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QUALITY OF WORK LIFE: THEORETICAL AND METHODOLOGICAL PROBLEMS, AND PRESENTATION OF A NEW MODEL AND MEASURING INSTRUMENT

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ABSTRACT. *Purpose*: Ever since the concept of Quality of Work Life (QWL) was first used over 30 years ago, a range of definitions and theoretical constructs have succeeded each other with the aim of mitigating the many problems facing the concept. A historical overview of the concept of QWL is presented here. Given the lack of consensus concerning the solutions that have been developed to date, a new definition of QWL is suggested, inspired by the research on a related concept, general Quality of Life (QOL) which, as the literature shows, has faced the same conceptualization and definition problems as QWL. Based on the suggested definition of QOL, a definition of QWL is provided and the measuring instrument that results therefrom (the Quality of Working Life Systemic Inventory – QWLSI) is presented. Finally, the solutions that this model and measuring instrument provide for the above-mentioned problems are discussed.

KEY WORDS: quality of work life, theoretical model, quality of life, systemic approach

INTRODUCTION

Anyone who has ever held a job knows what a major role it plays in one's everyday life. Often, even beyond the hours of attendance required, work occupies one's thoughts, determines one's schedule for the day, gives one access to consumer products, contributes to one's social identity and may even, in certain cases, determine one's decision on whether or not to have a family. In short, for a vast proportion of the population,

work (or lack of work) represents the connection – and the quality of that connection – that links one to the outside world.

In order to improve our knowledge of the complex mechanisms that regulate the relationship between an individual and his or her work, this article presents the state of theoretical knowledge concerning Quality of Work Life (QWL). To do this, the first part presents a brief history of changes in the definition of the QWL construct, with a focus on the main avenues of research and on the conceptual problems that have marked its development. The following section constitutes a critical analysis of the proposed solutions to these problems. The last part of the article provides some approaches that could help to clear up the conceptual, methodological and theoretical deadlocks discussed earlier. Finally, a definition of QWL and the measuring instrument resulting therefrom are presented.

ORIGIN AND DEVELOPMENT OF THE CONCEPT

Before 1960: Precursors of QWL

Although the expression "Quality of Work Life" was not used in the late 19th century, certain isolated efforts had already been made to improve conditions for workers, for example, the fact that certain companies shared profits with their employees. From a more contemporary perspective, these initiatives may be viewed as an attempt to improve QWL (Goode, 1989).

It would be several decades before the social sciences and humanities showed real interest in work and, more specifically, in the relationship between workers' attitudes and behaviors, on one hand, and the company's productivity, on the other hand. The studies by sociologist Elton Mayo, at Western Electric's Hawthorn plant in 1933 – now recognized as "classic" – involved verifying the influence of environmental factors on plant workers' performance. Mayo's results tempered the Taylorian performance rules applied until then. From that point on, the beginnings of a movement towards a policy of humanizing employees' work conditions can be seen (Mayo, 1960).

However, this new approach remained marginal; at the end of the 1950s, the concept of QWL was slowly taking root in the specific context of working conditions in the industrialized countries. Indeed, the postwar economy triggered a spectacular growth in the service sector which, by the end of the 1960s, represented approximately 60% of all jobs in the United States. Despite this major change in the job market, most organizations persisted in using an old-style Taylorian model in managing their companies; the result was that jobs became more dehumanized (Davis and Cherns, 1975).

Emergence and Popularization of QWL Concepts

It was in this context that the first major research into work organization took place, initially in Europe. In Sweden, the social-democratic policies of the government favored a shift towards work conditions that were more focused on workers' well-being. From the early 1960s, this approach was supported by Swedish unions, employers and the main political parties (Davis and Cherns, 1975).

At the same time, the need to reorganize work was simultaneously becoming clear in a number of other western European countries, but unlike in Sweden, the initiatives undertaken in the Netherlands, Denmark, France, Ireland, England and Norway were characterized by unorganized and isolated efforts (Cherns and Davis, 1975).

On the other side of the Atlantic, pressure was becoming stronger to follow the trend initiated in Europe. It was not until the late 1960s that Irving Bluestone, who was then employed by General Motors, used the expression "Quality of work life" for the first time (Goode, 1989). This program was the first one set up in the United States that allowed workers to play an active role in decisions concerning their working conditions. Its goal was essentially to evaluate employee satisfaction in order to develop a series of programs to increase worker productivity (Goode, 1989). According to many authors, this event represents the starting point for a

number of researchers, employers, unions and employees who wished to define and monitor the common denominator that would enable them to reconcile the goals and aspirations of all parties involved in the working world.

In addition to the context of job dehumanization observed during the postwar period, the reasons mentioned by Lawler (1975) to explain researchers' sudden, marked interest in QWL include workers' constantly increasing educational level and budget problems in the United States that forced managers to reconsider their production methods. The early 1970s were therefore a fertile period for research and attempts to clarify the definition of QWL. The culmination of this boom was undoubtedly the international conference on quality of work life held from September 24–29, 1972 at Arden House, Harriman, New York. One of the conclusions of this conference was to acknowledge the necessity of coordinating efforts by the researchers and organizations concerned in order to build up a solid theoretical corpus in the area of QWL research. Thus, in August 1973, the International Council for the Quality of Working Life was created, with a mandate to promote research and the exchange of information concerning mental health at work.

Despite the QWL summit, Lawler (1975) found, in retrospect, that no clear and widely accepted definition of QWL had yet been formulated. He attributed this fact to the wide range of interests of the groups that coexisted within organizations. For example, some were primarily concerned with safe work stations whereas others focused on worker motivation with a view to increasing productivity.

Nevertheless, in the absence of a definition that would correspond to everyone's interests, Lawler (1975) suggested certain possibilities for consensus. First of all, it was deemed necessary to consider job satisfaction as an important part of QWL. Lawler claims that it is psychologically unacceptable to envisage a high QWL without needs for self-actualization being satisfied to some extent. On the other hand, he emphasizes the limits of the job satisfaction paradigm and finds that the two constructs are not the same. He first mentions that a certain

degree of dissatisfaction is necessary to motivate workers to achieve their goals and incite them to move further. Moreover, from an organizational point of view, if all workers reach a state of satisfaction, productivity is more likely to be harmed than improved. Finally, he points out that any definition of QWL must include measures of stress and tension likely to be present in the workplace, which are generally ignored by job satisfaction research.

Lawler (1975) goes on to say that any method for measuring QWL must respect four characteristics:

- First of all, it must be valid, that is, it must measure the important aspects of QWL.
- It must also have sufficient face validity in the eyes of anyone likely to use it.
- It must be objective and, consequently, verifiable, without any possibility of being manipulated.
- It must be capable of distinguishing between individual differences within the same work environment.

Contrary to Lawler (1975), Seashore (1975) deplored the fact that the paradigm generally used until then to define QWL was based on the claim that the feeling of satisfaction or dissatisfaction determines the level of QWL. To support his opinion, he asserted that close to half of the variance in job satisfaction measures could be explained by a relatively limited number of environmental conditions. In addition, this author emphasized the absence of any time perspective in measuring the concept of satisfaction and its consequent insensitivity to changes within the organization, the job or the individual. He observed that objective and stable work conditions explained 40% of the variance in workers' satisfaction and consequently a proportion of such behaviors as absenteeism, illness or other unproductive reactions. Another 50% were explicable by less stable individual differences related to workers' demographic situation and personality.

Due to the dynamic and unstable nature of satisfaction, a measurement tool must be able to take into account not only the past but also the future consequences of current work conditions.

Seashore (1975) added that job satisfaction is a construct indissociable from QWL both in research and in theory and that it must be considered as a cause and not a consequence of QWL. All these observations lead him to suggest a new paradigm to define QWL, ''effectiveness in work roles.''

According to Seashore (1975), the concept of ''effectiveness in work roles'' can be defined as follows. Three separate aspects of the working world must be considered: those related to the employer, the employee and the community. From the employer's point of view, QWL is reflected in terms of performance: productivity, production cost, product quality. For the employee, aspects such as income, safety, and the intrinsic satisfaction created by work must be considered first of all. Finally, the author presents the community's perspective on QWL as one of the results of ''effectiveness of job roles.'' For example, to what extent are the talents and competencies of each worker used? In Seashore's opinion, the underuse of such capacities represents a net loss for society. Despite the apparent incompatibility of these points of view, this author nevertheless finds that they all share one common denominator: the costs resulting from a poor fit between the employee and the workplace. For example, he has no doubt that a sick worker represents an additional cost for the employer and a burden on a society's social or health-care system.

For his part, Sheppard (1975) identifies the methodological issues that he believes present an obstacle to the measurement of QWL. He denounces the use of batteries of tests, which he considers useless for measuring a concept as subjective as QWL. He also notes the tendency to replace measurements of subjective areas closely related to job satisfaction (for example, degree of autonomy, etc.) with objective and verifiable indicators such as salary or the possession of specific goods. Reminding readers that job satisfaction must be perceived as a cause of QWL, Sheppard (1975) states that there cannot be any substitutes for the direct measurement of job satisfaction and that variation in income do not necessarily entail any change in satisfaction. In his opinion, the simplest way to assess job satisfaction is to measure its frequency with such

questions as, ''How much of the time are you satisfied with your job?'' (page 120). The author evokes the principle of parsimony to justify his choice, affirming that the results of test batteries correlate strongly with a simple frequency question on job satisfaction.

Trist and Westley (1981) also radically oppose studies based on ''pre-test, post-test'' measures to assess the impact of QWL improvement programs. To justify their disagreement, they point out that subjects' criteria may change over the course of the program. Thus, in response to the question ''How satisfied are you with your work?'' a subject might answer ''Fairly'' on the pre-test and ''Not at all'' 6 months later, at which point he might have realized how much his job could actually be improved, thereby invalidating the measurement obtained. According to these authors, objective measurement criteria such as productivity, absenteeism rate or staff turnover remain the most reliable indices for determining the impact of such programs.

Trist and Westley's (1981) criticisms of the validity of the QWL measurement raise two important points: first of all, the use of the concept of satisfaction as a criterion for measuring QWL and, secondly, the problem related to the measurement of a dynamic construct. Like Lawler (1975) and Sheppard (1975), Trist and Westley (1981) note that the construct of satisfaction is regularly used to assess QWL. A brief examination of the definitions of satisfaction shows that it corresponds to a psychological state resulting from the difference between the situation in which a person finds himself or herself and the situation in which that person wishes to be (Boisvert, 1981; Locke, 1976; Quilty et al., 2003). Thus, the way satisfaction is measured, generally on a continuum, makes it totally inappropriate for measuring dynamic constructs such as QWL. In fact, according to Golembiewski, Billingsley and Yeager (1976), a dynamic construct like QWL is characterized by three kinds of possible changes: (1) ''alpha'' changes, which correspond to a change in a condition over time; (2) ''beta'' changes, which correspond to a change in a condition over time, but with a possible change in reference point as well; and (3) ''gamma'' changes, which correspond to a change in condition over time,

with a possible change in reference point and a change in the person's perspective and priorities.

As Trist and Westley (1981) emphasize, a static construct like satisfaction (which can only measure "alpha" changes) is therefore inappropriate for evaluating a dynamic construct such as QWL.

Disillusionment and the Search for Consensus

In the early 1980s, Nadler and Lawler (1983) found that QWL had undergone a number of mutations and passed through several stages since the concept first appeared. Beyond the period when it was closely related to job satisfaction, as discussed in the previous paragraphs, the authors report on three trends with which it was successively associated. First of all, following on the results of the first QWL programs, and in particular GM's, QWL become synonymous with an approach favoring greater employer-employee cohesion. At the same time, conclusive experiments conducted in non-unionized workplaces with the aim of better adapting the workplace to employees meant that QWL was frequently associated with a method. From that point of view, QWL was perceived as a tool similar to work groups or job enrichment. Finally, the decline in popularity of the concept noted at the end of the 1970s and the effort by some people to maintain interest suggested to these authors that QWL had become a movement, an ideology, a fashion.

Nadler and Lawler (1983) emphasize the consequences of these theoretical disparities by commenting somewhat laconically on the definitions of QWL. In their opinion, there was a risk that the concept would soon mean whatever anyone claimed it meant, in as much as it represented a cure for every evil; conversely, it would no longer mean anything if it could not meet the expectations vested in it. To illustrate the ambiguity surrounding the construct in the early 1980s, Sashkin and Burke (1987) describe it as follows: "Thus, a quality work life may mean different things to different people in different roles or to the same person in different roles... Even more troublesome,

different people in the same role may have discrepant views of QWL, not merely on the basis of different personal values but as a result of different abilities and aptitudes'' (pages 398–399).

The causes of this increasing ambiguity, as described by Nadler and Lawler (1983), had many sources. First of all, the recurring problem of the absence of any clear and precise definition was making itself felt once again. The authors specified that until the problem of the definition of QWL had been solved, the implementation and expansion of research on the topic would be severely compromised. Then there was the emphasis on low-level jobs. This characteristic led many people to consider QWL as something that was only applicable to workers at the bottom of the pyramid. Finally, the premature assumption that there was a causal relationship between productivity and QWL had raised false hopes. In this regard, the authors specify that, even though it is reasonable to believe that QWL will increase feelings of belonging and work quality and decrease absenteeism, it is false to believe that productivity is directly related to it.

Appearances to the contrary, the efforts to clarify the construct did not end in total failure. As we saw above, after drifting along on the prevailing conceptual wave during the 1970s, QWL became subject to a certain consensus during the next decade, based on the work of authors such as Nadler and Lawler (1983), Seashore (1975), Sashkin and Burke (1987) and others. Three of the most important agreements are discussed in the following paragraphs: (1) QWL is a subjective construct; (2) organizational, human and social aspects interact and must be integrated within the definition of QWL; and (3) there is an indissociable relationship between Quality of Life (QOL) and QWL.

CONSENSUS ON QWL

Subjectivity of the Construct

In the beginning, QWL was synonymous with employability rate, job security, earnings and benefits (Elizur and Shye, 1990). This listing of objective criteria soon gave way to job

satisfaction as the target assessment criterion. Despite this shift to a more subjective construct, some researchers, such as Lawler (1975), remained convinced of the need for objective criteria to measure QWL. This contradiction between the theoretical way of thinking of the construct and the means used to measure it is exacerbated by the different meanings given to QWL based on an individual (subjective criteria) or organizational (objective criteria) point of view (Walton, 1975). The same problem was manifest in work on Quality of Life (QOL) related to health problems. Nevertheless, researchers realized that QOL goes well beyond the disability imposed by the disease and that some patients with a given disease have a much better QOL than other patients with the same disease. Many authors now agree that QOL is a subjective construct (Cella, 1992; Dazord et al., 1993; Ferrans, 1990; WHOQOL, 1995) and that the physical aspects must be considered as factors able to influence it to varying degrees depending on the individual (Dupuis et al., 2000). One is therefore justified in supposing that, within the specific objective conditions, one worker's QWL could be very different from another worker's. As has been suggested with regard to QOL (Dupuis et al., 2000) it is therefore important to measure both so-called objective conditions and individuals' subjective perceptions in order to properly clarify the dynamic.

The definitions of QWL most frequently quoted during the 1980s reveal a marked trend towards accepting the subjectivity of the construct. In his description of a QWL model as a dynamic process, Carlson (1980) defines QWL as an organizational goal, which the business is perpetually striving to achieve. Moreover, still from the organizational point of view, this author considers QWL as a philosophy which, even though it varies with organizations, brings them together under a common denominator: human dignity.

Along the same lines, Nadler and Lawler (1983), in a discerning retrospective on the development of QWL, considered it as "...a way of thinking about people, work, and organizations." Kiernan and Knutson (1990) later defined QWL as:

> . . .an individual's interpretation of his/her role in the work-place and the interaction of that role with the expectations of others. A quality work life means something different to each and every individual, and is likely to vary according to the individual's age, career stage, and/or position in the industry. (page 102)

Finally, Elizur and Shye (1990) consider that QWL reflects each individual's experiences. Since then, few if any authors have conceived of QWL as an objective construct. The difficulty seems to be how to evaluate a subjective construct such as QWL operationally and validly without recourse to objective criteria.

Integration of the Individual, Social and Organizational Aspects

As early as 1975, Seashore conceptualized QWL based on three levels of actors involved in the work environment, that is, the employee, the company and the community. This approach differs from the concept of QWL that had hitherto been reserved for employees at the bottom of the pyramid. According to this model, the domains constituting QWL differ from the perspective of the employee, the company and the community, which contributes to the confusion surrounding the construct (Sashkin and Burke, 1987). Ten years later, the concern for integration initiated by Seashore (1975) resurfaced, this time with a more holistic view of the role of the three structures involved. This integrative perspective considered QWL as a social movement with repercussions that extend beyond the strictly organizational framework (Kiernan and Knutson, 1990). Moreover, many authors have noted that workers are becoming better educated and that they now consider work as a tool for personal growth and social support rather than merely a means of achieving financial independence (Kerce and Booth-Kewley, 1993). QWL therefore becomes an integral part of people's overall QOL. Kiernan and Knutson (1990) consider this model of QWL to be the most complex and the most contemporary developed to date.

These details concerning QWL as a construct pave the way for the third and last point to be discussed in this section: the indissociable relationship between QOL and QWL.

Relationship Between QOL and QWL

In conjunction with clarifying the theoretical questions relating to the subjective nature and holistic integration of the main actors in QWL, in the 1970s researchers gradually turned their attention to the potential influence of work on a person's other spheres of life (Loscocco and Roschelle, 1991). Four theoretical models were proposed.

The Transfer Model (or Spillover Effect)

Job satisfaction affects other areas of life and vice versa (Georges and Brief, 1990). Kavanagh and Halpern (1977), Schmitt and Bedian (1982) and Kornhauser (1965) conclude that there is a positive correlation between work and areas of life outside work. However, Staines (1980) adds certain nuances to this observation. Following an in-depth analysis of the research, he concludes that only certain spheres of work life are positively correlated with other spheres outside work. In support of this hypothesis, Rousseau (1978) claims that the transfer model does not apply to all kinds of jobs. Jobs with extreme characteristics (prolonged solitude, oppressive physical requirements, etc.) fit better with the compensation model.

For their part, Leiter and Durup (1996) add that the spillover effect between job satisfaction and personal life may be either direct or indirect. A direct effect can be observed when an objective condition of either one's working or personal life (change of workplace, arrival of a new baby, etc.) influences the other environment without the individual's subjective perception being involved. An indirect effect results from the individual's perception of an objective condition as creating either stress or satisfaction.

The Compensation Model

The compensation model assumes that when a person is not satisfied at work, they will try to correct this situation through stimulating activities outside work (Rousseau, 1978; Schmitt and Bedian, 1982; Schmitt and Mellon, 1980; Staines, 1980). Here again, Staines' (1980) analysis tends to confirm the

compensation model in certain circumstances and shows that certain spheres of work life correlate negatively with areas outside work. For example, the author points out that workers who have physically demanding jobs generally tend to seek out non-tiring leisure activities so that they can recuperate better. The main criticism the various authors have concerning the compensation model is that, taken to the limit, this model predicts an inverse relation between job satisfaction and satisfaction outside work, which the research in general does not tend to show.

The Segmentation Model

This model assumes that life at work and life outside work do not influence each other (Georges and Brief, 1990). Foucher et al. (2003) add that the state that characterizes a person who makes this kind of segmentation may be qualified as ''psychological disengagement'' in the face of the life or work domain that is divested.

The Accommodation Model

The accommodation model consists of voluntarily reducing one's investment in one sphere of activity in order to more adequately respond to the demands of another (Lambert, 1990). This author mentions that this way of reconciling work life and life outside work is particularly common among mothers of young children. However, considering the importance recently given to ''work life-family life'' conciliation, this model will probably be suitable for more and more categories of workers, either men or women.

Loscocco and Roschelle (1991) mention that none of the first three models described above has been universally accepted. They emphasize that the most solid support for any of the models comes from Schmitt and Bedian (1982), who confirm the existence of a relationship between job satisfaction and life satisfaction. However, the results that Staines (1980) and Rousseau (1978) present qualify the adoption of any of the models and suggest that they should be applied based on the spheres and jobs studied.

Along the same lines, Elizur and Shye (1990) attempted to define the relationship between general QOL and QWL. In their efforts to clarify the situation, these researchers formulated a conceptual system in the shape of a cone, with QOL at the base and QWL at the apex. Their results show that, in this model, job satisfaction, life satisfaction and perceived quality of work performance are located between the extremities of the cone. The authors interpret these results as follows: quality of work performance is affected by both QOL and QWL. Thus, to evaluate the total impact of the role of work for an individual, it is important to also consider the work aspects likely to influence their life away from work. Consequently, for these authors, any activity designed to increase QWL or general QOL may improve performance at work.

THE CHANGING POPULARITY OF THE QWL CONSTRUCT

A bibliographic search with the Psyclit and Sociofile computerized publication databases between 1973 and 2002 reveals that very few articles have made any kind of theoretical advance able to better clarify the construct of QWL. It is also interesting to note that the frequency of publications on QWL is stagnating. Under the descriptors "Quality of working life" and "Quality of work life," the number of publications concerning QWL plateaued a few years ago. For the period from 1973 to 1979, an average of 12 articles per year were published, compared to 26 between 1980 and 1984, 54 between 1985 and 1989, 42 between 1990 and 1994, and finally 44 per year between 1995 and 2002. In comparison, for the same publication databases, the number of articles listed under the descriptors "mental health at work" and "occupational stress" increased from 31 per year between 1973 and 1979, to 247 between 1980 and 1984, 392 between 1985 and 1989, and 450 between 1990 and 1994, reaching 554 publications per year between 1995 and 2002. These figures tend to confirm researchers' growing interest in constructs that may be better defined than QWL.

A number of hypotheses may be proposed to explain this trend. As Nadler and Lawler (1983) suggest, prolonged

theoretical fuzziness risks, in the medium or long term, creating a certain disenchantment and loss of interest among researchers and practitioners working in the field. Several theoretical and methodological dead ends encountered throughout the development of the construct have remained essentially devoid of genuine solutions that would rally enough researchers for a consensus to emerge. Finally, the popularity of QWL appears to be fairly sensitive to the economic climate of a given period. The decline in interest in QWL observed towards the end of the 1970s can be explained, in Nadler and Lawler's (1983) opinion, by the consequences of the oil crisis and the competitiveness of external markets (primarily Asian) on the U.S. economy. In that light, let us consider the economic reality of the 1990s, characterized, among other things by (1) market globalization leading to increased competition among nations, and thus among companies; (2) the emergence of countries where production costs are lower; and (3) an increase in communication technologies (cellular phones, e-mail, etc.) that has increasingly disrupted and reduced the private life of people who use them. These factors, among others, could well explain the decline in research efforts in this field. Paradoxically, as the number of studies about stress and mental health at work increased during the same period, probably due to the pressure put by the aforementioned climate, the conclusion that imposed itself is that ambiguity about the concept of QWL is the main factor that explained the decline of publications keyworded with QWL.

The observed decline in the QWL concept is therefore, as the literature suggests, attributable both to theoretical deficiencies and to specific economic and social conditions. The impact of the absence of a clear definition has repercussions for two aspects that are essential to researchers interested in the psychological factors affecting the work world: first, the consensus on what QWL means and, second, the possibility of quantifying this construct for a specific individual, based on a given definition.

The solutions proposed in this article are essentially intended to fill these two gaps. Proposing a clear definition, based on

well-established theoretical models, will make it possible to develop a reliable, sensitive and valid instrument to measure QWL.

To sum up, the changes in the theoretical concept of QWL over some three decades have followed a fairly linear trajectory. Initially rigid and objective, the construct became progressively more subjective, dynamic and systemic. Despite all the work, many points are still subject to debate, including the need to develop a clear and operational definition of the construct, while taking the progress and consensus achieved to date into account.

CRITIQUE OF THEORETICAL MODELS OF QWL

As the first portion of this article has shown, the theoretical evolution of the construct of QWL has been subject to an ongoing conceptualization effort, ever since it first appeared. The presumed goal of this exercise is, above all, to develop a definition capable of giving rise to an operational strategy (evaluation method, measuring instrument, etc.) that will make it possible to adequately measure the construct. Consequently, our critique will focus on two aspects of past publications on the definition of QWL: first, the lack of precision of the theoretical models underlying the currently existing definitions in the literature and, second, the confusion created by the use of QWL components to mitigate the weaknesses in current definitions.

Table I presents several definitions of QWL. They were selected due to their close links with the theoretical advances of the period. Thus, despite the conceptual progress each one allowed researchers to make, an operational problem arises when one attempts to elaborate questionnaires based on these definitions.

The first definition of QWL presented is that of Boisvert (1977). Of all the definitions presented in Table I, this author's is the only one to take into consideration Seashore's (1975) observations concerning role efficiency. However, the first part of the definition – "...a set of beneficial consequences of

TABLE I
Synopsis of some important QWL definitions in the last 30 years

Author(s)	Year	Definition
Boisvert	1977	QWL is a set of beneficial consequences of working life for the individual, the organization and society.
Carlson	1980	Quality of work life (QWL) is both a goal and an ongoing process for achieving that goal. As a goal, QWL is the commitment of any organization to work improvement: the creation of more involving, satisfying, and effective jobs and work environments for people at all levels of the organization. As a process, QWL calls for efforts to realize this goal through the active involvement of people throughout the organization.
Nadler and Lawler	1983	Quality of work life is a way of thinking about people, work, and organizations. Its distinctive elements are (1) a concern about the impact of work on people as well as on organizational effectiveness, and (2) the idea of participation in organizational problem solving and decision making.
Kiernan and Knutson	1990	QWL is an individual's interpretation of his/her role in the workplace and the interaction of that role with the expectations of others. The quality of one's work life is individually determined, designed, and evaluated. A quality of work life means something different to each and every individual, and is likely to vary according to the individual's age, career stage, and/or position in the industry.
Kerce and Boot-Kewley	1993	QWL is a way of thinking about people, work and organization.
Sirgy, Efraty, Siegel and Lee	2001	... employee satisfaction with a variety of needs through resources, activities, and outcomes stemming from participation in the workplace.

working life'' – does not suggest either an underlying construct or an approach based on operational measures.

The definition of Carlson (1980), which takes a resolutely organizational point of view; the author emphasizes the dynamism of QWL and describes it as a process experiencing constant change. Unfortunately, the superimposition of the concepts of goal and process make it, to all intents and purposes, impossible to operationalize in a measuring instrument. Nadler and Lawler (1983), for their part, define QWL as a ''way of thinking.'' Although this approach adequately integrates the three QWL constituents, its main weakness lies in attempting to define a complex subjective construct by means of an equally complex and subjective notion, i.e. way of thinking.

Indeed, ''way of thinking'' is a construct just as difficult to operationalize as QWL. These comments are also valid for Kerce and Booth-Kewley's (1993) definition, which, although much shorter, essentially reprises the same points raised by Nadler and Lawler (1983) ten years earlier.

As for Kiernan and Knutson's (1990) definition, it emphasizes the subjective nature of QWL to the point of making it a concept specific to each individual, just as Nadler and Lawler (1983) had feared. The individual malleability attributed to the concept condemns it to remain subject to interpretation and again frustrates any possibility of attaching a valid assessment method to it. Nevertheless, this theoretical approach has the advantage of taking account of the dynamic nature of QWL.

Finally, Sirgy et al. (2001) recently published a validation of a QWL questionnaire based on a definition that returns to the concept of satisfaction as an underlying theoretical model. This publication suggests that, 30 years after the concept first appeared, QWL is still being defined in terms of satisfaction.

As Nadler and Lawler (1983) point out, the difficulty of defining QWL represents a sizable obstacle to the further development of research in this field. Up to now, our critique concerns primarily the difficulty of operationalizing any

definition that represents a significant theoretical advance. If this criticism is justified, an examination of recent work on QWL should confirm the difficulty of creating a link between the state of theoretical knowledge of QWL and its application in research.

ANALYSIS OF WORK ON QWL

The analysis of publications over the last 20 years highlights a number of attempts to empirically define QWL (Levine et al., 1984; Mirvis and Lawler, 1984; Taylor, 1978; Walton, 1975). All these studies involved giving a group of people a series of items related to work. With the help of various statistical techniques, certain items, grouped together in dimensions, were retained to form the domains that make up QWL.

Although these studies are empirically valid and necessary to delimit the field of investigation for QWL and the global domains that are meaningful to workers, they are likely to create a certain confusion concerning the definition of the construct, as well as being extremely questionable from a conceptual point of view. Indeed, proceeding in this way means that, with the goal of defining QWL, research participants are given a set of items that are intended to describe QWL, or must generate such items themselves, and these items are then subject to factorial analysis. Determining the domains that make up QWL is one step and defining the construct may be another. In addition, trying to define QWL by means of its components raises another problem. A list of the components of QWL – or of any other construct – no matter how complete, provides no information on the relationships between them. For example, trying to define a cat by listing all its body parts remains futile if the way these body parts interact is not clarified. The same is true for QWL. Finally, this strategy risks making the definition subordinate to the dimensions identified in all these studies and thus to create a concept with a moving definition that varies based on the idiosyncrasies of the various samples used in each study.

The use of QWL components for purposes of a definition can be explained by the difficulty of adapting the theoretical models proposed hitherto for empirical purposes. Without being able to specify how the elements included in the definitions are to be measured and what the relationships between them must be, the multiplicity of studies done to delimit the various domains leads one to believe that it should be possible to define QWL by means of the dimensions that compose it; we disagree emphatically with this point of view.

Thus, Nadler and Lawler's (1983) hypothesis that work on QWL is negatively influenced by the theoretical gaps surrounding this construct appears to have been confirmed. Moreover, in 1993, some 20 years after Seashore (1975), Sheppard (1975), Lawler (1975) and a number of other researchers agreed that job satisfaction was a different construct than QWL, Kerce and Booth-Kewley (1993) state that evaluating job satisfaction is still the most frequently used method in QWL research. Indeed, more recently still, Sirgy et al. (2001) use it as a theoretical basis for creating a new QWL assessment tool.

Despite all the efforts invested in clarifying the concept of QWL, we are forced to acknowledge that the methods and models used until now to define it, with the aim of generating an operational measurement strategy, have been less fruitful than one could have wished. This is symptomatic, as is the fact that no definition of QWL has yet been accepted by consensus; the same, of course, is true of general quality of life, where, according to Taillefer et al. (2003), it is sometimes claimed that a single definition is not even desirable but that the definition must be adjusted based on the goals of the research. These authors seriously deplore this attitude, mentioning that if such an approach had been adopted in other fields of psychology, for example, there would still be no definition of depression. Listing components does not really help to specify what QWL actually is since, in the unlikely event that consensus was reached concerning their number and designation, it would still be necessary to decide how to measure these dimensions, i.e. satisfaction, performance, etc.

Finally, the regular use of job satisfaction to assess QWL in empirical studies has rolled such research back to where it was 30 years ago.

Must we therefore resign ourselves to considering QWL as a vague concept, more associated with a well-intentioned philosophy than a clearly defined, verifiable construct? It seems not. Certain theoretical advances discussed earlier make it possible to glimpse solutions to the many conceptual pitfalls traditionally associated with QWL.

The following pages therefore propose a theoretical model and methodological approach that will attempt to respond to the problems discussed above. This model was developed with an eye to verifiable empirical application, i.e. an operational QWL measurement resulting from the definition, and with the goal of integrating past theoretical advances in QWL knowledge as much as possible.

MODEL OF QOL BASED ON CONTROL SYSTEMS

The work of Kiernan and Knutson (1990), Elizur and Shye (1990), Goode (1989) and Loscocco and Roschelle (1991) shed new light on the relationship between QOL and QWL. The conceptual indissociability presented in their most recent model suggests a new way of defining QWL. Indeed, their close relationship authorizes the examination of methods used to define QOL, with the goal of applying them to QWL and thereby arriving at a model that would allow the two constructs to be integrated. Thus, the adoption of this procedure encourages the study of new solutions, outside the scope of QWL, to deal with the recurring problems posed by the definition of this concept.

In the course of work aimed at finding an operational definition of QOL, Dupuis et al. (1989) came up against the following problems: the objective or subjective nature of QOL and how to integrate them, the concept of happiness and its implication in the measurement of QOL, the importance attributed to personal QOL assessment by the individual in question and, finally, the absence of any theoretical link uniting

the various dimensions of QOL. As described above, these problems have also cropped up in the research into QWL.

With the help of the systemic approach applied to biological organisms by Bertalanffy (1973) and the work of Ashby (1956), Weiner (1948) and Powers (1973), Dupuis et al. (1989) developed a new theoretical framework based on the concepts of goal, control, positive and negative feedback loops and hierarchical organization of goals in different domains of life.

Dupuis et al. (2000) base themselves on the Aristotelian notion of happiness in developing their definition of QOL. Thus, they say that all human activities are oriented towards an end (a goal), that certain ends (goals) are subordinated to others but that the ultimate end (goal) is the pursuit of happiness. It should be emphasized that happiness connotes here not the search for pleasure or hedonistic satisfaction but a relatively stable condition over time, influenced by the individual's adaptability and a minimum of material goods. Starting from the premise that the setting and pursuit of goals underlie each individual's behavior, Dupuis et al. (1989) build their theoretical model of QOL. Thus, they state that all human behaviors are controlled and maintained by the pursuit of goals or objectives. This is neither more nor less than a control system that organizes and gives meaning to behaviors. In such a system, actions are taken in order to reduce the gap between the person's current state and the goals he or she has set, taking account of the fact that not all goals have the same importance (priority or value). Finally, in their model, Dupuis et al. (2000) distinguish between factors that may influence QOL (e.g. medical condition, psychological state, economic status) and QOL as such, which is defined by the gap between the individual's current condition and his or her objectives.

Thus, according to Dupuis et al. (2000), general QOL is defined as follows: "Quality of life, at a given time, is a state that corresponds to the level attained by a person in the pursuit of her hierarchically organized goals" (page 107).

Based on this systemic model, in 1989 Dupuis and colleagues developed a tool for evaluating general QOL, the

"Quality of Life Systemic Inventory" (QLSI©). The model adopted by Dupuis et al. (1989) allowed a major breakthrough in defining and evaluating QOL. In the same way, given the conceptual analogies between QOL and QWL, one is justified in believing that the solutions they suggest will also apply in the area of work. Thus, based on the model of general QOL, the authors' suggested definition of QWL is as follows:

Quality of Work Life, at a given time, corresponds to a condition experienced by the individual in his or her dynamic pursuit of his or her hierarchically organized goals within work domains where the reduction of the gap separating the individual from these goals is reflected by a positive impact on the individual's general quality of life, organizational performance, and consequently the overall functioning of society.

THE QWLSI'S MEASUREMENT STRATEGY

The 33 items proposed by the QWLSI are presented to the respondent by means of two boxes. Figure 1 presents a sample question from the QWLSI.

The last page of the questionnaire revisits the 33 domains corresponding to the questions and asks the worker about the importance he or she attributes to each one. Respondents are asked to check off one of the seven circles with titles ranging from "essential" to "useless." An example of such a question is presented in Figure 2.

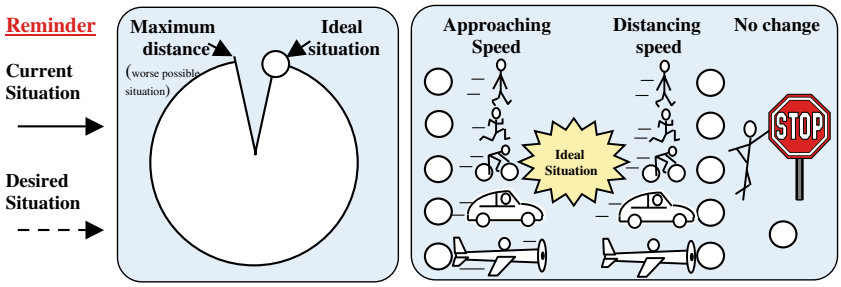

Figure 1. Example of a Quality of Working Life Systemic Inventory item.

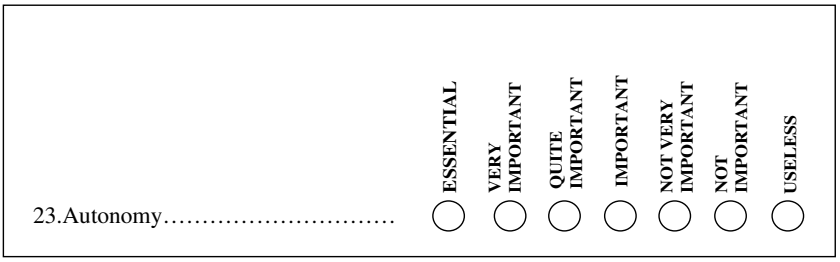

Figure 2. Example of a Quality of Working Life Systemic Inventory item concerning the importance of each domain.

For each question, the subject is asked to place two arrows in the left-hand circle (Figure 1). The first arrow corresponds to the individual's condition in relation to the ideal situation and to the worst possible situation. The second arrow corresponds to the place where the subject would like to be in relation to the ideal. The score obtained by calculating the gap between the two arrows corresponds to the QWL score. Next, the subject must consider whether his or her situation – still in relation to the field covered by the question – is improving (i.e. getting closer to the ideal), deteriorating (i.e. getting farther from the ideal), or remaining stable. If the subject's situation is improving, he or she must check off the circle under "Approaching speed," in the box to the right of Figure 1, that corresponds best to the perceived speed of the change. If the situation is deteriorating, the subject must check off the circle under "Distancing speed" that corresponds best to the perceived speed of the change. Finally, if the situation is stable, the subject must check off the circle under the "Stop" sign. Scores obtained using both the rank and the change dynamic are used to weight the gap score.

The QWLSI's measurement strategy brings a solution to one important problem with the QWL measures used in the past. As mentioned in the section on the emergence and popularization of QWL concepts, the measurement of a dynamic construct must take three types of potential changes into consideration: "alpha" changes, "beta" changes and "gamma" changes. In addition to "alpha" changes, measured by the state arrow, "beta" changes can be assessed by means of the change

in the position of the goal arrow. Indeed, if an individual completes the questionnaire twice and the second time the position of the goal arrow changes in relation to the ideal, this means that the subject's reference point has varied, indicating the existence of a ''beta'' change. In the same way, if the importance of a domain, as measured by the section of the questionnaire illustrated in Figure 2, varies from one test time to another, a ''gamma'' change has occurred.

In order to be consistent with the theoretical model chosen to define the QLSI, Duquette et al. (1994) consider that the scaling of the scores must respect the non-linearity of control systems approach. Thus, the progression of the gap scores, change dynamic (speed) and rank is exponential. On the other hand, the progression of scores arising from a Likert scale is linear, implying that scale units are divided equally and have equal values.

Three types of scales, corresponding to the three scores obtained (gap, speed and rank) are therefore used, as described in the following paragraphs.

State/Goal Scale (gap)

As illustrated in Figure 3, the circle where the gap is measured is divided into 13 sectors. Figure 4 presents the curve for the values associated with each sector. These values were obtained

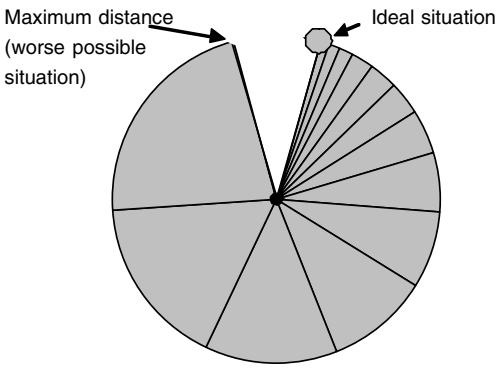

Figure 3. Gradation of state/goal scale.

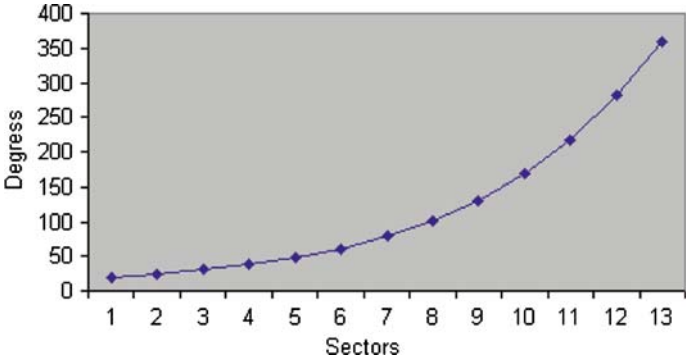

Figure 4. Angular degrees values associated with each sector.

using an exponential function (2^x) for which x exponentially increases the number of angular degrees per sector from 0 to 330 (the angle of the zone separating the "ideal" from the "worst possible situation" is 30) thirteen times. The values obtained in this way are recalibrated from 0 to 100 in order to make them easier to interpret.

The rationale justifying the use of an exponential curve is based on information theory, which claims that the degree of uncertainty grows along with the number of elements to be evaluated in a given situation. In this case, the number of angular degrees corresponds to the amount of perceived uncertainty. Thus, the basic hypothesis behind the data scale for the circle in Figure 3 stipulates that the farther a subject is from the ideal situation, the greater the possibility that an event will prevent him or her from achieving the goal and, consequently, the greater the uncertainty.

CHANGE DYNAMIC SCALE (SPEED)

The box to the right of Figure 1 makes it possible to measure the change related to a given question, i.e. does the person have the impression that the situation is improving (thus, that the gap between his or her state and goal is decreasing), deteriorating (thus, that the gap is increasing), or remaining stable. To do this, the subject is asked to check

off one of the eleven illustrations representing the relative approach or retreat speed in relation to the ideal situation. In the case of improvement, the values associated with the five speeds range from 0.92 for the slowest speed to 0.34 for the fastest. These values were obtained by using the 2^x theoretical exponential function. Since it is used as a multiplicative factor for the gap, a value of less than 1 decreases the value of the gap between the arrows in the circle of Figure 1. In the case of deterioration, the values associated with the five speeds range from 1.09 for the slowest speed to 3.08 for the fastest and therefore amplify the gap between the state and goal arrows. These values are obtained using the 2^{-x} theoretical exponential function (see Figure 5). Note that the apparent difference between the improvement and deterioration curves is due to a gradation effect. In fact, the ratio of a gap affected by two given speeds over the biggest of these two values is constant, whether in the case of improvement or deterioration. For example, a gap of 5 is reduced to 4.65 when it is weighted with the slowest improvement speed and to 1.55 with the maximum speed, giving a ratio of 0.67 (4.65 – 1.55/4.65). In the case of deterioration, a gap of 5 is amplified to 16.25 at maximum speed, whereas it is only increased to 5.35 at the lowest speed; once again, the ratio obtained is 0.67 (16.25 – 5.35/16.25).

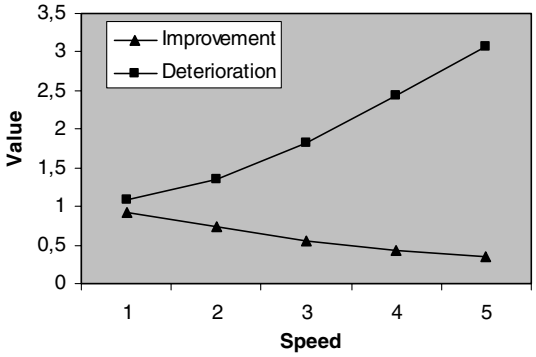

Figure 5. Weighting values associated to each speed.

This strategy of measurement may seems to have some similarity with the one used in the Dartmouth COOP Charts (Nelson et al., 1990). However, if this later make use of pictograms (smiling faces, neutral faces and sad faces) to "scale" the individual's subjective evaluation of his mood, condition and capacities, the similarity goes not beyond that. In the Dartmouth COOP Charts pictograms are static pictures and cover a 5 point linear Likert scale presented along with the faces. The QWLSI scale measuring the gap presents three major differences from the Dartmouth one's. First, the scale is a dial having the characteristics of a visual analog scale (i.e. no numeric reference). Second, the person has to put two arrows, one for his actual condition and one for his personnal goal referring to an ideal situation. The process of drawing the arrows is also more dynamic than the one of checking a "faces" as the person figure out in his mind the size of the gap separating his condition from the ideal situation. Third, the continuum underlying the scale is not a linear one as for the Dartmouth. Concerning the improvement-deterioration speed scale, it is also a non linear scale and it serves to measure a dynamic process that impact on the gap, instead of a static state like the Dartmouth faces.

RANK SCALE (IMPORTANCE OF DOMAINS)

Presented as a Likert scale graduated from 1 to 7, the rank scale attributes new values to the units in order to reflect both the process of amplification associated with the domains considered to be important and the process of reduction associated with the less important domains. Once again, to respect the non-linearity model, the values on the scale are not equidistant. Thus, the values range from 2 for a rank of 1, to 0.15 for a rank of 7, with values of close to 1 for ranks 3 and 4 (see Figure 6). Note that the weighting of the gap by ranks does not have as great an impact as the change dynamic for the domains, which may multiply the gap by as much as three times.

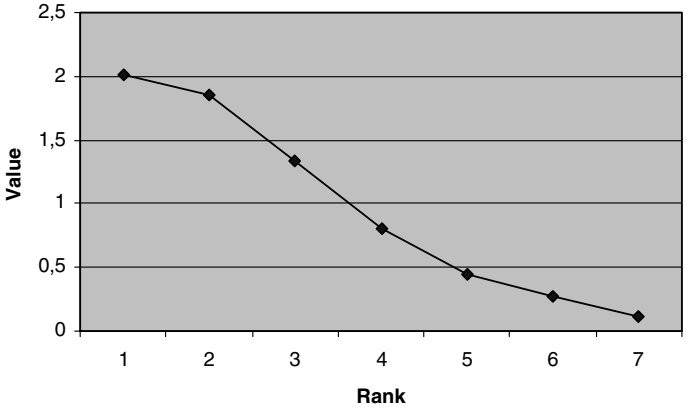

Figure 6. Weighting values associated to each rank.

DEVELOPMENT OF THE QUALITY OF WORKING LIFE SYSTEMIC INVENTORY (QWLSI©)

Choice of Statements for the QWLSI

The questionnaire includes 33 items selected according to the following criteria: the statements had to be chosen primarily as a function of the aims the questionnaire was created to meet, i.e. developing a tool that will allow practitioners in the workplace to improve QWL assessment and the effectiveness of their actions in this regard.

The definition of QWL presented above leads one to consider what is likely to influence both the individual's general QOL, organizational performance, and consequently the overall functioning of society. Nevertheless, it is important to specify these domains in more detail in order to establish a core inventory of items that respond to these requirements and will make it possible to compare different groups.

Turcotte (1988) analyzes the problem and defines four major dimensions of a QWL program. For this author, a QWL program represents the whole set of actions designed to improve workers' QWL. The four dimensions are the nature of the job itself, its physical context, its psychosocial

TABLE II
Quality of Work Life components

Quality of work life according to Turcotte (1988)	The 33 QWLSI[a] domains	Work structures (Kohl and Shooler, 1982)
Nature of the job itself	Time to perform duties	Complexity of work
Complexity of duties	Participation in decision-making concerning my duties	Routine
Autonomy related to duties		Time pressure
Role inherent in duties	Fit between skills and type of work	
Participation in decision-making related to my duties	Autonomy in performance of duties	
	Diversity of duties	
	Effectiveness at work	
	Physical requirements needed to perform the duties	
Physical context	Work environment (noise, lighting, cleanliness, etc.)	Cleanliness of environment
Humidity	Equipment and tools needed for work	
Temperature	Facilities (daycare, access to restaurants, parking, etc.)	Job safety
Noise		
Lighting		
Odors		
Vibration		
Psychosocial context	Feeling of belonging	Feeling of belonging
Social and emotional support	Emotive power	Level of empowerment
Respect and consideration	Competitiveness	
Nature of leadership	Relations with colleagues	

TABLE II
Continued

Identification with company	Relations with superior	
Satisfaction of need to belong	Relations with employer or management	
Possibility of communicating		
	Company policies concerning leave for family reasons	
Organizational context	Performance of work during my absence	Level of supervision
Level of planning		Bureaucracy
Management ideology	Allocation of work during absence of other employees	Position in hierarchy
Information system		
Organizational structure	Possibilities for advancement	
Training programs	Transfers	
Technical support	Training and professional development	
Possibilities for promotion and transfer	Comments and evaluation	
	Work schedule	
	Flexible schedules	
	Clarity of my role in the organization	
	Conflicting roles	
	Communications and information	
	Income	Job security
	Benefits	Job stability
	Income security	Compensation
	Relations with union	Work schedule
	Employee assistance resources	

[a]Quality of Working Life Systemic Inventory.

context and its organizational context. For Turcotte, the job itself means all its intrinsic aspects such as duties, the autonomy with which the worker is able to perform the duties, responsibilities, etc. The physical context represents all the material elements likely to influence the worker's performance, satisfaction and health. The psychosocial context comprises human interactions at work. As for the organizational context, it concerns the worker's more distant environment; all the programs managed by the human resources department fall into this category, which is obviously quite extensive.

Turcotte's (1988) classification complements the work of Kohl and Shooler (1982) in an interesting way. Without being exhaustive, the 14 domains presented by these researchers can easily be integrated into Turcotte's (1988) classification. This convergence of elements matched with the criteria imposed by the definition of the construct presented above gives some clear indications as to the items that must be included.

Table II presents the 33 items retained for the QWLSI, Turcotte's (1988) classification and Kohl and Shooler's (1982) 14 QWL domains.

CONCLUSION

The chosen model and the definition that follows from it present the following advantages: first of all, QWL does not rely on any constructs related to workers' well-being or mental health such as job satisfaction, job stress, etc. Second, it becomes possible to measure QWL in itself, without having to administer a battery of unrelated tests the results of which must be assembled to constitute QWL. Third, the proposed definition never refers to the components of QWL, and thus distinguishes between the components making up the construct and the connection between these components. Moreover, the measurement strategy formulated makes it possible to measure the changes characterizing a dynamic construct, that is, ''alpha,'' ''beta'' and ''gamma'' type changes.

Finally, the concepts selected make it possible to develop an operational measurement strategy. In addition, this definition of QWL respects the observed consensus with regard to the subjectivity of the construct; the integration of the organizational, individual and social aspects; and the indissociable relationship between QOL and QWL.

The fears raised by Nadler and Lawler (1983) concerning the ambiguity of the concept of QWL and, consequently, its viability are undoubtedly justified. Failing to consider conceptual problems would condemn QWL to eventually be abandoned by research at the very time when the social, economic and political context in the industrialized nations is tending to erode the gains made during the 1980s and 1990s. With the help of reliable tools, developed based on rigorous theoretical models, it should be possible to better assess QWL and thus intervene more effectively. The results obtained can only be a better match with stakeholders' expectations and will thus contribute to the credibility of a field of research that has never been more important to the working world.

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