[5].

The relevance of investigating the issue of telework and mental health is extremely

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important since this modality causes impacts on the work routine and can cause conflicts in family and domestic relations. Even having advantages, disadvantages can cause damage to the mental health of teleworkers. Organizations still need to deepen to be able to understand and intervene in the impacts on the work environment[6]; as well as, in the form of understanding and measuring aspects of mental health through an appropriate instrument that can assess the mental health of the teleworker.

In work environments, several factors can harm the health of the worker, such as difficulties to separate work problems with home problems, concerns about long working hours and the exhaustion of the teleworker, which may cause physical and mental illness and impair the quality of life of the worker[7]. If, on the one hand, the development of teleworking can provide the full and successful integration of work activities with the family and with personal and social life, on the other hand, it can lead to the favoring of diseases[8]. Such diseases can interfere with the health of workers and with the productivity of companies[9].

In Brazil, there is a growing adoption of telework. However, national, and international publications on this type of work are still limited[10], making it difficult to assess the working and health conditions of working professionals[3].

The subject under study has gained prominence in several countries and in the scientific environment. It is emphasized that data collection instruments for mental health assessment in different Brazilian labor contexts are still incipient. Teleworkers are fundamental to the composition of labor force in different areas because, without them, much of the economy is not moved; these workers may be exposed to different risk factors to their health, including mental[2,10-11].

Prior to this study, an integrative review was conducted in 2020 in the SciVerse Scopus, Academic Search Premier, Business Source Complete, Econlit, Regional Business News and SocINDEX aiming to identify the scientific evidence on mental health in teleworkers and to identify the validated instruments to evaluate it in this type of work. It is noteworthy that specific instruments that evaluated mental health in telework were not found in this search, only studies that evaluated signs and symptoms related to mental health[11], which justifies the present study.

In view of the above, we realize the importance of promoting scientific knowledge about telework and mental health, as well as the development of an instrument to measure mental health in this population, filling gaps still existing in this area. The existence of this specific instrument for teleworking, can still bring benefits for a better approach of this population to provide a better mental health, as well as improvement in the quality of life related to work. The objective of this study was to construct and validate an instrument to evaluate the mental health of professionals working in telework.

METHOD

This is a methodological study of psychometric evaluation of an instrument[12], which followed the steps of establishing the conceptual structure for its construction and validation; the last phase being divided into two stages. In addition, it was based on the definition of objectives and population; on the construction of items and the response scale; on the selection and organization of items; on the structuring of the instrument; on the opinion of experts and on content validation[13]. The stages of construction and validation of the instrument occurred from July 2020 to March 2021, with teleworkers from the South, Northeast, and Southeast regions of Brazil.

In the first stage, that is, content validation, seven specialists from the South, Northeast, and Southeast regions of Brazil, from the areas of Nursing, Occupational Health, Medicine, and Psychology, were invited and participated in the study. These specialists met the following inclusion criteria: have a minimum degree, be active as a university professor and have expertise in the subject under study. There were no losses in the selection and participation of the validators.

In the second stage, that is, validation of the instrument, a sample of 456 teleworkers working in various areas and regions of Brazil was used, such as education, communication, health, law,

among others. The inclusion criteria were to be teleworkers who were not in a period of professional experience and who worked only at home.

The construction of the instrument items was based on other existing instruments such as the Mental Health and Work Care Protocol[14], the Inventory on Work and Risk of Illness[15], the Self Report Questionnaire (SRQ-20)[16] and the specialized literature.

Thus, the Mental Health Inventory for Teleworkers (MHIT), so called, is composed of questions that contain information regarding the month prior to the date of data collection. We included questions related to the organization of telework (nine questions) and aspects related to mental health in telework (30 questions), subdivided into six related factors Work Overload, Ergonomic Aspects, Management and Communication in Telework and Consequences of Telework, totaling 39 questions.

For the analysis of the validators, they were asked to be aware of the following criteria: scope, objectivity, organization, and relevance. The scope was defined by comprehensible and relevant information to achieve the objective of the study; the objectivity of the question was given according to the reader's understanding; in the organization it was considered the disposition and distribution of the questions and answers Finally, the pertinence was intended to observe whether the questions answered the objective of the study[17].

Each item was judged to be evaluated, with the aid of an evaluation form, with the items/criteria described above. Each judge had the opportunity to point out the absence or presence of the matching criterion and indicate the need for withdrawal or inclusion of each issue. They also had the opportunity to point out unnecessary items in the instrument and make comments/suggestions in the spaces left open[17]. We considered the answers of each established criterion and marked by "yes" or "no" divided by the total number of answers. For the quantitative analysis of the data, the calculation of Content Validity Index (CVI) was used, which measures the proportion or percentage of validators who agree on certain aspects of the instrument and its items. This test was chosen for the present study because it is the most used in validation studies of instruments performed with validators and because it brings reliable results for this purpose.

Thus, considering that representativeness would be conferred by unanimous agreement between six validators or more, the agreement rate should not be less than 0.78. However, in some cases the recommended values should be 0.90 or more for more than six participants. In this study, a rate higher than 90% was considered[18].

Regarding the validation stage of the instrument, this was performed by 456 teleworkers working in various areas and regions of Brazil. Data collection was performed using an electronic form specific to this research through the virtual platform Google Forms. The electronic form was sent via email and WhatsApp. As a data collection strategy, the "snowball" technique (Snowball technique) was adopted, a non-probabilistic sampling technique that uses reference chains, in which the bias of having a sample with similar characteristics was considered. It is also noteworthy that this technique was chosen for this study because it is widely used in scientific research.

In this perspective, the form was sent to the teleworker and was asked to forward it to other people who were also developing this type of work, so from the personal network of each teleworker. Thus, the sample was defined, not by sample calculation, but from these indications of the teleworkers, through the snowball technique, ending with the last referrals made by them. This method was relevant in the face of the pandemic crisis experienced during data collection.

The collected data were analyzed by the R program with the use of the Psych package. Descriptive statistics, Exploratory Factor Analysis, as well as Cronbach's Alpha internal consistency index were used in the analysis[19].

In the Exploratory Factor Analysis (EFA), the extraction of the factors was performed using the Ordinary Least Squares (OLS) method using the Varimax rotation. The number of factors relevant to extraction was defined by the parallel analysis method[18].

The Bartlett's Sphericity test and the Kayser-Meyer-Olkin (KMO) test were used as adjustment measures for EFA. The Bartlett's sphericity test evaluates whether the correlation matrix of the factor analysis presents statistically

significant correlations (the null hypothesis is that the matrix does not present relevant correlation). The KMO test evaluates the adequacy of the adjustment by means of an index that varies between zero and one. The closer to one, the greater the adequacy of the adjustment[18] demonstrated that a KMO value must be greater than 0.80.

One of the most relevant measures is the factor load. A factor load denotes the correlation between an original variable and its factor. The higher the value, the greater the correlation of the original variable with the factor. However, it is necessary that factor loads present statistical significance. For a factor load of 0.30 to be significant, the sample size required is n=350 participants[19], a quantity that was satisfied in the present study that used a population of 456 teleworkers.

For the evaluation of the model obtained, the Tucker Lewis Index (TLI: values ≥ 0.90) and Square Root of Mean Approximate Error (RMSEA: values ≤ 0.06) were also calculated. The internal consistency index Cronbach's alpha was also calculated. Because it is an exploratory study with EFA, the value of 0.60 was defined as the acceptable lower limit for the internal consistency index Cronbach's Alpha[19].

To achieve the gold standard (gold standard) was based on the concurrent validity, which aims its verification by means of two types. The first is the convergent and occurs when there is correlation with the chosen criterion. The second type considered is the divergent identified when there is no correlation with the criterion. In turn, the concurrent validity was analyzed according to Cronbach's alpha and percentage of the explained variance.

The development of the study met the standards of ethics in research involving human beings. The research obtained approval from the Research Ethics Committee according to the opinion of N 4,071,926. All participants were informed about the research, received the guarantee of their anonymity and their participation in the study was voluntary. In addition, the experts/validators and teleworkers who participated in this study were guided as to the objective of the investigation and the nature of the data collection. Those who agreed to participate signed the Informed Consent Form.

RESULTS

The initial instrument consisted of 39 items, presented in a Likert scale with one (never) to five (always) intensity responses; the total sum of questions varied from 39 to 195 points.

Before presenting the validation analysis of the instrument, it is necessary to understand some sociodemographic characteristics of the workers who participated in the MHIT validation process. Thus, it was observed that the majority of respondents were female (73.6%) and white (74.7%), with a mean age of 39.79 (standard deviation of 10.47501), AVERAGE of 1.02 children (standard deviation of 1.067635), mean monthly income of R$ 8.910.54 (standard deviation of 7.344 22), mean working time of 5.03 months in the company (standard deviation of 7.655547) and with 7.71 hours of daily work (standard deviation of 2.36).

Other variables related to telework were not collected, since, initially, the present study sought only to characterize the population studied, and in future research, applying the instrument validated by variables of characterization of the work.

In the analysis of the validation process, we evaluated the items of scope, objectivity, organization, and relevance of the instrument, according to the calculation of the CVI, it was considered that all items of the instrument are representative and valid, which showed CVI values greater than 0.98; objectivity 1.0; organization 1.0, relevance 1.0.

Following is presented in figure 1 the parallel analysis to define the number of factors of the Mental Health Inventory for Teleworkers.

Figure 1 shows the EFA solution with six factors. This solution proved to be adequate since KMO test presented a result of 0.9535, that is, higher than 0.80. In addition, relevant correlations were evidenced, since the Bartlett's sphericity test presented a value of 2480.612 with p-value < 0.0001, which points to the matrix's factorability. Thus, the results of these tests showed that the data are adequate for the EFA.

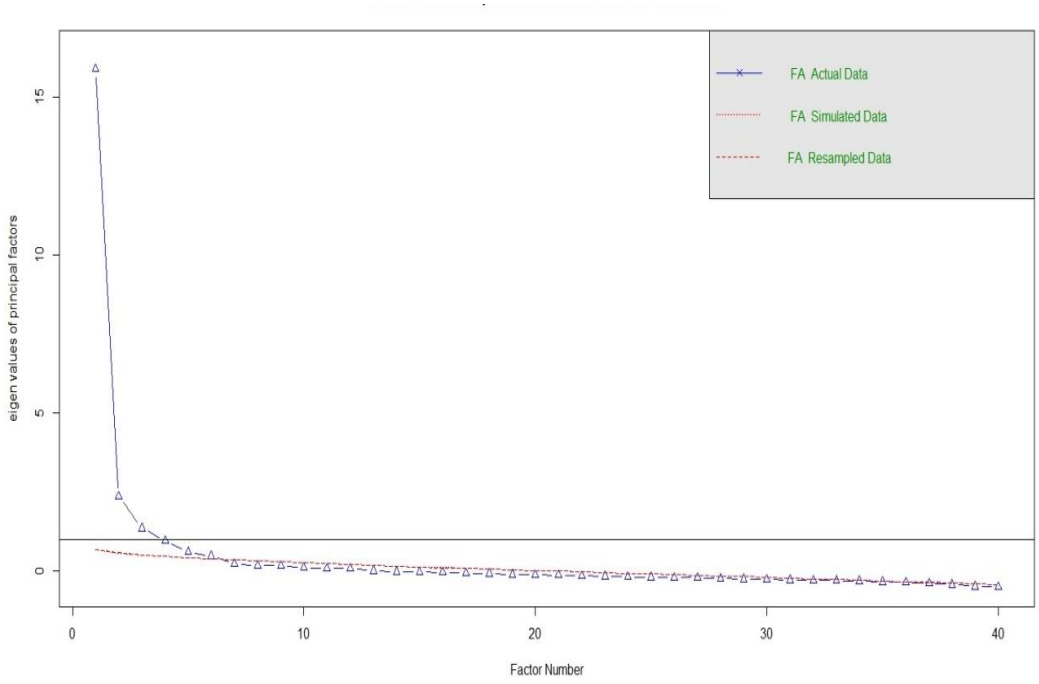

Figure 1. Parallel analysis to define the number of factors in the Mental Health Inventory for Teleworkers. Ribeirão Preto, São Paulo, 2020-2021

Once the number of relevant factors for performing the EFA was established, the analysis was based on the six factors presented in Table 1, referring to the organization and mental health in telework.

Table 1. Distribution of items from the Mental Health Inventory for teleworkers according to the factor matrix and precision of the factors derived from the exploratory factor analysis. Ribeirão Preto, São Paulo, 2020-2021

Questions	**Factors**					
Work overload	**Factor 3**	**Factor 2**	**Factor 1**	**Factor 6**	**Factor 4**	**Factor 5**
Do you feel overwhelmed when teleworking?	**0.7865**					
You feel exhausted when teleworking	**0.7355**					
Do you feel pressured to meet deadlines while working remotely?	**0.7070**					
Do you feel stressed when teleworking?	**0.7066**					
Do you feel tired when teleworking?	**0.6594**					
Do you feel anxious when teleworking?	**0.6127**					
Teleworking brings suffering to you	**0.5849**					
There are charges for results when teleworking	**0.5700**					
Do you take rest breaks when teleworking?	**-0.4011**					
Positive aspects of teleworking	**Factor 3**	**Factor 2**	**Factor 1**	**Factor 6**	**Factor 4**	**Factor 5**
Do you feel proud when teleworking?		**0.8231**				
Do you feel fulfilled when teleworking?		**0.8064**				
Do you feel motivated when teleworking?		**0.8002**				
Do you feel satisfied teleworking?		**0.6960**				
Do you feel valued when teleworking?		**0.6242**				
Do you feel creative when teleworking?		**0.5978**				
When teleworking, communication between teleworking colleagues is satisfactory		**0.4424**				

Can you establish a routine for teleworking?		**0.3765**				
Negative aspects of teleworking	**Factor 3**	**Factor 2**	**Factor 1**	**Factor 6**	**Factor 4**	**Factor 5**
You feel sad when teleworking			**0.6875**			
You feel useless when teleworking			**0.6341**			
Do you feel frustrated when teleworking?			**0.6196**			
Do you feel lonely when teleworking?			**0.6152**			
Teleworking scares you			**0.5394**			
Do you feel irritated when teleworking?			**0.5035**			
Do you feel distressed about teleworking?			**0.4887**			
Do you have resistance to teleworking?			**0.3536**			
Consequences of teleworking	**Factor 3**	**Factor 2**	**Factor 1**	**Factor 6**	**Factor 4**	**Factor 5**
You have poor digestion, unpleasant sensations in your stomach after teleworking				**0.6298**		
You have a lack of appetite after teleworking				**0.5926**		
You have difficulty thinking clearly after telecommuting				**0.5820**		
You have been crying more than usual after telecommuting				**0.5333**		
You experience frequent headaches after telecommuting				**0.4628**		
You have difficulties in social relationships outside of teleworking				**0.4508**		
Do you feel like being alone after telecommuting?				**0.4414**		
Can you make decisions after teleworking				**-0.4409**		
Ergonomic aspects	**Factor 3**	**Factor 2**	**Factor 1**	**Factor 6**	**Factor 4**	**Factor 5**
The furniture where you telework is suitable					**0.8532**	
Is your home environment comfortable for teleworking?					**0.6042**	
The teleworking equipment you use is adequate					**0.5576**	
Management and communication in teleworking	**Factor 3**	**Factor 2**	**Factor 1**	**Factor 6**	**Factor 4**	**Factor 5**
Do you feel comfortable talking to your boss?						**0.7787**
Do you have support from your boss to develop your teleworking						**0.6306**
Do you feel comfortable talking about your teleworking activities with other people?						**0.4279**

In Table 1, the factor loads showed the correlation of the studied variable with the factor. It is possible to note that in all items the values were above 0.30 (in absolute value), that is, they presented a relevant correlation with the factors to which they were allocated. The variables on work overload are related to Factor 3. As the variable "You take rest breaks in telework" is in the opposite direction to other indicators of this nature, it presented a negative sign. This means that there is a negative correlation in this variable, that is, a variation opposite to the variation of the construct.

The positive aspects of the work were represented by Factor 2, while the negative aspects presented factorial load in Factor 1. In turn, the consequences of telework are illustrated by Factor 6. In this set of variables, again a variable showed negative sign. It is "You can make decisions after teleworking" which because it is a situation of contrary nature to the other information of this item, has opposite variation. As for the ergonomic aspects, they had factor load in Factor four. Finally, management and communication issues in telework were correlated with Factor five (Table 1).

Thus, the inventory was composed of six factors and the results showed that the instrument is adequate with the structuring in the dimensions indicated. The TLI and RMSEA indices corroborate

this finding. This first was 0.92, that is, higher than the reference value of 0.90 considered appropriate. The second was 0.05 with lower and upper limits, respectively, of 0.048 and 0.055, which demonstrates that it is lower than the reference value of 0.06.

In addition to the above, the robustness of this analysis can be complemented in table 2, following.

Table 2. Cronbach's Alpha squared factor loads and variance explained by the six factors of the Mental Health Inventory for Teleworkers. Sao Paulo, Brazil 2020-2021

	Factor 3	Factor 2	Factor 1	Factor 6	Factor 4	Factor 5
Cronbach's alpha	0.9185	0.9168	0.9060	0.8486	0.8156	0.7320
Sum of factorial loads squared	5.5657	5.1732	4.2879	3.6488	2.0430	1.9562
Proportion of variance	0.1427	0.1326	0.1099	0.0936	0.0524	0.0502
Cumulative variance	0.1427	0.2754	0.3853	0.4789	0.5312	0.5814
Proportion explained	0.2455	0.2281	0.1891	0.1609	0.0901	0.0863
Proportion of accumulated explanation	0.2455	0.4736	0.6627	0.8236	0.9137	1.0000

The corresponding values of Cronbach's alpha found in Table 2 are satisfactory in the general scope as for the domains found in the EFA, since all the results achieved were above 0.60. Regarding the percentage of variance explained, factor three explains 14.27% of variance, factor two explains 13.26% and factor one, 10.99%. Factors six, four and five explain respectively 9.36%, 5.24% and 5.02% of the variance.

It was observed that Factor three is the one that has the highest sum of factorial loads squared, that is, it explains many items that contribute to this factor, since there is a strong correlation with the group of variables that it explains. This factor has the potential to explain 24.55% of the items and, along with Factor three, explain 47.36% of the items. Because it is correlated with a group of items in smaller numbers, Factor five is the one that has a smaller sum of factorial loads squared.

In the definition of the number of factors it is important to also verify the accumulated variance, since it is usual that the factors are extracted until the accumulated variance reaches a specific percentage (60%). It can be noted that, when one reaches the sixth factor, represented by Factor five in the last column of Table 2, one reaches the accumulated variance of 58.14%, which corroborates the validation of the instrument with the use of six factors (Table 2).

In general, the results of the MHIT analysis, that is, the value of the factor loads of the items and the internal consistency confirm that the instrument has an adequate internal structure. Associated with the analysis of the factors seized through factor analysis, it is possible to affirm that the inventory is relevant to measure mental health in teleworkers.

DISCUSSION

The analysis of the experts/validators contributed to the designation of the instrument as to its form and content. The results of this study presented an instrument with 39 items, subdivided into six factors. These factors agree with good psychometric qualities and validated instrument indicators presented in the literature[13,15,17]. It is important to highlight that for the area of Occupational Health there are still unknown risks due to the work at a distance and in isolation conditions regarding the occupational health of the teleworker, especially in its psychosocial dimension[5]. In this sense, the issues of this instrument represent a key component in understanding these risks.

The exploratory factor analysis showed the adequacy of the instrument composed of six factors. A high percentage of the accumulated variance was identified with the incorporation of these six factors in the analysis, reaching 58.14%. Moreover, the corresponding values of Cronbach's Alpha above 0.60 were satisfactory in the general scope, which points to the robustness of the analysis performed.

The first factor found was "Negative Aspects of Telework". It addresses worker's feelings regarding teleworking, such as sadness, futility, frustration, loneliness, fear, irritation, anguish, and resistance. Thus, it is emphasized that teleworking can affect the mental health of the teleworker, since its development can provide stressful factors and exhaustion, which can provoke negative feelings and family conflicts[4].

National and international studies have identified negative effects of teleworking as conflict with the family, impaired personal relationships[20-21], feelings of emotional and social dissatisfaction, stress,

emotional exhaustion, and less happiness. People who have children experienced a more negative connection with this type of work[20-22].

The second factor demonstrated was "Positive Aspects of Telework", which concerns aspects that the worker feels in relation to telework, such as pride, achievement, motivation, satisfaction, appreciation, creativity, communication between colleagues and work routines and schedules. National and international surveys have shown that teleworking has benefits such as flexible working hours, desire to conserve work resources such as time and emotional energy, quality of life at work, flexible working hours, possibility of employment for the physically disabled and women; reduction of costs with transportation, food and clothing, opportunities for leisure, health and family life and greater productivity[2,23-24].

This type of work also facilitates reconciling work life with family life; improves concentration, productivity, motivation, psychological control, low intentions of labor turnover, the increase of job satisfaction and the reduction of the psychological tension of teleworkers. Data from the American Time Use Survey showed that teleworkers had lower levels of negative feelings than workers who worked in the organization[23].

The third factor identified was "Work Overload", which refers to how much the worker feels overloaded with telework, his items referred to exhaustion, feeling pressured, stressed, tired, anxious, the fact that he is in suffering, to be charged for results and to take breaks or not rest. In addition, not all households are prepared to support the technical requirements of the use of information and communication technologies, presenting difficulties in promotion and comfortable environment. Sometimes a greater workload is required, leading to the social isolation of the person[24].

The fourth factor concerns "Ergonomic Aspects", which indicate how much the worker considers his furniture, his environment, and his equipment suitable for teleworking. In this sense, the employer must be responsible for the occupational environment, for the adaptation of the work organization, identification of the teleworker's aptitude and instruments for adequate execution in telework, thus aiming at the prevention of labor risks[5].

The fifth factor, "Management and Communication in telework", demonstrates how much the teleworker feels comfortable to talk to the boss if he has support for the development of his teleworking and if he feels comfortable talking about his work in teleworking with other people. It is worth mentioning that the increase in virtual relations between the employer and the employee is the subject of discussions[6]. On the other hand, there are disadvantages due to the risk of isolation and the loss of direct contact with their co-workers and superiors[24-25].

The sixth and last factor identified was "Consequences of telework", which demonstrates how the worker feels after performing telework, such as poor digestion, lack of appetite, difficulty thinking clearly, willingness to cry, headaches, difficulties in social relations, willingness to be alone and attitudes in decision making. Negative effects of this type of activity are evidenced in the difficulty in managing work start and end times, in the increased workload, in the lack of availability of training opportunities, reduced visibility and less chance of career advancement[2,21,24].

The consequences of teleworking can arise in some individuals because they have greater genetic propensity, fragility, and sensitivity to develop psychic disorders such as anxiety, depression, and stress. Thus, the consequences of episodes of illness may favor accidents at work, negative feelings, little creativity in the activities performed, as well as long working hours[5,25-26].

The sample was composed of women, who besides teleworking, usually has other demands such as domestic work that can bring illness. Women prefer teleworking because they have greater mobility and flexibility in their activities. In this context, the positive point of teleworking is to promote greater interaction with the family. Teleworking, therefore, is a broad locus for research on work and mental health, since it deals with unusual and studied aspects, and can influence various aspects of the life of the person and family, active role in the construction of identity and life in society[2,25-26].

It is emphasized that the employer's responsibility for the health and safety of teleworkers must be executed since it is of objective civil liability, since the risks of the economic activity developed by the company and the risks arising from the same labor activity[27]. As well as the prevention of mental suffering in telework can be achieved through the recognition and management

of professional exhaustion, minimizing clinical and psychological consequences. In addition, it is important to promote pleasure at work, emphasizing learning opportunities, new relationships, and teaching activities[28].

In general, the constructed and validated items of the instrument such as work overload, positive and negative aspects, consequences in telework, ergonomic aspects and management and communication in telework, shows the importance of an instrument as elaborated and validated in this study, considering that it was analyzed by experts in the areas of Mental Health and Occupational Health and have been submitted to the relevant and reliable statistical tests for this study design.

As limitations of this study, we highlight the difficulty of finding quantitative investigations on the subject, which in fact limited the discussions and comparisons with the results of other studies and the fact that data collection occurred during the COVID-19 pandemic19, a time of many uncertainties and particularities that had consequences on mental health and when many teleworkers were still in a period of adaptation in this type of work, which for many was imposed by the pandemic situation.

This research contributes to the advancement of new knowledge, since the instrument built and validated is presented as a possibility to stimulate the realization of novel studies on telework and mental health of those who exercise it, policies for this population.

CONCLUSIONS

This study presents the construction and validation of an instrument that aims to evaluate the mental health of professionals working in telework. After analysis, the instrument had a positive evaluation of the experts/validators and the statistical tests showed valid psychometric properties.

Thus, this instrument can be used to assess the mental health of teleworking professionals from different occupational groups, benefiting several areas of action, critical issues for the accomplishment of evaluations in this theme were addressed. It can also collaborate with the prevention and promotion of teleworker health, favoring from the early detection of mental illness, better health conditions, making them more productive and satisfied with work. In short, the instrument developed has scientific rigor to support researchers and represents a possibility for scholars of the subject; it contributes to new research on telework and worker health care.

CONSTRUÇÃO E VALIDAÇÃO DO INVENTÁRIO DE MEDIDA DE SAÚDE MENTAL PARA TELETRABALHADORES

RESUMO

Objetivo: construir e validar um instrumento para mensuração da saúde mental de profissionais atuantes no teletrabalho. **Métodos**: estudo metodológico aplicado a 456 teletrabalhadores de diferentes áreas de trabalho e regiões do Brasil para o processo de validação. Os dados foram avaliados utilizando-se estatísticas descritivas, análise fatorial exploratória e a avaliação da consistência interna pelo *Alfa* de *Cronbach*. **Resultados**: o instrumento foi composto por 39 itens e a análise fatorial revelou a existência de seis fatores distribuídos nesses itens. Tais fatores explicam 59% da variância do construto, possuem índices de *Alpha* de *Cronbach* superiores a 0,75 e itens com cargas fatoriais superiores a 0,30 e são aspectos negativos do teletrabalho, aspectos positivos do teletrabalho, sobrecarga de trabalho, aspectos ergonômicos, gestão e comunicação no teletrabalho e consequências do teletrabalho **Conclusões**: o instrumento em questão recebeu avaliação positiva dos especialistas e validadores e os testes estatísticos realizados demonstraram propriedades psicométricas válidas; os seis fatores identificados apresentaram boas qualidades psicométricas e corroboram com os indicadores de saúde mental encontrados na literatura.

Palavras-chave: Saúde mental; Trabalho; Saúde do Trabalhador; Teletrabalho; Inquéritos e questionários.

CONSTRUCCIÓN Y VALIDACIÓN DEL INVENTARIO DE MEDIDAS DE SALUD MENTAL PARA TELETRABAJADORES

RESUMEN

Objetivo: construir y validar un instrumento para medir la salud mental de profesionales que trabajan en el teletrabajo. **Métodos**: estudio metodológico aplicado a 456 teletrabajadores de diferentes áreas de trabajo y regiones de Brasil para el proceso de validación. Los datos fueron evaluados utilizando estadísticas descriptivas, análisis factorial exploratorio y la evaluación de la consistencia interna por el *Alfa de Cronbach*. **Resultados**: el

instrumento ha sido compuesto por 39 ítems y el análisis factorial reveló la existencia de seis factores distribuidos en esos ítems. Tales factores explican el 59% de la varianza del constructo, poseen índices de *Alpha de Cronbach* superiores a 0,75 e ítems con cargas factoriales superiores a 0,30 y son aspectos negativos del teletrabajo, aspectos positivos del teletrabajo, sobrecarga de trabajo, aspectos ergonómicos, gestión y comunicación en el teletrabajo y consecuencias del teletrabajo **Conclusiones**: el instrumento en cuestión recibió evaluación positiva de los especialistas y validadores y las pruebas estadísticas realizadas demostraron propiedades psicométricas válidas; los seis factores identificados presentaron buenas cualidades psicométricas y corroboran con los indicadores de salud mental encontrados en la literatura.

Palabras clave: Salud mental. Trabajo. Salud del Trabajador. Teletrabajo. Investigaciones y cuestionarios.

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