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Optimal Experience in Work and Leisure among Teachers and Physicians: Individual and Bio-  
Cultural Implications

Antonella Delle Fave and Fausto Massimini

Dipartimento di Scienze Precliniche LITA Vialba, Università degli Studi di Milano

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Correspondence should be addressed to

Antonella Delle Fave

Dipartimento di Scienze Precliniche LITA Vialba, Università degli Studi di Milano

via G.B.Grassi, 74, 20157 Milano – Italy - E-mail: [antonella.dellefave@unimi.it](mailto:antonella.dellefave@unimi.it)

### Abstract

We investigated the role of work and leisure in the daily life of two groups of professionals, whose work outcomes affect the well-being, survival and development of other individuals, both at the biological and cultural levels: physicians and teachers, respectively. The relationship between work and leisure activities and optimal experience, characterised by engagement, enjoyment, and intrinsic motivation, was investigated by means of the Flow Questionnaire, assessing the occurrence of optimal experience in participants' lives, its psychological features, and the associated activities. The participants' relationship with their work was analysed through the Life Theme Questionnaire, investigating the motivations underlying job choice, and the work situations associated with the most positive and the most negative experiences. Results showed substantial overlapping of the two samples in the description of optimal experience. Participants mostly associated optimal experience with complex and engaging tasks: work, structured leisure activities, and reading were prominently reported by both groups. The features of optimal experience were also compared across three major life domains: work, leisure and the use of media. No major differences were found. The findings highlighted (a) the relationship between optimal experience related activities and individual development and life choices (b) the potential of optimal experience as a tool for implementing intervention programs in the domains of health, education, and leisure as well.

In post-industrial countries the evolution of technology, the growing flexibility in work organisation, the demand for highly specialised job skills, and the enormous proliferation of leisure opportunities pose new challenges to the individuals, as concerns amount of free time, job and leisure choices, and work-related stress (Rifkin, 1995). Research on the features of work and leisure activities, and on the associated quality of experience, has flourished during the last decades. More specifically, theories and empirical studies have been developed in order to investigate the role of these two domains in promoting well-being and life satisfaction.

In particular, Haworth (1997) has pointed out the importance to investigate work and leisure taking into account the dynamic reciprocal intertwining between the individual subjective perspective and the situational and environmental factors. Individuals actively interact with their environment, and in their turn influence its features and its changes in time. The quality of experience they associate with daily activities, and the resources they invest in work and leisure more or less directly affect the features and well-being of the community they belong to.

Starting from this premises, the aim of this paper is to investigate work and leisure in the daily life of professionals who exert a substantial influence on the well-being, survival and development of their fellow-members within each society, both at the biological and cultural levels: physicians and teachers, respectively.

Historical evidences and research studies support this claim. Our species has survived and reproduced all over the planet thanks to increasingly refined interventions to improve health and defeat diseases, based on different approaches but developed in all human communities. Analogously, mankind at every latitude and in every society has invested a huge amount of energies in the creation, reproduction and transmission of cultural information. Health professionals and teachers have traditionally played prominent roles in their cultural context, the former using cultural advancements in the scientific and technological domains to promote physical wellbeing, the latter selecting, reproducing, and transmitting chunks of cultural heritage. Beside parents, doctors take care of the individuals' health and biological adaptation, while educators influence the hierarchy of values and the integration in the cultural context of their pupils (Schwartz, 1999).

As concerns physicians, several studies have stressed the role of job satisfaction in promoting effective intervention (Dunstone & Reames, 2001). Patient satisfaction has been related to symptomatic improvement and functional status (Jackson, Chamberlin, & Kroenke, 2001), but also to doctors' involvement, communication style, and empathic approach (Buckman, 1992; Roter, Stewart, Putnam, Lipkin, Stiles, & Inui, 1997). As concerns teachers, the quality of experience they report at work plays a central role in the educational process. It influences the effectiveness of cultural transmission and students' desire for learning (Ilatov, Shamaï, Hertz-Lazarovitz, & Mayer-Young, 1998; Lepper & Cordova, 1992; Richer & Vallerand, 1995).

### *Leisure, work, and the quality of experience*

Research has recently focused on the investigation of the subjective experience associated with the various life domains. As concerns leisure, several studies (Brown, Frankel, & Fennell, 1991; Lloyd & Auld, 2002; Ragheb & Tate, 1993) have highlighted that the frequency of participation in leisure activities or the availability of leisure spaces (place-centred approach) is not sufficient for determining the value of leisure, and has to be integrated with information on the quality of experience reported in the related activities (person-centred approach).

Another key issue in leisure studies concerns the typologies of leisure activities practised in a given culture, and their impact on the development of the individual and of the community. In Western societies, the Aristotelian idea of *scholé* --time devoted to *philosophia*, the love of wisdom (Dumazedier, 1999)--has been replaced by the concept of free time, comprising activities whose content is often very distant from the original love of knowledge, curiosity, and creativity (Delle Fave & Bassi, 2003). In particular, the consumer attitude and the work-spend-work-spend mentality, typical of countries centred on work ethics, foster escapism in leisure and a passive lifestyle (Iso-Ahola, 1997). Children, adolescents and adults spend a relevant portion of their free

time in unstructured tasks, such as buying and consuming goods, watching TV, and idling (Larson & Verma, 1999). The associated quality of experience is prominently negative: people report leisure related boredom and apathy, as well as lower physical and mental health (Iso-Ahola, 1997; Delle Fave & Massimini, 1994, 1996; Larson & Kleiber, 1993).

On the contrary, the most positive experiences in leisure are reported in activities such as sports, games, arts and hobbies, that merge the fun and well-being expected in leisure with focused attention, goal setting, and engagement (Kleiber, Larson, & Csikszentmihalyi, 1986). These activities provide pleasure, involvement, and intrinsic motivation, at the same time promoting intentional effort toward well-defined achievements and skill acquisition. Their crucial aspect is structure, that is a clear set of rules and procedures which foster agency, concentration, and autonomous action toward meeting challenges and pursuing goals (Larson, 2000). Iso-Ahola (1997) related the cultivation of these activities to a seeking-oriented motivation and an active lifestyle, highlighting their major role in buffering stress, regulating emotions, and promoting health. Stebbins (1997) defined them as “serious leisure”, in contrast with “casual” or “unserious leisure”.

The quality of experience at work, its relationship with life satisfaction and with the experience reported in other life domains were also widely investigated (Kabonof, 1980; Sirgy, Efraty, Siegel & Dong-Jin, 2001). According to Rojek (1995), the prominence of *homo faber* on *homo ludens* in Western societies entails the risk of considering leisure as either a source of compensation “replenishing the stultified energies of the worker” (p.190), or a segregated domain centred on absolute freedom and choice. Both these approaches generate unrealistic expectations of psychological fulfilment through leisure, in that leisure itself is a socially-constructed domain, with its own rules, contents, and constraints.

Parker (1997) added an important variable to this framework, maintaining that the relationship between work and leisure is not homogeneous within a given society, but it depends on people’s occupation. He proposed three patterns of work-leisure relationship, that can be related to the main theories developed in this field. The first is the *extension* pattern, deriving from the spill-over approach that posits mutual influences in terms of skill development and levels of satisfaction between different areas of life (Leiter & Durup, 1996; Staines, 1980; Wilensky, 1960). This pattern is typical of people involved in creative and autonomy-supporting jobs, such as artists, scientists, and specialised professionals. The second pattern, also originating from the spill-over approach, is characterised by *opposition* between work and leisure. It applies to people enrolled in risky and damaging jobs, who compensate through leisure the frustrations and constraints of work. The third pattern is *separation*, stemming from Dubin’s theory of segmentation (1956): work and leisure are perceived as two independent life domains, with no mutual influences. Parker assumes that this pattern applies to the great majority of today’s workers, employed in neither particularly creative nor dangerous jobs.

### *Optimal experience and psychological selection*

Our investigation of the quality of experience reported by teachers and physicians refers to a specific theoretical framework and related empirical findings. A growing number of studies in social and behavioural sciences analyse human beings as open living systems, characterised by constant exchange information with the environment, a far-from-equilibrium (or negentropic) energetic pattern (Prigogine, 1980) and autopoiesis, or the tendency to self-organisation (Csanyi, 1988; Khalil & Boulding, 1996; Maturana, 1975). Moreover, as bio-cultural entities, humans inherit a genotype, and build their *culturetype* by acquiring cultural information throughout life (Durham, 1991; Boyd & Richerson, 1985), progressively attaining higher levels of complexity in behaviour.

This perspective emphasises the active influence of individuals on bio-cultural evolution. Throughout their lives humans interact with both inheritance systems by means of *daily psychological selection* (Csikszentmihalyi & Massimini, 1985). They actively replicate subsets of biological and cultural instructions (genes and memes, Dawkins, 1976) in their phenotypic behaviour, thus influencing the horizontal and vertical transmission of bio-cultural information.

The quality of experience people associate with daily situations plays a key role in this process, shaping behaviour and psychological selection. Several studies showed that individuals preferentially invest their attention and psychic resources in activities associated with rewarding and challenging states of consciousness, in particular with *optimal experience* (Csikszentmihalyi, 1975/2000, 1985a; Csikszentmihalyi & Csikszentmihalyi, 1988), characterised by the perception of a balance between high environmental challenges and adequate personal skills, deep concentration, involvement, enjoyment, control of the situation, clear-cut feedback on the course of the activity, and intrinsic motivation (Deci & Ryan, 1985).

Cross-cultural studies showed that optimal experience can occur in any daily context: work, socialising, leisure (Massimini & Delle Fave, 2000). However, the situation should be challenging enough to require active engagement, and to promote satisfaction in the use of personal skills. As a consequence, repetitive activities and passive tasks are only occasionally reported (Delle Fave & Massimini, 1988, 1991), while creative activities in every domain--work, leisure, social interactions--are widely associated with this experience. Thanks to its dynamic structure, optimal experience fosters individual development: the perception of high challenges promotes the increase in the related skills. This facilitates the search for more complex opportunities for action, that will require higher capabilities in order to be faced. This preferential lifelong cultivation of specific activities and interests has been defined life theme (Csikszentmihalyi & Beattie, 1979), and it represents the characterising feature of each individual's psychological selection (Massimini, Inghilleri, & Delle Fave, 1996).

Through the analysis of the data we collected among teachers and physicians, this study aims at answering four main questions: Is these professionals' work perceived as a source of optimal experience? What kind of leisure activities are associated with optimal experience? Do these professionals show the extension pattern described by Parker in the relationship between work and leisure? How this can influence life theme and bio-cultural transmission?

## Method

### *Participants and procedures*

The sample of teachers comprised 80 participants, 59 females and 21 males, 20-63 years old (mean age 33.4). Forty-three of them worked in primary schools and 37 in secondary schools. The 60 physicians included 47 men and 13 women aged 28-69 (mean age 39.9). Among them, 30 were specialised in surgery, 17 in anaesthesiology, and 13 in gynaecology.

Data were gathered by means of two procedures. The first, Flow Questionnaire (Csikszentmihalyi, 2000; Delle Fave & Massimini, 1988), provided information on optimal experience and on the quality of experience perceived in the main daily contexts and activities.

Participants were invited to read three quotations describing optimal experience, to report whether they ever felt it in their life, and to list the associated activities or situations. They were then asked to select from their list the activity in which optimal experience was most intense and pervasive. Subsequently, participants were invited to describe the average quality of experience associated with the selected activity, and with routine tasks, such as work and family interactions, by rating on 0-8 Likert-type scales the perceived values of cognitive, emotional and motivational variables. The Flow Questionnaire also investigated other topics that will not be discussed here. Further details on the instrument are provided in Massimini, Csikszentmihalyi, & Delle Fave, 1988; Massimini, Inghilleri, & Delle Fave, 1996.

The second procedure, Life Theme Questionnaire (Csikszentmihalyi & Beattie, 1979; Negri, Massimini, & Delle Fave, 1992), investigated participants' positive and negative life influences, present challenges, and future goals. A final section was devoted to work: by means of open-ended questions, it explored the main motivations supporting job choice, and the personal and environmental factors fostering positive and negative work experiences. For the purposes of this study, we will only focus on the data provided in the work section.

### *Analysis of Data*

The two authors and a third researcher coded the answers obtained from the open-ended questions. Reliability was increased by means of calibration meetings to discuss problematic answers and to reach consensus on common coding rules and data interpretation.

The grouping of answers in functional categories and sub-categories with different levels of magnification followed previous works based on the same procedures (Csikszentmihalyi & Csikszentmihalyi, 1988; Csikszentmihalyi, 1997; Delle Fave & Bassi, 2000; DeVries, 1992).

As concerns the scaled variables comprised in the flow questionnaire, the formulation of items focused in some cases on the positive side of the experience (eg. I get involved, I feel in control of the situation), in other cases on the negative one (I get bored, I get anxious, I get distracted). For sake of clarity and of easier interpretation, the variables with negative experiential meaning were reverse-scored, and the labels were consequently changed into positive in the tables.

## Results

### *Optimal experience: associated activities and psychological features*

All the teachers, and 48 physicians (80%) reported optimal experiences in their lives. Figure 1 shows the percentage distribution of the associated activities. The activity most frequent quoted by teachers was reading, followed by hobbies (painting, drawing, creative writing, playing music), teaching, practising sports, listening to music, and studying. Among physicians, work ranked first, followed by sports, hobbies, and reading.

As shown in Table 1, the psychological features of optimal experience matched the theoretical expectations, with no significant differences between the two samples, except for involvement. Participants described engagement, enjoyment, and intrinsic motivation. On 0-8 scales, all variables scored higher than 6 for teachers; the same was true of physicians, except for no attention effort, scoring 5.6.

We subsequently investigated the activities participants associated with the most intense and pervasive optimal experiences. Each participant could select only one activity among those previously listed. After grouping the activities into functional categories, our analysis focused on the three categories comprising the highest number of respondents: work, leisure, and the use of media, that together included 70% of the teachers and 83.3% of the physicians.

Work was selected by 10 teachers and 19 physicians. Teaching in classroom, and individual work (preparing lessons, writing notes, evaluating students' tests) were the two kinds of activities selected in the first group, each of them accounting for 50% of the answers. Among physicians, the most frequently reported activity was performing a surgical operation (63%), followed by doing research work, and dealing with patients.

Leisure was selected by 17 teachers and 14 physicians, with sport and hobbies accounting for 76% and 71% of the answers respectively. Media, reported by 29 teachers and 7 physicians, mostly referred to reading books (83% and 86% of the answers respectively).

The psychological features of optimal experience were compared across these three domains by means of ANOVA. As Table 2 and Table 3 show, only one significant variation was detected in each sample. Teachers perceived significant changes in the level of challenges across the domains. A pairwise comparison conducted through *t*-test highlighted that challenges were perceived as significantly higher in work than in leisure ( $t=2.8, p<.01$ ) and in media ( $t=2.3, p<.05$ ). Physicians reported a significant change in the perceived level of anxiety (reverse scored) across the three domains. Pairwise *t*-test comparisons showed that work was associated with significantly higher values of anxiety (reverse scored) than leisure ( $t=3.1, p<.01$ ) and media ( $t=2.9, p<.01$ ).

We subsequently focused on the 10 teachers and the 19 physicians who selected work as the activity in which optimal experience was most intense and pervasive. Through a paired *t*-test performed separately on each of these two sub-groups of participants, we compared the experience

reported in the selected work situations, with the experience associated with work as part of the daily routine (Table 4). As concerns teachers, only two variables scored significantly different between work as occasion for optimal experience and as daily routine: involvement and clear goals. However, the small sample size does not allow for specific considerations. Physicians, on the contrary, clearly distinguished the two conditions: compared with routine job, work as an opportunity for optimal experiences provided significantly higher levels of challenges, involvement, clear feedback, intrinsic motivation, clear goals, and significantly lower values of boredom and distraction (reverse scored).

### *Job motivations*

An entire section of the Life Theme Questionnaire was devoted to investigate through open-ended questions the relationship of the participants with their work. Figure 2 shows teachers' and physicians' distribution of answers to the question "Why did you choose this job?".

As concerns teachers, 59% of their answers referred to interest and vocation, in other words, to intrinsic motivation. This category included two major sub-categories of answers: passion and vocation for the activity in general (36%), and interest for working with children, and for transmitting them information and culture (23%). Often, both reasons were quoted in the same sentence: "I wanted to become a teacher since I was a child. With time, I realised that this work allowed me to transmit something to other people. What is the reason for learning, if you keep everything inside yourself?" (woman, 28, primary school). In a much lower percentage of answers teachers reported having chosen their job because of financial need, family pressures, or by chance. Awareness of the social and cultural relevance of teaching accounted for 7% of the answers.

Physicians reported a very similar distribution: interest and vocation accounted for 74% of their answers, chance for the 13%, and the social usefulness of their profession for the 6%. Here are some exemplary quotations: "I chose medical studies following my instinct and interest" (man, 60, gynaecologist). "I was attracted by the operatory setting, but not from the surgical point of view" (woman, 46, anaesthesiologist).

### *Positive and negative situations at work*

When asked to report the work situations associated with the most positive experiences (Figure 3), both groups most frequently quoted getting positive feedback from the activity. As concerns the source of such feedback, teachers mainly referred to the students' attention and involvement. Physicians emphasised the successful course of a surgical operation or treatment. Some examples are: "When I feel that the students follow me, that they are interested" (man, 37, secondary school). "Successful operations with a major impact on the patient's life" (man, 35, surgeon).

The gratification deriving from the interaction and personal relationship with students and patients ranked second in frequency for both groups: "The most positive experiences occur when I am in direct contact with children, and we do things together quietly, in an atmosphere of mutual understanding" (woman, 23, primary school). "When I am able to set up a relationship of reciprocal trust with the people that ask for my help" (woman, 31, gynaecologist).

Physicians attributed more relevance than teachers to the opportunity to cope with complex challenges and difficult cases, mostly referring to surgery or severe diseases (24.7 versus 7% of the answers). Instead, only teachers related the most positive experiences at work to the satisfaction of obtaining work achievements through the use of professional skills (18% of their answers).

As concerns the most negative experiences at work (Figure 4), teachers primarily indicated negative or no feedback from the students. Lack of participation, disengagement, no interest in the subject matters were the most frequent answers reported in this category: "It happens when children are elusive" (woman, 27, primary school). Problems in the relationships with colleagues and supervisors ranked second among the most negative experiences, followed by the burdens and boring tasks imposed by bureaucracy: "Negative experiences occur in every moment devoted to

colleagues, school institution, families, all those who bureaucratise and rule education, because of incompatibility of goals” (man, 41, secondary school). Frustration due to the lack of educational results in spite of personal efforts ranked fourth: “When I do not succeed in getting positive results from the children” (woman, 35, primary school).

Physicians’ answers prominently fell into three categories, with similar frequency. The first was frustration, related to errors or failures during surgical intervention, and to the feeling of impotence in facing death and untreatable diseases: “The most negative experiences occur when I have the feeling of fighting against windmills, because in my work knowledge is still rough” (man, 29, surgeon). Anxiety and pressure ranked second, mainly caused by an excessive amount of work, emergency situations, performance expectations: “When I have too much work: I am not able to concentrate on each problem as I would like to do” (woman, 31, gynaecologist). The third main category of negative experiences was interpersonal conflict with colleagues or other members of the medical *équipe*: “The competition with other colleagues, because of the envy that derives from it” (man, 28, gynaecologist). The bureaucratic aspects of work ranked fourth.

As Figure 4 shows, both teachers and physicians quoted in a very low percentage of answers problems arising from the relationship with students and patients respectively.

### Discussion

The first result emerging from this study was that the features of optimal experience did not substantially vary across life domains: both work and non-work situations proved to be effective in promoting intrinsic rewards, engagement and enjoyment. As concerns work, however, its social role and the related individual responsibilities were highlighted by the higher level of challenges and anxiety teachers and physicians respectively reported in this domain, in comparison with leisure and media.

As concerns the first question we formulated in the introductory section, both professional groups associated their work with optimal experiences. Teachers reported a higher homogeneity in the quality of experience throughout the various tasks and situations, be they opportunities for optimal experiences or daily components of routine work. However, the small sample size does not allow for any conclusion.

Physicians, on the contrary, described the practice of surgery (in the case of surgeons and gynaecologists) and the operatory setting (in the case of anaesthesiologists) as a prominent occasion for optimal experience, clearly distinguishing it from other work situations, as a peculiarly challenging, engaging, and intrinsically rewarding task. Similar findings reported by Csikszentmihalyi (1985b) supported this results. Surgery is a complex and multifaceted task that poses challenges in various domains: medical knowledge, technical procedures, interpersonal relations, emotional balance. It requires a complete and prolonged focus of attention on the task at hand, precise and clear goals, control of the situation and of one’s own emotions, the cultivation of well-defined skills, and readiness in coping with unforeseeable problems. Although surgery is a team practice, in the operating room each member plays a specific role, with well-defined sequences of action to perform, and precise expectations of what should be the competencies and behaviour of the other members. This setting facilitates the onset of optimal experiences, in that it limits or reduces the sources of variation, the adjustment or shift of attention, and the situational changes that can occur during freer interactions with other people (as happens to teachers with students). From this perspective, the tasks involved in surgery are much more individualised than teaching, which is a relational activity *par excellence*.

As concerns our second question, most participants selected hobbies and sports as the outstanding opportunities for pervasive optimal experiences in the domain of leisure. These activities belong to the category of serious, or structured leisure: they provide individuals with challenges, clear goals, and well-defined rules, at the same time requiring concentration, prolonged effort, and skill development.

Among media, reading was by and large the prominent opportunity for optimal experiences reported by the participants in both groups; few answers referred to listening to music, while TV watching was not quoted at all. Reading, first in rank among the activities selected by teachers, clearly differs from the other media in the amount of attention and concentration required, and in the active role played by the individual.

The findings obtained through the life theme questionnaire confirmed the positive relationship of both physicians and teachers with their professions. Most of the participants reported intrinsic motivation, interest, and self actualisation as the basic reasons for choosing their job.

Among the most positive work experiences, both groups reported good relationships with colleagues, students and patients. This is a very relevant issue at the bio-cultural level. As concerns teachers, several researchers pointed out that the affective climate perceived in the classroom fosters students' involvement and active participation in classes (Schiefele & Csikszentmihalyi, 1995). The impact of teachers as behavioural models can be crucial for the students' subsequent career choices, and for promoting both autonomy and relatedness in youth (Flink, Boggiano, & Barrett, 1990; Reeve, 1998; Ryan & Powelson, 1991). It implies a close interaction, as well as the teacher's concern for the global cognitive and personal growth of the student, rather than for the performance in a single task. Moreover, this condition promotes co-operation among students, and it discourages rough competitiveness. Csikszentmihalyi (1982) pointed out that optimal experience at work is one of the prerequisites to be an effective teacher. Other studies highlighted that students get more easily involved in school subject matters and improve their performances when teachers communicate them the potential for autonomy and self-determination in learning (Boggiano, Flink, Shields, Seelbach, & Barrett, 1993).

A positive doctor-patient relationship has also been widely recognised as a crucial factor in medical care: it enhances patients' compliance and effective coping with symptoms (Di Caccavo, Ley, & Reid, 2000). Physicians who pay attention to their patients' perceived quality of life, and adopt a bio-psycho-social approach, are ultimately more effective both in communicating and in getting the collaboration of their patients in health-related decisions (Baile, Buckman, Lenzi, Globber, Beale, & Kudelka, 2000; Buckman, 1992; Glass, 1996). Several studies showed the positive impact of this approach both in the domains of prevention and treatment (Majani, Pierobon, Giardini, & Callegari, 2000; Williams, Freedman, & Deci, 1998).

The most negative experiences described by teachers occurred when children did not show interest in the subject matters. This finding was also reported by Stenlund (1995) in a cross-cultural survey. Burke, Greenglass, & Schwarzer (1996) quoted students' disengagement among the major sources of burnout in teachers.

Physicians associated the most negative work experiences with failures, pressure, and conflicts with colleagues. These results are consistent with the findings obtained in other studies, showing that burnout among physicians is primarily related to difficult relationships in the *équipe* (Deckard, Meterko, & Field, 1994), and to work overload (Campbell, Sonnad, Eckhauser, Campbell, & Greenfield, 2001).

As concerns our third question, results showed that these professionals did show the extension pattern described by Parker in the relationship between work and leisure.

Teachers reported to perceive knowledge acquisition and exchange as part of their life theme, a means for pursuing personal development and growth in complexity at the psychological level. Beside teaching, they reported to preferentially devote their attention to books, artistic hobbies, and study. All the three activity domains analysed: work, leisure, and the use of media, showed overlapping features as concerns optimal experience, except for the higher challenges associated with work. Teachers also reported having followed intrinsic motivation in choosing their job, an activity which allows them to cultivate intellectual sources of enjoyment, and provide them with the opportunity to transmit interest in knowledge to their young students.

Physicians quoted their job as the most frequent opportunity for optimal experience, both in the general activity list (see Figure 1), and among the selected activities. They put special emphasis on surgery, a task joining manual and technical competencies with theoretical knowledge. These features were also found in the activities they reported in the domain of leisure: practising sports such as sailing and skiing, and cultivating hobbies such as painting and playing a musical instrument require the parallel implementation of practical skills and of theoretical knowledge. This was confirmed by the quality of optimal experience physicians reported in work and leisure: no differences were found, except for an understandably higher level of anxiety associated with work.

Finally, as concerns our fourth question, the findings suggest a connection between quality of experience at work and work performance for both professionals, and its influence on the wellbeing of students and patients. In the long term, this connection contributes to shape cultural and biological transmission and evolution, and this should be taken into account in health and education policies.

More specifically, the quality of children's learning widely depends on the quality of teachers' work (Wharton-McDonald, Pressley, & Hampston, 1998). But teaching effectiveness, in its turn, is related to the global quality of experience educators associate with their daily job. This should not be forgotten in educational programs, as well as in studies concerning occupational psychology and job satisfaction (Evans, 1997; Sweeney, 1993). Providing teachers with opportunities to improve their skills (Alderman, 1999; Desforges, 1998), their subjective perception of work and their role in society as well can have an enormous impact in shaping young generations, and in the development of culture.

The same considerations can be applied to physicians. A study conducted on inpatients receiving medical or surgical care (Nguyen Thi, Briançon, Empereur, & Guillemin, 2002) showed that patients' satisfaction was primarily related to interpersonal relations, and to communication of health care information, while only few patients commented about the technical quality of care (Williams, 1994). Doctor-patient relationship plays a key role also in physicians' satisfaction, as suggested by our findings. In its turn, job satisfaction influences performance: a recent study showed that physicians reporting burnout symptoms were very self-critical as concerned their accomplishments, frequently perceiving sub-optimal patient care practices (Shanafelt, Bradley, Wipf, & Back, 2002). These results should be taken into account in medical education and health services, in order to design medical training curricula supporting autonomy and engagement (Williams & Deci, 1998), and to improve the quality of physicians' work environment and organisation.

## Conclusions

Post-modern societies still pursue the goal of bio-cultural survival and reproduction, even though by means of new tools, material and symbolic artefacts that become increasingly complex and powerful. The core of both medicine and education is ultimately represented by the use and implementation of cultural information in order to pursue health or educational goals. Both physicians and teachers therefore serve the bio-cultural survival of humans through learning and applying knowledge.

From this perspective, the features of their psychological selection have a remarkable impact on the community's bio-cultural trends. Not all teachers are equally devoted to their job and show the same skills in transmitting their heritage of information. Not all physicians invest their physical and psychic resources in their profession to the same extent. However, as discussed in the previous pages, the quality of experience individuals associate to daily activities influences outcomes, performances and the long-term evolution of the activities themselves, their implementation and their level of complexity.

As concerns the role of leisure in these professionals' life, results showed the preferential association of optimal experiences with highly structured, "serious" activities, such as sports, art-related hobbies, and reading. They also showed the extension pattern described by Parker in the relationship between work and leisure: skill development and satisfaction in one domain influenced other domains.

Previous studies showed that active engagement in daily activities can be used as an index of complexity and predictor of future goals and activity cultivation (Greene & Miller, 1996; Higgins & Trope, 1990). When both compulsory and leisure activities are perceived as sources of optimal experience, their selective cultivation provides the individual with increasingly higher challenges and skill refinement, fostering personal growth and development. Similarly, Rojek (2000) suggests that leisure should be restructured as a domain providing opportunities for engagement and responsibility, for personal growth and social awareness, and preserving an ethical dimension that has been obscured by consumer culture. In this sense, leisure should not be considered a segregated area of life, but a component of the multi-faceted relationship of the individuals with their cultural environment, intertwined with the other life domains (Haworth, 1997). However, not all workers can enjoy the creativity, autonomy and engagement opportunities shared by teachers and physicians, and work conditions are not always easily modifiable. Precisely for this reason, promoting life satisfaction through the support of structure, exploration and seriousness in leisure could be a more practicable way to foster complexity and well-being both at the individual, and at the social levels.

As a final methodological remark, we point out that the data showed in this paper were collected through questionnaires mostly comprising open-ended questions. This provided participants with the opportunity of freely expressing themselves, but also entailed difficulties related to data interpretation and coding, even though reliability was implemented through the involvement of a team of three coders. We are also aware of the small size of both samples, that are far from being representatives of teachers' and physicians' professional categories. On the one hand, this is a major limitation for the generalisation of results. On the other hand, a large amount of information was collected for each person, and this contributed to limit arbitrariness in the interpretation of the answers. Generally speaking, anyway, the aim of this study was not to draw definitive conclusions, but rather to suggest new research directions.

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Table 1

*The psychological features of optimal experience, as reported by teachers and physicians*

Variables	Teachers (80) <sup>a</sup>		Physicians (47) <sup>a</sup>		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Challenges	6.9	1.5	6.7	1.2	.9	n.s.
Skills	6.5	1.8	6.2	1.5	1	n.s.
Involvement	7.1	1.1	6.6	1.5	2	<.05
Clear feedback	6.9	1.7	6.8	1.7	.2	n.s.
Intrinsic motivation	7.2	1.5	6.9	1.4	1.1	n.s.
No boredom	7.7	0.8	7.5	1.1	1.1	n.s.
No attention effort	6	2.3	5.6	2.7	.8	n.s.
Enjoyment	7.1	1.6	6.6	2.1	1.5	n.s.
No distraction	6.5	2.0	6.3	1.8	.6	n.s.
No anxiety	6.8	2.0	6.3	2.2	1.4	n.s.
Clear goals	7.0	1.5	6.9	1.4	.3	n.s.
Control of situation	6.8	1.7	6.7	1.5	.6	n.s.

*Note.* n.s. (not significant) indicates that no significant difference between variables' values was detected through *t*-test comparison

<sup>a</sup> *N* of participants

Table 2

*The psychological features of optimal experience as reported by teachers in work, leisure and media*

Variables	Work (10) <sup>a</sup>		Leisure (17) <sup>a</sup>		Media (29) <sup>a</sup>		<i>F</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Challenges	7.9	.3	7	.9	6.6	1.8	3.2	<.05
Skills	6.8	1.4	5.7	2.5	6.9	1.4	2.7	n.s.
Involvement	7.3	.9	7.2	1	7	1	.3	n.s.
Clear feedback	7.2	1	6.9	2.4	6.8	1.6	.2	n.s.
Intrinsic motivation	7.3	.9	7.2	1.2	7.5	1	.7	n.s.
No boredom	7.7	.7	7.8	.7	7.7	.7	.1	n.s.
No attention effort	5.6	2.5	6.2	2.3	6.1	2.2	.3	n.s.
Enjoyment	7.3	1.3	7.4	1.2	6.9	1.6	.9	n.s.
No distraction	7.6	.8	6.6	2	6.2	1.9	2.2	n.s.
No anxiety	5.6	2.8	6.6	2.6	7.2	1.3	2.2	n.s.
Clear goals	7.4	1	6.6	2.1	6.9	1.4	.7	n.s.
Control of situation	7.1	1.2	6.5	2.2	7.1	1.2	.7	n.s.

*Note.* n.s. (not significant) indicates that no significant difference was detected through ANOVA among the variables' values across activity categories

<sup>a</sup> *N* of participants

Table 3

*The psychological features of optimal experience as reported by physicians in work, leisure and media*

Variables	Work (19) <sup>a</sup>		Leisure (14) <sup>a</sup>		Media (6) <sup>a</sup>		<i>F</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Challenges	7	1	6.6	1.1	5.9	2.1	1.6	n.s.
Skills	6.4	1	5.5	1.8	6.2	1.9	1.4	n.s.
Involvement	6.6	.9	6.8	1.3	6	3.1	.6	n.s.
Clear feedback	7.3	1.2	6.1	2.3	7	1.5	2.1	n.s.
Intrinsic motivation	7.1	1	6.8	1.3	6.7	.3	3.2	n.s.
No boredom	7.5	.8	7.3	1.7	7.5	.8	.1	n.s.
No attention effort	6.3	2.2	5.1	3.2	5.8	2.9	.7	n.s.
Enjoyment	6.8	.0	6.4	2.3	5.8	2.4	.4	n.s.
No distraction	6.9	1.2	5.9	2.3	6.2	1.9	1.3	n.s.
No anxiety	4.9	2.5	7.3	1.3	8	0	8.8	<.001
Clear goals	7.1	1.2	6.8	1.7	6.5	1.8	.5	n.s.
Control of situation	6.8	1.2	6.1	2	7.2	1.3	1.4	n.s.

*Note.* n.s. (not significant) indicates that no significant difference was detected through ANOVA among the variables' values across activity categories

<sup>a</sup> *N* of participants

Table 4.

*The quality of experience reported by teachers and physicians in work, perceived as activity associated with optimal experience (OE) and as daily task (Daily)*

Variables	Teachers (10) <sup>a</sup>						Physicians (N=19) <sup>a</sup>					
	OE		Daily		<i>t</i>	<i>p</i>	OE		Daily		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Challenges	7.9	0.3	6.6	2.2	1.9	n.s.	7.0	1.0	6.0	1.9	2.9	<.05
Skills	6.8	1.4	6.2	2.4	0.8	n.s.	6.4	1.0	6.4	1.0	1.3	n.s.
Involvement	7.3	0.9	6.5	1.3	2.4	<.05	6.6	0.9	5.7	1.4	3.7	<.01
Clear feedback	7.2	1.0	6.8	1.4	1.0	n.s.	7.3	1.2	6.5	1.4	3.0	<.01
Intrinsic motivation	7.3	0.9	6.5	1.8	1.3	n.s.	7.1	1.0	6.3	1.3	3.4	<.01
No boredom	7.7	0.7	6.9	1.4	1.8	n.s.	7.5	0.8	6.6	1.3	3.5	<.01
No attention effort	5.6	2.5	5.2	2.4	0.6	n.s.	6.3	2.2	5.8	2.0	1.3	n.s.
Enjoyment	7.3	1.3	6.2	1.9	1.8	n.s.	6.8	2.0	6.2	1.4	1.4	n.s.
No distraction	7.6	0.8	6.4	1.8	2.0	n.s.	6.9	1.2	5.6	1.7	4.4	<.001
No anxiety	5.6	2.8	4.7	2.1	1.6	n.s.	4.9	2.5	5.2	1.5	.4	n.s.
Clear goals	7.4	1.0	6.8	1.3	2.3	<.05	7.1	1.2	6.7	1.2	2.4	<.05
Control of situation	7.1	1.2	5.7	2.5	1.7	n.s.	6.8	1.2	6.6	1.1	1.1	n.s.

*Note.* n.s. (not significant) indicates that no significant difference between the variables' values reported in the two situations was detected through a paired *t*-test comparison

<sup>a</sup> *N* of participants

### Figure Captions

*Figure 1.* Activities associated with optimal experience. Percentage distribution among teachers ( $N$  participants = 80,  $N$  answers = 245) and physicians ( $N$  participants = 48,  $N$  answers = 139)

*Figure 2.* “Why did you choose this job?” Percentage distribution of answers reported by teachers ( $N$  participants = 80,  $N$  answers = 100) and physicians ( $N$  participants = 57,  $N$  answers = 72)

*Figure 3.* Situations and activities associated with the most positive experiences at work. Percentage distribution among teachers ( $N$  participants = 79,  $N$  answers = 100) and physicians ( $N$  participants = 57,  $N$  answers = 73)

*Figure 4.* Situations and activities associated with the most negative experiences at work. Percentage distribution among teachers ( $N$  participants = 79,  $N$  answers = 104) and physicians ( $N$  participants = 57,  $N$  answers = 73)