

# The connection between working-life quality and employee value to the company

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**Abstract:** When job satisfaction and functional ability is to be measured and improved, it is necessary to assess and quality assure the intervention of company consultants on the soft assets of a company, however for many years it was believed that the scenario of a common worker is far too complex and that factors that makes him or her valuable to a company could not be agreed upon. It seems that the new concept of quality of working life (QWL) could be a key concept in the description of the employee making, enabling, for the first time possible, a simple way to determine the value or potential value to be realized under good leadership of an employee. Working-Life-Quality (QWL) is easily measured by the SEQWL questionnaire. By measuring with SEQWL before and after an intervention on employees, created change in QWL, can be documented, hereby enabling the documentation of the gain of value for the company by the intervention. This paper aims to find a simple formula by which the value for an improvement in QWL easily can be calculated. We found the following formula useful:  $\Delta V$  total for a QWL project =  $N \alpha S T \Delta QWL$ , where  $\Delta V$  is the potential additional value gained more for the company under good leadership,  $N$  is the number of participants,  $\alpha$  is a psychobiological constant for human beings @10,  $S$  is the average salary,  $T$  is the duration of the improvement and  $\Delta QWL$  is the difference in quality of working life.

**Keywords:** Quality of Life, quality of life, health, employment

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## INTRODUCTION

Thriving at work is statistically strongly associated to quality of life (QOL) (1,2), self-assessed health, physical and physiological (measured by SEQOL (3)) and quality of working life (QWL) (4), as we present it in this paper and measured by SEQWL (5). In addition to these statically findings, a number of projects have successfully been carried out in Denmark and Norway leading to the general conclusion that it is possible to improve both thriving at work, general health and the quality of life of employees.

Just as evident as it seems to many modern managers, that relations as QWL and well-being at work are fundamental to the qualitative and quantitative output of employees, (i.e. too the benefit to the employee and the organization), just as difficult is it for organizations to value the benefit of soft values to hard numbers. The difficulty is caused by the lack of credible

numbers for QWL that could have been used as a basis for proper mathematical calculations of the profit. Calculations showing a positive outcome of interventions on QWL and prosperity are a precondition for the willingness of company leaders to prioritize projects meant to improve QWL, QOL and health.

The arguments against an overly focus on the employee thriving on the job are often derived form an economic perspective and from the wish to secure efficiency through a certain degree of authority and control. To meet such requirements, measurements have been limited to hard facts, such as "consumption of time and materials and production." Soft values such as the employee's experience of his own thriving, mastery, sense of community and productivity have not previously been taken into consideration.

There seems to be a growing awareness of the concept of QOL in society and the business world has

also seen the benefits. This article aims to render probable the benefit of an organization by improving quality of working life for the employee and managers of the company. Based on the existing empiric data, we will try to establish the formula for the connection between improved QWL and increased profit for the company, calculated on the individual employee.

### What is quality of working life (QWL)?

Work can be one of the greatest pleasures in your life (1,2,4). On the other hand, there is nothing worse in life than a job you are unhappy with. Work is such a vital part of a life, such a permanent companion, that if you do not feel at ease, when leaving for work in the morning, your joy of life may be shattered. It is difficult to feel happy when you do not really feel committed to your work. If your work is not a place, where you can thrive and be happy, but feels more like a prison, your life energy is being drained. If you cannot see the point in what you are doing and you do not feel that you contribute with anything valuable, your work wears you out. That kind of work may kill you slowly, bit by bit. Furthermore, if you do not consider your work valuable the same will apply to your company, the customers, and the environment in general. Without responsibility and commitment, quality and efficiency disappears into the blue.

According to the "Quality of Life" survey of 10,000 Danes carried out by the Quality of Life Research Centre in Copenhagen (1,2), only every third Danish citizen was happy in his or her job, which is catastrophic to Danish society. Personally, we are convinced that the uninspiring and detached working life is one of the main reasons Danish people retire at the age of 61 years.

Only few human beings can cope with leading a life as meaningless as ours – all our lives spent working in jobs that we do not really like. It takes its toll, because our health and well being are dependent on our ability to renew ourselves and develop new expressions of our personality in order to use life properly. Every human being is created to be active, using his or her talents the best possible way to the benefit of self and others – this is what is meant by life. This concept of meaning of life we find in all stages of our life: within the family, with friends in our spare time as well as on the job. Our research showed that people who feel useful are the ones who are happy. It seems that we all have a dream of contributing something to this world – in our private as well as our professional lives.

Work can be exciting, it can be thrilling—and at best—is not experienced as mere work. Instead work

becomes the challenge of our life – becomes what we dreamt of really doing, in private as well as professionally. There is nothing more exhilarating than an exciting job, because work is about being useful to the world as well as influencing and creating a world in accordance with our private dreams. There seem to be four basic conditions, which determine the working life quality (4):

1. Personal quality of life
2. Mastering of the working process
3. Fellowship with colleagues and management
4. Genuine improvement for both customers and the environment.

### QWL determines the quality and efficiency of both the employees and the leaders work in the company.

Roughly speaking you can say that the value of an employee or leader for a company depends on his or her ability to create value by him- or her or in co-operation with colleagues and the leader and subordinates. Or in other words the person's influence on the surroundings in a positive or negative direction together with the ability to perform with efficiency and quality in the broadest sense of these two difficult concepts.

In our studies of QWL, we have noticed a huge connection between "objective quality" (the concrete ability to function i.e. make a selling exhibition or keep a tight budget and "subjective quality"—the experience of the work. A survey of the self-assessed QWL for the Danish population showed the following distribution: 23% said their QWL was very good, 57.5% said "good", 15.9% said neither nor, 3.2% said bad and 0.4% said very bad (see table 1). We found an average for the Danish companies of 70%, the score equal to the expression good on the above-mentioned five-point scale (6).

Table 1. *Self-assessed QWL in Denmark (1)*

Self-assessed QWL	No	%	Meas. QWL
1. Very good	159	23.0	76,1
2. Good	397	57.5	69,7
3. Neither good nor bad	110	15.9	63,0
4. Bad	22	3.2	55,2
5. Very bad	3	0.4	42,0
Total number of respondents,	691	69.9	69,5
Overall average			

When calculated from the 100 questions in the QWL-

health questionnaire the distribution was narrowed and only 3.8% of the employees get 80-100% (very good)

on average. 72.9% scored between 80% and 60% in

Table 2. *Expected benefits for the company*

FEATURES	BENEFITS*
<ul style="list-style-type: none"> <li>• Accurate, immediate analyses of QOL, QWL and health situation of individuals and the organization as a whole</li> <li>• Quick and user friendly measurements</li> <li>• Accommodates all levels</li> <li>• Independent of income, culture, gender, age, state of health, etc</li> <li>• Establish a preventative health care approach</li> <li>• Identify individuals who need treatment</li> <li>• Pinpoint appropriate choice of intervention needed</li> <li>• Equip employees and leaders with attitudes and skills to handle problems, change, personal and inter-personal relationships and crises</li> <li>• Allow for comparison with other companies (benchmarking) as well as between branches, departments, etc.</li> <li>• Methodologically and philosophically sound</li> </ul>	<p><b>DIRECT BENEFITS*</b></p> <ul style="list-style-type: none"> <li>• Lowered absenteeism</li> <li>• Improved health</li> <li>• Less stress</li> <li>• Better ability to solve conflicts</li> <li>• Improved personal development</li> <li>• Higher efficiency</li> <li>• Improved commitment to work</li> <li>• Better co-operation</li> <li>• Improved communication</li> <li>• Better leadership</li> <li>• Improved organizational image</li> <li>• Individual life and health management</li> </ul> <p><b>INDIRECT BENEFITS</b></p> <ul style="list-style-type: none"> <li>• Lowered medical costs</li> <li>• Higher productivity</li> <li>• Healthier retirees and older workforce</li> <li>• Higher value to society</li> <li>• More innovation</li> <li>• Improved competitiveness</li> </ul>

measured QWL, 22.5% between 60% and 40%, and less than one percentage below 40% in measured QWL (see table 1). From these numbers it seems fair to conclude that you cannot function in a job with a QWL below around 50%. Most people score around 70%. Terrible employees score below 55%. Bad employees get 55-65%. Average scores 65-75. Good employees score 75-85% and the extremely good (1:50) scores 85-100% in measured QWL (see table 2). A lot of very important factors seem to follow the measured QWL closely: Self-assessed physical health, self-assessed mental health, stress, number of sick days and working environment, thus implying some of the reasons why a low measured QWL is incompatible with working efficiently and happily.

The value of a worker can be negative if he or she significantly disturbs the work environment and destroys co-operation and other vital company relations, for example to the customers. A bad employee can

easily destroy the value that equals one other worker. A good employee can inspire good work.

**The company's economical interests in improved QWL**

Let us address the company's direct and indirect economic interests in the employee's QWL. Improvement of QWL, primarily seems to be of benefit to the employee himself, but also benefits the company. Table 2 lists the expected benefits for the company. It has been confirmed by a series of practical intervention examples conducted by Niels Jørgen Andersen, where it was found that these benefits normally follow such a QWL improving intervention. Table 1 also lists some of the features experientially needed in a good QWL-improvement project.

**Better thriving and work ability of employees – also the older ones**

People who are not thriving in their job have a tendency to burn out and sooner or later become only of modest

value for the company. Employees who are developing through their working life, however, will become of increasing value for the company. It is important for a company to keep employees in the company instead of constantly needing to recruit new employees. If you want to keep employees with the present labour market, then you need to make sure that they are thriving in their job, i.e. developing personally and professionally. The reason the job is important to the person, is its importance to his general QOL and it seems that creating value is inherently the meaning of life (7-13).

#### **Fewer days lost through sickness**

Since there is a significant correspondence between QOL and the number of days lost through sickness, an improved QWL most probably will also result in fewer days lost through sickness. If the project results in fewer days lost through sickness per employee per year, then the project will soon have proved profitable. Presumably, more engaged employees would also be less likely to report sick.

#### **Higher quality and larger efficiency**

Employees who are engaged and developing in their job will also be more efficient and deliver work of a better quality. When communication is improved, the distance not only between employees and leaders is reduced but also between colleagues on the same level and between employees and customers. Different teams of the organization will become able to make a better and more coherent effort. Expensive waste of time due to common confusion about the tasks to carry out, unproductive double work, and unprofitable attempts to solve problems will be avoided.

#### **Better innovation**

Development of quality products demands a large personal reserve of energy within the employee. The innovative employee must be courageous, visionary, and willing to go all the way for his idea. That personal surplus arises, when the employee masters his field of work, when he/she really masters it. The growth of this mastery in the work process is one of the main aims of the QWL project. Those employees who achieve real mastery within their field of work will become the experts, who are vital for the company and driving its development.

#### **Environmentally friendly image**

There are many image related benefits, when conducting a project in order to improve QWL. It is

very valuable for the company that the employees are thriving, but it is perhaps just as important to make it public. That makes it not only easier to keep valuable workers, but also to attract attractive new manpower. It seems logical that a company that is able to take care of its employees thriving and health will also be able to make sound decisions on a larger scale. People with a high QOL and a large personal reserve of energy have better possibilities to consider external dimensions, such as sustainability, life time cycles and more, even if they are not directly profitable. The importance of an environmentally friendly image to the still more numerous 'political consumers' cannot be underestimated.

#### **A formula for the correspondence between QWL and the employee's value for the company**

How is it practically possible to measure the economical worth of an employee? The traditional way has been to look at manpower as a commodity you can buy on the market. It is supply and demand, which is determining the value – and price – of a commodity. Establishing such a formula is connected with a lot of ethical thoughts, because a human being is certainly not a thing, but a person, a subject, and as such the human being must be respected and its integrity hold sacred. However, it is well known from the realm of psychology that people have different value to us, just as our own life differs in value at different times and states. When we are improving our self-esteem and increasing our self-care by being better towards ourselves, our QOL, and joy of life is being improved and thus also the value we hold for others and ourselves. Even if the value of a human being cannot be completely settled and we are all equal before God, it is therefore in the context of a company reasonable to allow the perception that two employees in the same job function hold very different values for the company, due to their skills and experience, ability to cooperate and width of view.

When you as a leader are looking at the employee from the outside, you wish to see exactly those resources, the good spirit, health and professional stability and the personal reserve of energy that are connected with a good QOL, exactly that mastery which comes from engagement, commitment and personal development in the job, exactly that ability to cooperate which comes from being a well integrated and generally liked part of a professional cooperative and exactly that real productivity that comes from broad point of view, general orientation towards and understanding of the

totality on all levels. Thus, it is a probable hypothesis – which of course is to be proven empirically – that the value of an employee corresponds directly with the four fundamental dimensions of QWL (4).

The first question is whether there is a simple and linear relation between productivity and QWL. Presumably there are linear relations between the quality of the four fundamental human conditions and the productive functions of the company, which they support – and relations between QOL dimensions and other conditions of life, like self estimated QWL are just linear (1-2). In research we normally find those correspondences surprisingly linear within the normal range (1-2,15) and accordingly, we find the following simple relation, which is the formula for a straight line:

$$V = k \text{ QWL} + \beta$$

where QWL is measured with SEQWL (5) or a corresponding form based on the QWL theory, k is the slope (multiplied with a constant, depending on the units) and b is the intersection point with the y axe that determines when an employee holds no or negative value to the company. Using S for the average salary, we have:

$$V = S (\alpha \text{ QWL} + \beta)$$

where S is the average salary for a worker in this function.

**Determination of  $\alpha$  and  $\beta$**

When an employee scores around 60% QWL (measured with SEQWL) we know from experience (compare the numbers above) that he often does not function well enough to keep his job. If the score is around 70%, he is stable and a good working power. 50% QWL means that he is a considerable burden to the company, while 80% would mean that he is a fast advancing star worker. Accordingly it is possible to establish the following table (table 1) which shows that  $\alpha$  must be around 10 and  $\beta$  be around 0,6.

We have:  $V = S (\alpha \text{ QWL} + \beta) = S (10 \text{ QWL} - 0,6)$

and

$$\Delta V = V (t2: \text{QWL } 2) - V (t1: \text{QWL } 1) = S \alpha (\Delta \text{QWL}) = 10 S \Delta \text{QWL}$$

Table 3. Connection between value of the worker (expressed in the units of salary) for the company and measured QWL (rough estimate)

QWL	Value of employee to the company (s = average salary)
10%	not able to work
20%	not able to work
30%	not able to work
40%	not able to work
50%	severe strain -1s
60%	worthless 0s
70%	worth his salary (average/normal) 1s
80%	especially well functioning employee 2s
90%	best practice 3s
Close to 100%	unique genius 4-1000 s

**Example 1**

An employee with a QWL measured to 65% and an average salary of 50,000 \$ for his type of job will create the following value for his company (OBS: If you use the corrected formula below you will find a negative

value):

$$V (\text{QWL } 65\%) = V = S \alpha (\text{QWL} + \beta) = 50,000\$ \times 10 \times (0,65 - 0,6) = 50,000\$ \times 10 \times 0,05 = 25,000\$$$

If his QWL is raised only 5%, the value gained on a

yearly basis (given  $\alpha \sim 10$ , which must be empirically conformed) will be:

$$\Delta V = V(t_2: \text{QWL } 70\%) - V(t_1: \text{QWL } 65\%) = S \alpha (\Delta \text{QWL}) = 50,000\$ \times 10 \times 5\% = 25.000 \$$$

So his value of this employee to the company will be doubled.

#### DISCUSSION

When you see this formula, then as a leader you would spontaneously feel like firing all employees with a QWL ranging under 65%. However, the valuable thing by measuring QWL as a leadership tool is not the inhumane dismissal of people, who are not thriving for the time being, because the QWL of the individual employee is varying considerably through time, i.e. it is well known that the best worker of one month is not the one of the following month. The clever leader consequently supports the development of QWL within the company, thus contributing to the increasing value of all employees to themselves and each other. In that way, the company also makes a valuable contribution to society instead of just picking people from the top and just unethically wearing them down for final discard. This practice, which has been used in the high-tech business in the last two decades should be stopped and replaced by a more decent human resource philosophy. Such a change would also be of benefit for the companies themselves, improving their ability to keep workers and supporting them in their ongoing development instead of putting them under constantly higher pressure finally resulting in their burnout.

The difference in productivity per employee at a certain time thus is:

$$\Delta V = 10 S \Delta \text{QWL}$$

where QWL is the QWL measured with SEQWL, S is the salary and  $\alpha$  is a constant (estimated  $\alpha @ 10$ ).

However, this is not enough to determine the value of a QWL intervention, because the crucial question is how the employee will do in the long run. It has to be integrated over a longer period:

$$\Delta V \text{ total for a participant} = \int_{t_2-t_1} \Delta V = \alpha S \int_{t_2-t_1} \Delta \text{QWL}, \alpha @ 10$$

The value created through time for a participant is  $\alpha$  (ten) times the difference in quality of working life (mQWL) through time (t) times the average salary (S)

For the QWL intervention project as a whole is the formula:

$$\Delta V \text{ total for QWL project} = P \int_{t_2-t_1} \Delta V = P \alpha S \int_{t_2-t_1} \Delta \text{QWL}, \alpha @ 10$$

The value created through time for an intervention group is  $\alpha$  (ten) times the number of participants (P) in the intervention times the difference in Quality of Working Life (mQWL) through time (t) times the average salary (S).

Will he continue to develop after i.e. a QWL course or will the improvement only be temporary? The answer to this very important question is that it completely depends on how the QWL project is conducted and how well it is anchored within the organization. It turns out to be of utmost importance that even after the closure of the project, there continues to be setters and holders of perspective maintaining the vital, down-to-earth and existentially orientated development perspective, which is the basis of the complete QWL theory. That good QWL, first of all, is about having good relations, both internally and externally. Do you succeed in involving all workers and leaders in the project and in anchoring this philosophy in the company? The experience from Niels Jørgen Andersens lifelong practice seems to show stable improvements within a time span of 10 years, even if some employees leave and new ones join the company. A lasting change has been created in the very culture of the company, and thus the QWL in the company as a whole. Thus, when the project is well conducted in the whole company (or a well-defined, independent part of it), we can simplify the formula above as follows, when B is the number of years the QWL improvement lasts:

$$\Delta V \text{ total for QWL project} = P B \Delta V = P \alpha S B \Delta \text{QWL},$$

where P = number of members in the organization,  $\alpha @ 10$ , B @ 10 years

The value created through time for a QWL intervention project is  $\alpha$  (ten) times the number of participants (P) in the company/division times the difference in Quality of Working Life (QWL) through time (B) times the average salary (S)

#### Example 2: Improving QWL in the company

Improving QWL 10% in a company – which we some times see in QOL and QWL projects with 100 employees with an average QWL measured to 65% and

an average salary of 50,000 \$, will in 10 years create the following value for its owners:

$$\Delta V \text{ total for QWL project} = P \alpha S B \Delta QWL = 100 \times 10 \times 50.000 \$ \times 10 \times 0,1 = 100 \text{ mill. \$}$$

where P= number of members in the organization, S the average salary for that kind of work,  $\alpha @10$ , B@10 years.

**DISCUSSION**

When QWL projects are conducted successfully in companies, large negative results can be turned into large positive results. This has occurred many times, and it always seems like a miracle for the company. Interestingly, the health of the employees in several of the projects we have participated in often undergo such a radical improvement that the days lost through sickness during the intervention period of 6-12 months decrease from 10 and 20% to only 2-3%. The QWL concept thus seems to have such a great impact that it, correctly applied in companies and society, can restore not only the company's own economy, but also the general health and economy of society.

The importance of leadership for productivity and a formula for the leader's productivity: A generalized formula for the value the leader can create for his company, based on his QWL.

Let us finish with turning our attention towards a fact that it is very important, but for which it at the same time is very difficult to establish a formula, namely the productivity of the leader. The leader has crucial importance for the possibilities of the employee to make the most of his potential in order to create value. This reflection is about the leader as a limiting factor and the potentials of the employees must be exploited, which is the responsibility of the leader. Potentials can be visible or hidden, and it is evident that the good leader helps his employees to develop themselves by recognizing hidden potentials and talents and using them. This is a promising and rich perspective and it gives the leader a very large responsibility for the fate of his subordinates. The skilled management consultant or physician is delivering just that service to respectively his customer or patient.

A more common and neutral view upon leadership is that the employees hold merely those resources that are visible, and that the leader has to manage them as he or she best can. That perspective, to which we will stick, means that bad leadership simply waste the resources of the employees, just in the same way as excellent leadership makes the best of them. The numbers we have seen in the calculated examples above implicitly

implied optimal leadership. If the employee improves his QWL, he is *potentially* increasing his value for the company, but that does not necessarily mean that he actually creates more value. That would imply the cooperation with a leader seeing him and his new, released potentials and helping him to exploit them for the common good. The leader is of crucial importance for the effort and QWL of his subordinates. Most workers are able to work much smarter and better. Actually, a good leader is able to make people thrive, just as a bad leader makes his employees not thrive. As mentioned at the beginning, it is very common that people are working efficiently in their job and are holding large, visible, and not exploited resources. This implies that the problem of low productivity very much is a matter of bad leadership. Therefore, you should normally focus on the leader and the leadership, if you want to improve the productivity of the company as a whole.

An investigation of QWL and the quality of leadership showed almost linear correspondence between these two factors. It seems to be reasonable to propose a formula showing the created value as a function of leadership quality and as a function of QWL. It is sufficiently general to embrace all members of an organization, since every employee also has to lead him- or herself. But to be meaningful you have to start at the highest level of leadership. Because top leaders should let intermediate leaders flourish so that their employees in return use themselves optimally. Thus, this formula tells nothing about the potential productivity as the formulas above have done, but about the actual productivity for which the leader is responsible.

The number of subordinates, N (including the leader), is a simple expression of the empowerment of the leader function. Under normal conditions and if he is not somehow completely unfit for his job and thus in one way or another predestined to ruin everything, the leader will create the following value:

$$V (\text{leader}) = N S (\alpha QWL + \beta)$$

and

$$\Delta V \text{ total for a participant leader} = N \int_{t_1}^{t_2} \Delta V = N \alpha S \int_{t_1}^{t_2} \Delta QWL, \alpha \sim 10$$

The interesting thing is that the result turns out to be exactly the same, whether you develop the management level or the whole organization. The explanation is, of

course, that a skilled management department always would optimise the employment of the workers in the very same ways as a QWL project would.

$\Delta V$  total for a QWL project in the company =

$\Delta V$  total for a QWL project in the management =  
 $NT\Delta V = N \alpha S T \Delta QWL$ ,

where

V is the potential value the employees can create for the company under good leadership

QWL is the measured Quality of Working Life (in percentage) calculated as a mean of the four dimension: "QOL", "Mastery", "Fellowship" and "Creation of real value" according to the QWL-theory

S is the average salary

N is the number of participants in the project

TT is the duration of the created improvement

### CONCLUSIONS

How can the gained value of a QWL-project be calculated when intervening on a group of employees in a company? We recommend the use of this simple formula:

$\Delta V$  total for a QWL project =  $N \alpha S T \Delta QWL$

where

$\Delta V$  is the potential value the employees can create more for the company under good leadership

N is the number of participants in the project

$\alpha$  is a psychobiological constant for human beings  $\sim 10$

S is the average salary

TT is the duration of the created improvement—often 10 years in good project

$\Delta QWL$  is the difference in Quality of Working Life, measured with SEQWL before and after the intervention

### FUTURE RESEARCH AND DIRECTIONS

It is important to stress that the established formulas have to be proved empirically, which is a task is for continued scientific work. The formulas are not likely to have found their final shape. Expectation based on calculations with that formula has to be held with reservations. Most of today's consultants are not able to create large successes as seen in the best cases. It is recommended to pick your consultants with outmost care and through good references secure, that they actually have delivered what they are promising. Measurements and improvement of QWL have to be

conducted by independent units in order to secure objectivity.

As a final remark it can be stated that development of QWL gives a person both external and internal empowerment. The more conscious you get in your job the more QWL you will develop and the more power and potential success you will have. The development of QOL, QWL and health is actually happening, when an employee or leader takes responsibility for his own professional life and this is basically self-empowerment.

Responsibility is the door to success in private life as in professional life and a company and society always needs employees and leaders that is responsible for being, doing and having – which is basically what QWL is all about. The collective development of QWL in companies and society at large might be a very important issue in the future. As QWL is so closely linked to QOL and health, it will be for the benefit of not only our people and society, but for our whole global community.

Its simplicity and clarity and the large statistical background material from the QOL investigation of 10.000 Danes (1,2,15) vouch for the value of the QWL concept. The great challenge for industrial healthcare, health politicians, and trade unions is to make public and private organizations interested in focusing on the thriving of their employees. In the future it will perhaps be relevant for trade unions to demand better conditions for the pleasure of work, instead of higher wages and other advantages.

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