

Title: The Concept of Work Ability

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Abstract

Introduction: The concept of "work ability" is central for many sciences, especially for those related to working life and to rehabilitation. It is one of the important concepts in legislation regulating sickness insurance. How the concept is defined therefore has important normative implications. The concept is, however, often not sufficiently well defined.

Aim and Method: The objective of this paper is to clarify, through conceptual analysis, what the concept can and should mean, and to propose a useful definition for scientific and practical work.

Results: Several of the defining characteristics found in the literature are critically scrutinized and discussed, namely health, basic standard competence, occupational competence, occupational virtues, and motivation. These characteristics are related to the work tasks and the work environment. One conclusion is that we need two definitions of work ability, one for specific jobs that require special training or education, and one for jobs that most people can manage given a short period of practice. Having work ability, in the first sense, means having the occupational competence, the health required for the competence, and the occupational virtues that are required for managing the work tasks, assuming that the tasks are reasonable and that the work environment is acceptable. In the second sense, having work ability is having the health, the basic standard competence and the relevant occupational virtues required for managing some kind of job, assuming that the work tasks are reasonable and that the work environment is acceptable.

Conclusion: These definitions give us tools for understanding and discussing the complex, holistic and dynamic aspects of work ability, and they can lay the foundations for the creation of instruments for evaluating work ability, as well as help formulate strategies for rehabilitation.

Introduction

The concept of "work ability" is central for many sciences, especially for those related to working life and to rehabilitation. First, it can help regulate professional activities, for example by stating (in general terms) what kinds of competences and activities typically belong to different kinds of work, thus specifying what an employee can be expected to do, and under what circumstances [1, 2]. This could help employers and employees, including relevant labor unions, better determine what can be expected from an employee. Consequently, it has relevance for evaluating work done, but also for vocational training [3]. Second, this process of evaluating and deciding what activities are part of a job could lead to more reasonable work requirements, and it might therefore help reduce work-related illness, disease and injury. Thus, the concept of "work ability" can be used as a tool by professionals working with health promotion and disease and injury prevention, for example occupational therapists and physical therapists [4]. Third, the concept is important in rehabilitation. It might help professionals, such as occupational therapists, physical therapists, administrators, civil servants, insurance doctors, and employers, to better evaluate what is needed in order for a person that has temporarily, or permanently, lost their (or some of their) work ability to regain it, and to form a rehabilitation program for that person. The concept will help determine the different aspects, within or outside the person, that we might be able to change or improve in order for the person to gain work ability, or compensate for (partly) lost work ability [5, 6]. Fourth, rehabilitation requires evaluation, and evaluation requires some kind of instrument. A well-defined concept will help us construct instruments with a high degree of validity that can be used for measuring work ability, as well as help us evaluate already existing instruments [6].

Finally, there are also the important legal aspects of the concept. Work ability is one of the important concepts in legislation regulating sickness insurance in several countries [7, p. 356; 9; 6]. Together with the concept of “disease”, it is crucial in regulating who is granted access to sick leave and who is not. The Swedish Government Bill [8], for example, states that economic compensation should be offered to a person if his or her work ability is reduced (due to disease or injury) by at least 25%. Consequently, the concept has important normative implications. But the Swedish legislation, at least, does not have any definition at all of work ability, and the other important concept, disease, is poorly defined. This can lead to uncertainty in applying the laws in certain specific cases [10]. Clearer definitions of the central terms used, such as “work ability” and “disease”, could therefore help strengthen the legal rights of the citizens by making the system less arbitrary, unfair or capricious [11].

Objective

For the reasons stated above it is important to have a clearly defined concept of “work ability” (and its opposite “work disability”).¹ So the objective of this paper is to clarify what the concept can and should mean, especially in the context of work-related rehabilitation and legislation concerning health insurance, sick-listing, etc. I will also discuss several other closely related concepts, e.g. health, competence, character, motivation, work tasks, and work environment. The result will be a definition of “work ability” that is useful in all the above-mentioned areas.

¹ Note that we will only be concerned with paid work, even though some of the requirements proposed could apply to unpaid work as well.

Method

I will be using a method called conceptual analysis [12]. Some of the analytical tools that will be used can be found in related areas such as action theory and health philosophy [13, 14]. In performing this analysis I will first study the most important suggestions for defining characteristics found in the literature. Many of these are gathered in [15] and [3], and they will be critically scrutinized in order to find characteristics for a useful definition. Here conceptual analysis will mean discussing and suggesting characteristics that are meant to be both necessary and sufficient for something to fall under the concept in question. As should be obvious, there is no essence of work ability, i.e. work ability is not a “natural kind” concept [16]. The definition will be purely nominal, which will allow us to define the concept in the most useful way. However, this does not mean that the result is arbitrary. Arguments will be given for the proposed suggestions. I will, thus, present an *explication* of the concept. This means that I will “reconstruct” the concept, starting with its ordinary use, in a way that makes it useful for both practical and theoretical purposes [17, 18, [14].

An analysis of the concept of ”work ability”

This analysis will start with a compilation, and a critical analysis, of what a number of writers have suggested as defining characteristics of work ability. Some suggestions are: professional competence, motivation, work requirements and work environment [19, 20, 21, 3]. Health is added by some writers [19, 20], and Nordenfelt has added several other categories, namely basic standard competence, other qualifications, and

occupational virtues [3]. A few writers add attitudes and values [19, 20]. The last suggestion will to some extent be covered by the discussion about virtues.

The result will be a holistic notion of work ability, i.e. it will take the whole activity of the person in a professional context into account [22, 23, 14, 3]. For those familiar with the ICF the definition will be formulated on the level of “activities” and “participation” [24], although the ICF terms will not be explicitly used.² The notion of activities will be covered by the discussion about health-related ability and various kinds of competence, and participation will be discussed in terms of opportunity related to the work environment [25]. Furthermore, the explication will cover some of ICF’s “contextual factors” (related to the individual), mainly those of the workplace [24]. Nordenfelt has argued that this terminology is superior to that of the ICF for discussing health [25]. The same can be said for the discussion about work ability.³

The starting point for this explication will be the concept of health, since there is a common-sense idea that healthy people should be able to work and that ill health reduces this ability.

Health

There are several kinds of theories of health [26, 14, 27, 28]. Elsewhere I have argued for a pluralistic, two-dimensional, theory of health and here I will take this theory for granted [29]. According to this theory, (positive) health consists in *ability* together with *well-being*. A healthy individual has acquired the basic (physical, mental, social)

² A discussion on the level of body functions and body structures would usually only be relevant for *explaining* the relative lack of health or work ability [24].

³ Note, however, that the ICF is supposed to encompass all aspects “of human health” [24, p. 7]. This means that it does not cover all the relevant aspects of work ability, since this concept, as we shall see, also includes non-health-related aspects of individuals, such as different kinds of competences and occupational virtues. The “personal factors” mentioned in the ICF do cover some of these aspects, but this area is not further explored in the ICF [24, p. 17].

abilities that are typical in her society, and experiences health-related well-being. Some clarifications are necessary.

An ability is *basic* if it is of a kind that one acquires just by living and growing up. Thus, no special training or education is needed (as distinct from acquiring competences). Ability, here, is taken to be a broad conception, including 1) intentional abilities, such as walking, grabbing, talking and deliberating, 2) “automatic” abilities, such as seeing, hearing, and remembering, 3) dispositions, such as being able to experience emotions, and 4) some important mental “states”, such as having some degree of self-confidence and having a fairly correct perception of reality. To these “abilities” we also have to add 5) *the (second-order) ability to acquire* more complex abilities, i.e. competences of various kinds. Finally, we also have to add a certain degree of motivation, energy or drive. All these abilities are relative to sex and age. (See [29] for details.)

Furthermore, not only is it necessary to have acquired these basic abilities, we also have to be able to use them, here and now, in order to be healthy. We can call this having *executive ability* or *performance capacity* [21, 29]. The executive ability is a matter of degree. The more you have of an ability or a disposition, basic or complex, the better your executive ability. Health as ability can thus be reduced in two ways: one may have acquired an ability (or disposition, etc.) that is then (partly or totally) lost, permanently or temporarily, or one might never (fully) have acquired the ability in question.

When it comes to well-being (and suffering) we have to differentiate between health-related well-being and other kinds of well-being. The health-related kinds consist of moods and bodily sensations, and they have their immediate cause within the individual, i.e. they are not upheld by some outer sustaining cause. Experiencing

pain is an example of health-related suffering, and feeling energetic is an example of health-related well-being.

Sometimes we are hindered from doing things (using our abilities) only because there are obstacles in our environment. Some such obstacles are blizzards, hurricanes, general strikes, civil war, or imprisonment. In these cases we do not conclude that ill health is the problem, even if we cannot use our abilities as we would like. We need to rule out inability due to these kinds of factors from being seen as instances of ill health. Thus, you only have reduced health (as ability) if you cannot use your acquired abilities when *the circumstances are acceptable*, i.e. are such that most people can use their abilities in them.

Health and work ability

Let us look at the relation between health and work ability. Is health necessary, or even sufficient, for having work ability?

Health might be sufficient when it comes to some kinds of work, namely work that does not require a special education or training, so-called “unskilled work”, e.g. selling newspapers or tickets, washing dishes in a restaurant, supervising parking lots, or cleaning windows. In these cases all that is needed is the ability to understand what to do, and be able to do it (after some minimal training). However, this situation is not wholly realistic. For most kinds of work, at least in the developed world, a person needs to be able to read, write and count, abilities that require some basic schooling. Thus, some non-health-related competences are required. Note, however, that we can always find some kind of job where not even this is required. Doing manual labor, like picking fruit or other crops, does not necessarily require having basic schooling. Even today many children and adults, especially in the developing world, work in

agriculture and in factories without having received any kind of education [30]. But our focus will mainly be the developed world.

Health, however, is not (in general) sufficient for having work ability, since most kinds of work require special training or education, or at least basic schooling. So even if you are perfectly healthy, you might still not have work ability, since you do not have the competence required for most kinds of work.

Is health instead a necessary requirement? Full health cannot be a necessary requirement for having work ability, since many people work despite having some reduction of health. It is clear, however, that people need to have some degree of health, for example a reasonable degree of abilities, such as being able to walk, grab, talk, concentrate, and communicate. In particular, people need to have the health-related abilities that their professional competences require. If seeing is a requirement for some specific competence, e.g. working as a designer, then reduced eyesight will constitute both a reduction of health and a reduction of work ability. However, some reductions of abilities, like being blind, might be compatible with other kinds of work, e.g. working as a pianist, and, thus, a person can have reduced health, but still have work ability. Furthermore, the person working has to experience some minimal degree of well-being. If in pain, or feeling depressed, she will not be able to use her abilities, at least not fully.

The conclusion is that *full* health is, in most cases, neither a sufficient nor a necessary requirement for having work ability. However, some degree of health is necessary, i.e. those parts of health that the professional competence in question requires, and, finally, being reasonably healthy is sufficient for having work ability for some kinds of (unskilled) work.

Basic standard competence and work ability

The term “basic standard competence” was introduced by Nordenfelt [3]. It is meant to cover all the abilities that a person acquires while growing up. So it would include the health-related abilities discussed above. However, it also includes what children learn in school, and other kinds of theoretical or practical knowledge gained that require special training or practice, e.g. how to play computer games successfully, or how to throw and catch a ball. Having already presented a theory of health, I will use this notion of basic standard competence for basic competences other than the health-related ones.

As we saw, it is possible, but not very common, that there are jobs that *only* require that a person is healthy. Having work ability, at a basic level, also requires having basic standard competence. It requires at least skills such as being able to read, write and count, but also what Nordenfelt calls “basic generic competence” [3], e.g. being able to co-operate, to plan ahead, to solve problems and to find and use information. Children acquire these abilities in school, but also when engaging in sports, games and other organized activities. Acquiring basic standard competences, of course, requires a fair degree of mental and physical health.

Using this idea, we can now draw a further conclusion about work ability. A person with acceptable health and a fair degree of basic standard competence has work ability, but primarily in relation to what I earlier referred to as unskilled work.

Occupational competence and work ability

Competence is, as we have seen, something over and above having health-related (i.e. basic) abilities and dispositions. Besides basic standard competence there are various advanced forms of competence. Competence, in general, consists in having acquired

knowledge and skills that are more complex than the basic abilities [31, 3]. Thus, competence requires training or education. Most important in this context is occupational competence, i.e. the kind of competence one gets from studying and training for a specific occupation, e.g. training to become a nurse, a police officer or a carpenter. There are also advanced studies that do not lead to specific jobs, but that nonetheless give the person occupational competence. We can call this *advanced generic competence*. Being creative, being communicative and thinking analytically are examples of advanced generic competence, and competence of this kind can, for example, be acquired by studying acting, psychology, or philosophy.

There are also advanced competences that are gained outside of the normal educational system. Many people have advanced hobbies that require systematic training or practice, e.g. sports activities, or knitting. Some of these competences, such as playing golf, might lead to work, e.g. as an instructor, but others will not. Distinctions between different kinds of advanced competences are not important here. The kind of competence we are interested in here is occupational competence, in whatever way it is gained.

Competence consists of two main parts, knowledge and skills. Let us start by making the distinction between knowing-that and knowing-how [32]. The knowing-that (having propositional knowledge) is to know “theoretically” how things work. Knowing-how (or know-how) is about how to perform actions; it means having internalized different thought-processes related to the action, i.e. internalizing knowing-that. When learnt thoroughly, it requires little or no thought-control in order to be performed [33]. Know-how, then, is a necessary characteristic of having competence, e.g. the specific work ability, and the complexity of this “how” depends upon the kind of work.

But it is not enough, says Nordenfelt [3], to have a high degree of know-how in order to have competence. It also requires *skill*, which means that a person has trained her brain and body in a way that makes this ability something over and above knowledge. We can distinguish between know-how and skill by the difference in how well something is done. Both the excellent and the mediocre worker can have the same know-how, but the excellent worker is more skilled than the mediocre worker.

Work-related, or occupational, competence, thus, consists in having acquired both know-how and skill. Note, finally, that we can also differentiate between various aspects of the occupational competence, e.g. between physical, intellectual and social competence [3, p. 92 ff.]. The advanced generic competence, mentioned earlier, will mainly be intellectual or social.

Finally, and obviously, we have to conclude that all kinds of skilled work require some reasonable degree of occupational competence. Thus, having occupational competence is necessary, but not sufficient, for having (specific) work ability.

Competence, health and disease

Consider an example: A highly competent worker falls ill and has to stay in bed for a week. The worker is unable to work but we would hardly say that she has lost her competence, i.e. she has lost neither know-how, nor skill. Competence does not disappear when the person is ill for a short period of time. But what is it then that disappears? It is her *executive* ability [3, pp. 110-112]. Executive ability is being able *to use* one's basic and advanced abilities here and now. This is, as we saw, being healthy [29].

So what, exactly, is the relation between health and (work-related) competence? As with all complex abilities, the work-related competence requires a certain degree of

health. The basic abilities and dispositions that a person has acquired are the foundations for competences. It is hard to see that anyone would be able to perform complex tasks without being able to stand, walk, remember, think and communicate, and without feeling reasonably well. But to what extent health is necessary varies with the complexity of the task and the environment in which it is to be performed. Even if we can assume that competence requires a certain degree of health, we will, as we saw earlier, find cases of ill health that are compatible with high competences. In these cases the competence does not require those specific basic abilities or dispositions that are reduced or absent. For example, a person in a wheel-chair can work as a computer programmer, a blind person as a singer, a deaf person as a photographer, and a person in poor physical shape can work as a shop keeper. In some cases, however, we need to compensate for disabilities (and reduced work ability) by adjusting the environment.

So far, I have not said anything about disease. Disease is the major causal factor for ill health, and, thus, for reduced work ability. I will here use a broad conception of disease, as disorder or “malady” [34], one which includes injuries and defects [14]. The reason is that we need this broad notion since injuries and defects, in general, also reduce or influence people’s work ability, and may entitle people to sick-leave.

Diseases, in this broad sense, are kinds of internal states or processes that typically cause suffering and (holistic) disability, i.e. ill health [14, 35]. In some cases a person can retain her competence despite having a disease, either because the disease does not (in this specific case) cause the ill health at all, or because the ill health caused is not severe enough to reduce the competence of the individual. A common cold normally reduces the person’s general fitness, but this does not always lead to a reduction of competence. An administrator can probably work despite having a cold,

whereas a firefighter might not be able to. However, in most cases a disease will sooner or later affect work ability negatively, at least minimally.

Thus, disease is linked to work disability through the fact that it typically reduces the individual's health. How much a disease reduces the work ability depends on how severely it affects health and on the kind of work done.

Motivation

Some models explaining individuals' absence from work while healthy, or presence at work while ill, highlight the motivational aspect [20, 36, 37]. It is most likely true that motivation, or lack of motivation, plays a crucial part in these phenomena. However, some writers also claim that the individual's motivation *is part of* having work ability [19, 20, 21]. So the question is, are there grounds for concluding that motivation should be part of our definition of work ability, so that without it work ability would be reduced or absent?

It is clear that in the healthy individual there is an aspect of motivation, drive, will, or vitality [29]. Without it the individual would not do anything at all. Different theoreticians have given this human feature different names: instinct [38] and needs [39], to mention but two. Reduced motivation can be a symptom of depression, and can lead to passivity and lack of initiative. In the proposed pluralistic theory of health, basic motivation is one of those characteristics or dispositions that people in all societies (typically) have or develop. Otherwise they are not fully healthy.

But apart from this basic health-related vitality, motivation has other aspects. The individual must also experience some minimal level of happiness or life satisfaction in order to feel motivated to do anything, whether it is work-related or not. Several things can influence this kind of motivation. A person with bad pay, boring work

tasks, little sense of work community, and lack of support from colleagues and managers is more likely to have lower motivation than a person whose work is positive in all or some of these aspects.

It is understandable that people lose their motivation to work when conditions at work are bad, but the question we are considering is if there is some special (non-health-related) motivational aspect that has to be present for the individual to have work ability (assuming that the conditions at work are reasonable or good). This is less obvious. It would mean that a person who, for instance, is home from work because she prefers to look at the World Championship in football would have to be considered as having reduced work ability, a conclusion that appears absurd. No one would consider it reasonable to be away from work on these grounds. The reason is that we believe that the person's work ability is intact and that something else is wrong, for example, that there is some moral defect, that she does not like her job, or that she is dissatisfied with what she gets in compensation for her work. But being dissatisfied or unhappy should not be regarded as having reduced work ability. The conclusion must be that, apart from the general, health-related motivation, we do not need to make motivation part of the definition of work ability.

There is, however, one final aspect of motivation. The individual has to be able to *stand the job* in question, provided that the work conditions (in all respects) are reasonable. That is, if the individual cannot stand the work, and this has nothing to do with physical, psychosocial or organizational problems, she could be considered as having some degree of reduced work ability. To not stand the job can manifest itself in several ways. The employee may simply hate her job, or it may make her depressed. The job may even be experienced as being revolting or disgusting. This can be compared to someone who cannot work in a specific profession due to an

allergy. So, the person has to be able to *will* herself to go to work [3], even though she might not want to go. Only in this special sense does motivation seem to be part of the person's work ability.

Character and virtues

It has also been suggested that people need some occupational virtues or character traits in order to have work ability, e.g. courage or loyalty [3]. Let us see if this is correct and what virtues might be relevant for work. We can separate this into two questions. First, it might be the case that some, or all, kinds of work require one or a few specific and partly unique virtues or character traits. Second, there might be virtues or character traits that are required for all kinds of work. Both situations might, of course, be the case.

I will not make a sharp distinction here between virtues and other positive character traits. In general, virtues are (relatively stable) traits that it is good for people to have [40]. They might also be characterized as traits that people want to find in others [40]. For our purposes we are just looking for virtues that are necessary to have in order to carry out the work in question. We can note two things regarding these virtues. First, they are to some extent controllable and changeable [41]. Second, they come in degrees, i.e. they constitute dimensions. This means that we might have to state what degree of a virtue we require for the kind of work in question – high, low or acceptable.

So are there virtues that all kinds of work require, and are there kinds of work that require special virtues, or rather, high degrees of some virtues?

The second question is the easiest one to answer. It is obvious that there are occupations that require a *high* degree of some virtues. A high degree of *patience*

seems to be required for teachers, a high degree of *courage* for police officers and firefighters, a high degree of *conscientiousness* for doctors and nurses, and a high degree of *perseverance* for some manual jobs, like that of heart surgeons or assembly line workers.⁴ It is probably not, however, the case that all kinds of work require a high degree of some virtues. It is hard to imagine special virtues necessary for window cleaners, ticket vendors, or garbage collectors. They will, of course, require some common (work-related) virtues or character traits, the ones that all kinds of work require. So, let us turn to the question about possible common virtues.

It appears likely that several basic virtues are needed to some reasonable degree in order for a person to have work ability. Here are some suggestions for work-related virtues that seem to be common to all kinds of work, at least to a minimal degree: reliability, responsibility, honesty, and helpfulness. It is hard to imagine a job that does not require at least some reasonable degree of these virtues. There are, however, other virtues that seem equally useful. Some degree of loyalty, dutifulness, determination, truthfulness, diligence, friendliness, orderliness, patience, punctuality, etc, will be helpful for managing most jobs. We can, however, probably find exceptions, i.e. cases where a person can function well without one or several of these virtues. It is very hard to see that a doorman needs to be especially conscientious, diligent, or courageous. And we might imagine a professor in philosophy lacking orderliness, punctuality and friendliness, who can still perform her work in an acceptable way. Thus, it seems possible, for most jobs, to lack one or a few of the virtues mentioned and still manage to get your work done in an acceptable way.

⁴ Note that some virtues and character traits border on abilities and dispositions, and might be hard to differentiate from these. Perseverance is one such example, orderliness is another.

As should be clear, many of these virtues are only required to some acceptable degree, and we might find jobs that do not require much of them. It seems to be a problem that for almost every virtue we can find a job that does not require it. However, what we might be able to require is, not that the worker has every single one of these virtues, but that she has acquired *some combination of virtues* that are needed in order to be able to manage the job in question. Thus, lacking a fair degree of one or a few virtues might be compensated for by the other ones that the person possesses. If many virtues are lacking, especially relational ones, such as helpfulness, we can suspect that the individual might have a hard time performing and keeping a job. So, several combinations are possible, and they will vary somewhat with the kind of work done.

We can conclude, then, that there are certain virtues that are needed to a high degree for some specific jobs, and that some demanding jobs might require a high degree of several virtues. Furthermore, all kinds of work require some combination of virtues (to a reasonable degree). Let us call the combination of necessary virtues *basic occupational virtues*. These virtues will differ slightly between different kinds of work, but will overlap to a considerable degree. Without some such set of virtues the individual will not have full, or even acceptable, work ability.

Other qualifications

It appears that having competence, health and basic occupational virtues might still not be sufficient for having work ability. Perhaps some other qualifications or features are also needed [3]. Consider a few examples. One person is turned down because he lacks a driver's license, another because she does not speak a second language. Should we in these cases conclude that the persons in question lack work ability, i.e.

lack some aspect of work ability, or should we conclude that they have work ability, but fail to get the jobs due to the lack of some special qualification?

It is clear that a special qualification might help an individual to get a specific job. But it seems counter-intuitive to include these special qualifications in the concept of work ability, since they are features that most people do not need to have in order to manage their jobs. Having a driver's license should not, then, be seen as a requirement for a job if it is not essential for it. Such a qualification can, however, be part of an individual's employability, if a specific job happens to be impossible without it.

So far we have discussed health, competence, motivation, virtues and other possible qualifications. However, despite the importance of some of these concepts in defining work ability, they do not give us a full understanding of it. Consider a person who fulfills all the requirements so far discussed, having health, competence and the relevant virtues. She might still fail to get her work done. First, the work requirements might be so high or demanding that the person cannot manage to live up to them (nor can anyone else). Second, the environment might stop the person from working: machines might not function, raw material might be missing, the working site might be subject to a lock-out, or the factory might have been destroyed in a civil war. In these situations people cannot work, but their work ability still seems to be intact.

Work requirements

What is required in order to have an ability cannot be specified without relating it to some kind of goal and to some kind of environment [14, 3]. We have already seen this in relation to the theory of health. To be healthy is to be able to use one's abilities and

dispositions for a number of purposes *in circumstances that are acceptable* [14, 29].

In a similar way we now have to relate the individual's competence (health, and virtues) to work goals or tasks, and to a work environment.

In this section we will concentrate on the *goals* of the work. Considering the examples above, it appears that we have to specify some kind of standard or norm for what the employee should be able to achieve (in a certain environment) in order to have work ability. How should we formulate such a standard to which we can relate the work ability? One way would be to create lists for each kind of work where what is required is specified, either in terms of tasks or elements, or in terms of fulfilled goals (see [2] for such an approach). But how should we decide how much, and how many, of the goals and tasks should be reached or done? It appears that we have to do this on a more abstract and general level. There are at least the following four aspects to take into account: 1) what the general goals or results that should be attained are, 2) what sub-goals or specific tasks (work elements) are required to reach the general goal, 3) in what time these goals and sub-goals should be attained, and 4) what quality the attained goals should have.

Thus, it has to be decided what should be accomplished, in these four senses, in a certain kind of work. There are, it appears, two general ways of doing this. One can consider what is in fact required in actual working life, or one can create some kind of norm for what is it is reasonable to require. The problem with the first strategy is that some requirements in working life are higher than people can manage (without being worn out). The consequences of following this path should be investigated [see 21], but for lack of space I will only follow the second strategy here.

Consequently, we have to specify certain norms for what it is acceptable to require in a certain job, regardless of what the actual requirements are on the market.⁵ What is it reasonable to require from the employee in terms of goals and tasks, what time should the accomplishment of a task take, and what quality should the “product” have? All this has to be decided in relation to some norm taking a “typical” worker within the relevant field of work into account. Having work ability would then require that the individual with the right competence (health and virtues) be able to manage tasks, or reach goals, that most other persons with the same competence do, i.e. they should be able to reach the specified goals (or manage the tasks) in (approximately) the same time, and with (approximately) the same quality. This is probably what Järholm and Netz mean by “having a ‘normal’ productivity” [42, p. 36, my translation]. In some occupations this productivity is easy to specify, since the tasks are well defined, e.g. assemble a car. In others it is far more difficult, since the goal might not be equally well defined. Two teachers might approach their subject in widely different ways, and still be said to reach their pedagogical goals.

Note two other complications. First, we have to take into account that an occupation might involve a large number of specific sub-goals or sub-tasks, many of which a specific worker in the field might not attend to [3]. She might just have acquired or developed a *subset* of the possible skills within her occupational field. This means that what we can require is that a person working in a profession can fulfill a certain number of subsets of tasks related to the profession, but not all of them, and perhaps not all equally well.

⁵ It is reasonable to assume that there is some match between the actual requirements and the norm, since this is one of the things that labor unions can negotiate, and governments legislate, about. However, we can also notice that the requirements in working life are becoming more demanding [21].

Second, competence might be different for people in the same profession, and it might vary or change during a career, e.g. a certain skill might be reduced at a higher age [19]. Thus, we have to take into account that not everyone in the work force is equally efficient. Despite this we might want to say that those that are slightly less efficient still have (an acceptable degree of) work ability. The idea is that in order to have work ability (in relation to a relevant set of tasks) it is sufficient to achieve a certain (minimal) degree of what the typical professional can achieve. This goes specifically for the time aspect, i.e. the rate of production. It is unlikely that we can allow reduced quality (although in some kinds of work this might not be a problem).

Thus, in order to have work ability the professional (with competence, health and relevant virtues) has to achieve a minimal degree (in quantity and quality) of the tasks and goals that other professionals in the occupation typically achieve. Notice that competence is also a dimension, and that the more tasks a person can accomplish and the more flexible she is, the higher her work ability.

To have a norm of this kind is important for ethical reasons, especially on a more and more competitive labor market [21]. If not, it could be difficult to assert that the requirements are too demanding. Having work requirements that wear out the work force is not ethically reasonable. It is therefore important for the work tasks to be sustainable over time, without causing physical or mental illness in the work force. The individual should have "reserve capacities", i.e. the individual's "functional capacities should exceed the actual work demands" [19].

Work environment and work organization

The environmental aspects that can affect work are many. They can be physical, psychosocial or organizational. The physical aspects have to do with the fact that the

external milieu influences the tasks to be performed. It can make them easier to perform, or it can make them harder, or even impossible, to perform. The quality of the machines, tools, raw materials and other work-related material, can affect the work, in quantitative or qualitative terms. Temperature, lighting and humidity are other external factors that can all make work more easy or difficult. Another aspect is the psychosocial and organizational environment. Lack of support from the management is one negative example. Harassment by fellow workers is another. Thus, the psycho-social environment can have both positive and negative effects on work performance [43]. So, how shall we evaluate work ability in relation to the work environment?

Once again we have two options. We can make the environment *part of* work ability [19], or we can, as with the holistic theories of health, see it as *a platform for action* [14]. In the first case we would have to say that the work ability was reduced if an environment factor partly or wholly stopped the individual from performing her tasks, regardless of whether the individual had the competence, health and virtues required. In the other case we would say that the work ability was still high or sufficient, but that the environment was not acceptable, i.e. was such that it did not support the work to be done. Which strategy shall we choose? First, it would seem counter-intuitive to say that a person's work ability was reduced if there was a lock-out preventing her from getting into the factory where she works, or if there was a blizzard preventing her from getting to work. Second, since reduced work ability is usually the basis for receiving sickness benefits of different kinds, and, perhaps, rehabilitation, it appears more reasonable to assume that we should choose the second strategy and define work ability as something *internal* to the individual. So, I shall

assume that work ability belongs to the individual (in relation to work tasks), and that the environment is to be seen as a platform for work-related action.

Let us therefore transfer the role of the environment from the holistic health theories to the theory of work ability [15]. When we estimate a person's health we do so in relation to an environment that we deem *acceptable*. Similarly, having work ability is being able to reach (typical) work-related goals or being able to use one's competence when the (physical, psychosocial and organizational) work environment is acceptable, or can easily be made acceptable. An acceptable work environment means that it is an environment where most (healthy, competent and virtuous) employees in the field can perform typical (and reasonable) work-related tasks. That the environment *can easily be made acceptable* means that minor changes in the environment are sufficient to make the environment acceptable or good, thus making it easier for the individual to accomplish tasks or reach goals [3], e.g. by improving the lighting or changing someone's working posture. Notice that the environment, even if acceptable, can sometimes be quite demanding, e.g. a mine, or an emergency ward. We can, and do, have some demands on work ability, as we have on health. The healthy person is expected to be able to cope despite some difficulties, and so is someone with work ability. The better she can cope with a demanding work environment, the better her work ability.

Work ability

We are now finally in a position to try to formulate a definition of the concept of work ability (as well as of work disability). But one problem remains. We seem to need two definitions. The Swedish law, for example, speaks about the individual's capacity to perform her normal, or equivalent, work, on the one hand, and about "gainful

employment that normally exists on the labor-market”, on the other [8, §7, my translation]. This suggests that we need to define work ability both in relation to the normal work of the individual, i.e. what she might be educated or trained for, and in relation to kinds of work that require little or no training.

There are reasons that make the idea of having two work ability concepts plausible. One is primarily related to sick leave, where the person is expected to return to her present kind of work, and might need rehabilitation. In this case we evaluate the person’s present state on the basis of the requirements and the environment of her present job. In the other case, when the individual might have a long-term chronic illness or disability, and where the individual is not expected to return to her previous job, we might have to relate the person’s work capacity to other kinds of jobs found on the labor market. We might expect her to be able to perform *some* kind of work. Note also that sometimes jobs disappear from the market, and then it is no longer meaningful to relate the individual’s work ability to the work she has previously done, but still meaningful to relate it to other kinds of work available.

Thus, I will differentiate between a *specific* work ability that a person has in relation to her normal, or present, job, and a *general* work ability, which refers to an ability most people have to perform some kind of work (given some minimal training).

A definition of specific work ability can be formulated in the following way:

A person has *specific* work ability if (and only if) the person has (at least one relevant subset of) the manual, intellectual and social competence, together with the physical, mental and social health (executive capacity) that is required for the competence, and has (some set of) basic occupational virtues and the relevant job-

specific virtues (if there are any) that are necessary in order to reach the work-related goals (and perform the work-related tasks), with normal quality standards, that can typically be reached (or performed) by someone in the profession, given that the (physical, psycho-social and organizational) environment is acceptable (or can easily be made acceptable), and if the person can stand the job.

A definition of general work ability can be formulated in the following way:

A person has *general* work ability if (and only if) the person has the physical, mental and social health, standard basic competence (including basic generic competence), and (some set of) basic occupational virtues that are required in order to perform some kind of work – work that most people (in the same age group and of the same sex) typically would be able to perform after a short period of training, given that the (physical, psycho-social and organizational) environment is acceptable (or can easily be made acceptable), and if the person can stand the job.

These definitions can be seen as minimal requirements for having work ability. Since work ability is a dimension (from full work ability to total work disability) we can also conclude that the higher the individual's competence and health (including executive ability) are, and the more flexibility, coping strategies and occupational virtues she has, the higher her work ability.

Conclusion

We now have two complementary definitions that can be used for different groups of individuals, or for the same individuals at different times. Some people only have

work ability in the second sense, i.e. they have no formal education or training. Most people, however, have a reasonable degree of work ability in both the specific and the general sense during most of their professional lives, even if most of us will, from time to time, temporarily suffer from reduced work ability (e.g. due to ill health). There is also (at any specific time) a relatively small group of people that have work ability, in one or in both senses, but who are unemployed for some reason, e.g. due to scarcity of work. Finally, there is a minority that permanently have no, or reduced, work ability, due to dysfunctions or chronic illness.

More precise definitions of work ability can, as indicated in the beginning, be useful in a number of contexts, e.g. for assessing someone's work ability in relation to sick leave or sickness pension, for rehabilitation, for disease and injury prevention, for evaluating work performance, for education and occupational training, and for constructing evaluation instruments pertinent to any of the areas mentioned.

The difficult question about how to use these concepts politically remains. For example, if someone with an occupational education has lost her specific work ability due to some chronic illness or disorder, should we now treat her as not having work ability, and provide her with full sickness benefits (or sickness or disablement pension), even if she has retained her general work ability, and can get some other kind of work? Or should we require her to take *any* job that is compatible with her general work ability? And what should we do if a person has retained some general work ability and is required to get a job, but cannot get one? These questions have important moral, social and economic implications, but they are beyond the scope of this article. At least we now have conceptual tools which can make these, and similar, questions easier to answer.

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Competing interests

The author declares that he has no competing interests.

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