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## QUALITY OF WORKING LIFE AND MUSIC IN THE MANUFACTURING WORKPLACE

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### Abstract

This study aimed to understand how the insertion of music in the work environment contributes to achieving Quality of Working Life (QWL), from the perspective of biopsychosocial and organisational well-being. The context where the study was conducted was the manufacturing area of a major textile company located in Natal, in the state of Rio Grande do Norte, Brazil. The use of a case study was the research strategy adopted, with exploratory and descriptive objectives. The primary data was collected through the focus group technique and semi-structured interviews were used as an additional tool. Respecting the theoretical saturation criterion, four focus groups were formed, each comprising eight randomly selected participants from the seventy-six co-workers in the sector. The data was analysed qualitatively, using the content analysis technique. Twenty-eight QWL attributes were identified. It was concluded that musical insertion provides biological, social and, above all, psychological and organisational well-being to the co-workers, contributing to achieving QWL in the work environment researched.

**Keywords:** Quality of Working Life. Human behaviour at work. Functional music. Music at work. Textile industry.

## QUALIDADE DE VIDA NO TRABALHO E MÚSICA NO AMBIENTE LABORAL FABRIL

### Resumo

O presente estudo objetivou compreender como a inserção de música no ambiente laboral contribui para a obtenção da Qualidade de Vida no Trabalho – QVT, na perspectiva da percepção do bem-estar biopsicossocial e organizacional. O contexto onde se realizou o estudo foi o setor de confecção de uma indústria têxtil de grande porte, localizada na cidade de Natal, estado do Rio Grande do Norte, Brasil. O estudo de caso foi a estratégia de pesquisa adotada, com finalidades exploratória e descritiva. Os dados primários foram coletados através da técnica de grupo focal, e, como instrumento complementar, foi utilizada a entrevista semiestruturada. Respeitando-se o critério de saturação teórica, foram formados quatro grupos focais, cada um composto por oito participantes, selecionados de forma aleatória, entre os setenta e seis colaboradores do setor. Os dados foram analisados qualitativamente, através da técnica de análise de conteúdo. Identificaram-se vinte e oito atributos de QVT. Concluiu-se que a inserção musical proporciona bem-estar biológico, social, e, sobretudo, psicológico e organizacional aos colaboradores, contribuindo para a obtenção de QVT no ambiente laboral pesquisado.

**Palavras-chave:** Qualidade de Vida no Trabalho. Comportamento humano no trabalho. Música funcional. Música no trabalho. Indústria têxtil.

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## 1 Introductory considerations

The presence of music in people's lives is common place, whether in leisure, religion, at functions, in commercials, on soundtracks for films and soap operas, among others. However, is music only to be heard or could it be used for other purposes? Functional music is presented from this perspective, where its extra-musical applications are based on the psychophysiological effects caused by music on the human being. According to Gatti and Silva (2007), music is to be heard passively, where sound perception takes place unconsciously, such as the atmospheric or background music used in restaurants, medical and physiotherapy clinics, supermarkets and others. This is related to the idea that music could be used to improve human activities. Therefore, it should not be heard and merely perceived.

This viewpoint is shared by other authors, such as Benenzon (1981), when he emphasises that functional music is heard but is not listened to and should not be exposed for conscious perception; Martí (2002) refers to background music, characterising it as functional and Jourdain (1998), confirms that when atmospheric music is experienced it is heard passively, instead of being active listening.

But could functional music be capable of affecting human behaviour at work, to the point of contributing to improving the Quality of Working Life (QWL), and therefore be considered a further source or attribute of this construct? Considering that reproduced or recorded music has been inserted in the company's organisational environment during work activities, some questioning is required: how has music been inserted in the work environment? What are the functions exercised by inserting music at work? Is music providing well-being to co-workers, to the point of contributing to achieving obtaining QWL? If this is so, which attributes of QWL are being affected by inserting music? The answers to these questions were provided with this research.

The QWL approach has been operationalised through programmes which invariably include the provision of leisure activities, stretching, culture and art, among other activities, to co-workers in work breaks, highlighting encouraging contact with music by establishing choirs at companies and classes to learn how to play a musical instrument (ALVES, 2011; FERREIRA; ALVES; TOSTES, 2009; LIMONGI-FRANÇA, 2007). However, although Quality of Working Life Programmes (QWLP) include leisure activities using music, they take place outside of the organisational environment, in the co-workers' free time.

From this perspective, it is highlighted that this study is pertinent, as it is an innovative approach and has a relatively low cost in relation to improving well-being at work, resulting in increased productivity and quality of the products and services provided by and to the company. However, it is emphasised that the theme is interesting to entrepreneurs, internal and external clients and academia, to further develop studies on QWL, introducing music in the work environment as a resource that generates well-being and differentiated productivity.

## 2 Music at work

Music in the work environment has been studied by a number of authors, such as Prichard, Korczynski and Elmes (2007) who highlight three areas of literature that refer to the relation between music and work, with differentiated focuses of investigation. The broader and perhaps most significant to managers is empirically focused, on the role and impact of recorded music on work environments. This was the field of study in which this research is placed.

In the current field of study on musical psychology, the majority of the descriptions on music and work have focused on the *Muzak* effect, also known as background music, presenting a limited vision of interactions which take place between workers and listening to music. They are studies which use a limited theoretical support on the consequences of organisational behaviour, as the result of musical experiences. However, the need to test a music and work theory persists, although the insertion of music in work environments has intensified (LESIUK, 2005).

Music has been used to regulate contemporary work, increasing control on workers and consumers. This control has been demonstrated in research, with the example of experimental studies carried out by North and Hargreaves (2008) and North, Tarrant and Hargreaves (2003). These authors concluded that music exercises a positive effect on consumer spending and return and that background music tends to reduce frustration in queues, also favouring the use of useful forms of behaviour, such as people keen to do voluntary work.

A part of this experimental work, carried out by psychologists (HAGEN; BRYANT, 2003; REYBROUCK, 2004), is based on the assumption that the effect of music is the result of extracognitive work performed by those who are exposed to it. In another vision, based on interpretive sociological tradition, researchers such as Nora and Belcher (2000) and DeNora (2002) explored the symbolic process of music captured by consumers and workers at a series of retail sites. These authors defend the idea that music supplies a set of indications for specific types of social action by consumers and employees, representing a resource for the performance of consumption identities and a sense of form, time and rhythm for consumption and service practices.

The positive change in organisational behaviour could also be explained by the musical preferences of those who are exposed to the music. The importance of this preference is reinforced by Davis and Thaut (1989), in a study that measured the subjective physiological and psychological reactions to relaxing music (preferred), concluding that preference, familiarity or past experiences with music have a major effect on a positive change in behaviour, rather than the type of music.

Despite these theoretical concepts, it is noted that the social context of listening could exercise an influence on the way that meanings are attributed to music or how it is perceived. For DeNora (2002), North and Hargreaves (2008), daily emotional reactions to music do not exist without a social context. Although in literature on music the research tends to overlook the social context in which the music is inserted (JUSLIN; LAUKKA, 2004), the limited empirical research in this area suggests that social listening generates more positive experiences and creates more emotional ties than individualised listening (THOMPSON; LARSON, 1995).

For the effect of this study, musical insertion is related to the way that the music has been inserted in the work environment, which considers the use of its constitutive elements (musical genre, rhythm, time of exposure to music and volume of the music) and also the functions or roles which music exercises on human behaviour at work, affecting the well-being of the worker in some way, while exercising his activities.

However, it should be emphasised that music could be harmful to man if excessive variations of its elements take place, especially regarding volume and time of exposure to music. Studies (BRAY; SZYMÁNSKI; MILLS, 2004; FLEISCHER; MULLER, 2005) carried out with individuals exposed to electronically amplified music revealed complaints related to hearing and loss of hearing associated to long periods of exposure to amplified music. However, exposure to music for short periods of time may cause loss of hearing and tinnitus, if the sound levels are high. In both cases, the music is transformed into environmental noise, which can harm people while exercising their functions.

According to Andrade and Russo (2010), the occurrence of loss of hearing is related to factors inherent to individual characteristics of the person exposed to the noise, the environment and aggressive agent itself (sound). In relation to this last item, researchers (RUSSO, 1997; MENDES; MORATA, 2002) put forward important characteristics of the agent for the appearance of changes in hearing, with the following being highlighted: quality, which refers to the frequency of the sounds which make up the noise in a specific analysis; duration, related to the time of exposure to each type of agent; the type of noise, defined as continuous, intermittent or impact; and intensity, which is related to sound pressure levels.

From this perspective, the reproduction of music at work should take aspects related to the form of musical insertion into account, bearing in mind that excessive oscillations between the parameters of its elements, such as volume and time of exposure to the music, could harm a co-worker's hearing, as well as his health in general.

In light of the above, bearing in mind that music represents a fundamental part of daily life, the way that this resource has affected people in the work environment, the place where they spend the majority of their lives and, more specifically in relation to these people's Quality of Working Life (QWL) cannot be ignored.

### 3 Quality of working life: concepts and theoretical models

An improvement in quality of life (QL) is associated to the individual's satisfaction in relation to himself, his family, social life, religion and work. Within this aspect, the relevant role of work in people's lives is highlighted and can be viewed as an element inseparable from human life, as they live in productive organisations for a substantial part of their existence.

Handy (1978) highlights the importance of organisational work, seen as an inseparable part of human life, confirming that QWL influences or is influenced by various aspects of life, outside of the organisational environment, in other words implying that the worker's satisfaction is associated to his life as a whole, having interfaces with his family, leisure, society, religion and his own physical and mental balance. This vision is shared by other scholars on the theme (LIMONGI-FRANÇA, 2004; MARTEL; DUPUIS, 2006; RODRIGUES, 1998).

QWL became the subject of increased attention from the mid 20<sup>th</sup> century and first decade of the 21<sup>st</sup> century, starting to be considered a crucial dimension in the lives of those who work, especially considering the set of new pathologies which have been installed in workers in a silent and destructive way (BELO; MORAES, 2011).

As Limongi-França (2004) claims, these pathologies may be labelled as "diseases of civilization", and are illnesses resulting from the workers' lifestyles in work situations and affect their health. This demonstrates the recent importance given to QWL, which enters the 21<sup>st</sup> century as one of the multiple concepts that well-being and job satisfaction address, which has justified the development of new studies on this construct.

Another argument which justifies the growing interest in the theme is highlighted by Arellano (2008), to whom QWL still presents a certain conceptual inaccuracy. This inaccuracy has already been mentioned by Fernandes (1996), confirming that a consensual definition in literature still does not exist in this respect. According to the above-mentioned author, QWL has been the object of academic studies and experiences in various countries and the interest in the theme can be considered recent in Brazil, with doubts still existing with regards to its exact meaning. "In addition to legislative acts which protect workers, the concept includes responding to human needs and aspirations, based on the idea of humanising work and the company's social responsibility" (FERNANDES, 1996, p. 40).

Following a review of the literature, we decided to present some of the main concepts on the construct. Generally speaking, according to Limongi-França (1996), QWL concepts can be grouped into three approaches: (a) the person's level of satisfaction with the company; (b) general environmental conditions and (c) promoting good health. Complementing this concept, Moraes and Kilimnik (1994) claim that QWL presents a subjective content, considering its relation with satisfying intrinsic needs, but also objective and concrete content, which refers to the way the worker is organised.

To Fernandes (1996, p. 45), "QWL" constitutes "[...] the dynamic and contingent management of physical, technological, social and psychological factors which affect the culture and renew the organisational climate, reflecting in the workers' well-being and companies' productivity". Therefore, according to this definition, QWL should be considered dynamic management, as people and organisations change constantly; and a contingent approach, as it depends on the reality of each company and the context in which it is inserted.

A further definition, proposed by Walton (1975), understands QWL as a concern about humanistic and environmental values overlooked by modern industrial society, in

favour of technological advances, productivity and economic growth. This definition is in contrast with human values and technology, expressing criticism of the emphasis in the organisational context and technological development, to the detriment of aspects related to humanistic values.

In Gadon's definition (1984), QWL aims for increased productivity and growth in employee satisfaction, taking into consideration achieving improved results by the organisation as an essential factor, so that the search to improve conditions and work relations takes place permanently. Thus, increased productivity generates resources which translate into encouragement, so that the entrepreneurs continue to invest in improvements to the organisational environment.

Based on their notions about QWL, various authors have been developing models and proposing criteria to evaluate this construct. In specialised literature on the theme, as Medeiros (2007) argues, more comprehensive models to diagnose QWL may be identified, comprising the analysis of a greater range of variables to models focused on more specific ones, and those developed by Brazilian authors.

Among the models with a comprehensive focus, those of Walton (1975) are highlighted, establishing eight QWL criteria (Adequate and Fair Compensation, Working Conditions, Use and Development of Personal Capabilities, Opportunity for Growth and Security, Social Integration in the Organisation, Constitutionalism, Work and Total Life Space and Social Relevance of Work on Life), which most significantly affect the worker's life in a work situation and its respective variables; Westley (1979) understands QWL as a way of humanising work, capable of solving four fundamental problems: political, economic, psychological and sociological; Lippitt (1978) proposes four key factors (work in itself, the individual, producing work and functions and organisational structure) to evaluate QWL.

With regards to models with a specific focus, the following should be highlighted: Hackman and Oldham (1975), whose emphasis lies in the characteristics of the tasks; Werther and Davis (1983), according to which QWL is based on a job project; Belanger, Bergeron and Petit (1983), who put forward dimensions for QWL analysis, such as work in itself, personal and professional growth, tasks with meaning and open organisational functions and structures; Nadler and Lawler (1983), who identified six factors that determine the success of job projects: perceiving the need, focus on the problem, structure to identify and solve the problem, compensation for processes and results, multiple systems and the organisation's involvement; Huse and Cummings (1985), who highlight two important aspects for a concrete definition of QWL, based on the job project: concern with the workers' well-being and organisational effectiveness and the workers' participation in work decisions and problems.

Related to the models developed by national authors, the following can be highlighted: Quirino and Xavier (1987), a pioneering QWL model in the country, which identified the subjective and objective aspects to measure the quality of life in organisations; Siqueira and Coleta (1989), who put forward a model which considered organisation as a sociotechnical system; Rodrigues (1998), who investigated QWL, taking measuring these professionals' motivation and satisfaction levels as a base; Fernandes (1996) who suggested the Operational Audit of Human Resources model to improve the quality of working life as the methodology to be adopted for the success of QWL Programmes in organisations and Limongi-França (2004), with a Biopsychosocial and Organisational vision as the focus, which formed the main theoretical support of this work and will be described in further detail in this article.

In a more recent perspective, Limongi-França (2004) proposes the identification of Quality of Working Life Management (QWL-M) interfaces in company administration, showing the emergence of new and complex managerial expertise, which is presented based on the analysis and evaluation of critical QWL management factors (QWL concept, productivity, legitimacy, administrator's profile, practices and values of organisational culture and new expertise), grouped together in BPSO-96 (B-Biological; P-Psychological; S-Social and O-Organisational) dimensions. Therefore, it is an expanded and systemic approach to QWL, which considers four dimensions of each individual which interact between themselves.



This approach, with Lipowski (1986) as its precursor, arises from psychosomatic medicine, which considers the biopsychosocial vision of the human being. It is an expanded concept of health, which did not correspond merely to the absence of disease but included the person's complete, biological, psychological and social well-being. From this vision, the human being is understood as complex, comprising these three dimensions, which simultaneously respond to living conditions and should be analysed together in studies on QWL.

This biopsychosocial understanding of the person, according to Limongi-França (2004), is situated in the same conceptual proposal of the holistic vision of the human being and is therefore based on the: *biological dimension*, which refers to physical characteristics inherited or acquired at birth and throughout a lifetime. It includes metabolism, resistance and vulnerability of organs or systems; *psychological dimension*, which is related to conscious or unconscious affective, emotional and reasoning processes, which form each person's personality and the way of perceiving and positioning himself with other people and the circumstances which he experiences and the *social dimension*, which reveals social and economic values, culture and beliefs, the role of the family and other forms of social organisation at work and outside of it, representation systems and organising the community to which each person belongs and takes part in.

The author inserted the organisational dimension into this approach (ARELLANO, 2008), in order to respond to the specifics of the culture and organisational environment. This dimension refers to questions of organisational image, technology and innovation, control systems, movements and records, training programmes and developing other specific activities at organisations. Thus, independent and dependent variable groups were created, corresponding to each dimension, as summarised in Tables 1 and 2 below.

**Table 1 – Independent variables – specific company actions**

AREA OF INVESTIGATION	DESCRIPTION	INDICATORS
Organisational	Actions which value the company's image, structure, product and relationship with employees	<ul style="list-style-type: none"> <li>• Endomarketing</li> <li>• Executive and decision-making committees</li> <li>• Internal communication</li> <li>• External image</li> <li>• Social responsibility</li> <li>• Citizenship</li> </ul>
Social	Actions which provide mandatory and spontaneous social benefits and create leisure opportunities and culture	<ul style="list-style-type: none"> <li>• Legal rights</li> <li>• Associative and sports activities</li> <li>• Tourism, leisure and cultural events</li> <li>• Family assistance</li> </ul>
Psychological	Actions which promote self-esteem and the development of personal and professional capacities	<ul style="list-style-type: none"> <li>• Selection processes and evaluating performance</li> <li>• Career</li> <li>• Payment</li> <li>• Participative programmes</li> </ul>
Biological	Actions which promote health, control environmental risks and respond to physical needs	<ul style="list-style-type: none"> <li>• Map of risks</li> <li>• Internal Preventing Accidents at Work Week (SIPAT)</li> <li>• Meals</li> <li>• Medical service – internal and contracted</li> <li>• Ergonomic improvements</li> <li>• Specific training</li> <li>• Internal patrimonial security</li> </ul>

Source: Limongi-França (1996, p. 87).

The dimensions and indicators listed in this table represent specific QWL actions (programmes, management, campaigns, surveys and controlling results) introduced by the organisation and result from managerial efforts (organisational, personal and financial mobilisation) at the company. These dimensions and indicators represent the dependent variables related to worker satisfaction at the organisation in the following table.

**Table 2 – Dependent variables – employees’ levels of satisfaction**

AREA OF INVESTIGATION	DESCRIPTION	INDICATORS
Organisational	Satisfaction perceived in relation to organisational policy: what the company does and is reflected in the employees	<ul style="list-style-type: none"> <li>· Company image</li> <li>· Valuing the product</li> <li>· Quality of information generated for internal communication</li> </ul>
Social	Satisfaction perceived regarding the social support of legal and spontaneous benefits	<ul style="list-style-type: none"> <li>· Family involvement</li> <li>· Assistance with formal education</li> <li>· Doing sports activities</li> </ul>
Psychological	Satisfaction perceived regarding responding to individual needs of recognition, self-esteem and development	<ul style="list-style-type: none"> <li>· Recruitment/selection criteria</li> <li>· Evaluating performance/career</li> <li>· Solidarity</li> <li>· Personal life preserved</li> </ul>
Biological	Satisfaction perceived regarding programmes and services that guarantee physical well-being or recovery from illnesses and clinical onsets	<ul style="list-style-type: none"> <li>· Work accident rates</li> <li>· Awareness, health and safety</li> <li>· Physical comfort/ill health</li> <li>· Food</li> </ul>

Source: Limongi-França (1996, p. 88).

In Table 2, the dimensions and indicators refer to the employees’ perceptions of satisfaction with aspects related to QWL actions introduced at the organisation. As Limongi-França (2004) highlights, the dependent variables refer to the satisfaction perceived in relation to management compatible with organisational needs, focusing on the performance of workers’ well-being. The two groups of variables have identical focuses. However, it is the process which is modified: the independent variables correspond to company management and the dependent variables are related to the needs of the organisation’s workers.

The approach proposed by the above-mentioned author demonstrates the importance of dealing with quality of life and entrepreneurial management in a more integrated way, encompassing self-perception of QWL and the institution’s image from employees. For Limongi-França (1996) understanding the practice of QWL needs to be expanded, with a view to identifying new approaches concerned with the clients of quality of working life actions and programmes organised by the company.

In this perspective, QWL indicators should not be pre-defined by the organisation but should emerge from the workers’ needs, through a consensus by individuals. These indicators may vary, depending on the context of each company and its workers’ needs at a specific time (LIMONGI-FRANÇA, 1996).

Considering these assertions, a model was not used to measure QWL in this study, since this procedure did not form part of the intentions for this research. Therefore, the QWL dimensions which were attained from workers’ perceptions of the company were not measured in this case.

Thus, the QWL concept was used, which provides a definition and dimensions that affect it. The definition used in this study was that of Limongi-França (2007, p. 168), who understands QWL as being the “perception of well-being, from individual needs,



the social and economic environment and life expectancies"; this involves collecting and analysing data on QWL in the light of the Biopsychosocial and Organisational (BPSO-96) vision, considering the dimensions proposed by the above-mentioned author.

In relation to QWL, well-being at work considers the biological, psychological, social and organisational dimensions of each individual and not just attending to diseases and symptoms of stress which arise from and are reinforced in the work environment. Thus, well-being involves the condition of staying intact as a professional, citizen and human being (LIMONGI-FRANÇA, 2004).

Therefore, from the employees' perception of the aspects which contribute to promoting well-being within the organisational environment and in relation to the work activities that they perform, the aim was to identify the attributes or sources to obtain QWL, associating them to the respective dimensions proposed by the above-mentioned author and these dimensions and indicators envisaged in theoretical models on the theme addressed in this study. This idea is summarised in Table 3 as follows:

**Table 3 – BPSO-96 Vision versus Obtaining QWL**

SOURCES OF QWL	DIMENSION CONSIDERED
	Biological
	Psychological
	Social
	Organisational
	Envisaged in other QWL models

Source: Prepared by the authors.

It should be emphasised that the sources for obtaining QWL in this study represent attributes indicated by the research participants which contribute to promoting their well-being at work and in relation to this. These attributes are also considered within the dimensions proposed by Limongi-França (2004) and can find theoretical support in other approaches to QWL interpreted by indicators inserted in the models listed. Thus, a flexible position in relation to research findings is adopted here, associating them to other understandings of QWL, which are not only those proposed by the above-mentioned author, and also the new theoretical insights which may surface following the analysis and interpretation of data.

## 4 Methodological route

We sought to identify a company that used background music in the workplace for this study. A number of companies were contacted by phone and email, such as mineral water bottling industries, networks of supermarkets, shops in shopping centres, service providers and institutions, such as the Brazilian Service to Support Micro and Small Companies (SEBRAE), National Service of Commercial Learning (SENAC) and Federation of Industries in the State of Rio Grande do Norte (FIERN). Following numerous searches, a company from the textile industry was located through FIERN, which uses music in the working environment in the sector that produces articles for the home in Grande Natal. It is a large-scale company in this field of activity. Thus, contact was maintained with this company and express authorisation to perform this research was obtained following a number of visits.

In order to achieve the objective of this study, four stages to be followed were identified: identifying QWL attributes from the workers' points of view; characterising

music insertion in the manufacturing environment; identifying the functions of music at work and establishing associations between musical insertion and QWL. Insertion of music is understood here as the placement or distribution of music reproduced or recorded in CD (compact disk) format during work activities, with its sound distribution performed using stereo equipment – CD player, amplifier and speakers – being dispersed throughout the work environment.

Attributes in the key categories of analysis defined in this research were collated. They comprise: *Sources for Obtaining QWL*, which includes attributes listed by research participants, compared to the dimensions of the BPSO (1996) vision proposed by Limongi-França (2004); *Characterising how the music has been inserted into the working environment*, including the pre-established attributes of the musical genre, rhythm, time imposed to music and volume of the music; and *Functions of music at work*, which considers the roles played by music in the work environment on the workers' well-being at work and in relation to this. The participants were requested to make associations between the functions of music and the QWL attributes listed by them.

Considering Vergara's (2004) concept related to means, this is considered field research, as data was gathered in the workspace where the industry workers perform their activities. In addition, the research strategy adopted was that of a case study, seeing as it investigated one department in an organisation, and this contemporary phenomenon was observed in its real context. In relation to the aims, according to Gil (2006), this research could be considered descriptive and exploratory, seeking to enhance ideas and discover interactions between the industry's employees.

In order to comply with the purposes of this investigation, and within the qualitative approach, which favours subjective and intersubjective aspects, characterised by interaction between the research participants, we decided to use the focus group technique to collect the primary data. A discussion script was adopted here as the main instrument to collect this data, applied to the employees in the manufacturing department and semi-structured interviews as a supplementary instrument, which was applied to the department manager. The sessions and interview were recorded using a portable micro-recorder and video camera, after receiving the research participants' written consent.

As Ruediger and Riccio (2004) highlight, the focus group (FG) is characterised as allowing real time intervention during the analysis, as well as being able to encounter similarities and contradictions in the participants' perceptions of topics related to the object of this research. Both individual perceptions and those resulting from collective interaction, contained in discursive structures, the criticism or defense of topics and aspects relevant to the investigation are emphasised through this technique.

The main objective of a semi-structured interview is to understand the meanings that the interviewee attributes to the questions and situations associated to the topic under analysis. The purpose of the interview in this case is collecting descriptive data in the subject's own language, so that the researcher is able to develop an idea on how the interviewee interprets aspects of the world (GODOY, 2007).

In a mutual agreement with the directors of the company researched, it was established that the focus group discussions were held in the industry's outbuildings in an air-conditioned room and with comfortable chairs. Furthermore, the sessions were recorded and filmed, using equipment provided by the company, and the appropriate technical support staff and accompanied by a social worker. The moderator for the process was the researcher who has knowledge of the themes under study.

According to Marconi and Lakatos (2003) and Gil's (2006) recommendations, a pilot test was held with the focus group before applying the research instruments, comprising eight workers from the sector, selected at random. This test served to explain the need to alter some of the questions on the discussion script and in the interview, in order to make the intention of the questioning clearer to the participants and expand on the information collected.

The focus group participants for the final research were selected at random. Time of service was initially used as a criterion, in order to consider the employees

who had experienced the working environment both before and after the insertion of music. It set off from the principle that the employee would be more able to reflect and give his opinion on the contribution of music in the workplace, having experienced both situations.

Four focus groups were formed, comprising eight members, making a total of thirty-three participants, including the sector manager. The criterion for interrupting the research was based on the principle of theoretical saturation which, according to Godoi and Mattos (2007), corresponds to the judgment criterion to close the sample from a group related to a study category, indicating that no further data is found which contributes to developing the properties of the category.

The data collected was analysed qualitatively, using the methodological procedure proposed by Bardin (2004, p. 21) in one of the content analysis techniques, called analysis by category. This was followed by the three stages and respective procedures defined to adopt this research method: *pre-analysis*, in which the material collected was initially submitted to a wide-reaching examination, identifying the general content. Then, a more detailed analysis was carried out to show the diversity of the themes present in the actors' statements, which were collated into analytical categories on a complementary spreadsheet; *analytical description*, in which the information was characterised, using the thematic criterion as a registered unit; and *benchmark interpretation*, in which a more detailed interpretation of the information was carried out, exploring each category individually.

## 5 Presentation and discussion on the results

The manufacturing sector at the company researched comprises seventy-six employees, distributed throughout the sub-sectors of cutting (04), sewing (29), review and folding (18), inspection (12), packaging (08), supplies (04), and management (01). The productive process follows the same sequence, starting with the finished cloth, passing through the sub-sectors, and being completed with the distribution and sale of the manufactured products on the internal and external markets.

Thirty-three workers took part in this research, with eight members in each of the four focus groups and the sector manager, as can be seen in Table 4.

Table 4 – Social and demographic profile of the research participants

PROFILE	Focus Group A	Focus Group B	Focus Group C	Focus Group D	Interview / Management	TOTAL
Gender	1 male 7 female	4 males 4 female	2 male 6 female	2 male 6 female	1 female	9 male 24 female
Age (years)	3 aged 26-30 3 aged 31-35 2 > or equal to 36	1 aged 26-30 5 aged 31-35 2 > or equal to 36	2 aged 26-30 1 aged 31-35 5 > or equal to 36	1 aged 26-30 4 aged 31-35 3 > or equal to 36	1 > or equal to 36	7 aged 26-30 13 aged 31-35 13 > or equal to 36
Marital Status	1 single 7 married	2 single 6 married	2 single 5 married 1 widower	1 single 7 married	1 married	6 single 26 married 1 widower
Level of education	3 elementary 5 secondary	2 elementary 6 secondary	4 elementary 3 secondary 1 higher	1 elementary 5 secondary 2 higher	1 higher	10 elementary 19 secondary 4 higher
Length of Service (years)	8 more than 5 years	8 more than 5	3 from 3 to 5 5 more than 5	2 from 3 to 5 6 more than 5	1 more than 5	5 from 3 to 5 28 more than 5
Salary Band (monthly minimum salary)	8 < or equal to 3	8 < or equal to 3	8 < or equal to 3	8 < or equal to 3	1 > or equal to 4	32 < or equal to 3 1 > or equal to 4
Workload Hours/weeks	8 > or equal to 40	8 > or equal to 40	8 > or equal to 40	8 > or equal to 40	1 > or equal to 40	33 > or equal to 40
Sub-sector	1 packaging 4 review and folding 3 sewing	1 packaging 2 review and folding 1 cutting 4 sewing	3 review and folding 2 sewing 1 supplies 2 inspection	1 packaging 1 review and folding 1 cutting 3 sewing 1 supplies 1 inspection	1 management	3 packaging 10 review and folding 2 cutting 12 sewing 2 supplies 3 inspection 1 management

Source: Research data.

It was noted that the majority of the participants are female, which is coherent with the type of company and sector of activity (making articles for the home) that predominantly employ women in their factories, especially as it is the sewing sub-sector which is more labour intensive. With regards to age, the majority of the workers are between 31 and 36, showing a certain maturity in the sector. The majority of the participants are married and have completed secondary education. However, the fact that three workers in the focus group and the manager have university degrees attracted our attention, and corresponds to reports given that the company provides opportunities for formal education.

Almost all of the participants have worked at the company for more than five years. The majority commented that they have more than eleven years of work experience in the industry researched and that they have all performed their activities both with and without music in the work environment. This aspect is coherent with the participants' reports regarding the company's concern with retaining their staff, which reflects on the organisation's image, as well as complying with the criterion used to select participants for this research.

It is highlighted that all of the members of the focus groups earn up to three minimum salaries per month. The workload is 40 hours per week, from Monday to Friday on morning and afternoon shifts. The staff in the manufacturing sector do not work on Saturdays. The majority of those taking part in the research perform their activities in the sewing sub-sector, followed by the review and folding sub-sector.

It should be emphasised that significant differences were not seen between the different focus groups or during the interviews in the members' accounts, which justified a detailed analysis, considering each social and demographic profile, and also due to the similarity and regularity between the aspects that were considered to characterise this profile. Therefore, the analysis allowed for interaction between the research participants and consensuses and disagreements in the comments which arose during the debates.

Twenty-eight QWL attributes were identified. Six of these were present in the interactions of all the study participants. These are: *Company Image*, *Attendance Award*, *Music in the Working Environment*, *Internal Training*, *Interpersonal Relationships at Work* and *Medical Assistance at the Company*. Among these, only the *Music in the Working Environment* attribute was not envisaged in Limongi-França's (2004) dimensions, nor identified in the theoretical QWL models listed here. However, from the study participants' accounts, it can be inserted in each of those dimensions, showing the strength and relevance of this attribute to the company's workers, who elected it as a source of well-being and satisfaction at work. This forms the first relevant empirical finding of this study, bearing in mind that music at work has not been considered as a QWL attribute in literature on the topic.

Of the other five attributes, only one was not envisaged in Limongi-França's (2004) dimensions. This is the *Attendance Award* attribute, which could be inserted in the *Social* dimension due to the characteristics of the accounts. The other four attributes were envisaged in two of those dimensions, with the exception of the *Company Image* attribute, which was only considered in the *Organisational* dimension. Therefore, these five attributes were envisaged in at least one theoretical QWL model, with the *Interpersonal Relationship at Work* attribute being the only one envisaged in four of the fifteen theoretical models listed in this study. It was also considered in three out of four of Limongi-França's (2004) dimensions, revealing that this is the attribute most valued by the study participants, alongside the *Music in the Working Environment* attribute, which was shown in the interview and the four focus groups and can be inserted into those four QWL dimensions from the research participants' interaction and accounts.

Of the other attributes, only seven were not envisaged in Limongi-França's (2004) dimensions. However, they could be inserted into at least one of these, bearing in mind the characteristics of the study participants' accounts. These are: *Food Assistance*, *Socialising at the Company*, *Organising Work*, *Recognition and Valuing Work*, *Job Satisfaction*, *Work Results* and *Job Motivation*. Of these, only the *Socialising*

at the *Company* attribute was not included in the theoretical QWL models listed here. The *Recognition and Valuing Work*, *Work Results* and *Job Motivation* attributes, which are included in five and the other two in three of the fifteen theoretical models envisaged in literature on the theme, should be highlighted.

Among the sixteen other attributes, ten are envisaged in at least one of the dimensions. These are: *Food at the Company*, *Sports and Leisure Activities*, *Family Assistance*, *Opportunity for Growth and a Career*, *Legal Obligations*, *Social Responsibility and Citizenship*, *Recruitment and Selection Criteria*, *Safety at Work*, *Working Conditions and Health at Work*. Of these, only the *Food at the Company*, *Sports and Leisure Activities* and *Recruitment and Selection Criteria* attributes are not envisaged in the theoretical models.

Of the six other remaining attributes, *Social Integration and Communication at Work* are envisaged in three of Limongi-França's (2004) QWL dimensions and three theoretical models on the topic. The other attributes are envisaged in a minimum of two dimensions. These are: *Payment for Work*, *Job Performance*, *Participating in Decisions at Work* and *Participating in Company Results*. The following attributes should be highlighted: *Payment for Work*, which is envisaged in four theoretical QWL models and *Job Performance*, which is considered in five of the fifteen theoretical models listed here on the topic.

The insertion of music in the sector is characterised by a range of musical genres, including pop music with lyrics, with only classical and instrumental music not being accepted. The rhythm varies from slow to quick but with some preferences for a faster and more stimulating rhythm. The musical insertion took place throughout the whole working day, without any breaks. However, there was a consensus on the need for breaks without music being played. The volume had previously been seen as unsatisfactory, as high and sometimes low, with significant oscillations, which required company intervention in order to improve the distribution of speakers throughout the sector, and care that the music recorded on CDs is of the appropriate quality, in order to avoid discrepancies in volume levels. The results confirm that this form of musical insertion contributes to promoting well-being at work, which contravenes theoretical concepts, especially with regards to musical genre.

From the accounts and interactions between the study participants, seven associations were identified between the roles of music and QWL attributes. Among these, one association only occurred during the interview and was not shown in the focus groups. This is the music which was positively associated to the *Company Image* attribute. When affecting this attribute, which is considered in the *Organisational* dimension and three theoretical models on the theme, music contributes to obtaining QWL for the employees in this sector of the company. The fact that this association is only shown in the interview could be explained by the maxim that the manager should have a broad vision of organisational processes and the company's relationship with its internal and external environment, despite the employees who work at an operational level executing the tasks, especially as it is a manufacturing sector, where repetitive work is prevalent.

It should be emphasised that the *Company Image* attribute was identified in the four focus groups studied here. However, the functions of the music which explicitly affects them cannot be seen in any of these. Thus, associations between this QWL attribute and Musical Insertion in those focus groups were not made. In the interview with the manager, although it was not shown in the accounts on the functions of music, this attribute reappears in the *Associations between QWL and Musical Insertion* analysis category. As inferred from the accounts, this insertion contributes to improving the company's internal image. For the manager, the sector assistants feel more valued by the organisation which has invested in sound equipment in order to promote the satisfaction and well-being of the co-workers at work.

Two other positive associations were identified in the interview and four focus groups studied involving two QWL attributes: *Job Performance* and *Working Conditions*. The first is considered in two dimensions: *Biological and Psychological* and also in five theoretical models. In turn, the second is inserted in the *Biological* dimension and



three QWL models envisaged in the literature on the topic. When affecting these two attributes, music contributes to promoting the assistant's biological and psychological well-being, so that QWL is obtained.

*Interpersonal Relationships* was a further attribute to which music was associated. This association was also shown in the interview and the four focus groups. The attribute is considered in the *Psychological and Organisational* dimensions, also being inserted in the *Social* dimension; is present in four theoretical models, confirming that music positively affects QWL, contributing to promoting the co-workers' psychological, social and organisational well-being.

Music was also associated to the *Job Motivation and Social Integration at Work* attributes, which only occurred in the second focus group. The first attribute may be inserted in the *Biological and Psychological* dimensions and is also present in three theoretical models. In turn, the second may be inserted in the *Psychological, Social and Organisational* dimensions, being identified in two theoretical models. When positively affecting the dimensions of Limongi-França's (2004) BPSO-96 vision, musical insertion contributes to promoting biological, psychological, social and organisational well-being, which results in obtaining the co-workers' QWL in the company sector. It is important to clarify that two members had had a disagreement at work some time ago in this focus group and did not speak to each other. However, during the interaction between the group members it was shown that there was a reconciliation between these two members following the insertion of music in the working environment.

A further association was shown in the four focus groups but was not ascertained in the interview. This is concerning music associated to the *Payment for Work* attribute which is linked to the employee's productivity. This attribute is considered in the *Psychological and Organisational* dimensions and also in four theoretical models. Therefore, music positively affects the co-worker's psychological and organisational well-being in this company sector, which contributes to obtaining QWL.

It is important to highlight that this association was only made possible from the interaction between the participants of Focus Group B, although this QWL attribute had been shown in the four focus groups analysed here but not identified in the interview with the company sector manager. This aspect may be attributed to the fact that the manager was not willing to spontaneously mention failures or deficiencies, although temporary, in the sector that she supervises. Also in the focus groups in which interaction is favoured between participants, the account by one group member may influence those of others and encourage active participation, supporting the appearance of consensuses and disagreements in their accounts, which is difficult to find in an individual interview. This further reinforces the proposal of selecting the focus group technique to understand the phenomenon.

In principle, the fact that Musical Insertion contributes to obtaining QWL, positively affecting the *Payment at Work* attribute, which is inserted within the *Psychological and Organisational* dimensions, which form Limongi-França's (2004) BPSO-96 vision could seem strange. However, more accurate analyses and successive reflections on the interactions between the group members were required in order to arrive at this understanding.

The focus group participants under discussion indicated *Payment for Work* and *Organising Work* as QWL attributes. From the accounts presented, it was ascertained that there was dissatisfaction from the group on this last attribute, particularly on account of the lack of material or a "process" to produce. The sector's co-workers wanted to manufacture and attain the targets but lacked materials. Thus, in addition to *Organising Work*, a further attribute was affected, bearing in mind that it is linked to production. That is *Payment for Work*, also considered unsatisfactory by the group. From the accounts it was noted that there were problems with equality of salaries and also that the salary was not compatible with the efforts made to perform the task. These accounts demonstrated the group's dissatisfaction in relation to the payment policy, negatively affecting the co-workers' well-being in relation to work and, therefore, their QWL.

However, the group members attribute the role of positively affecting productivity to music, regardless of the rhythm and musical style, (KORCZYNSKI; PICKERING, 2007; MARTI, 2002; OLDHAM, 1995), contributing to them producing more and to a higher standard. By producing more, the co-workers receive an increase in pay, as they have variable payments, in addition to their fixed wages, which can be increased if the production targets stipulated by the company sector are reached. Thus, Musical Insertion indirectly affected *Payment for Work*, which increases on account of increased productivity.

The accounts related to increased productivity on account of musical insertion in the working environment may seem contradictory, seeing as the workers in the group are dissatisfied with the company's payment policy and the way that the work is organised. This has contributed to them producing less, due to the lack of materials to execute the task, in order to reach the target stipulated by the company.

Despite these considerations, as mentioned in focus groups B and C, with regards to the interaction on QWL attributes – *Organising Work* and *Payment for Work*, respectively, the co-workers feel good, produce more and to a higher standard. A counterpoint to the theory on QWL (FERNANDES, 1996; GADON, 1984; HUSE; CUMMINGS, 1985; WERTHER; DAVIS 1983), where the basic premise defends the notion that Quality of Working Life is needed, so that more is produced and to a higher standard is noted here. The opposite was observed in the findings in the field. The group workers' well-being (QWL) was obtained when they produced more and to a higher standard and when this condition was given to them by the company.

Although Productivity has been cited by Limongi-França (2004) as a Critical QWL factor, and considered together this construct as inseparable elements in literature on the topic (FERNANDES, 1996; GADON, 1984; HUSE; CUMMINGS, 1985; LIMONGI-FRANÇA, 2004; WERTHER; DAVIS, 1983), it is ascertained that the discord between the theoretical concepts and findings in the field, and formerly contradictory, can be understood in a complementary manner, when admitting that there is a two-ways street between Productivity and QWL, where both feed and complement each other.

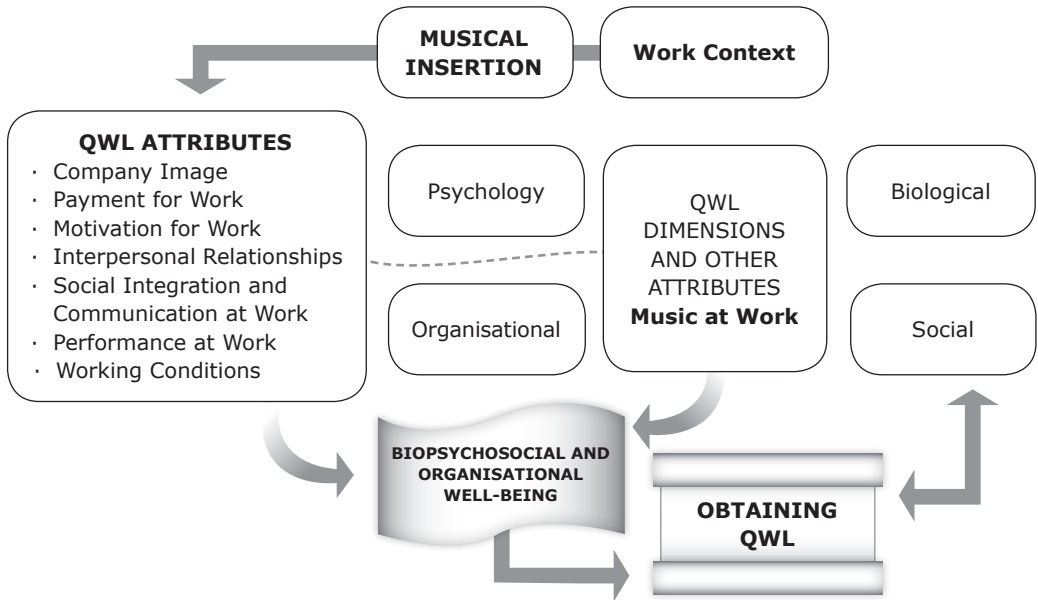
Considering what was discussed and observed in this study, it was ascertained that the QWL dimension most affected by musical insertion at work was *Psychology*, with five associations, followed by the *Organisational* dimension with four. This is followed by the *Biological* dimension with three associations and the *Social* dimension arises with two.

## 6 Conclusion

Considering the associations between QWL and Musical Insertion, which were demonstrated during the scientific investigation for this study, it can be concluded that Musical Insertion contributes to obtaining QWL in a manufacturing context, both for representing a QWL attribute and positively affecting seven of the attributes considered or which may be inserted in nine of the fifteen theoretical models covered here and in four QWL dimensions, thereby contributing to the promotion of biological, social and, above all, psychological and organisational well-being.

However, the importance of considering the context and way that the music is inserted should be highlighted, especially with regards to its constitutive elements, with a view to maintaining the balance required between music and work, so as to allow these two elements to harmoniously co-exist in the same environment. From this perspective, it can be confirmed that the insertion of music in the workplace alone does not guarantee the benefits demonstrated here. Advanced planning and periodical adjustments to the way that music is inserted in the workplace are necessary, in order to avoid sudden oscillations between its constitutive elements, which may be detrimental to the health and well-being of people in a work situation.

From the conclusion that was reached in this investigation, a conceptual QWL model was prepared, which interprets the empirical findings of this study, associated to the main theoretical support adopted here. This model is illustrated in Figure 1.



**Figure 1.** QWL Conceptual Model

Source: Prepared by the authors from the research results.

The model presents Musical Insertion, which takes the work context in which the music is inserted and affects QWL attributes into consideration, considering the *Psychological* and *Organisational* dimensions in particular. The other attributes are not affected by Musical Insertion. However, one of them is Music at Work, which reflects the importance of considering the contribution of this attribute in an emphatic and expanded form in QWLP. By affecting these attributes, the presence of music in the manufacturing context positively affects Psychosocial and Organisational well-being, thereby contributing to obtaining QWL which, in turn, contributes to increasing productivity through a two-way process, in which both complement each other.

Thus, QWL can be defined from the model, as being the perception of biopsychosocial and organisational well-being affected by attributes with an objective and subjective connotation, in a specific work context, where the insertion of music plays a relevant role, to the point of affecting productivity which equally contributes to obtaining QWL, indicating a relationship of mutual complementarity between these two inseparable elements.

With respect to QWL, this study allowed for the identification of attributes which had not been considered in the theory, such as Inserting Music at Work which, in addition to being put forward as a QWL attribute, was associated to others from this construct, authorising the assumption that music was being under-used in QWLP and that the potential of this sound resource to promote well-being in the work environment had not yet been realised.

The fact that this work is founded on understanding QWL from the perspective of the subjects which were studied who, in turn, are at an operational level in the organisation, this may be an academic contribution when the prevalence of scientific research on the theme which has been undertaken with high level and mid-ranking administration are considered, indicating the elitist nature prevailing in research until that time.

The qualitative approach adopted here forms a new contribution to this work, also allowing for the humanisation of the researcher/participant relationship, as there was direct contact by the researchers with the researched groups. This allowed them to be observed in a more complete and in-depth way, providing quality and life to QWL studies and, therefore, with the use of this methodological approach in research on this construct being pertinent, bearing in mind that it also favoured more effective interaction and participation from the actors being studied.

With regards to studies on functional music at work, this investigation has contributed to filling the gap in research, which is understanding the way that music functioned on the factory floor, seeing that the insertion of music in work activities is an institutional innovation, which still lacks consistent theory to explain the benefits of this phenomenon in the manufacturing environment.

Furthermore, by demonstrating the contribution of musical insertion to obtain QWL, the “black box” for this investigative process was opened. This allowed an understanding of how this contribution took place, despite studies based on stimulus-response, which measure the results from interventions that took place in the initial stage of the research, emphasising the start and end of the scientific investigation process but without observing what takes place between these two extremes.

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