Paolo Inghilleri, Giuseppe Riva, Eleonora Riva (eds.)
Enabling Positive Change: Flow and Complexity in Daily Experience

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Preface By Mihaly Csikszentmihalyi

Managing Editor: Aneta Przepiórka
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Preface

It is with great pleasure tinted with a touch of pride that I am sitting down to write an introduction to this collection. I can safely say that of the many books written on positive psychology in the 15 years since its inception, this one provides the best evidence that the perspective has matured into a coherent and fruitful conceptual domain, offering fresh directions for theory and research, and the promise of becoming a major sub-field of psychology.

I became involved in positive psychology because of an increasing unease with the image of man that has emerged in the last century. Following the lead of the other sciences, psychology in the 20th century tried to break the reality it was studying into the smallest possible units of analysis. The great success of physics had been the discovery of sub-atomic processes; biology became a serious science after it evolved into microbiology; even philosophy tried to reach wisdom by the analysis of "protocol sentences". Not surprisingly, psychologists followed the trend – even while it was becoming increasingly clear that analytic precision in the other sciences was coming at the price of a loss of synthetic understanding. So from Wundt's labs in Leipzig to Skinner's mazes at Harvard, behavior was broken down into its smallest units, and then put back together as the scientific representation of what mice and men were like. So psychology provided us with a picture not unlike what is given to a customer who wanders into a hall of mirrors at an amusement park: here he looks like a skeleton, next he looks like a hippopotamus . . . all the pictures are sharp, they are real. But we know they are not true representations of ourselves: it is the way that the mirrors were built that creates these phantoms. Unfortunately, this realization has not yet dawned on many who read the accounts of who we are, based on some of the research psychology has spawned. They do not realize that just as the mirror in the amusement park distorts our true image, the conditions in the laboratory experiments often distort what our thoughts, values, and behaviors are truly like. This is why reading a volume like the present one, which tries as much as possible to describe and interpret human behavior in its real complexity, and in realistic contexts, is so invigorating.

This volume also makes a unique contribution in clarifying what Seligman has called the "third pillar" of positive psychology: namely, positive institutions. Thus far, institutions have been studied mainly in terms of what they contribute to the first two "pillars" – to positive experiences or to character strengths. The editors made a wise decision in focusing the volume on *positive change*. By so doing, they have foregrounded an aspect of positive psychology that rarely appears in the literature. Currently institutions – family, schools, workplaces – are seen as providing experiences that produce either positive or negative affect in people. The research questions are of the type: why do children dislike schools? Why do lawyers hate their jobs? Of course, these are important questions, but if pursued exclusively they narrow the scope of our

understanding until we risk validating the caricature of our critics, and turn positive psychology into "happiology" – a search for hedonic well-being, with a short and shallow future.

In their magisterial introduction, the editors outline a much broader view of the relationship between the "three pillars". The relationship is not all one-way, they point out. How we feel about them determines the future of institutions just as much as we are being affected by them – by the technology, economy, and social arrangements into which we are born. This perspective, first articulated by Professor Fausto Massimini at the University of Milan, and built upon by Paolo Inghilleri in his powerful book translated into English as *From Subjective Experience to Cultural Change*, is clearly articulated in the Introduction of this volume, and serves as the theoretical foundation for most of what follows.

The two chapters following the Introduction also make an indispensable contribution to the emerging domain of positive psychology. Those who write in this new field (myself included) spend a great deal of effort reassuring their readers that positive psychology is not developing as an antithesis to the existing field, but rather builds on and tries to enrich previous knowledge. Yet we rarely bother to show how the synthesis between general and positive psychology could be accomplished. Chapters 2 and 3 in this volume are exemplary first steps in that redressing this unfortunate state of affairs.

Each if the remaining ten chapters opens up a new window showing different vistas of how an understanding of flow and optimal experience interacts with some fundamental aspect of the human condition, ranging from technology to the environment, from politics to psychotherapy, from sports to business, from everyday experiences to the intergenerational transmission of values and skills. Each of these vistas promises an exciting intellectual adventure for the interested scholar to embark on. I wish I could go on and on, exploring the ideas that these chapters present. But my role in this venture is similar to that of a curator introducing an exhibition of contemporary art to a visiting audience. The visitors have not come to hear the curator, but to experience the art directly. To do so all you have to do is turn the page.

Paolo Inghilleri, Giuseppe Riva, Eleonora Riva

Introduction: Positive Change in Global World: Creative Individuals and Complex Societies

Modern society offers, day after day, challenges of increasing complexity. The global citizen is constantly stimulated by demand from the world of work, family and the social environment. Simultaneously they realize how necessary it is, in a busy and hectic life, to find some time for themselves, to cultivate their own physical and mental health, and to carve out spaces for leisure, hobbies, friends, family, and in general to what gives meaning to life (Csikszentmihalyi & Csikszentmihalyi, 2006). It is becoming more and more important to develop the ability to select activities, relationships, needs and desires in a creative and evolutionary way, and give these a privileged space, making them emerge from an offer that becomes gradually more and more extensive and varied. This book offers a possible interpretation of the many human experiences that emerge successfully from the challenges of modern complexity. The authors of the twelve chapters outline a vision of human experience as a close connection among personal characteristics, everyday experience, psychological well-being and elements of the socio-relational and environmental context. It is a correlation of elements originating from each one of these four areas that enables the development of positive changes, and allows their stabilization in the experience of individuals or groups, making them increasingly complex and creative. In this vision of the human experience, Flow, meant as a driving force for the subjective development, is a central element Csikszentmihalyi (1975/2000; 1990). In the various chapters of the book, from the more general to the more specific ones, it clearly emerges that there are many new areas where the application of Flow Theory can be stimulating and produce innovative readings and new models of research. The Flow is seen as an experience that can be assessed and fostered in very different contexts, using different methodologies and approaches, and its function is highlighted in promoting change not only in the individual but also in relational situations and social contexts.

In the first two chapters there is an excursus of the characteristics and experiences which promote and permit positive change in socio-relational and individual perspectives. The Flow model is combined with other contemporary approaches, theories and intervention models, in order to envisage its use as a key to understanding the positive psychological experiences implied by the various approaches to reading psychological experience. Paolo Inghilleri exposes the theoretical background of the Optimal Experience Theory, highlighting the connections between Flow, subjective experience and social and cultural development. In the first chapter the author defines Optimal Experience, its relation with cultural artifact and cultural transmission, and with the development of autotelic characteristics of personality. After a socio-cultural collocation of the concept, Inghilleri proposes connections and parallelisms with classic and recent concepts of social and clinical psychology, like James

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and Kohut's *empathy*, Bion's *negative capability*, Stern's *present moment* and Siegel's *mindfulness*. In the second chapter Giuseppe Riva focuses on the concept of personal change, considered as a complex process depending on the person, the issues and the situation. The author centers his attention on the capacity of Flow to allow the individual to consider the long-term personal goals from a different point of view, facilitating generativity and behavioral flexibility. This is related to the sense of Presence, considered as an experience of self-engagement that brings the individual to put their intention in action and provide the self with a feedback about the status of the activity. Riva proposes an analysis of cognitive change in which Presence and Flow collaborate in order to find creative solutions to emerging problems: Presence allows the individual to perceive the experiential conflicts, and pushes the cognitive system to resolve them, while the way to find a solution to the perceived conflicts is often shown by past experiences of Flow.

The following three chapters are dedicated to new approaches and research models that use emergent communicational and relational instruments to promote the Flow experience and consolidate positive change and psychological well-being. In the third chapter Riva G. & Gaggioli address the issue of cyber technologies as a means for promoting optimal experience and well-being. They present an overview of researches in which cyberpsychologists, while studying the different processes of change related to the use of new technologies, show that digital instruments of communication and other related technologies can be used to improve personal development and well-being. In this order of ideas, the authors introduce the concept of Positive Technology, detailing three different uses of technological instruments to perform personal changes: *Hedonic*, that qualifies daily life introducing positive and pleasant experiences; *Eudaimonic*, that supports the individual in reaching engaging and self-actualizing experiences; *Social/Interpersonal*, that supports and improves social integration and connectedness with other individuals. Gaggioli & colleagues, in the fourth chapter, deepen the opportunities provided by new technologies for the development of well-being experiences. They propose the concept of Networked Flow, in which they hypothesize that participation in social networks promote creativity as a product of the group, intended as a virtual and intellectual community. In Networked Flow group creativity materializes in the production of artifacts that are immediately shared and used in or applied to the network's group itself, increasing its complexity and its faculty to develop further occasions of shared Flow and creativity. In chapter five, Riva E. & colleagues propose a new model to use Flow in clinical settings, to promote positive change, well-being and the development of a more complex and flexible Self. While cognitive-behavioral therapies have developed various instruments derived from Positive Psychology models and theories, the contamination with psychodynamic psychotherapies has remained minimal. The authors consider the Flow Experience as a psychodynamic construct, and propose to insert the analysis and promotion of Flow in psychodynamic medium and long term psychotherapies. Three ways to approach Flow in a clinical setting are described in

the chapter: to *investigate* it in past experience; to *promote* its development in daily present experience and to *develop* Flow situations inside the psychotherapy sessions. These concepts are described in short case studies.

Chapters from six to ten propose the application of Flow in different social contexts, some of them facing new frontiers, such as the environment or politics, others describing the current developments in areas of interest such as education, work or sport. Rainisio & colleagues, in chapter six, describe an application of Flow Theory to environmental psychology. In literature both the environmental preference and the psychological restoration due to interaction with natural landscapes are justified referring to biological legacies or universal psychological characteristics. In this contribution the authors define the concept of *Flowability* as a subjective criterion -developed during daily cultural experience- used to evaluate a place and consider it as potentially regenerative. Transcultural data are reported in support of this. In chapter seven Boffi & colleagues explore the implication of the use of the Flow concept in political participation. Just as well-being has been considered, in literature, one of the central indicators for social development, often the indicators used to detect the presence and evolution of well-being have taken into account more material aspects than subjective experience. The authors propose that an eudaimonic perspective can fruitfully explain the link between individuals' well-being and participation, and Flow can be used as a referential theory to describe the mechanisms affecting both personal growth and social context, resulting in an inspiring notion to design participative settings: if those in charge of promoting participation policies were informed of such a distribution of flow-generating activities in each community, it would be possible for them to design new forms of participation more sensitive to people's preferences and more likely to succeed. Cavanagh & Shernoff, in chapter eight, explore the relationship between the school learning environment and psychological positive theory and experience. Specific attention is addressed to the influence of Flow in classroom experiences and of optimal learning environments reported by scholars in compulsory education. Two empirically validated construct models are presented that incorporate the Flow Theory and classroom learning environment constructs: these are the *Capabilities-Expectations Model of Student Engagement in School Learning* and the *Environmental Complexity Model of Optimal Learning environments*. Each of them enables experiences and the respective conducive conditions to become operational and foster research besides giving essence to design of positive change in schooling. Transcultural and transnational comparisons are reported. In chapter nine Muzio & colleagues discuss the role of optimal experience in sports psychology. The authors deepen the tools and strategies available for trainers and instructors to activate positive change in athletes and teams, and present research data on Flow in sports, both in regard to the evaluation of subjective experience and the interventions that can increase the chance of finding Flow. Inghilleri & Cesaro face the work environment from a new perspective: their contribution concerns a research on small enterprises ruled by single families. In this context, which constitutes the lifeblood of the Italian

commercial substrate, family relationships and job roles merge and mingle, creating potentially explosive situations but also rich in terms of investment of emotional and psychic energy. In chapter ten the authors present the impact of training on the relationships and good management based on Flow Theory and its applications on family enterprises.

The last two chapters of the book regard persons or situations that can promote the subjective ability to detect and foster Flow experiences. In chapter eleven Nakamura develops a model of mentoring which relies on the environment built through relational dimensions. Her analysis shows how a true mentor transmits knowledge and skills together with values supporting a sense of professional responsibility. In this perspective we can observe, from an individual point of view, the development of an autotelic personality, and from a cultural point of view, the transmission of excellence. In the chapters second half the author deepens the model proposed through the presentation of a case study taken from the martial art of *aikido*, in which the relation among individual involvement, mentors features and environmental characteristics clearly emerges, allowing for the promotion of subjective complexity and multiple experiences of mentoring and cultural transmission. In chapter twelve, through the exposition of research data, Fishman & Barendsen describe the impact of "quality" of everyday time and of the subjective perception of "time well spent" in the development of a style of life that may foster the encounter with subjective optimal experience. The authors investigated how people use time, what they consider to be a waste of time, and demonstrated, through the interaction of the Flow Model with other constructs, how time well spent with family and friends is paramount in terms of what they think about quality and the prioritization of quality in their lives.

The wide array of disciplines and applications described in the different chapters strengthens the idea of the importance of positive change in the experience of individuals or groups. As the field continues to grow, we eagerly expect extensive on-the-field trials as well as comparative results with existing methods of practice, supporting the continuous growth of new applications.

In the end, we hope that the contents of this book will stimulate more research on the social, cognitive and human factors connected to the experience of "positive change" and on how to make the best of it in the different fields discussed in the chapters. We thank all the authors for their great work in making this book what we believe it to be – a significant contribution to understanding the roles and importance of positive change in a range of personal and interactive situations. In particular, the book aimed to underline the role played by Flow in promoting change not only to the individual but also in relational situations and social contexts.

References

Csikszentmihalyi, M. (1975/2000). *Beyond boredom and anxiety*. San Francisco: Jossey Bass.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.
Csikszentmihalyi M. & Csikszentmihalyi I. (2006), *A life worth living: Contributions to positive psychology* (pp. 165–181). New York: Oxford University Press.

Paolo Inghilleri

1 Phenomenology of Positive Change: Social Growth

Abstract: This chapter exposes the theoretical background of Flow of Consciousness Theory, underlining the connections between Optimal Experience and the process of social change. The concept of cultural artifact is revised. The relevance of Flow for the individual, social and cultural development is stressed. Discussion is devoted to letting the presence of the experience of flow emerge (both explicitly admitted or implicitly assumed) within theories and models not belonging to Positive Psychology domain.

Keywords: Cultural artifacts; Cultural change; Flow of consciousness; Theoretical implications.

1.1 Introduction

A mother, in the United States of America, is playing with her daughter in the living room; a Chinese father is on his way to enroll his child in school; an Italian worker is walking into the factory; an Iranian young man is planning an evening with his friends; a Filipino girl is dancing with her friends at a disco; a Brazilian elderly man is praying in a church. Our daily life, all over the world, flows, characterized by thoughts and emotions, in various contexts of our culture, in the places we go to, among the groups that surround us and to which we belong. Psychological sciences have long since been studying the mechanisms of this complex interaction between the inner and the social world. The so-called Cultural Psychology (Cole, 1996; Inghilleri, 2009; Shweder, 1991) and the so-called Positive Psychology (Kahneman, Diener & Shwarz, 1999; Seligman & Csikszentmihalyi, 2000) have, in recent years, developed and highlighted a direction of research not altogether new in the behavioral sciences, namely the need to study humans in their real-life contexts (rather than in laboratory) and to develop interpretative models starting from the study not of pathological situations but of virtuous situations and situations of development.

At the basis of this theoretical approach, which finds its roots in the early pioneering work of William James (1890), is a vision according to which the individual actively builds their own identity and does so in a harmonious way with the context, starting from their own biological basis and through their interaction with the culture. The inner Self is achieved by way of cognitions, motivations, and affections occurring in the course of everyday life, as well as through specific experiences. The

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quality of subjective experience is central for the construction of the personal Self and of personal behavior. The way we feel is related to a variety of causes: to our past; to the immediate experience; to the ability to connect the immediate experience with our intentions, our profound purposes, our own individual projects. It is therefore important that the relationship between the past, present and future be orderly and complex. The focus of our knowledge and of our affections thus depends on the possibility that a specific mind/culture relationship provides an experience that the subject perceives as making sense and being organized insofar as it is connected to the existing situation, to the core of personal identity (which derives from past experience), to future purposes.

In this sense, the concept of *subjective experience* appears central. It may be defined as the sum of the information, originating either from the outer world or the inner world, which enters in the psychic system at a given point in time and its comprehensive interpretation by the consciousness. More precisely experience is meant as the focusing of the process of attention on the interrelationships of the data in the consciousness or, in other words, the set of cognitive, motivational and emotional information capable of producing discriminable changes (and therefore selectable by the attention) in our subjective state. For Csikszentmihalyi (1982, 1988), the focus on the interrelationship of the data in the consciousness produces experience. This is an orderly process that requires energy. The consciousness becomes disordered when the information entered is either too simple or too complex. This may be due to either external factors (environment contains too many or too few stimuli) or to the malfunction of the processes of attention that allow excessive or insufficient information to reach consciousness. This conceptualization is important because it highlights how psychological processes (consciousness, attention, emotions) and cultural processes (social environment, the others) are part of a single system which the inner state of the individual and its development depend on. In other words it is not possible to understand the psychological functions without considering the external culture as well.

1.2 Cultural Evolution and Individual Psychological Selection

In the first place, it must be emphasized that the relationship between the individual and culture gives rise to two processes that interact while being distinct from each other: the Cultural evolution and the Individual psychological selection (Inghilleri, 1999).

The *Cultural evolution* is a historical cross-generational process (i.e. passing from one generation to another) for the transmission of cultural information stored in extra-individual locations, that is in the products (or artifacts) of culture. The *Individual psychological selection*, on the other hand, is a process that relates to the single individual, therefore lasting a lifetime, and represents the selective internalization in the central nervous system of a part of the external cultural information.

This internalization is associated with elaboration processes, construction of meanings, and affective experience (Delle Fave, Massimini & Bassi, 2011). We could say that the different theories of individual psychology have historically sought to define the mechanisms of the psychological selection. Of utmost importance, though not always considered by the various psychological theories, is that cultural evolution and psychological selection are in a continuous relationship of reciprocal causality, in the sense that one influences the other. Culture, as it is realized, in a certain context and at a particular historical period, co-determines (Markus & Kitayama, 1991) the construction of the individual Self (think for example of all the educational and socialization activities): but it is the actions of individuals, their decision-making processes, the focus of attention and of behavior on certain purposes, the experiences and the emotions that make the different areas of our lives attractive or unpleasant, that cause certain elements of culture, and not others, to be transmitted in time.

1.3 The Artifacts and Their Relationship with the Subjective Experience

Secondly, referring to authors such as Vygotsky (1978), Bruner (1990) or the aforementioned Cole and Shweder, a basic concept will be discussed that has characterized those authors and that is particularly interesting in the understanding of the mechanisms of psychological selection: the concept of artifact.

The term artifact has been widely used in cultural psychology: it defines any entity not present in nature but constructed or produced by human beings. Artifacts are therefore the very constituents of the cultures. The category of artifact thus includes objects (such as the furniture in a house, clothes, a car, a flag), material structures (such as buildings or a city district), as well as ideas, artistic products such as music or poetry, technologies, institutions, political views, religions, rituals, daily practices, and so on. It concerns therefore both tangible and intangible entities.

Artifacts are key elements from the point of view of the relationship between individual psychological processes and culture, by reason of a number of characteristics. They have in fact a double status: they are in an intermediate situation between the world of the "living" and the world of the "non-living" (Monod, 1971). To explain this property of the artifacts, the following discussion involves a closer examination of some features of the living world that may be pertinent, as we shall see, to the artifacts.

In 1971, Jacques Monod, a molecular biologist who was awarded the 1965 Nobel Prize for Medicine, highlighted the three general traits by reason of which the living organisms are, as a whole, different from any other entity in this universe.

The first characteristic is the so-called *teleonomy,* according to which living organisms are entities with a project, which is represented in their structures and at the same time realized through their actions. Consider the genetic information contained in the DNA of the first zygote of the embryo, the result of the union of ovule and

sperm: it represents the project that will be manifested in the structure of the whole adult organism and will be realized through its operations.

The second characteristic is the *autonomous morphogenesis*, the living organism is a "machine that builds itself", does not depend on forces applied from the outside, but has an autonomous determinism implying a virtually total freedom with respect to outside agents or conditions, which are capable of impeding this development, as well as guiding it (Monod, 1971).

The third characteristic is the so-called *reproductive invariance* which is the ability to reproduce and transmit unchanged the information corresponding to the structure (the genetic heritage). The genes are in fact a highly complex organization that manages to be preserved in its entirety from one generation to the other.

To continue our reasoning about the properties of artifacts it is necessary, at this point, to introduce another concept, namely the distinction between *entropy* and *negative entropy* or *negentropy*. The physical, inorganic world, the so-called "non-living nature" (i.e. the material of which many artifacts of our everyday lives are made of, such as objects of domestic use or a building) follows the second law of thermodynamics, in other words tends to entropy. This principle states that each energetically isolated system evolves in a single direction, that of the degradation of the order that characterizes it. It follows a specific relationship between entropy and information: the more a system is entropic, the less information is present (Monod, 1971). In concrete terms, the second law of thermodynamics can be exemplified by the following case: if we leave an artifact in the open air under the influence of atmospheric agents, after a certain time it will disintegrate and turn into rust, dust, inert matter: that artifact, abandoned, without maintenance, undergoes a process of entropy, losing order and information.

On the other hand, historical theorists of complexity, such as Miller (1970) and Prigogine (1976), have long since shown that living systems tend, instead, to negative entropy (or negentropy), namely to heterogeneity, to the progressive complexity of structures, to the continuous differentiation of functions.

The artifacts, as non-living entities, are therefore per se devoid of autonomous morphogenesis and self-organization; they are subject to the second law of thermodynamics and therefore tend to disorder, to homogenization, to the loss of information, to entropy: if an object is not kept with care, in time this artifact will be ruined, and gradually disintegrate.

There is one further point in this reasoning. The artifacts are the result of the application, to the materials that constitute them, of outside forces originated by the author, that is, from the living world, from human beings: men and women who decide to create artifacts, to give them a meaning, to transmit or modify them. Artifacts therefore are a reflex of and can accept the trend towards complexity, organization, order and information typical of the living world itself, that is to say, proper to the people who choose them, use them and give them meaning. Hence they can also tend to negentropy. We can therefore observe the possibility of increased complexity

of artifacts: from the first arms of obsidian to modern war machines; from the earliest computers to the latest laptop models and so on.

The artifacts, however, include not only material objects but also intangible entities: ideas, worldviews, rituals, social practices, norms, values, and institutions such as a family or a political party. The tendency to entropy or negentropy applies to these institutions as well: a family (considered from a social point of view and not from a biological one) can develop and grow, or dismantle (consider divorce); a family type (such as our nuclear family) may disappear (entropy) or spread throughout the planet (negentropy); a political party or a religion may arise and spread rapidly or exist for decades and disappear in a few years.

We are thus faced with the *dual nature of artifacts*, which depends substantially on *the application or not of individual psychological processes upon them*. An artifact is maintained over time, we could say survives and spreads, if it manages to draw upon itself the psychic energy, the cognitive, affective, motivational processes and subsequent actions of individuals: otherwise it tends to disappear from the cultural system.

What matters, in other words, is the relationship between individual psychological selection and cultural evolution, as handled at the beginning of the chapter: the concepts of artifact and the dual nature of artifacts bring forward the fundamental importance of human subjectivity and mental processes in the reproduction and changes of culture, and, conversely, the latter's action in the construction of subjective experience and subjectivity.

The dual nature also applies to complex and intangible artifacts, such as a family, a community, an institution, an ideology, a political system, a legal code, a movement or an artistic style. If I don't take care about an institution or a group to which I belong and I don't participate actively in its activities, if I don't keep my attention and my support to an idea alive, if I don't practice a religion genuinely, if I don't apply or conform to the laws day after day, and if the others too will do the same, all these artifacts will tend to lose meaning and internal information. That group, that idea, that religion, that State with its laws, could possibly disappear, following a direction which we have defined above as entropic. If, on the contrary, we invest our attention, our motivation, our behavior towards those artifacts, then they will remain and will tend to grow, to develop and be transmitted in time, even to future generations: what happens then, is an increase in the complexity of the artifact with a negentropic process. In general terms, this is the basic mechanism for the maintenance of cultures, of their change or, on the contrary, of their eventual disappearance. Culture is transmitted if there is an investment of psychic energy by the people on the artifacts of society and if these can produce *positive subjective experience* (Csikszentmihalyi, 1990; Gardner, Csikszentmihalyi, Damon, 2001). Artifacts are not produced and maintained by themselves. They are originated from the application of psychic processes of individuals: we actively seek and use an object to achieve personal goals if the relationship with that object allows a good quality of the experience, both from a cognitive and an emotional point of view. An element of culture draws our psychic energy (and

so it will be adopted and kept) if it gives a good experience. The possibility of having positive states of experience is therefore the basis of the process of cross-generational transmission of human cultures. In this sense, the Flow of consciousness theory has long since taken on a specific significance within the explanatory models of subjective experience (Csikszentmihalyi, 1990; Massimini & Csikszentmihalyi, 1985; Inghilleri, 1999 Massimini & Inghilleri, 1993).

1.4 The Flow of Consciousness

The experience of *Flow of Consciousness* conceptualized by Mihaly Csikszentmihalyi (1975, 1990, 1993a, 1997), is also called Optimal Experience. It is a psychologically optimal state from three points of view: from the cognitive perspective as there is the possibility of understanding; from the emotional perspective as there is the possibility of positive emotions; from the motivational perspective as there is the possibility of engagement. This theory, as pointed out above, is optimal also from the point of view of cultural transmission as it highlights the close relationship between the past life of the individual, their motivations, cognitions, current emotions (experienced in the *here and now*) and the development of material culture and ideas.

As is known, the Flow of Consciousness is a specific state of consciousness that occurs when cognition, emotions and motivation work in an integrated and interactive way, responding to requests from both the outer and the inner world. In the Flow of Consciousness all the psychic energy is invested in the ongoing experience (and thus on the artifacts of culture within that context) and the person experiences a state of competence (resulting from past life), self-determination, meaning and well-being that will lead the person to search the situations, contexts and activities (in other words, artifacts) that allow such positive inner states.

Considering the extensive literature on this theory (see the work of Csikszentmihalyi already mentioned, and among the more recent works, Delle Fave, Massimini & Bassi, 2011; Engeser, 2012), we shall only briefly describe its main aspects. For the Flow of Consciousness to occur a series of elements must be active simultaneously without conflict between them. These are:

- Concentration and full cognitive activation on the ongoing situation: the irrelevant stimuli disappear from consciousness, all the attention is focused on what is happening at that moment, the cognitive processing of plans for the future or conflict is temporarily suspended.
- Clear goals: the situation is clear, the person knows clearly and without cognitive effort what must be done.
- Immediate feedback: the situation provides feedback and clear signals, allowing the accurate perception of how things are going.
- Absence of self-observation: the individual does not modulate their behavior, as if observing themselves from the outside.

- Merging between action and awareness: there is a sense of orderly and reversible conscious "fusion" between the Self and the environment.
- Sense of automatic control: perception of being in full control of the ongoing situation; the control is called automatic because it happens without cognitive effort and without self-observation.
- An altered sense of time: time seems to pass more slowly or faster than normal.
- Intrinsic motivation: the experience becomes the reason of the behavior itself; the individual remains in the situation which is fully rewarding in itself: there is a deep sense of motivation and self-determination.
- Balance between challenges and skills: the opportunities for action and the demands of the outer world are perceived as being balanced with the inner capacity available to face them. It should be emphasized that studies subsequent to this original data have shown that the optimal experience arises especially when the balance between challenge and skill is above the subjective mean (Massimini & Carli, 1988). In other words, the optimal state occurs when the balance is at a higher level than is normally the case for a person in everyday life.
- Absence of boredom: the situation is exciting, allowing the full involvement of one's own potential and of one's Self.
- Absence of anxiety: the situation does not cause stress, conflict or fear; one has the perception of being able to face the outer world with skills and awareness.
- Positive affective state: the person feels good, involved, sociable, with a sense of integration and wholeness.

1.5 The Influence on Culture and Society

The experience of Flow influences the processes of development of the individual and the culture in fundamental ways. We have recalled the concept of Cultural Evolution: artifacts, also called memes (Blackmore, 1999; Dawkins, 1976/2006, 1982) as we will discuss in Chapter 10, are the basic units of this evolving, historical, transgenerational process (Inghilleri, 1999). Self-development and cultural evolution are deeply related: the internalization of social values, ideologies, economic and material elements, brings a specific identity, and, on the other side, the everyday behaviors and psychological processes maintain, transmit, and change culture (Berry, Poortinga, Segall & Dasen, 2002; Csikszentmihalyi, 1993a; Massimini & Delle Fave, 2000; Stigler, Shweder & Herdt, 1990). Memes and artifacts that are related with Flow experience and positive emotions can be maintained in the cultures and transmitted to the next generations. That is, people tend to repeat behaviors and search for those elements of culture that allow the Flow of Consciousness as a positive and meaningful experience to the Self. The individual's inner world is thus built around nuclei and cultural practices that have been able to give them meaning and positive experience: the family, the members of the groups to which they belong, the places of everyday

life, home, school, and work. Society tends to organize itself in order to provide this type of complex and positive experience to the younger generations in the crucial moments of socialization, such as the family and school (Csikszentmihalyi, 1993b; Shernoff, 2013; Shernoff, Csikszentmihalyi, Schneider & Shernoff, 2003 – see also chapters 8 & 11).

However, it is necessary to emphasize a key point in order to understand the role of the Flow in the processes of individual and social change. This experiential state represents an ordered, complex and integrated organization of psychic functions. The cognitive processes are active at a high level, the affective state is positive with feelings of well-being and participation, motivation is of an internal type, in the sense of *intrinsic motivation* (Deci & Ryan, 1985; Ryan & Deci, 2000). In this case there is no conflict between the various parts of the psychic apparatus; the inner world responds adequately to the demands of the environment, all the available psychic energy is invested on the action or on the present situation; the subject experiences a sense of self-determination and competence. It is this integrated system of interactions that makes the experience optimal; the phenomenology of the experience itself allows the onset and prolongation of the latter. Therefore, it does not derive mechanically from the experiences and past dynamics, even though it relates to them: it depends, instead, on the original configuration of the psychic organization through which the inner and external needs are combined, creating the possibility of a new behavioral development.

In the relationship between the mind and the social context, the Flow of Consciousness arises as a "*proximal*" cause of behavior: the experience occurs not only because it meets pre-existing needs (such as the resolution of a conflict or the need to follow social rules passively or in a coercive way), but because its phenomenology is in itself psychologically satisfactory. The Flow is in fact also defined (Csikszentmihalyi & Nakamura, 1989) as *autotelic experience*, an ancient Greek word, which derives from *auto* (self) and *telos* (goal), and defines an experience or a situation as valid in itself, inasmuch as it is rewarding in itself. The Flow of Consciousness is namely a state that is phenomenologically positive and the situation associated with it is experienced in an optimal way not because it has previously been programmed into our central nervous system or imposed by social rules, but because a specific interaction with the environment allows such an orderly and complex organization of consciousness. It is therefore a psychological state that can be defined as *emerging* as it is not originated from the genes (biological instructions) or patterns of learned behavior (internalized cultural instructions).

This is an essential theoretical point: on the one hand, the Flow of Consciousness does not arise on an occasional basis. It depends, as we have seen, on past experiences, on the development of adequate skills arising from the continuous relationship with the environment that surrounds us: the environmental challenges are tied to specific cultural contexts and the values, norms, and customs of the society in which we live. The Flow, therefore, depends on culture and society.

On the other hand being the proximal cause of behavior, it allows freedom of individual thought and creativity (Csikszentmihalyi, 1996). In the interaction between the individual and culture, its symbols, its rules, the individual not only internalizes the behavioral instructions, but also processes, transforms and adapts them to their inner needs. Every person produces more or less significant changes within the symbolic systems and the rules of their culture by directing part of their psychic energy towards symbols or original social purposes; in other words, they can re-interpret values, styles, scientific, religious, moral and political ideas that are presented in a new way and behave accordingly. If these personal re-combinations spread in the cultural system and become part of the latter's structure, they will amount to elements of culture that can be learned and internalized by the following generations. The Flow is therefore a psychological state that is at the heart of the relationship of continuous interaction between the process of psychological selection and that of cultural evolution.

1.6 Some Connections with Others Theories

As it always happens in scientific progress, the Flow theory has had its ground-breakers. Csikszentmihalyi himself has highlighted this as from his first work on the subject (Csikszentmihalyi, 1975). A recent review was carried out by Engeser & Schiepe-Tiska (see *Figure 1.1)*.

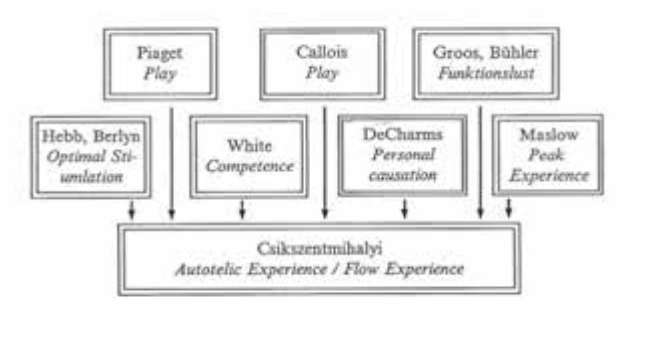

Figure 1.1: Theoretical precursors of Csikszentmihalyi 's Flow theory (from Engeser & Tiska, 2012)

Mentioned below are several other authors who have developed concepts close to the theory of Flow, although starting from a relational and psychosocial perspective.

– A first broad thread is represented by the studies on *Empathy* ranging from the pioneer reflections of James (1884/2007) to more recent studies in neurosciences (Reiss, 2010). Kohut's idea of empathy as a psychotherapist's skills (1959/1978)

will be mentioned here, which will also be useful for Eleonora Riva's reflection in this volume in Chapter 5. Kohut described empathy as *vicarious introspection* that includes both affective and cognitive capacity to respond empathically to another's emotional and cognitive state. This approach anticipates the one proposed by Gardner (2010) who distinguishes four types of empathy: emotional empathy (mirroring others' feelings), cognitive empathy (alignment of thought), moral empathy (being inspired by moral deeds of others), and physical empathy (when, perhaps via mirror neurons, people mirror others' movements and facial expressions). The state of empathy described by the different authors is accomplished through an experience that can be superimposed on that of Flow: there are indeed challenges/skills balance, intrinsic motivation, attentional focusing, and merging into the situation.

- Another concept is *Negative Capability* (Bion, 1970). According to Bion, this experiential state is characterized by the ability to tolerate anxiety and fear, to stay in the place of uncertainty in order to allow for the emergence of new thoughts or perceptions. In this sense it is close to the experience of Flow through which the self-confidence of one's own inner capabilities enables the capability to meet the environmental challenges and the creation of new points of view and new opportunities.
- Another type of experience related to Flow is *Present Moment* highlighted by Stern (2004). *Present moment* is defined as the intersubjective opportunity for emergent experiences and new understandings in daily life and in the psychotherapy. The experience of *the present moment* is to a considerable extent involved in selecting and rewriting past memories, foreshadowing the future. The *present moments* in psychotherapy that bring about change are not conscious (but rather unconscious) and their characteristics are very similar to Flow of Consciousness (Stern, 2004 – see also chapter 5).
- Finally, the concept of *Mindfulness* (Siegel, 2007). Mindfulness is a flexible state of mind, an openness to novelty, a process of actively planning new perspectives, not reacting to inner experience, acting with awareness, concentration, non-judging of experience. The mindful state is sensitive to context and perspective; the person is situated in the present. When we are mindless, we are trapped in rigid mind-sets, oblivious to context or perspective. When we are mindless, our behavior is governed by rule and routine. In contrast, when we are mindful, our behavior may be guided rather than governed by rules and routines (Langer, 2009).

The last definition, which introduces the theme of the relationship with the social rules, leads us again to emphasize a key point: the positive experiential states, endowed with meaning and optimal for the Self, inevitably open the way to change. Change affects not only the individual, their growth and their development; the experiential states also allow the emergence of new ways of thinking, acting, dealing with

the social norms and values of the culture. The experience of Flow thus becomes the bridge between individual psychological selection and cultural change. Feeling good inside and feeling psychologically integrated goes hand in hand with our action in the social reality that allows us to transmit the culture to which we belong in a responsible way, but also to innovate it and produce change within.

References

Berry, J.W., Poortinga, Y.H., Segall, M.H., Dasen, P.R. (Eds.) (2002). *Cross-Cultural psychology: research and applications*. (2° edition). New York: Cambridge University Press.

Bion W. (1970). *Attention and interpretation*. London: Tavistock Publications.

Blackmore S. (1999). *The Meme machine*, Oxford: Oxford University Press.

Bruner J. (1990). *Acts of meaning* .Cambridge, MA: Harvard University Press

Cole, M. (1996), *Cultural Psychology: a once and future discipline*, Cambridge: Belknap Press

Csikszentmihalyi, M. (1975/2000). *Beyond boredom and anxiety*: *Experiencing flow in work and play*. San Francisco: Jossey-Bass.

Csikszentmihalyi, M. (1982). Towards a psychology of optimal experience, in L. Wheeler (Ed.), *Review of Personality and Social Psychology*, vol.2, Beverly Hills: Sage.

Csikszentmihalyi, M. (1988). The Flow experience and its significance for human psychology in Csikszentmihalyi M., Csikszentmihalyi I. (Eds.). *Optimal experience. Studies on Flow of Consciousness*, Cambridge, Mass: Cambridge University Press.

Csikszentmihalyi M. (1990). *Flow. The psychology of optimal experience*, New York: Harper & Row

Csikszentmihalyi, M. (1993a), *The Evolving Self: a psychology for a third millennium*, New York: HarperCollins

Csikszentmihalyi, M. (1993b), L'insegnamento e la trasmissione dei memi, in Massimini F., Inghilleri P. (Eds.) *La selezione psicologica umana. (Human psychological selection)*. Milano: Cooperativa Libraria IULM

Csikszentmihalyi, M. (1996). *Creativity. Flow and the psychology of discovery and invention*. New York: Harper Perennial

Csikszentmihalyi, M. (1997). *Finding flow. The psychology of engagement with everyday life*. New York: Basic Books.

Csikszentmihalyi M. & Massimini F. (1985). On the psychological selection of bio-cultural information, *New Ideas in Psychology*, 3, 115-138

Csikszentmihalyi, M., & Nakamura J. (1989). The dynamics of intrinsic motivation: a study of adolescents. In *Research on Motivation in Education*, vol*. 3, Goals and Cognitions.* New York: Academic Press.

Dawkins, R. (1976/2006). *The selfish gene*. New York: Oxford University Press

Dawkins, R. (1982). *The extended phenotype*. Oxford: W.H. Freeman & Co.

Deci E., Ryan R.M. (1985). *Intrinsic motivation and self-determination in human behavior*, New York: Plenum

Delle Fave A., Massimini F. & Bassi M. (2011). *Psychological selection and optimal experience across cultures*. New York: Springer

Engeser S. (Ed*.) Advances in flow research*, pp 1-22. New York: Springer

Engeser S. & Schiepe-Tiska A. (2012). Historical lines and an overview of current research on flow, in Engeser S. (Ed*.) Advances in flow research*, pp 1-22. New York: Springer

Gardner H. (Ed.) (2010). *Good Work. Theory and practice*. Copyright © 2010 Howard Gardner for the GoodWork Project.

Gardner, H., Csikszentmihalyi, M., & Damon, W. (2001). *Good Work: when excellence and ethics meet.* New York: Basic Books.

Inghilleri, P. (1999). F*rom subjective experience to cultural change*. New York: Cambridge University Press.

Inghilleri P. (Ed.), (2009). *Psicologia Culturale*. Milano: Raffaello Cortina Editore

James W. (1884/2007) *What is an emotion?* Radford Va: Wilder Publications

James, W. (1890). *The Principles of psychology* (2 vols.). New York: Henry Holt (Reprinted Bristol: Thoemmes Press, 1999).

Kahneman D., Diener E. & Shwarz N. (Eds) 1999. *Well-being; The foundations of hedonic psychology*. New York: Russell Sage Foundation;

Kohut, H. (1959). Introspection, empathy and psychoanalysis: An examination of the relationship between modes of observation and theory. *Journal of American Psychoanalytic Association*, 7:459-483. Also in: *The Search for the Self* (ed.) P. Ornstein (1978). 1:205-232. New York: Int. Univ. Press

Langer E. (2009) Mindfulness Versus Positive Evaluation. In S. J. C.R. Lopez & Snyder (Eds.), *Oxford handbook of positive psychology* (279-293). New York: Oxford University Press.

Markus, H.R., Kitayama, S. (1991), Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review,* 98, pp. 224-253.

Massimini F. & Inghilleri P. (Eds.) (1993). *La selezione psicologica umana. (Human psychological selection),* Milano: Cooperativa Libraria IULM.

Massimini, F. & Delle Fave, A. (2000), Individual development in a bio-cultural perspective. *American Psychologist,* 55, pp. 24-33

Monod J. (1971). *Chance and necessity*. New York: Alfred A. Knopf

Miller J.G. (1970). *Living systems*. New York: McGraw-Hill

Prigogine I. (1976), Order through fluctuations. Self-organization and social systems, in E. Jantsch, L.H. Waddington (Eds.) *Evolution and consciousness: Human systems in transition*, Reading MA: Addison-Wesley

Reiss H. (2010) Empathy in medicine. A neurobiological perspective. *JAMA,* 304(14):1604-5.

Ryan R. M. & Deci E. L. (2000). Self-determination theory and facilitation of intrinsic motivation, social development, and well-being, *American Psychologist*, 55, 68-78

Seligman M. & Csikszentmihalyi M. (2000). Positive psychology: An introduction. *American Psychologist*, 1, 5-14

Shernoff, D. J. (2013). *Optimal learning environments to promote student engagement*. New York: Springer.

Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly, 18*, 158-76.

Shweder, R.A. (1991), *Thinking through cultures: Expeditions in cultural psychology.* Cambridge: Harvard University Press.

Siegel D.J. (2007), *The mindful brain: reflection and attunement in the cultivation of well-being.* New York, W W Norton & Co.

Stern D. N. (2004). *The present moment in psychotherapy and everyday life*. New York: W.W. Norton

Stigler, J., Shweder, R.A., Herdt, G. (1990). *Cultural Psychology: The Chicago Symposia*. New York: Cambridge University Press.

Vygotskij L.S. (1978). *Mind in society*. Cambridge, MA: Harvard University Pres

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2 Phenomenology of Positive Change: Personal Growth

Abstract: How do we lastingly change our lives for the better? This chapter presents a possible answer to this question by focusing on the concept of personal change. As underlined by recent research in psychology and neuroscience, personal change is a complex process depending on the person, the issues, and the situation. However, by merging the ideas of two influential transdiagnostic models of change – the Perceptual Control Theory and the TransTheoretical Model of Behavior Change – it is possible to describe a process of personal change that moves from an expressed desire for change to a recovery from inevitable relapses. Even if these characteristics of personal change are now shared by many of the leading approaches to psychotherapy, many of us experience psychological change without the help of any form of treatment. But how does this happen and why?

In this chapter we suggest that our cognitive system is naturally shaped to identify and counter the experiential conflicts that are usually the main motives for change. This is achieved through a specific cognitive process – presence – whose goal is the control of the activity of the individual: I am present in a real or virtual space if I manage to put my intentions into action (enacting them). Specifically presence *provides the self with a feedback about the status of its activity*: the self perceives the variations in the feeling of presence (*breakdowns* and *optimal experience*) and tunes its activity accordingly. The role of breakdowns in personal change is clear: to push individuals towards it. By perceiving a conflict (awareness) between different goals the subject is pushed to resolve the conflict between them.

Optimal experiences, also defined as "flow experiences", instead allow the individual to consider long-term personal goals differently and to experiment with changing them. In other words optimal experiences, when meaningful for the individual, widen the array of thoughts and actions, facilitating generativity and behavioral flexibility. Within this view, we defined *transformation of flow* as a person's ability to draw upon an optimal experience and use it to marshal new and unexpected psychological resources and sources of involvement.

Keywords: Personal change; TransTheoretical Model of Behavior Change; Perceptual Control Theory; Presence; Breakdowns; Optimal presence; Flow of Consciousness.

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2.1 Introduction: The Process of Personal Change

How do we lastingly change our lives for the better? There is not an easy answer to this question. As noted by Higginson and Mansell (2008): "The mechanism of psychological change is not fully understood. This is clear in research demonstrating the efficacy of different therapeutic approaches and the significant rates of natural recovery." (p. 326).

On one side it is well known that different therapies can all facilitate psychological change (Stiles, Barkham, Mellor-Clark, & Connell, 2008; Stiles, Barkham, Twigg, Mellor-Clark, & Cooper, 2006). On the other side, it is also true that some people experience psychological change without the help of any form of treatment (Higginson & Mansell, 2008).

However, due to the advances in psychology and neuroscience we now have a better view of personal change that is not limited to a specific viewpoint. In particular, the emergence of integrative and transdiagnostic accounts suggests that change is contextual, depending on the person, the issues, and the situation (Kottler, 2014). Moreover, personal change is a process, happening in discontinuous and nonlinear ways, following life transitions and traumatic events (Hayes, Laurenceau, Feldman, Strauss, & Cardaciotto, 2007).

Between the transdiagnostic models of change, one of the most influential is the TransTheoretical Model of Behavior Change – TTC (Prochaska & DiClemente, 1982, 1983; Prochaska, DiClemente, & Norcross, 1992). In this model change implies phenomena occurring over time. However, this aspect is largely ignored by many theories of change. To overcome this issue, TTC describes personal change as a progression through a series of five stages: precontemplation, contemplation, determination, action, and maintenance (see Table 1 for a detailed description of these stages). These stages represent a temporal dimension that allows both the individuals and the persons supporting them to understand when particular shifts in attitudes, intentions, and behaviors occur.

Another influential transdiagnostic model of change is the Perceptual Control Theory – PCT (Higginson, Mansell, & Wood, 2011; Vancouver & Putka, 2000). According to PCT at the core of human nature is the process of control (Higginson et al., 2011): "life is a constant process of comparing how things are with how we want things to be and if they do not match doing something to get closer to how we want things to be." (p. 250).

Table 2.1: The TransTheoretical Model of behavior change (adapted from Prochaska & DiClemente, 1982, 1983; Prochaska, DiClemente, & Norcross, 1992).

	Definition	**Subjective Experience**
Precontemplation	The stage at which there is no intention to change behavior in the foreseeable future.	"*I do not have a problem*": the individual is not ready to change his/her behavior
Contemplation	The stage at which there is the recognition of the problem but it is still missing the commitment to take action.	*"I know I have a problem and need to change. I will do something about it, one day":* The individual is considering change, but he/she is not yet committed to it
Determination	The stage at which there is the decision to do something.	*"Yes I have a problem and I need to do something to change – now":* This stage opens for a limited time-period. If the individual moves into action, the process continues. If not, they lapse back into contemplation.
Action	The stage at which individuals modify their behavior, experiences, or environment in order to overcome their problems	*"I am doing something to change my behavior now*": This stage involves the most overt behavioral changes and requires considerable commitment of time and energy
Maintenance	The stage in which individuals work to prevent relapse and consolidate the gains attained during action.	*"I do not stop my work to prevent myself from losing the obtained gains":* This stage requires more and more practice to transform the new behaviors into habits.

In this view control is a process of reducing the distance between what we want and what we are (*error*). Interestingly, the source of errors is both *within* and *between* individuals (Gianakis & Carey, 2011; Higginson et al., 2011). Specifically, PCT suggests that a possible source of error is internal: the coherence between goals and subgoals of the individual (*conflict*).

To eliminate a conflict, the individual must direct his or her awareness to the experience that is creating the conflict. Then, a reorganization is required: a trial and error process which modifies the characteristics or the conflicting goals (Higginson & Mansell, 2008). A summary of the key concepts expressed by PCT is reported in Table 2.

Table 2.2: The Perceptual Control Theory (adapted from Higginson, Mansell, & Wood, 2011; Vancouver & Putka, 2000).

	Definition
Control	Keeping a variable within fixed limits despite outside disturbances.
Error	The difference between what we want and what we are currently experiencing.
Goals	What we want. Goals are set inside the individuals and are organized in a range of subgoals.
Conflict	The experience of incompatible subgoals for the individual's immediate experience.
Reorganization	A trial-and-error learning process that alters the way that we perceive our environment and set our goals until we manage to achieve them in the long term.
Awareness	The ability to perceive, or to be conscious of personal goals. For reorganization to be effective in the long term, awareness must be directed and sustained at personal higher level goals.

As noted by Kottler (2014), by merging these theories we can describe a process of change that basically follows this sequence (pp. 19-20):

1. there is an expressed desire for change that is triggered by a crisis, trauma, or developmental transition;
2. a level of pain and discomfort is reached that can't any longer be ignored or denied;
3. there is an awareness or insight that something different must be done;
4. there is a gradual process of applying what was realized or learned into constructive action;
5. there is recovery from inevitable relapses.

Within this process a critical milestone is the passage between stage 2 and 3. In general it occurs through an intense focus on the particular instance or experience creating the conflict (Wolfe, 2002). By exploring this experience as thoroughly as possible, the individual can relive all of the significant elements associated with it (i.e., conceptual, emotional, motivational, and behavioral) and make them available for reorganization.

Within this general model, different psychotherapies suggested specific approaches for exploring and modifying the conflicting experience: we can find the insight-based approach of psychoanalysis, the schema-reorganization goals of cognitive therapy, the functional analysis of behavioral activation, the interpersonal

relationship focus of interpersonal therapy, and the enhancement of experience awareness in experiential therapies.

What are the differences between them? According to Safran and Greenberg (1991) behind the specific therapeutic approach there are two different models of change: bottom-up and top-down. Bottom-up processing begins with a specific emotional experience and leads eventually to change at the behavioral and conceptual level; top-down change usually involves exploring and challenging tacit rules and beliefs that guide the processing of emotional experience and behavioral planning.

These two models of change are focused on two different cognitive systems, one for information transmission and one for conscious experience, both of which may process sensory input (Brewin, 1989; Kahneman, 2002). Stanovich & West (2000) noted that in the last forty years, different authors from different disciplines suggested a two-process theory of reasoning. Even if the details and specific features of these theories do not always match perfectly, nevertheless they share the following properties:

- Intuitive operations are faster, automatic, effortless, associative, and difficult to control or modify.
- Rational operations, instead, are slower, serial, effortful, and consciously controlled.

The differences between the two systems are described in Table 3.

Table 2.3: Differences between the Rational and the Intuitive systems.

	Rational System	**Experiential/Intuitive System**
Main Features	*Rational*: Conscious, deliberative and affect-free *Abstract*: Encodes reality in symbols, words, and numbers *Analytic*: Connections by cause-and-effect relations *Slower processing*: Capable of long delayed action *Less resistant to change*: Can change with speed of thought *More highly differentiated*: nuanced thinking *More highly integrated:* Organized in part by cross-situational principles *Experienced actively and consciously*: We believe we are in control of our thoughts *Not Self-evident:* Requires justification via logic and evidence	*Intuitive:* Preconscious, automatic, and intimately associated with affect *Concrete:* Encodes reality in images, metaphors, and narratives *Associative*: Connections by similarity and contiguity *Rapid processing:* Oriented toward immediate action *Resistant to change:* Changes with repetitive or intense experience *Differentiated:* Broad generalization gradient; categorical thinking *Integrated:* Situationally specific; organized in part by cognitive-affective modules *Experienced passively and preconsciously:* We are seized by our emotions *Self-evidently valid:* "Experiencing is believing"
How it works	Operates by reality principle (what is logical and supported by evidence) Acquires its beliefs by conscious learning and logical inference More process oriented Behavior mediated by conscious appraisal of events	Operates by hedonic principle (what feels good) Acquires its schemas by learning from experience Outcome oriented Behavior mediated by "vibes" from past experience

In sum we can identify some important properties of personal change:

- the focus of personal change is reducing the distance between goals and reality;
- this reduction is achieved through: a) an intense focus on the particular experience creating the conflict; b) a reorganization of this experience;
- the focus and reorganization of the experience may happen both at the intuitive and at the rational level;
- this reduction requires a complex process based on different stages.

As noted by different authors, these characteristics of personal change are now shared by many of the leading approaches to psychotherapy, including psychodynamic and cognitive behavioral therapy (Higginson et al., 2011; Kottler, 2014).

However, many people experience psychological change without the help of any form of treatment. How does this happen and why?

To answer these questions, the main tenets of this chapter are:

- *our cognitive system is naturally shaped to identify and counter experiential conflicts*;
- *this is achieved through a specific cognitive process – presence – whose goal is the control of the activity of the individual*: I am present in a real or virtual space if I manage to put my intentions into action (enacting them);
- *there is a link between presence and the effectiveness of an action*: the greater level of presence a subject experiences in an activity, the greater the individual's involvement in the activity will be, and this increases the probability of the activity ending well (the transformation of the intention into action);
- *there are "optimal experiences" in which both the individual experiences the maximum feeling of presence, and he/she is able to change/produce creative work more easily.*

In the following paragraphs we will endeavor to justify these claims. In order to do so, we will begin with the analysis of the transformations which are characterizing cognitive sciences.

2.2 A New Vision of Cognition

Different recent discoveries from cognitive sciences are suggesting that human cognition – rather than being centralized, abstract, and sharply distinct from peripheral input and output modules – has instead deep roots in sensorimotor processing.

An example of this trend is the recent discovery of neuronal resonance processes activated by the simple observation of actions. Rizzolatti and colleagues found that a functional cluster of premotor neurons (F5c-PF) contains two groups of "bimodal" neurons in which sensory and motor faculties are linked (Gallese, Fadiga, Fogassi, & Rizzolatti, 1996; Rizzolatti, Fadiga, Gallese, & Fogassi, 1996).

- the first group of neurons (F5ab-AIP) – known as "canonical" neurons, are activated when the individual sees an object with which he/she can potentially interact;
- the second group of neurons (F5c-PF) – known as "mirror**"** neurons, are activated when the individual sees another subject performing the same action.

The existence of bimodal neurons suggests that action and perception are more closely linked than has traditionally been assumed. Specifically, for the *Common Coding Theory* (Hommel, Müsseler, Aschersleben, & Prinz, 2001), the cognitive representations for perceived events (perception) and intended or to-be generated events (action) are formed by a common representational domain: actions are coded in terms of the perceivable effects they should generate. For example, "canonical" neurons permit an immediate and intuitive (pre-reflexive) understanding of opportunities for

interaction which various objects may offer (in the case of the handle of a coffee cup, the possibility of being taken hold of if the subject wants to drink).

For this reason, when an effect is intended, the movement that produces this effect as perceptual input is automatically activated, because actions and their effects are stored in a common representational domain: the sight of a red apple is believed to activate a simulation of the motor functions necessary to pick it up.

In simpler words, the brain has its own virtual reality system that is used in both action planning and action understanding. But how can the subject know whether his or her intention has really been transformed into an effective action? We shall try to answer this question in the following paragraph by introducing the concept of presence.

2.3 A Definition of Presence

The concept of "*presence*" originated from and was diffused by a technological scientific community at the same time as the introduction of a unique piece of communication technology, teleoperators: robots controlled from a distance by a human operator (Heeter, 1992). In this case the term telepresence refers to the human operator's sensation of being present in the remote location in which the teleoperator is situated (Held & Durlach, 1992). But am I present only when I'm experiencing a telepresence system or a virtual reality environment?

Obviously the answer is no. This is why recent neuropsychological studies suggest that presence has a key role in our cognitive processes: it can be described as the outcome of an intuitive metacognitive process that allows us to control our actions through the comparison between intentions and perceptions (Riva & Mantovani, 2012b).

According to Gamberini, Spagnolli and Mantovani, the sense of presence is linked to a subject's capacity for action and his ability to position himself within his physical and social space (Spagnolli & Gamberini, 2005). More precisely, for Spagnolli and Gamberini (2005): "Presence is the feature of the agent which is manifested through the creation of a space during action" (p. 8).

A similar, but broader view, was recently outlined by Riva and Waterworth (Riva, Waterworth, Waterworth, & Mantovani, 2011;Riva, Waterworth, & Murray, 2014; Waterworth, Waterworth, Mantovani, & Riva, 2010). The idea proposed by these authors is the following: presence can be described as a selective and adaptive mechanism which allows the Self to define the boundaries of action by means of the distinction between "internal" and "external" within the sensory flow (Riva & Mantovani, 2012a, 2012b). In other words, the subject is "*present*" in a space if he/she can act in it. Moreover, the subject is "*present*" in the space – real or virtual – where he/she can act in (Waterworth et al., 2010). Interestingly, what we need for presence are

both the affordance for action (the possibility of acting) and its enaction (the ability of successfully acting).

To sum up, we can define presence as the pre-reflexive sensation of "being" in an environment, real or virtual, which results from the capacity to carry out intuitively one's intentions within that environment (for a broader introduction to presence, check the open access book "Interacting with Presence" by Riva, Waterworth & Murray, 2014).

2.4 The Levels of Presence

An important consequence of this framework is the need to understand more what "acting successfully" means. We can start from the definition of "Agency": "the power to alter at will one's perceptual inputs" (Russell, 1996). But how can we define our will? A simple answer to this question is: through intentions. Following this line of reasoning, presence can be defined as "the non mediated (prereflexive) perception of using the body to successfully transform intentions into actions (enaction)" (Riva, 2007, 2008).

A possible criticism to this definition is the following (Riva, 2009): "I may be asked to repair a computer, and I may be unable to fix it. This does not mean that I am not present in the environment (real or virtual) where the computer and I are."

This objection makes sense if we use the folk psychology definition of intention: the intention of an agent performing an action is his/her specific purpose in doing so. However, the latest cognitive studies clearly show that, as also suggested by the Perceptual Control Theory discussed in the introduction, any behavior is the result of a complex intentional chain that cannot be analyzed at a single level (Pacherie, 2006; Searle, 1983).

According to the *Activity Theory* introduced by Leontjev and disseminated by Kaptelinin, & Nardi (Kaptelinin & Nardi, 2006; Leontjev, 1978), and to the *Dynamic Theory of Intentions* presented by Pacherie (Pacherie, 2006, 2008; Pacherie & Haggard, 2010) repairing a computer is driven by an above objective (e.g., obtaining the money for paying a new car) and is the result of lower-level operations (e.g., removing the hard disk or the CPU, cleaning them, etc.) each driven by specific purposes.

So, for an intention that failed (repairing the computer) many others were successful (removing the hard disk, cleaning it, etc.) inducing Presence (Riva, 2009, 2010).

Specifically, the *Dynamic Theory of Intentions* identifies three different "levels" or "forms" of intentions (*Figure 1*), characterized by different roles and contents: distal intentions (D-intentions), proximal intentions (P-intentions) and motor intentions (M-intentions):

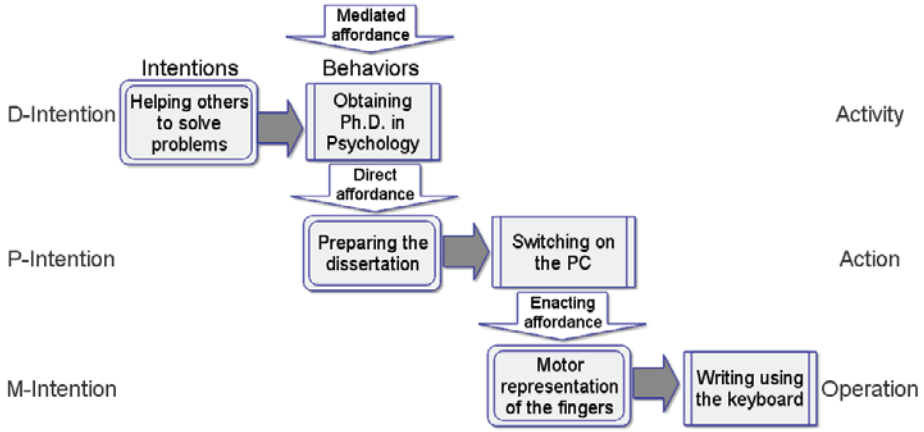

Figure 2.1: The intentional chain (from Riva and Mantovani, 2012a).

- *D-intentions (Future-directed intentions)*. These high-level intentions act both as intra- and interpersonal coordinators, and as prompters of practical reasoning about means and plans: in the activity "obtaining a Ph.D. in psychology" described in *Figure 1*, "helping others to solve problems" is a D-intention, the object that drives the activity of the subject.
- *P-intentions (Present-directed intentions)*. These intentions are responsible for high-level (conscious) forms of guidance and monitoring. They have to ensure that the imagined actions become current through situational control of their unfolding: in the activity described in *Figure 1*, "preparing the dissertation" is a P-intention.
- *M-intentions (Motor intentions)*. These intentions are responsible for low-level (unconscious) forms of guidance and monitoring: we may not be aware of them and have only partial access to their content. Further, their contents are not propositional: in the activity described in *Figure 1*, the motor representations required to write using the keyboard are M-intentions.

Any intentional level has its own role: the rational (D-intentions), situational (P-Intention) and motor (M-Intention) guidance and control of action. They form an intentional cascade (Pacherie, 2006, 2008) in which higher intentions generate lower intentions.

Even if presence is a unitary feeling, the hypothesis formulated by Riva and Waterworth (Riva & Waterworth, 2003; Riva, Waterworth, & Waterworth, 2004) suggests that, on the process side, it can be divided into three phylogenetically different

layers/subprocesses , that correspond reasonably well to the three levels of intentions identified by Pacherie (*Figure 2* and Table 4):

Table 2.4: The layers of presence

Layer	Definition	Evolutive Role
Proto Presence	The ability to enact motor intentions by moving the body.	The more the organism is able to *correctly associate stimuli to movement in sensorial flow,* the better it is able to differentiate itself from its external surroundings and thus increase its chances of survival.
Core Presence	The ability to enact proximal intentions through the identification of direct *affordances*.	The better the organism is able to distinguish between imagination and perception, planning and action, the greater its chances of survival will be.
Extended Presence	The ability to enact distal intentions through the identification of indirect *affordances*.	The better the organism is able to separate itself from the present and *identify within its own representations those most relevant,* the greater are its chances of survival.

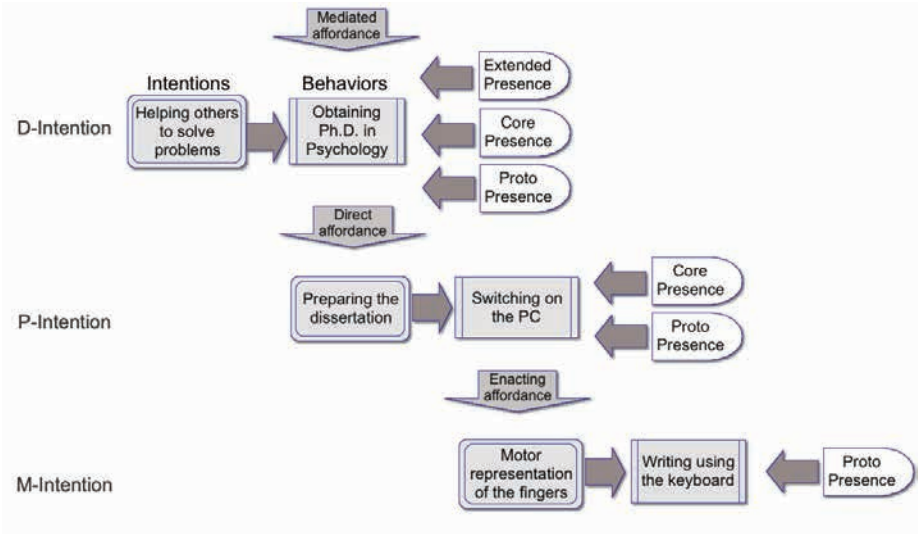

Figure 2.2: Layers of presence in human activity.

1. *Proto Presence:* Motor Intentions (Self vs. non Self);
2. *Core Presence:* Proximal Intentions, directed towards the Present (Self vs. actual external world);
3. *Extended Presence:* Distal Intentions, directed towards the Future (Self vs. possible/future external world).

In practice, the Self evolves by extending the boundaries of its actions through the acquisition higher levels of intentional ability.

In fact, the three levels of intention are differentiated by the limits to the actions which the subject is able to perform. The boundaries of the actions resulting from motor intentions are defined by the relationship between body and mind: I can only move my body. The boundaries of the actions resulting from proximal intentions depend upon the relationship between the mind and the physical world: I can only interact with the objects which are present around me. The boundaries of the actions resulting from distal intentions are given by the relationship between the mind and the possible world: I can try to do everything that I can imagine doing.

This view suggests that when the subject is present during agency – he/she is able to successfully enact his/her intentions – he/she locates him/herself in the physical and cultural space in which the action occurs.

Moreover, it also suggests that the feeling of presence will be different according to the ability of the subject to enact his/her intentions within an external environment. For instance, in the movie "Pretty Woman" Julia Robert is in a restaurant for a formal dinner with Richard Gere, but she doesn't know how to use the snail tongs and the snail forks she has nearby her dish. In this situation Julia is physically there, but the lack of knowledge puts her outside, at least partially, from the social and cultural space of the "formal dinner". The result is reduced presence and a limitation in her agency: she is not able to enact her intention (opening an escargot) using the snail forks, and this puts her in an embarrassing situation (she launches the escargot across the restaurant).

In conclusion, from an evolutionary point of view, presence has three functions:

- To permit the subject to position himself in a space – real, virtual or social – through the distinction between "internal" and "external" and the definition of a boundary;
- To check the efficacy of the subject's actions through the comparison of intention and the result of the action. From a computational viewpoint, the experience of presence is achieved through a forward-inverse model (*Figure 3*) that is similar to the negative feedback loop described by Perceptual Control Theory to reduce errors:
- First, the agent produces the motor command for achieving a desired state given the current state of the system and the current state of the environment;

- Second, an efference copy of the motor command is fed to a forward dynamic model that generates a prediction of the consequences of performing this motor command;
- Third, the predicted state is compared with the actual sensory feedback. Errors derived from the difference between the desired state and the actual state can be used to update the model and improve performance.

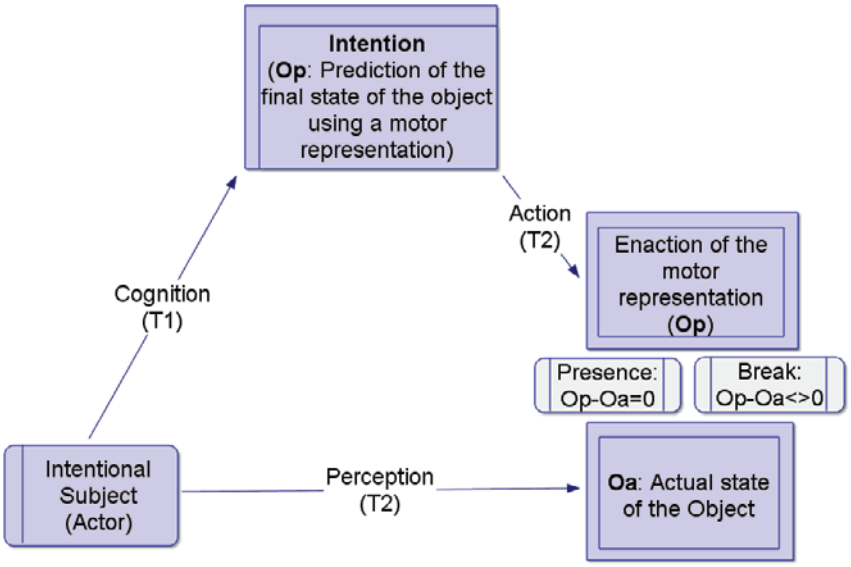

Figure 2.3: The experience of presence

- To allow its own evolution through the identification of *"optimal experiences" (Flow)* and the incorporation of the artifacts – physical and social – linked to it.

2.5 Presence and Optimal Experiences

In the previous paragraph we introduced a critical feature of presence: it *provides the self with a feedback about the status of its activity*. Specifically, the self perceives the variations in the feeling of presence (*breakdowns* and *optimal experience*) and tunes its activity accordingly (Riva, 2006; Riva & Waterworth, 2014).

Winograd and Flores (Winograd & Flores, 1986) refer to presence disruptions as *breakdowns:* a *breakdown* occurs when, during our activity, an aspect of our environment that we usually take for granted becomes part of our consciousness. If this happens, we shift our attention from action to the object or environment to cope with

it, as predicted by the Perceptual Control Theory (Higginson et al., 2011; Vancouver & Putka, 2000).

It is interesting to consider why we experience these breakdowns. Our hypothesis is that breakdowns are a sophisticated evolutionary tool used to control the quality of experience that ultimately enhances our chances of survival, by promoting personal change (Riva et al., 2004; Riva et al., 2011). Specifically, the subject tries to overcome any breakdown in its activity and searches for engaging and rewarding activities (optimal experiences).

During breakdowns we experience a lower level of presence. This reduces the quality of experience, and leads us to confront environmental difficulties through an attentive shift. As suggested by the Perceptual Control Theory, breakdowns push the individual to reorganize his/her goals (Higginson et al., 2011): "It is a trial-and-error learning process that randomly alters the way that we perceive our environment and set our goals until we manage to achieve them in the long term" (p. 251).

For example, if during a virtual reality experience, my arm moves and suddenly comes into contact with a cable, I immediately become aware of the change at the level of proto presence and I shift my attention from my virtual reality experience to the cable which is impeding my movement to move it away (Spagnolli & Gamberini, 2002).

The same is true for the other presence levels. If the reality TV show the subject is watching becomes boring or upsetting, the subject becomes immediately aware of the variation in the level of extended presence, and can decide whether or not to pick up the remote control and change channel (Riva & Mantovani, 2012a).

However, there are particular situations in which our actions are so fluent and effective that they produce a feeling of maximum presence. When this experience of full control and immersion is associated to a positive emotional state, it can create an optimal experience usually defined "flow state" (Csikszentmihalyi, 1990, 1994; see also chapter one).

An example of flow is the case where a professional athlete is playing exceptionally well (positive emotion) and achieves a state of mind where nothing else matters but the game (high level of presence). For Ghani and Deshpande (1994) the two main characteristics of flow are (a) the total concentration in an activity and (b) the enjoyment which one derives from the activity. Moreover, these authors identified two other factors affecting the experience of flow: a sense of control over one's environment and the level of challenge relative to a certain skill level. Finally, flow provides to the individual an intrinsic motivation. In other words, the motivation to engage in a flow-inducing behavior arises from within the individual because it is intrinsically rewarding (Ryan & Deci, 2000).

In sum flow is characterized by (Csikszentmihalyi, 1990, 1994):

- a high level of concentration and participation in the activity;
- by the balance of the perception of the difficulties of the situation and the *challenge*, and personal *skills;*

- by the distortion of the sense of time (the internal clock slows down, whilst the external one speeds up);
- and by a natural interest in the process which produces a sense of pleasure and satisfaction.

2.6 Optimal Experiences and Personal Change

The role of breakdowns in personal change is clear: to push individuals towards it. By perceiving a conflict (awareness) between different goals – for example, watching a boring tv program and having an engaging experience – the subject is pushed to resolve the conflict between them. But what is the role of optimal experiences?

As suggested by different authors, the role of optimal experiences is to produce flourishing (Fredrickson & Branigan, 2005; Fredrickson & Losada, 2005; Johnson, Waugh, & Fredrickson, 2010; Kok et al., 2013; Van Cappellen, Saroglou, Iweins, Piovesana, & Fredrickson, 2013): to live in good mental and physical health, experiencing goodness, generativity, growth, and resilience. This is achieved by broadening the individual's momentary thought-action repertoires, widening the array of the thoughts and actions that come to mind.

Let's try to clarify this point. As underlined in the previous paragraph, breakdowns push the individual to reorganize his/her goals. However, to be effective in the long term, reorganization needs to affect the higher level goals (Higginson et al., 2011):

Individuals need to change the long-term personal goals rather than simply modifying different routines and habits. To achieve this individuals have to consider both long-term personal goals differently and start to experiment with changing them. This is what is offered by optimal experiences (Fredrickson & Branigan, 2005; Fredrickson & Losada, 2005): to widen the array of thoughts and actions called forth (e.g., play, explore), facilitating generativity and behavioral flexibility.

However, the outcomes of optimal experience are not automatically positive. As noted by Delle Fave and colleagues (Delle Fave, Massimini, & Bassi, 2011), they vary according to the meaning attributed to them: only the optimal experience that has a relevant meaning for the individual experiencing it (high level of extended presence) is able to sustain and promote personal change (see *Figure 4*).

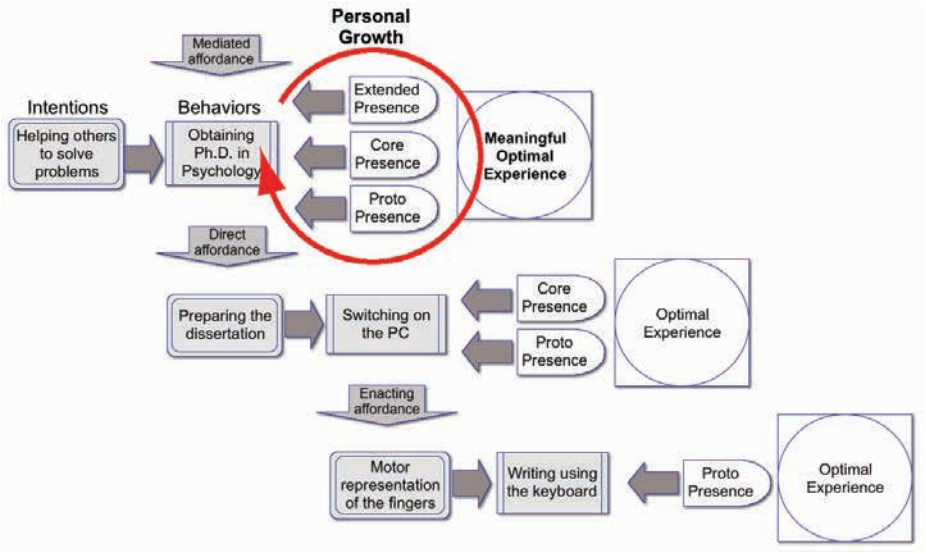

Figure 2.4: Presence and Optimal Experiences.

Within this context, the *transformation of flow* can be defined as a person's ability to draw upon a meaningful optimal experience and use it to marshal new and unexpected psychological resources and sources of involvement (Riva, Castelnuovo, & Mantovani, 2006; Riva, Mantovani, & Gaggioli, 2004).

As underlined by Massimini and Delle Fave, (2000): "To replicate [optimal experiences], a person will search for increasingly complex challenges in the associated activities and will improve his or her skill, accordingly. This process has been defined as cultivation; it fosters the growth of complexity not only in the performance of flow activities but in individual behavior as a whole." (p. 28). In other word, our cognitive system selects and cultivates activities, interests and relationships – also mediated by technologies and tools (for deepening this point see also the next Chapter and Gaggioli & Riva, 2014) – associated with meaningful optimal experiences.

Put differently, meaningful optimal experiences carry indirect and long-term adaptive value because they facilitate personal change through the emergence of new solutions and skills.

The previous chapter introduced and discussed the concept of "Psychological Selection" (Delle Fave et al., 2011; Inghilleri, 1999; Massimini, Inghilleri & Delle Fave, 1996) that further develops the concepts discussed in these pages by linking optimal experience to the social dimension. (A detailed analysis of the link between the social dimension and optimal experiences can also be found in Chapter 4).

2.7 Conclusions

How do we lastingly change our lives for the better? The chapter presented a possible answer to this question by focusing on the concept of personal change.

As underlined by recent research in psychology and neuroscience, personal change is a complex process depending on the person, the issues, and the situation. However, by merging the ideas of two influential transdiagnostic models of change – the Perceptual Control Theory (Higginson et al., 2011; Vancouver & Putka, 2000) and the TransTheoretical Model of Behavior Change (Prochaska & DiClemente, 1982, 1983; Prochaska et al., 1992) – it is possible to describe a process of personal change (Kottler, 2014) following this sequence (pp. 19-20):

1. there is an expressed desire for change that is triggered by a crisis, trauma, or developmental transition;
2. a level of pain and discomfort is reached that can't any longer be ignored or denied;
3. there is an awareness or insight that something different must be done;
4. there is a gradual process of applying what was realized or learned into constructive action; and there is recovery from inevitable relapses.

Even if these characteristics of personal change are now shared by many of the leading approaches to psychotherapy, many of us experience psychological change without the help of any form of treatment. How and why?

In the chapter we suggested that our cognitive system is naturally shaped to identify and counter the experiential conflicts that are described in the points 1 and 2 of the above list.

This is achieved through a specific cognitive process – presence – the goal of which is to control the the activity of the individual: I am present in a real or virtual space if I manage to put my intentions into action (enacting them).

On one side, there is a link between presence and the effectiveness of an action: the greater level of presence a subject experiences in an activity, the greater the individual's involvement in the activity will be, and this increases the probability of the activity ending well (the transformation of the intention into action).

On the other side, presence provides the self with a feedback about the status of its activity. Specifically, the self perceives the variations in the feeling of presence (breakdowns and optimal experience) and tunes its activity accordingly.

The role of breakdowns in personal change is clear: to push individuals towards it. By perceiving a conflict (awareness) between different goals the subject is pushed to resolve the conflict between them.

Optimal experiences, also defined as "flow experiences", instead allow the individual to consider their long-term personal goals differently and start to experiment with changing them. In other words optimal experiences, when meaningful for the individual, widen the array of thoughts and actions, facilitating generativity and

behavioral flexibility. Within this view, we defined *transformation of flow* a person's ability to draw upon a meaningful experience and use it to marshal new and unexpected psychological resources and sources of involvement.

Obviously, this chapter has its limitations: the framework here introduced is still in progress and some of the claims presented require additional theoretical work and an empirical confirmation. Nevertheless, quite independently of the intricacies of terminology and conceptualizations, we hope that the framework discussed in these pages and in the next chapter will help to disentangle the variety of claims and theories that characterizes the positive side of personal change.

References

Brewin, C.R. (1989). Cognitive Change Processes in Psychotherapy. *Psychological Review, 96*(3), 379-394.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: HarperCollins.

Csikszentmihalyi, M. (1994). *The evolving self*. New York: Harper Perennial.

Delle Fave, A., Massimini, F., & Bassi, M. (2011). *Psychological Selection and Optimal Experience Across Cultures: Social Empowerment through Personal Growth*. New York: Springer.

Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition & emotion, 19*(3), 313-332. doi: 10.1080/02699930441000238

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *The American psychologist, 60*(7), 678-686. doi: 10.1037/0003-066X.60.7.678

Gaggioli, A., & Riva, G. (2014). Psychological treatments: Smart tools boost mental-health care. *Nature*, 512(7512), 28. doi: 10.1038/512028b

Gallese, V., Fadiga, L., Fogassi, L., & Rizzolatti, G. (1996). Action recognition in the premotor cortex. *Brain, 119*(593-609).

Ghani, J.A., & Deshpande, S.P. (1994). Task characteristics and the experience of optimal flow in Human-Computer Interaction. *The Journal of psychology, 128*(4), 381-391.

Gianakis, M., & Carey, T. A. (2011). An interview study investigating experiences of psychological change without psychotherapy. *Psychol Psychother, 84*(4), 442-457. doi: 10.1111/j.2044-8341.2010.02002.x

Hayes, A. M., Laurenceau, J. P., Feldman, G., Strauss, J. L., & Cardaciotto, L. (2007). Change is not always linear: the study of nonlinear and discontinuous patterns of change in psychotherapy. *Clin Psychol Rev, 27*(6), 715-723. doi: 10.1016/j.cpr.2007.01.008

Heeter, C. (1992). Being There: The subjective experience of presence. *Presence: Teleoperators and Virtual Environments, 1*(2), 262-271.

Held, R.M., & Durlach, N.I. (1992). Telepresence. *Presence, Teleoperators, and Virtual Environments, 1*(1), 109-112.

Higginson, S., & Mansell, W. (2008). What is the mechanism of psychological change? A qualitative analysis of six individuals who experienced personal change and recovery. *Psychology and Psychotherapy: Theory, Research and Practice, 81*, 309-328. doi: 10.1348/147608308X320125

Higginson, S., Mansell, W., & Wood, A. M. (2011). An integrative mechanistic account of psychological distress, therapeutic change and recovery: the Perceptual Control Theory approach. *Clin Psychol Rev, 31*(2), 249-259. doi: 10.1016/j.cpr.2010.01.005

Hommel, B., Müsseler, J., Aschersleben, G., & Prinz, W. (2001). The Theory of Event Coding (TEC): A framework for perception and action planning. *Behavioral and Brain Sciences, 24*(5), 849-937.

Inghilleri, P. (1999). *From Subjective Experience to Cultural Change*. Cambridge, UK: Cambridge University Press.

Johnson, K. J., Waugh, C. E., & Fredrickson, B. L. (2010). Smile to see the forest: Facially expressed positive emotions broaden cognition. *Cognition & emotion, 24*(2), 299-321. doi: 10.1080/02699930903384667

Kahneman, D. (2002). Maps of Bounded Rationality: A Perspective on Intuitive Judgment and Choice. In T. Frängsmyr (Ed.), *The Nobel Prizes 2002* (pp. 449-489). Stockholm: Nobel Foundation.

Kaptelinin, V., & Nardi, B. (2006). *Acting with Technology: Activity Theory and Interaction Design*. Cambridge, MA: MIT Press.

Kok, B. E., Coffey, K. A., Cohn, M. A., Catalino, L. I., Vacharkulksemsuk, T., Algoe, S. B., . . . Fredrickson, B. L. (2013). How positive emotions build physical health: perceived positive social connections account for the upward spiral between positive emotions and vagal tone. *Psychol Sci, 24*(7), 1123-1132. doi: 10.1177/0956797612470827

Kottler, J. A. (2014). *Change: What really leads to lasting personal transformation*. New York, NY: Oxford University Press.

Leontjev, A.N. (1978). *Activity, consciousness, and personality*. Englewood, NJ: Prentice-Hall. Online: http://marxists.org/archive/leontev/works/1978/ch3.htm.

Massimini, F., & Delle Fave, A. (2000). Individual development in a bio-cultural perspective. *American Psychologist, 55*(1), 24-33.

Massimini, F., Inghilleri, P., & Delle Fave, A. (Eds.). (1996). *La selezione psicologica umana: Teoria e metodo d'analisi [Human psychological selection: theory and methodology]*. Milano: Cooperativa Libraria I.U.L.M.

Pacherie, E. (2006). Toward a dynamic theory of intentions. In S. Pockett, W. P. Banks & S. Gallagher (Eds.), *Does consciousness cause behavior?* (pp. 145-167). Cambridge, MA: MIT Press.

Pacherie, E. (2008). The phenomenology of action: A conceptual framework. *Cognition, 107*(1), 179-217.

Pacherie, E., & Haggard, P. (2010). What are intentions? In L. Nadel & W. Sinnott-Armstrong (Eds.), *Conscious Will and Responsibility. A tribute to Benjamin Libet* (pp. 70-84). Oxford: Oxford University Press.

Prochaska, J.O., & DiClemente, C.C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy Theory, Research and Practice, 19*(3), 212-216.

Prochaska, J.O., & DiClemente, C.C. (1983). Stages and processes of self-change in smoking toward an integrative model of change. *Journal of Consulting Clinical Psychology, 5*, 390-395.

Prochaska, J.O., DiClemente, C.C., & Norcross, J.C. (1992). In search of how people change. *American Psychologist, 47*(9), 1102-1114.

Riva, G. (2006). Being-in-the-world-with: Presence meets Social and Cognitive Neuroscience. In G. Riva, M. T. Anguera, B. K. Wiederhold & F. Mantovani (Eds.), *From Communication to Presence: Cognition, Emotions and Culture towards the Ultimate Communicative Experience. Festschrift in honor of Luigi Anolli* (pp. 47-80.). Amsterdam: IOS Press. Online: http://www.emergingcommunication.com/volume8.html.

Riva, G. (2007). Virtual Reality and Telepresence. Science, 318(5854), 1240-1242.

Riva, G. (2008). Enacting Interactivity: The Role of Presence. In F. Morganti, A. Carassa & G. Riva (Eds.), *Enacting Intersubjectivity: A cognitive and social perspective on the study of interactions* (pp. 97-114). Amsterdam: IOS Press: Online: http://www.emergingcommunication.com/volume10.html.

Riva, G. (2009). Is presence a technology issue? Some insights from cognitive sciences *Virtual Reality, 13*(3), 59-69.

Riva, G. (2010). Dall'intenzione, all'azione, all'interazione: il ruolo di "presenza" e "presenza sociale". In F. Morganti, A. Carassa & G. Riva (Eds.), *Intersoggettività e Interazione: Un dialogo fra scienze cognitive, scienze sociali e neuroscienze* (pp. 136-177). Torino: Bollati Boringhieri.

Riva, G., Castelnuovo, G., & Mantovani, F. (2006). Transformation of flow in rehabilitation: the role of advanced communication technologies. *Behav Res Methods, 38*(2), 237-244.

Riva, G., & Mantovani, F. (2012a). Being There: Understanding the Feeling of Presence in a Synthetic Environment and its Potential for Clinical Change. In C. Eichenberg (Ed.), *Virtual Reality in Psychological, Medical and Pedagogical Applications,* (pp. 3-34. Online: http://www.intechopen.com/books/virtual-reality-in-psychological-medical-and-pedagogical-applications/being-there-understanding-the-feeling-of-presence-in-a-synthetic-environment-and-its-potential-for-c). New York: InTech.

Riva, G., & Mantovani, F. (2012b). From the body to the tools and back: a general framework for presence in mediated interactions. *Interacting with Computers, 24*(4), 203-210. doi: doi: 10.1016/j.intcom.2012.04.007

Riva, G., & Waterworth, J. A. (2014). Being present in a virtual world. In M. Grimshaw (Ed.), *The Oxford Handbook of Virtuality* (pp. 205-221). New York: Oxford University Press.

Riva, G., & Waterworth, J.A. (2003). Presence and the Self: A cognitive neuroscience approach. *Presence-Connect, 3*(1), Online: http://presence.cs.ucl.ac.uk/presenceconnect/articles/Apr2003/jwworthApr72003114532/jwworthApr72003114532.html.

Riva, G., Waterworth, J.A., & Waterworth, E.L. (2004). The Layers of Presence: a bio-cultural approach to understanding presence in natural and mediated environments. *Cyberpsychology & Behavior, 7*(4), 405-419.

Riva, G., Mantovani, F., & Gaggioli, A. (2004). Presence and rehabilitation: toward second-generation virtual reality applications in neuropsychology. *Journal of Neuroengineering and Rehabilitation*, 1(1), 9. doi: 1743-0003-1-9 [pii]

Riva, G., Waterworth, J.A., Waterworth, E.L., & Mantovani, F. (2011). From intention to action: The role of presence. *New Ideas in Psychology, 29*(1), 24-37.

Rizzolatti, G., Fadiga, L., Gallese, V., & Fogassi, L. (1996). Premotor cortex and the recognition of motor actions. *Cognitive Brain Research, 3*, 131-141.

Russell, J.A. (1996). *Agency: Its role in mental development*. Hove: Erlbaum.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *The American psychologist, 55*(1), 68-78.

Safran, J.D., & Greenberg, L.S. (1991). *Emotion, psychotherapy, and change*. New York: The Guilford Press.

Searle, J. (1983). *Intentionality: An essay in the philosophy of mind*. New York: Cambridge University Press.

Spagnolli, A., & Gamberini, L. (2002, 9-11 October). *Immersion/Emersion: Presence in hybrid environments*. Paper presented at the Presence 2002: Fifth Annual International Workshop, Porto, Portugal.

Spagnolli, A., & Gamberini, L. (2005). A Place for Presence. Understanding the Human Involvement in Mediated Interactive Environments. *PsychNology Journal, 3*(1), 6-15. On-line: http://www.psychnology.org/index.php?page=abstract—-volume-13—-spagnolli.

Stanovich, K. E., & West, R. F. (2000). Individual differences in reasoning: implications for the rationality debate? *Behav Brain Sci, 23*(5), 645-665; discussion 665-726.

Stiles, W. B., Barkham, M., Mellor-Clark, J., & Connell, J. (2008). Effectiveness of cognitive-behavioural, person-centred, and psychodynamic therapies in UK primary-care routine practice: replication in a larger sample. *Psychol Med, 38*(5), 677-688. doi: 10.1017/S0033291707001511

Stiles, W. B., Barkham, M., Twigg, E., Mellor-Clark, J., & Cooper, M. (2006). Effectiveness of cognitive-behavioural, person-centred and psychodynamic therapies as practised

in UK National Health Service settings. *Psychol Med, 36*(4), 555-566. doi: 10.1017/S0033291706007136

Van Cappellen, P., Saroglou, V., Iweins, C., Piovesana, M., & Fredrickson, B. L. (2013). Self-transcendent positive emotions increase spirituality through basic world assumptions. *Cognition & emotion, 27*(8), 1378-1394. doi: 10.1080/02699931.2013.787395

Vancouver, J. B., & Putka, D. J. (2000). Analyzing Goal-Striving Processes and a Test of the Generalizability of Perceptual Control Theory. *Organ Behav Hum Decis Process, 82*(2), 334-362. doi: 10.1006/obhd.2000.2901

Waterworth, J.A., Waterworth, E.L., Mantovani, F., & Riva, G. (2010). On Feeling (the) Present: An evolutionary account of the sense of presence in physical and electronically-mediated environments. *Journal of Consciousness Studies, 17*(1-2), 167-178.

Winograd, T., & Flores, F. (1986). *Understanding Computers and Cognition: A New Foundation for Design*. Norwood, NJ: Ablex Publishing Corporation.

Wolfe, B.E. (2002). The Role of Lived Experience in Self- and Relational Observation: A Commentary on Horowitz (2002). *Journal of Psychotherapy Integration, 12*(2), 147-153.

Giuseppe Riva, Andrea Gaggioli

3 Positive Change and Positive Technology

Abstract: Cyberpsychology is a recent branch of psychology that is driven by the quest to help humans deal with their digital environments. The object of study in cyberpsychology, as it is for much Human-Computer Interaction research, is the change introduced by the technology and not the technology itself. In particular, it aims at the understanding, forecasting and activation of the different processes of change related to the use of new technologies. However, within this broad focus cyberpsychology has two faces. On one side, cyberpsychology tries to understand how technologies can be used to induce clinical change (*cybertherapy*). On the other side, cyberpsychology focuses on the possible use of technology for improving personal development and well-being (*positive technology*).In this chapter we introduced and described the "Positive Technology" approach: the scientific and applied approach for the use of technology in improving the quality of our personal experience through its structuring, augmentation and/or replacement – as a way of framing a suitable object of study in the field of personal change. First, we suggest that it is possible to use technology to manipulate the quality of experience, with the goal of increasing wellness, and generating strengths and resilience in individuals, organizations and society. Then we will classify positive technologies according to their effects on these three features of personal experience - *Hedonic*: technologies used to induce positive and pleasant experiences; *Eudaimonic*: technologies used to support individuals in reaching engaging and self-actualizing experiences; *Social/Interpersonal*: technologies used to support and improve the connectedness between individuals, groups, and organizations. Finally, for each level we have identified critical variables – affect regulation for the Hedonic, flow and presence for the Eudaimonic; social presence, collective intentions and networked flow for the Social/Interpersonal – that can be manipulated and controlled to guide the design and development of positive technologies.

Keywords: Cyberpsychology; Cybertherapy; Positive technology; Hedonic; Eudaimonic, Social Flow; Interpersonal Flow; Social presence; Collective intentions; Networked flow.

3.1 Introduction: The Growing Role of Technology in Our Life

Emerging technologies – the Internet, mobile devices, virtual reality, etc. – have greatly improved our lives (Castelnuovo, Gaggioli, Mantovani, & Riva, 2003; Preziosa, Grassi, Gaggioli, & Riva, 2009; Riva & Mantovani, 2012). However, integration of

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technology in every sphere of our life is also changing us. But how is it changing us and why?

Cyberpsychology is a recent branch of psychology that is trying to answer these questions. Cyberpsychology originated in human sciences, and is driven by the quest to help humans deal with their digital environments. The object of study in cyberpsychology, as it is for much Human-Computer Interaction research, is the change introduced by the technology and not the technology itself. In particular, it aims at the understanding, forecasting and activation of the different processes of change related to the use of new technologies.

Journals such as "*CyberPsychology, Behavior and Social Networking*", "Computers in Human Behaviors", "*IEEE Transactions on Biomedical Engineering*", "*Journal of Cybertherapy and Rehabilitation*", "*Journal of Medical Internet Research*", "*Telemedicine and e-health*", are dedicated to reporting progress in this field.

Within this broad focus, however, cyberpsychology has two faces. On one side, cyberpsychology tries to understand how technologies can be used to induce clinical change (*cybertherapy*). On the other side, cyberpsychology focuses on the possible use of technology for improving personal development and well-being (*positive technology*).

In this chapter we will focus on positive technology. Specifically, we will introduce and describe the "Positive Technology" approach – the scientific and applied approach to the use of technology for improving the quality of our personal experience through its structuring, augmentation and/or replacement – as a way of framing a suitable object of study in the field of personal change (Graffigna, Barello, Wiederhold, Bosio, & Riva, 2013; Riva, 2012b; Riva, Banos, Botella, Wiederhold, & Gaggioli, 2012; Wiederhold & Riva, 2012). Specifically, we suggest that it is possible to use technology to influence three specific features of our experience – affective quality, engagement/actualization and connectedness – that serve to promote adaptive behaviors and positive functioning (Graffigna, Barello, & Riva, 2013a, 2013c). In this framework, positive technologies are classified according to their effects on a specific feature of personal experience. Moreover, for each level we have identified critical variables that can be manipulated to guide the design and development of positive technologies.

3.2 From Positive Psychology to Positive Technology

Psychologists started recognizing that the discipline's focus on helping people with mental health problems, specifically the diagnostic-treatment model, left many outside their scope. Early in the last decade, psychologists such as Seligman and Csikszentmihalyi proposed to increase the attention on developing well-being (Seligman & Csikszentmihalyi, 2000). Positive psychology, as they called it, aims at understanding human strengths and virtues, and to promote these strengths to allow individuals,

communities, and societies to flourish (Aspinwall & Staudinger, 2003; Seligman & Csikszentmihalyi, 2000).

Specifically, in Positive Psychology we can find two different conceptions of well-being, namely "subjective well-being" (also called "hedonic well-being") and "psychological well-being" (also called "eudaimonic well-being"). The first position refers to a person's subjective evaluation of his life satisfaction, and of his positive and negative emotional feelings. In contrast with subjective well-being, psychological well-being links happiness with lifelong conduct aimed at self-development. Whereas psychological well-being focuses on the challenges faced by adults in their private lives, social well-being concerns the tasks encountered by adults in their social structures and communities (Keyes & Haidt, 2003).

Since then the field of positive psychology has flourished. In his book "Authentic Happiness" Seligman talked about the "three pillars" of a good life (Seligman, 2002):

- *the pleasant life*: achieved through the presence of positive emotions;
- *the engaged life*: achieved through engagement in satisfying activities and utilization of one's strengths and talents;
- *the meaningful life*: achieved through serving a purpose larger than oneself.
- Notwithstanding its fast growth, some have underlined that positive psychology has relevant methodological limitations related to the focus and the length of most studies (McNulty & Fincham, 2012). To address this issue, Riva recently suggested that positive psychology may be the science of personal experience (Riva, 2012a) in that its aim should be understanding of how it is possible to manipulate the quality of personal experience with the goals of increasing wellness and generating strengths and resilience in individuals, organizations, and society.

In this view, positive functioning is a combination of three types of well-being (Keyes & Lopez, 2002) – high emotional well-being; high psychological well-being; and high social well-being – that are achieved through the manipulation of three characteristics of our personal experience – affective quality, engagement/actualization and connectedness.

Riva and colleagues (Riva, 2012b; Riva et al., 2012; Gaggioli & Riva, 2014) also suggested that it is possible to combine the objectives of Positive Psychology with enhancements of Information and Communication Technologies (ICTs) towards a new paradigm: *Positive Technology*. The main objective of this new paradigm is to use technology to manipulate and enhance the features of our personal experience for increasing wellness, and generating strength and resilience in individuals, organizations and society (Wiederhold & Riva, 2012). In the proposed framework (see *Figures 1* and *2*), positive technologies are classified according to their effects on the above features of personal experience (Botella et al., 2012):

- *Hedonic*: technologies used to induce positive and pleasant experiences.
- *Eudaimonic*: technologies used to support individuals in reaching engaging and self-actualizing experiences.

– *Social/Interpersonal*: technologies used to support and improve social integration and/or connectedness between individuals, groups, and organizations.

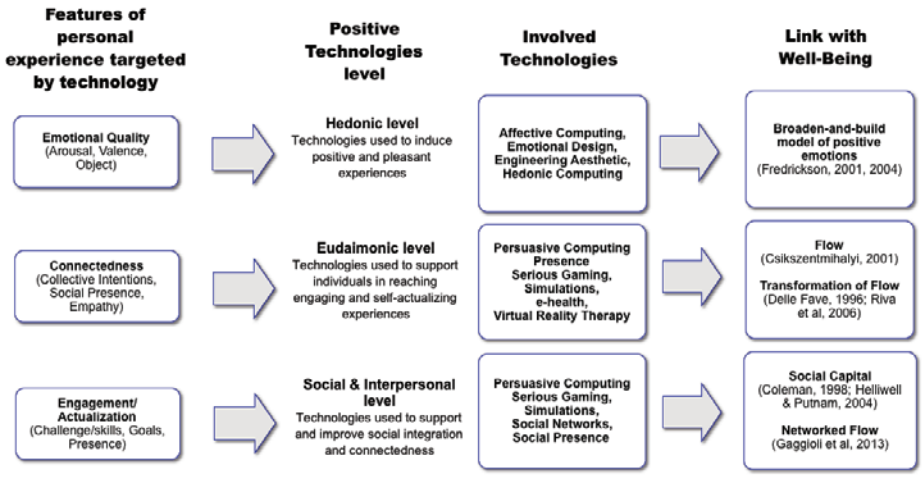

Figure 3.1: Positive Technology levels (Adapted from Riva et al., 2012)

3.3 Hedonic Level: Using Technology to Foster Positive Emotional States

The first dimension of Positive Technology concerns how to use technology to foster positive emotional states. According to the model of emotions developed by James Russell (2003) it is possible to modify the affective quality of an experience through the manipulation of "core affect", a neurophysiological category corresponding to the combination of valence and arousal levels that endow the subjects with a kind of "core knowledge" about the emotional features of their experience.

The "core affect" can be experienced as freefloating (mood) or attributed to some cause (and thereby begins an emotional episode). In this view, an emotional response is the attribution of a change in the core affect given to a specific object (affective quality). Simply put, a positive emotion is achieved by increasing the valence (positive) and arousal (high) of core affect (affect regulation) and by attributing this change to the contents of the proposed experience (object).

Key arguments for the usefulness of positive emotions in increasing well-being have been recently provided by Fredrickson (Fredrickson, 2001, 2004) in what she called the "broaden-and-build model" of positive emotions. According to Fredrickson, positive emotions provide the organism with nonspecific action tendencies

that can lead to adaptive behavior (Fredrickson, 2001). For example, in children joy is associated with the urge to play, whereas interest sparks the urge to explore; in adults, positive emotions make them more likely to interact with others, provide help to others in need, and engage in creative challenges. The second proposition of Fredrickson's model concerns the consequences of the positive emotions: as discussed in the first chapter, by broadening an individual's awareness and thought – action repertoire, they build upon the resultant learning to create future physical, psychological and social resources (Fredrickson, 2004).

In literature it is possible to find many different approaches to hedonic technologies. For example, Riva and colleagues (2007) investigated how the content of interactive media, in particular virtual reality (VR), can be manipulated to induce specific emotional responses, including positive moods. The results suggested the efficacy of VR as an affective medium: the interaction with "anxious" and "relaxing" virtual environments produced anxiety and relaxation.

In a subsequent study, Villani and colleagues (Villani, Lucchetta, Preziosa, & Riva, 2009; Villani, Riva, & Riva, 2007) compared the efficacy of structured experiences provided through different technologies (video, audio and VR) for inducing relaxing states. The results of this experiment showed a significant reduction in anxiety and a significant improvement in positive emotional states, measured through self-report questionnaires and physiological parameters, but no difference among the media conditions. However, findings highlighted a significant correlation between changes in emotional states and factors related to the sense of presence felt by participants during media exposure.

3.4 The Eudaimonic Level: Using Technology to Promote Engagement and Self-Empowerment

The second level of Positive Technology is strictly related to the eudaimonic concept of well-being, and consists of investigating how technologies can be used to support individuals in reaching engaging and self-actualizing experiences.

The theory of flow, developed by Positive Psychology pioneer Mihaly Csikszentmihalyi (1990), provides a useful framework for addressing this challenge. As discussed in the first chapter Flow or optimal experience is a positive and complex state of consciousness that is present when individuals act with total involvement. The basic feature of this experience is the perceived balance between high environmental opportunities for action (challenges) and adequate personal resources in facing them (skills). Additional characteristics are deep concentration, clear rules in and unambiguous feedback from the task at hand, loss of self-consciousness, control of one's actions and environment, positive affect and intrinsic motivation.

The theory of flow has been extensively used to study user experience with information and communication technologies. Ghani (Ghani & Deshpande, 1994)

identified three factors that influence the occurrence of flow in human-computer interaction: perceived control, fitness of task (i.e., the difference between challenges and skills), and cognitive spontaneity ("playfulness"). According to Ghani's model, the experience of flow can produce positive cognitive effects in users, such as an augmented focus on the process, increased creativity, and enhanced learning.

Among the different types of interactive technologies investigated so far by flow researchers, immersive systems such as VR are considered the most capable of supporting the emergence of this experience (Gaggioli, Bassi, & Delle Fave, 2003; Riva, Castelnuovo, & Mantovani, 2006; Riva et al., 2010). Research conducted thus far highlights some key characteristics of this technology as a source of flow: (a) opportunities for action (goals and rules) – due to its flexibility, VR provides designers with the possibility of creating a wide range of increasingly challenging situations and tasks, (b) feedback – VR systems can offer multimodal feedback to individuals' actions and behavior (Gaggioli, 2004; Gaggioli et al., 2003). Some researchers have drawn parallels between the experience of flow in VR and the sense of presence, defined as the subjective perception of "being there" in a virtual environment (Heeter, 2003; Riva, 2009a; Riva, Waterworth, & Waterworth, 2004; Riva, Waterworth, Waterworth, & Mantovani, 2011; Zahoric & Jenison, 1998). From the phenomenological viewpoint, both experiences have been described as absorbing states, characterized by a merging of action and awareness, loss of self-consciousness, a feeling of being transported into another reality, and an altered perception of time (Waterworth, Waterworth, Mantovani, & Riva, 2010). Further, both presence and optimal experience are associated with high involvement, focused attention and high concentration on the ongoing activity (Marsh, 2003). In particular, Riva and Waterworth (Riva et al., 2011; Waterworth et al., 2010) have argued that there is a correspondence between "maximal" presence and optimal experience. Drawing on Damasio's (1999) three-fold model of self (proto-self, core-self, and extended self), these authors have suggested that "optimal presence" arises when the three components of the self are combined with an abnormally tight focus on the same content, so that intentions and action are directed exclusively towards the current external situation.

Starting from these theoretical premises, Riva and colleagues (Riva, 2009b,c; Riva et al., 2006) have suggested the possibility of using VR for a new breed of applications in positive mental health, based on a strategy defined as "transformation of flow", defined as a person's ability to draw upon an optimal experience induced by technology, and use it to promote new and unexpected psychological resources and sources of involvement (see also Chapter 2).

This strategy, that integrates the Fredrickson's "broaden-and-build model" with "flow" theory, involves three main steps (Riva et al., 2006; Riva, Mantovani, & Gaggioli, 2004). First, it is necessary to identify an information-rich environment that contains functional real-world demands; second, to use the technology to enhance the level of presence of the subject in the environment and to induce an optimal experience; third, to allow cultivation by linking this optimal experience to the actual

experience of the subject. As underlined by Gaggioli and colleagues (2003), to maintain the balance between high challenges and skills that characterize optimal experience, the individual will search for increasingly complex opportunities for action leading to the progressive improvement of related skills. By virtue of this dynamic process of skills cultivation and increasing levels of challenges, optimal experience influences individual development through the building of a life theme, namely the set of goals and interests a person preferentially pursues and cultivates in his/her life.

3.5 The Social and Interpersonal Level: Using Technology to Promote Social Integration and Connectedness

The final level of Positive Technology – the social and interpersonal one – is concerned with the use of technologies to support and improve the connectedness between individuals, groups, and organizations. However, an open challenge is to understand how to use technology to create a mutual sense of awareness, which is essential to the feeling that other participants are there, and to create a strong sense of community at a distance. Short et al., (1976) define 'social presence' as the "degree of salience of the other person in a mediated communication and the consequent salience of their interpersonal interactions" (p. 65). Conventional computer-mediated communicative tools, such as email or text-based chat, are regarded as having lower social presence and social context cues when compared to face-to-face communication. However, different authors have suggested that it is possible to manipulate the technological experience to enhance social presence and thereby improve different mediated activities (Park, 2010) such as online learning (Joyce, 2009), e-commerce (Swamynathan, Wilson, Boe, Almeroth, & Zhao, 2008) and health care (Boulos & Wheeler, 2007).

Riva and colleagues (2010; 2014) recently suggested that a subject is present within a virtual group if he is able to put his own intentions (presence) into practice and to understand the intentions of the other group members (social presence). This implies that, as discussed in Chapter 4, to sustain social optimal experiences (networked flow), the technology has to provide the virtual group with the possibility of expressing itself and of understanding what each individual member is doing (Riva, 2004). More, Gaggioli and colleagues (Gaggioli, Milani, Mazzoni, & Riva, 2011) argued that optimal group state is achieved when the team develops a "we-intention", in which the actions of the individuals and of the collective are merged, and the group acts as an autonomous, self-organizing entity.

Following this vision Morris (2005) has recently described how social-networking and pervasive computing technologies can be effectively used to help reduce feelings of social isolation and depression in elderly individuals. In their approach, sensor data measuring phone calls and visits are used to derive public displays of social interactions with relatives and friends, which they introduced into selected

elders' homes. These ambient displays, which reflect data on remote and face-to-face interaction gathered by wireless sensor networks, are intended to raise awareness of social connectedness as a dynamic and controllable aspect of well-being. According to findings, this strategy was effective in reducing the feeling of social isolation of elderly users.

Key arguments for the usefulness of connectedness in increasing well-being have been presented by Ryff and Singer (2000). The authors argued that interpersonal flourishing (the development of positive relations with other people) is a key dimension of well-being, which is stable across different cultures and time. Furthermore, in a recent paper, Mauri and colleagues (2011) used a variety of physiological data – skin conductance, blood volume pulse, electroencephalogram, electromyography, respiratory activity, and pupil dilation – to evaluate the affective experience evoked by the use of Facebook. The biological signals revealed that Facebook use can evoke a psychophysiological state characterized by high positive valence and high arousal (Core Flow State). These findings support the hypothesis that the successful spread of social networks might be associated with a specific positive affective state experienced by users when they use their account.

Finally, the concept of "social capital" underlines the value of social relationships for the society as a whole: relations among persons facilitate activity and promote well-being (Coleman, 1988; Helliwell & Putnam, 2004).

Despite the fact that creating and maintaining social relationships is considered a major indicator of well-being and a protective factor for health (House, Landis, & Umberson, 1988), Western society is characterized by increasing levels of loneliness and lack of social integration. The need of social integration is higher in specific social groups, such as adolescents, disabled, and elderly people. As a consequence, healthcare policies have become increasingly interested in supporting mental health and rehabilitation programs aimed at overcoming social isolation. Information and communication technologies can play a key role in improving these programs.

3.6 Conclusions: Positive Technology for Personal Growth

Cyberpsychology is a recent branch of psychology that is driven by the quest to help humans deal with their digital environments. The object of study in cyberpsychology, as it is for much Human-Computer Interaction research, is the change introduced by the technology and not the technology itself. In particular, it aims at the understanding, forecasting and activation of the different processes of change related to the use of new technologies.

Within this broad focus, however, cyberpsychology has two faces. On one side, cyberpsychology tries to understand how technologies can be used to induce clinical change (*cybertherapy*). On the other side, cyberpsychology focuses on the

possible use of technology for improving personal development and well-being (*positive technology*).

In this chapter we introduced and described the "Positive Technology" approach: the scientific and applied approach to the use of technology for improving the quality of our personal experience through its structuring, augmentation and/or replacement – as a way of framing a suitable object of study in the field of personal change (Graffigna, Barello, Wiederhold, et al., 2013; Riva, 2012b; Riva et al., 2012; Wiederhold & Riva, 2012).

The core psychological background of "Positive Technology" is "Positive Psychology" a nascent discipline whose broad goals are to understand human strengths and virtues, and to promote these strengths in order to allow individuals, communities, and societies to flourish. Specifically, Positive Psychology views optimal functioning as the combination of emotional well-being, social well-being and psychological well-being.

In this chapter we also suggested that it is possible to use technology to manipulate the quality of experience, with the goal of increasing wellness, and generating strengths and resilience in individuals, organizations and society. Firstly, we have classified positive technologies according to their effects on these three features of personal experience (*Figure 2*):

- *Hedonic*: technologies used to induce positive and pleasant experiences.
- *Eudaimonic*: technologies used to support individuals in reaching engaging and self-actualizing experiences.
- *Social/Interpersonal*: technologies used to support and improve the connectedness between individuals, groups, and organizations.

Additionally, for each level we have identified critical variables – affect regulation for the Hedonic, flow and presence for the Eudaimonic; social presence, collective intentions and networked flow for the Social/Interpersonal – that can be manipulated and controlled to guide the design and development of positive technologies.

Finally, the different examples show that technology can be used to manipulate the features of an experience in three separate but related ways (*Figure 2*):

- *By structuring it* using a goal, rules and a feedback system (McGonigal, 2011): The goal provides subjects with a sense of purpose focusing attention and orienting his/her participation in the experience. The rules, by removing or limiting the obvious ways of getting to the goal, push subjects to see the experience in a different way. The feedback system tells players how close they are to achieving the goal and provides motivation to keep trying.
- *By augmenting it* to achieve multimodal and mixed experiences. Technology allows multisensory experiences in which content and its interaction is offered through more than one of the senses. It is even possible to use technology to overlay virtual objects onto real scenes (Rosenblum, 2000).

– *By replacing it* with a synthetic one. Using VR it is possible to simulate physical presence in a synthetic world that reacts to the action of the subject as if he/she was really there. Moreover, the replacement possibilities offered by technology even extend to the induction of an illusion of ownership over a virtual arm or a virtual body (Slater, Spanlang, Sanchez-Vives, & Blanke, 2010).

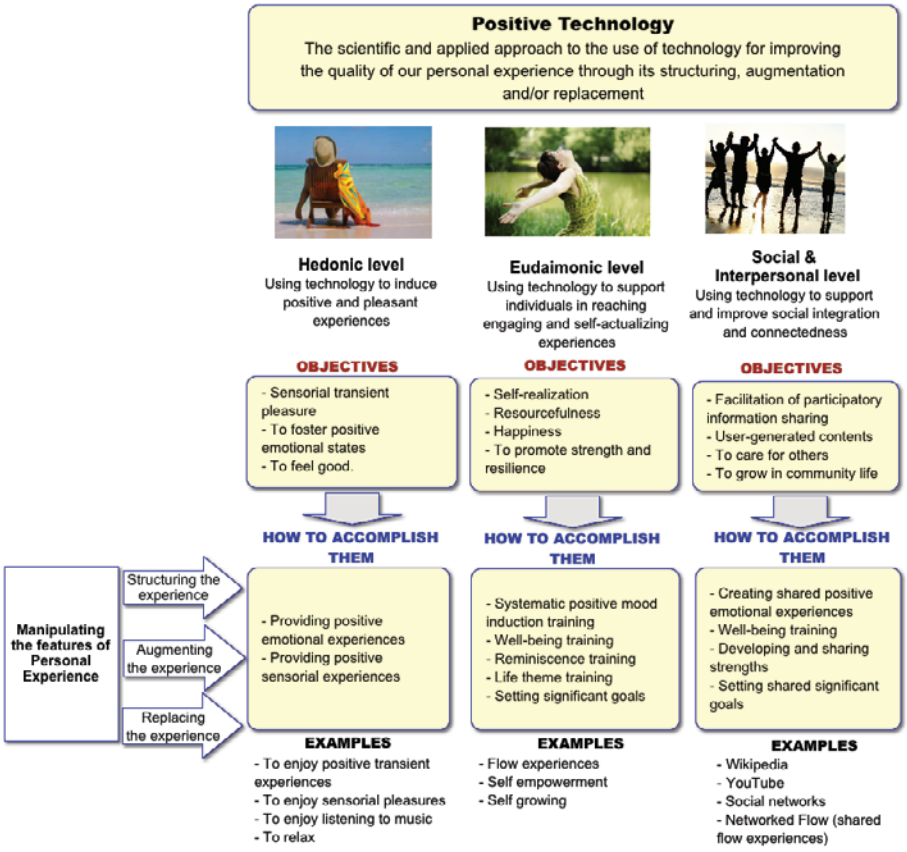

Figure 3.2: Positive Psychology tools (Adapted from Botella et al., 2012)

Even if Positive Techology tools can be used in cybertherapy, too, there is a relevant difference: to be effective, they have to adapt to the specific stage of the change process that the patient is in. As discussed in the first chapter of this book, Kottler (2014), identified a process of change that basically follows this sequence (pp. 19-20):

1. there is an expressed desire for change that is triggered by a crisis, trauma, or developmental transition;
2. a level of pain and discomfort is reached that can't any longer be ignored or
3. denied;
4. there is an awareness or insight that something different must be done;

5. there is a gradual process of applying what was realized or learned into constructive action; and
6. there is recovery from inevitable relapses.

Within this process, Positive Technologies are successful only if they are able to sustain the patient engagement within the provided experience. Recently, Graffigna and colleagues (Graffigna, 2009; Graffigna, Barello, et al., 2013a; Graffigna, Barello, & Riva, 2013b; Graffigna, Barello, Wiederhold, et al., 2013) defined "patient engagement" as the experience resulting from the conjoint conative (act), cognitive (think) and emotional (feel) enactment of individuals in their *care & cure* management.

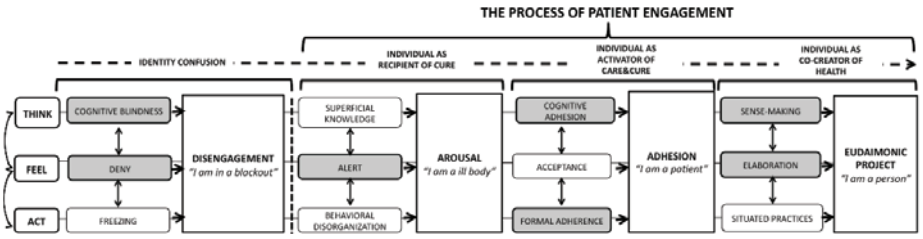

Figure 3.3: The Process of Patient Engagement (Adapted from Graffigna et al., 2013a)

These different experiential dimensions play different (but complementary) driving roles, as key factors for promoting patients' advancement in this sense-making process (see *Figure 3*). The unachieved synergy among the different subjective dimensions inhibits patients from engaging in their *care&cure* management, limiting their potential for obtaining the greatest benefit from the offered Positive Technologies.

References

Aspinwall, L.G., & Staudinger, U.M. (Eds.). (2003). *A psychology of human strengths: Fundamental questions and future directions for a positive psychology*. Washington, D.C.: American Psychological Association.

Botella, C., Riva, G., Gaggioli, A., Wiederhold, B. K., Alcaniz, M., & Banos, R. M. (2012). The present and future of positive technologies. *Cyberpsychology, behavior and social networking, 15*(2), 78-84. doi: 10.1089/cyber.2011.0140

Boulos, M.N.K., & Wheeler, S. (2007). The emerging Web 2.0 social software: an enabling suite of sociable technologies in health and health care education. *Health Information and Libraries Journal, 24*(1), 2-23.

Castelnuovo, G., Gaggioli, A., Mantovani, F., & Riva, G. (2003). New and old tools in psychotherapy: The use of technology for the integration of traditional clinical treatments. *Psychotherapy: Theory, Research, Practice and Training, 40*(1-2), 33-44.

Coleman, J.S. (1988). Social Capital in the creation of human capital. *The American Journal of Sociology, 94*, S95-S120.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: HarperCollins.

Damasio, A. (1999). *The Feeling of What Happens: Body, Emotion and the Making of Consciousness*. San Diego, CA: Harcourt Brace and Co, Inc.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology. The broaden-and-build theory of positive emotions. *The American psychologist, 56*(3), 218-226.

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philos Trans R Soc Lond B Biol Sci, 359*(1449), 1367-1378. doi: 10.1098/rstb.2004.1512

Gaggioli, A. (2004). Optimal Experience in Ambient Intelligence. In G. Riva, F. Vatalaro, F. Davide & M. Alcañiz (Eds.), *Ambient Intelligence: The evolution of technology, communication and cognition towards the future of human-computer interaction* (pp. 35-43). Amsterdam: IOS Press. On-line: http://www.emergingcommunication.com/volume6.html.

Gaggioli, A., Bassi, M., & Delle Fave, A. (2003). Quality of Experience in Virtual Environments. In G. Riva, W. A. IJsselsteijn & F. Davide (Eds.), *Being There: Concepts, effects and measurement of user presence in synthetic environment* (pp. 121-135). Amsterdam: Ios Press. Online: http://www.emergingcommunication.com/volume5.html.

Gaggioli, A., Milani, L., Mazzoni, E., & Riva, G. (2011). Networked Flow: A Framework for Understanding the Dynamics of Creative Collaboration in Educational and Training Settings. *The Open Education Journal, 4*(Suppl 2:M2), 107-115.

Ghani, J.A., & Deshpande, S.P. (1994). Task characteristics and the experience of optimal flow in Human-Computer Interaction. *The Journal of psychology, 128*(4), 381-391.

Gorini, A., Capideville, C.S., De Leo, G., Mantovani, F., & Riva, G. (2010). The Role of Immersion and Narrative in Mediated Presence: The Virtual Hospital Experience. *Cyberpsychology, Behavior and Social Networks*, DOI: 10.1089/cyber.2010.0100.

Graffigna, G. (2009). *Interpersonal exchanges about HIV-Aids through different media: A cross-cultural comparison*. Saarbrücken: VDM Verlag.

Graffigna, G., Barello, S., & Riva, G. (2013a). How to make health information technology effective: the challenge of patient engagement. *Archives of physical medicine and rehabilitation, 94*(10), 2034-2035. doi: 10.1016/j.apmr.2013.04.024

Graffigna, G., Barello, S., & Riva, G. (2013b). Technologies for Patient Engagement. *Health affairs, 32*(6), 1172. doi: 10.1377/hlthaff.2013.0279

Graffigna, G., Barello, S., & Riva, G. (2013c). Technologies for patient engagement. *Health affairs, 32*(6), 1172. doi: 10.1377/hlthaff.2013.0279

Graffigna, G., Barello, S., Wiederhold, B. K., Bosio, A. C., & Riva, G. (2013). Positive technology as a driver for health engagement. *Stud Health Technol Inform, 191*, 9-17.

Heeter, C. (2003). Reflections on real presence by a virtual person. *Presence: Teleoperators and Virtual Environments, 12*(4), 335-345.

Helliwell, J.F., & Putnam, R.D. (2004). The social context of well-being. *Philos Trans R Soc Lond B Biol Sci, 359*, 1435-1446.

House, J.S., Landis, K.R., & Umberson, D. (1988). Social relationships and health. *Science, 241*(4865), 540-545.

Joyce, K.M. (2009). Enhancing Social Presence in Online Learning: Mediation Strategies Applied to Social Networking Tools. *Online Journal of Distance Learning Administration, 12*(4), online: http://www.westga.edu/~distance/ojdla/winter124/joyce124.html.

Keyes, C.L.M., & Haidt, J. (Eds.). (2003). *Flourishing: Positive Psychology and the Life Well-Lived*. Washington, DC: American Psychological Association.

Keyes, C.L.M., & Lopez, S.J. (2002). Toward a science of mental health: Positive directions in diagnosis and interventions. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 45-59). New York: Oxford University Press.

Kottler, J. A. (2014). *Change: What really leads to lasting personal transformation*. New York, NY: Oxford University Press.

Marsh, T. (2003). Staying there: an activity-based approach to narrative design and evaluation as an antidote to virtual corpsing. In G. Riva, F. Davide & W. A. IJsselsteijn (Eds.), *Being There: Concepts, effects and measurements of user presence in synthetic environments* (pp. 85-96). Amsterdam: IOS Press.

Mauri, M., Villamira, M., Cipresso, P., Balgera, A., & Riva, G. (2011). Why Is Facebook So Successful? Psychophysiological Measures Describe a Core Flow State While Using Facebook. *Cyberpsychology, Behavior and Social Networks, 14*(12), 723-731.

McGonigal, J. (2011). *Reality Is Broken. Why games make us better and how they can change the world*. New York: The Penguin Press.

McNulty, J.K., & Fincham, F.D. (2012). Beyond Positive Psychology? Toward a contextual view of psychological processes and well-being. *American Psychologist, 67*(2), 101-110.

Morris, M.E. (2005). Social networks as health feedback displays. *IEEE Internet Computing, 9*, 29-37.

Park, H. (2010). The Effect Of Activities In Virtual Worlds As A Communication Environment To Understand Each Other. *Journal of CyberTherapy & Rehabilitation, 3*(1), 71-82.

Preziosa, A., Grassi, A., Gaggioli, A., & Riva, G. (2009). Therapeutic applications of the mobile phone. *British Journal of Guidance & Counselling, 37*(3), 313-325. doi: 10.1080/03069880902957031

Riva, G. (2004). The psychology of Ambient Intelligence: Activity, situation and presence. In G. Riva, F. Davide, F. Vatalaro & M. Alcañiz (Eds.), *Ambient Intelligence: The evolution of technology, communication and cognition towards the future of the human-computer interaction* (pp. 19-34). Amsterdam: IOS Press. On-line: http://www.emergingcommunication.com/volume6.html.

Riva, G. (2009a). Presence as Cognitive Process. In D. Benyon, M. Smyth & I. Helgason (Eds.), *Presence for everyone: A short guide to presence research* (pp. 29-31). Edinburgh, UK: Napier University.

Riva, G. (2009b). Virtual reality: an experiential tool for clinical psychology. *British Journal of Guidance & Counselling, 37*(3), 337-345. doi: 10.1080/03069880902957056

Riva, G. (2009c). Is presence a technology issue? Some insights from cognitive sciences Virtual Reality, 13(3), 59-69.

Riva, G. (2012a). Personal experience in positive psychology may offer a new focus for a growing discipline. *American Psychologist, 67*(7), 574-575.

Riva, G. (2012b). What is Positive Technology and its impact on CyberPsychology. *Stud Health Technol Inform, 181*, 37-41.

Riva, G., Banos, R. M., Botella, C., Wiederhold, B. K., & Gaggioli, A. (2012). Positive technology: using interactive technologies to promote positive functioning. *Cyberpsychology, behavior and social networking, 15*(2), 69-77. doi: 10.1089/cyber.2011.0139

Riva, G., Castelnuovo, G., & Mantovani, F. (2006). Transformation of flow in rehabilitation: the role of advanced communication technologies. *Behav Res Methods, 38*(2), 237-244.

Riva, G., & Mantovani, F. (2012). Being There: Understanding the Feeling of Presence in a Synthetic Environment and its Potential for Clinical Change. In C. Eichenberg (Ed.), *Virtual Reality in Psychological, Medical and Pedagogical Applications,* (pp. 3-34. Online: http://www.intechopen.com/books/virtual-reality-in-psychological-medical-and-pedagogical-applications/being-there-understanding-the-feeling-of-presence-in-a-synthetic-environment-and-its-potential-for-c). New York: InTech.

Riva, G., & Mantovani, F. (2014). Extending the Self through the Tools and the Others: a General Framework for Presence and Social Presence in Mediated Interactions. In G. Riva, J.A. Waterworth, & D. Murray, (Eds.), *Interacting with Presence: HCI and the Sense of Presence in Computer-mediated Environments*. (pp. 9-31). Warsaw/Berlin: De Gruyter Open.

Riva, G., Mantovani, F., Capideville, C. S., Preziosa, A., Morganti, F., Villani, D., . . . Alcaniz, M. (2007). Affective interactions using virtual reality: the link between presence and emotions. *Cyberpsychology and Behavior, 10*(1), 45-56.

Riva, G., Mantovani, F., & Gaggioli, A. (2004). Presence and rehabilitation: toward second-generation virtual reality applications in neuropsychology. *Journal of Neuroengineering and Rehabilitation, 1*(1), 9. doi: 1743-0003-1-9 [pii]

10.1186/1743-0003-1-9

Riva, G., Raspelli, S., Algeri, D., Pallavicini, F., Gorini, A., Wiederhold, B. K., & Gaggioli, A. (2010). Interreality in practice: bridging virtual and real worlds in the treatment of posttraumatic stress disorders. *Cyberpsychol Behav Soc Netw, 13*(1), 55-65. doi: 10.1089/cyber.2009.0320 [pii]

Riva, G., Waterworth, J.A., & Waterworth, E.L. (2004). The Layers of Presence: a bio-cultural approach to understanding presence in natural and mediated environments. *Cyberpsychology & Behavior, 7*(4), 405-419.

Riva, G., Waterworth, J.A., Waterworth, E.L., & Mantovani, F. (2011). From intention to action: The role of presence. *New Ideas in Psychology, 29*(1), 24-37.

Rosenblum, L. (2000). Virtual and Augmented Reality 2020. *Ieee Computer Graphics and Applications, 20*(1), 38-39.

Russell, J.A. (2003). Core Affect and the psychological construction of Emotion. *Psychological Review, 110*(1), 145-172.

Ryff, C.D., & Singer, B. . (2000). Interpersonal flourishing: A positive health agenda for the new millennium. *Personality And Social Psychology Review, 4*, 30-44.

Seligman, M.E.P. (2002). *Authentic Happiness: Using the New Positive Psychology to Realize Your Potential for Lasting Fulfillment*. New York: Free Press.

Seligman, M.E.P., & Csikszentmihalyi, M. (2000). Positive psychology. *American Psychologist, 55*, 5-14.

Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. London: Wiley.

Slater, M., Spanlang, B., Sanchez-Vives, M. V., & Blanke, O. (2010). First person experience of body transfer in virtual reality. *PLoS One, 5*(5), e10564. doi: 10.1371/journal.pone.0010564

Swamynathan, G., Wilson, C., Boe, B., Almeroth, K., & Zhao, B.Y. . (2008). *Do social networks improve e-commerce?: a study on social marketplaces*. Paper presented at the First Workshop on Online Social Networks, New York, USA.

Villani, D., Lucchetta, M., Preziosa, A., & Riva, G. (2009). The role of affective media features on the affective response: a virtual reality study. *e-Minds: International Journal on Human Computer Interaction, 1*(5), 35-55.

Villani, D., Riva, F., & Riva, G. (2007). New technologies for relaxation: The role of presence. *International Journal of Stress Management., 14*(3), 260-274.

Waterworth, J.A., Waterworth, E.L., Mantovani, F., & Riva, G. (2010). On Feeling (the) Present: An evolutionary account of the sense of presence in physical and electronically-mediated environments. *Journal of Consciousness Studies, 17*(1-2), 167-178.

Wiederhold, B.K., & Riva, G. (2012). Positive technology supports shift to preventive, integrative health. *Cyberpsychology, behavior and social networking, 15*(2), 67-68. doi: 10.1089/cyber.2011.1533

Zahoric, P. , & Jenison, R.L. (1998). Presence as being-in-the-world. *Presence, Teleoperators, and Virtual Environments, 7*(1), 78-89.

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4 Positive Change and Networked Flow: From Creative Individuals to Creative Networks

Abstract: The history of creativity in the arts, science and technology suggests that most great innovators do not work in isolation, but are part of an intellectual community in which they can share their thoughts and discoveries. In this chapter, we describe a model – "Networked Flow" – of how these creative networks are born and evolve. We first review main theoretical models of «collective» creativity. Next, we present and discuss the six stages model of the Networked Flow process: meeting (persistence); reducing the distance; liminality-parallel action; networked flow; creation of the artifact; application of the artifact in a social network. Finally, we describe social network analysis as an appropriate methodology to investigate Networked Flow in creative collaboration settings.

Keywords: Group creativity, flow experience, social presence, social network analysis

4.1 Introduction

Traditionally, creativity has been mostly investigated from an individual perspective, focusing on the psychological features that distinguish creatively-gifted individuals from «normal» people. These features include, for example, personality traits, intellectual abilities and the type of education received (Sternberg e Lubart, 1999). More recently, however, there has been a shift in interest from individual to social and cultural factors that shape creativity (Amabile, 1983; Amabile et al., 1996; Csikszentmihalyi, 1999; John-Steiner, 2000; Sawyer, 2003, 2007). This change of perspective has been driven by the increasing acknowledgement that creativity is a complex phenomenon, which results from multiple psychological, socio-economic and cultural factors (Hennessey & Amabile, 2010). Csikszentmihalyi (1996, 1999) has been among the first researchers to introduce a systemic perspective on creativity, emphasizing the importance of the interaction between the individual and the surrounding domain. According to Csikszentmihalyi, the creative process results from three interacting forces: «a culture that contains symbolic rules, a person who brings novelty into the domain and a field of experts who recognize and validate the innovation» (1996, p. 29). Csikszentmihalyi defined this model as «systemic» because all its components – the person, the field and the domain – are necessary to achieve creativity: although the new ideas produced by the individual are important, a critical role is also played by the cultural domain (including the conventions, the techniques, the system of symbolic codes and norms) and by the experts (the hierarchy of groups and

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individuals who can influence the knowledge system and can eventually recognize the value of the innovation). Essentially, Csikszentmihalyi considers creativity as the result of an evolutionary process: the individual produces variations in the pool of ideas/artifacts (or «memes»). Then, the field operates a selection among the memes (allowing the replication of the ideas that are more worth to the field itself), which are eventually retained (or not) by a specific domain. This systemic model of creativity is particularly useful to understand how creative products are originated by groups or communities of individuals. When one looks at the history of creativity in the arts, science and technology, it is easy to recognize that most great innovators do not work in isolation, but in collaboration with like-minded peers, friends and colleagues, with whom they share insights, knowledge and aspirations (Sawyer, 2007). But why collaboration is so determinant in creativity? At first glance, the answer to this question may seem obvious. First, collaboration allows complex problems to be broken down into smaller issues or tasks, which can be distributed according to the expertise of co-workers. For example, the discovery of the so-called Higg's boson within the Large Hadron Collider (LHC) project at CERN would have been virtually impossible without the contributions of thousands of physicists, informaticians and engineers from over the world. Second, collaboration can foster divergent thinking and promote the sharing of methods, competences and techniques. Third, successful collaboration empowers individuals to engage and can make them feel like they are part of something greater than themselves, by sharing a same objective or ideal.

The increasing acknowledgment of the critical role played by collaboration in creativity has resulted in several conceptual models and a number of empirical studies to validate them. In an attempt to systematize this field, Glăveanu (2011) identified two main perspectives on «collective» creativity, namely the *sociocognitive* approach and the *sociocultural* approach. The first paradigm has mainly focused on the cognitive dimensions of group creativity and on the possible strategies to enhance its effectiveness. The sociocultural approach, in contrast, has put more emphasis on the process of creative collaboration, focusing in particular on its intersubjective and cultural dimensions. In the following sections, we draw on Glăveanu's review of this field to summarize the main models of collective creativity. Next, we introduce the Networked Flow model, which attempts to identify a possible link between these two different views of social creativity. Finally, we describe social network analysis as an appropriate methodology to investigate Networked Flow in creative collaboration settings.

4.1.1 The Sociocognitive Approach

According to Glăveanu (2011), the sociocognitive paradigm considers group creativity as an input-elaboration-output process, in which group dynamics (such as level of participation, leadership and conflict management) act as mediating variables between input and output factors. The epistemological position of this approach is

that creativity is essentially embedded «in the mind» of individuals, while the social dimension is «external» to this process. Models of sociocognitive creativity are thus oriented towards understanding the subcomponents of team creativity and their interrelations. Typical questions with which the sociocognitive approach is concerned include, for example, what difference exists between individual and group creative performance; how creative performance can be optimized, both in quantitative (i.e. production of more ideas) and in qualitative (i.e. generation of better ideas) terms; how experimental manipulation of specific variables (i.e. the nature of the task, competence level, cognitive load, group size and others) affect creative performance. To address these issues, sociocognitive approaches have mostly relied on quantitative methods typically used in social and experimental psychology (Paulus, 2000; Paulus et al., 2006). Within this paradigm, brainstorming has been one of the most investigated technique to assess (and enhance) group creative ideation. Essentially, brainstorming consists of a group of people collaborating in a noncritical environment to generate a high number of ideas. This technique typically involves gathering a group of 5–6 participants (including both novices and experts, from a wide variety of background). The increasing popularity achieved by brainstorming over the years has led sociocognitive researchers to investigate the effectiveness of this technique in enhancing group creative performance. Surprisingly, the bulk of empirical evidence indicates that group brainstorming is not more effective than individual brainstorming (Paulus and Nijstad, 2003). In a typical experiment of this kind, creative performance of a group of participants ("real groups") is compared to that of the same number of participants working individually ("nominal groups"). In most cases, it has been observed that real groups tend to generate fewer ideas than nominal groups. This reduced productivity has been explained by both social and cognitive influence processes. Janis (1972) highlighted the «groupthink» effect, in which members of a group tend to avoid producing too many personal thoughts and conform with peers, adapting their proposals to be similar to others. Other known social effects include comparison among members, such as evaluation apprehension (i.e., fear negative evaluations from others) and social loafing (individuals give less effort in a group because responsibility is diffused). Cognitive influence processes include the so-called «production-blocking effect» (in the course of idea generation, one person speaks while the others listen, and this results in a cognitive interference that hinders the generation of ideas), excessive demands on cognitive resources and working memory (due to the dual tasks of paying attention to others' ideas and generating one's own ideas), distractions and fixation (being exposed to others' ideas, members tend to focus on those and block other types of ideas from taking hold). Paulus and Brown (2007) have proposed a cognitive-social-motivational perspective of group ideation, which provides a basis for understanding group creative processes for ideational tasks. They argued that the creative process occurring in groups has two key dimensions: a social dimension, since it results from the interaction with other individuals, and a cognitive dimension, because group members share each other's

ideas, views, and information. The model posits that in order to achieve high levels of creativity, group members need to focus their attention deeply on the activities of the other participants. By focusing on others' ideas, new insights can be stimulated, new knowledge accessed, and more elaborated combinations generated. However, allocating attention and avoiding distractions is only the first step: the shared ideas must be further processed and elaborated by participants, and this involves the ability to understand, remember, evaluate and integrate the shared information. These abilities, in turn, can be affected by group context factors, such as the structure and the motivation of the task. Another influential sociocognitive model is the «Search for Ideas in Associative Memory» introduced by Nijstad and colleagues (Nijstad et al., 2003). According to this theory, creative ideation is characterized by a continuous search within associative memory. The ideas provided by group participants provide cues that trigger the activation of a specific «image» in the long-term memory, from a pool of images associated to it and structured in a complex network. When the image is triggered, this can be used to generate new ideas (resulting from the combination of previously-existing knowledge), new associations or new applications of pre-existing knowledge in a new domain. According to Nijstad and colleagues, the production block within real groups is can be explained by the delay between generation and expression of an idea, since ideas cannot be communicated while another group member is speaking. On the other hand, the model suggests that the ideas generated by participants can effectively stimulate processes of knowledge activation and production, by reducing the time needed to combine cues and thereby optimizing search within long-term memory. An interesting practical implication of this model is that diversity of competences in a group is directly reflected in the variety of knowledge that can be accessed. Thus, internal diversity plays an essential role in creative performance of a team: as the overlap between accessible knowledge increases, so it increases the tendency to activate knowledge from a restricted number of domains, which in turn can undermine both the variety and complexity of ideas generated by the group. As Glăveanu (2011) points out, sociocognitive models are based on a vision of individuals and groups as systems for the elaboration of information. The main advantage of sociocognitive approach is that it is based on highly-operationalizable constructs and testable hypotheses, which can be assessed in rigorously-controlled experimental settings using quantitative methods. However, for Glăveanu, the price for this strength is a risk of methodological reductionism, which can lead to the exclusion of other levels of the phenomenon. A further limit of this approach is the individualization of the group creative process, which tends to overlook the role of interactions between participants.

4.1.2 The Sociocultural Approach

The sociocultural perspective considers creativity as an inherently social phenomenon, which results from the interaction between different subjects. In contrast with the sociocognitive paradigm, which embeds creativity in the individual minds, the sociocultural view places creativity «in the space 'in between' the self and the others.» (Glăveanu, 2011, p. 9). The focus of sociocultural models is on notions such as shared meanings, negotiation, intersubjectivity. Besides cognitive dimensions, socio-affective, motivational, cultural and identity dynamics become central issues in the understanding of creative collaboration. Glăveanu observes how sociocultural models have extended the investigation from the laboratory to the real contexts in which creative collaborations are situated. Further, the sociocultural approach encompasses both the macro-genetic (following the evolution of creative collaborations over long periods of time) and micro-genetic (considering the micro-interactions within creative groups) levels of analysis: this is reflected in the empirical procedures used, which rely mostly on field observations and qualitative methods such as biographic analysis, videotaped observations, interviews and case studies. In educational contexts, particular attention is dedicated to the study of collaboration among students; examples include creative writing (Vass et al., 2008), solution of mathematics problems (Armstrong, 2008) and the development of Web pages (Fernández-Cárdenas, 2008). In all these cases, the methodology used is based on the analysis of interactions between students, the content of discourses and strategies of collaboration. A model of collaborative creativity, which has gained significant attention, is the one proposed by John-Steiner (2000). Building on Vygotsky's theory, John-Steiner holds that every collaboration context defines a "mutual zone of proximal development", which allows participants increasing "their repertory of cognitive and emotional expression" (p. 187). This is associated with a personal re-elaboration of what has been learnt, which is able in turn to modify both the field and participants, determining a circular process of knowledge co-construction. Another influential sociocultural model of creative collaboration has been introduced by Sawyer (2003; 2007). This author argues that a team performs at its best when it is able to achieve a state of "group flow", an optimal collective experience defined as a "collective state of mind" (p. 43). The concept of flow was originally introduced by Csikszentmihalyi (1975; 2000) who described it as an optimal experience characterized by global positive affect, high concentration and involvement, feeling of control, clear goals, and intrinsic motivation: in particular, a key feature of this experience is the perception of high skills matched by equally high personal resources (i.e. knowledge, abilities, proactive coping, positive engagement modes) to face them. Whereas Csikszentmihalyi studied the link between flow and creativity at an individual level, Sawyer (a former student of Csikszentmihalyi) extended the analysis to group collaboration by considering two specific domains: jazz and theater improvisation (Sawyer, 2003). He used a technique called "interaction analysis", which consists of an in-depth observation and classifi-

cation of participants' conversations, gestures, and body language. By examining the data collected over ten years of observations of several performing groups, Sawyer concluded that group flow requires members to develop a feeling of mutual trust and empathy, which culminates in a collective mental state in which individual intentions harmonize with those of the group. Jazz music players often refer to this state as to achieving a "group mind" characterized by a profound emotional resonance, which allows artists to be fully coordinated within the improvisational flow. According to Sawyer, group flow "cannot be reduced to psychological studies of the mental states or the subjective experiences of the individual members of the group" (2003, p. 46). In other words, group flow cannot be broken down into the work of individuals; rather, this phenomenon emerges from the interactions occurring within a group and is able to positively influence overall performance. Furthermore, Sawyer suggested that the achievement of group flow involves a balance between the extrinsic/intrinsic nature of the goal and pre-existing structures shared by the team members (for example know-how, instructions, repertory of cultural symbols, set of tacit practices, etc.). An extrinsic goal, according to Sawyer, is characterized by a specific and well-defined objective (i.e., how to fix a bug in software); therefore, it requires the achievement of more shared structures. In contrast, an intrinsic goal is largely unknown and undefined (i.e., the task faced by an improvisation group in theatre); therefore, it requires the achievement of structures that are less shared (2003, p. 167).

More recently, Glăveanu (2011) introduced the «Model of Shared Representational Resources». This theory is based on the assumption that creativity, and specifically creative collaboration, unfolds within a «representational space». Glăveanu draws on Winnicot's third or potential space (1971), a place of experiential mediation within which individuals can creatively interact with artifacts; a space which is shaped by collective thinking systems and continuously restructured by experiences and communicative processes. Such intersubjective space is at the same time an interface between the Self and the other and between the Self and the community/culture an individual belongs to. Within this space, there is a wide repertoire of symbolic representational resources used in all our interactions, which includes not only our judgments and dialectic strategies, but also the various artifacts that we use. According to the Shared Representational Resources model, in the context of a creative collaboration individuals use the symbolic resources that are embedded in their specific knowledge system and, by means of communication, they generate new and useful artifacts (the creative products) within the representational space of the group (p. 12). By exploring the representational spaces and their externalization, participants can identify new means of understanding and action. This «merging» of individual spaces lead to the development of a shared representational space, which Glăveanu considers as the very forge of creative collaboration. However, as acknowledged by the author himself, the current version of the model does not provide a theorization of how creative ideas take shape within such intersubjective space. According to Glăveanu, this issue can be addressed by focusing on participants' ability to identify the implicit potential of

the ideas expressed by others, highlighting aspects which are even not perceived by the person who generated the idea. This aspect underlines the importance of taking the perspective of the other, cultivating empathy and developing the capacity to locate «the Self in the context of the Other». Resuming the systematization proposed by Glăveanu, sociocultural models are not only focused on the creative process but also on its content (the creative product and the resources used to generate it) and the context in which it unfolds, mainly relying on qualitative methods. For Glăveanu, the main advantage of this paradigm is that it offers a more comprehensive view of collective creativity, by extending the analysis from cognitive to contextual and cultural dimensions. On the other hand, some sociocognitivists consider collaboration studies not appropriate to draw rigorous inferences about creativity, because they are mostly based on interpretive qualitative research methods (Paulus and Nijstad, 2003; Glăveanu, 2011).

4.2 From Group Creativity to Creative Networks: the Networked Flow Model

The Networked Flow model argues that the key to group creativity is the development of "collaborative zone of proximal development" in which actions of the individuals and those of the collective are in balance and a sense of social presence is established. Furthermore, the model suggests that if this condition is achieved, the group has the opportunity to experience group flow, an optimal experience that fosters the generation of new knowledge and ideas. The creative products of the group, however, are not automatically recognized by the social context. Two further conditions can facilitate this process: (i) the existence of interactions between group members and individuals outside the group, who can eventually recognize and adopt the innovation (ii) the creation of narratives which link the new concept/product to existing ones, allowing nonmembers to attach meaning to it (internalization).

4.2.1 The Emergence of Networked Flow: the Role of Social Presence

A common feature among sociocultural models of creativity is the importance given to the development of a shared intersubjective space, which has been differently conceptualized as «mutual zone of proximal development» (John-Steiner, 2000), «group mind» (Sawyer, 2007) or «shared representational space» (Glăveanu, 2011). However, little is known about the cognitive processes, which underlie such intersubjective space. Understanding the neuropsychological mechanisms that mediate and support the emergence of such shared intersubjective space could help in linking sociocognitive and sociocultural models of group creativity. We contend that the theory of social presence can offer a useful framework to address this issue. In the context of

Networked Flow model (for more details see Gaggioli et al., 2013; Riva et al., 2011), social presence is defined as the non-mediated perception of an enacting Other (I can recognize his/her intentions) within an external world (for a broader discussion see Riva & Mantovani, 2014). But how does one connect to the Other? How does the Other become present for the subject? The analysis of the "mirror" neuron system provides a possible answer to these questions. Mirror neurons, discovered in the ventral premotor cortex of apes (area F5), have, among other qualities, that of activating not only when the animal performs a given action, but also when the animal sees another animal—man or ape—performing the same action (Rizzolatti et al. 1996; Rizzolatti and Sinigaglia 2006). Therefore, the individual who observes is able to put himself in the shoes of the actor: I am able to understand what another is doing because when I watch him I gain experience, completely intuitively, through the same neuronal activity as when I perform that action. The result is the creation of neural representations which are shared on two levels (Gallagher and Jeannerod, 2002):

On the one hand, execution and observation share the same neural substratum in one individual subject;

– On the other, when a subject observes another subject's action, the same representations are simultaneously active in the brains of both subjects.

This means that at neural level, the action performed and the action observed are codified in a multisubjective format, which does not recognize actor or observer. This process is, however, effective if the subject is capable of distinguishing between an action performed and an action perceived. As Becchio and Bertone point out (2005): «By codifying an agent-free representation of action, mirror neurons support the visual and motor comprehension of the action, but are not in themselves enough to attribute an action to an agent. This level of comprehension, defined as "agentive" by the authors, requires that the agent parameter is specified as a separate parameter: only in this way does the action become the action of a particular agent» (p. 859). In order to be able to distinguish between myself and another subject, I have to make use of a specific cognitive process – presence – which is able to position me "in" or "out" by analyzing my actions and their effects. At the moment in which the subject is able, through presence, to distinguish between him or herself and another, "an I and an Other are created". The "other similar to the Self" thus becomes, together with the self, one of the two relevant elements which the organism is able to identify within its perceptive flow. This suggests the existence of a second selective and adaptive mechanism, social presence, which enables the Self to identify and interact with the Other by understanding his intentions. In other words, from an evolutionary point of view, social presence has three functions:

– To enable the subject to identify the Other and to attribute to him an ontological status – "the other similar to the self" – different from the other objects perceived;
– To allow interaction and communication through the understanding of the Other's intentions;

– To permit the evolution of the Self through the identification of "optimal shared experiences" (Networked Flow) and the incorporation of artifacts – physical and social – linked to them.

In summary, we can define social presence (Biocca et al. 2003; Riva, 2008) as the feeling of "being with other Selves" in a real or virtual environment, resulting from the ability to intuitively recognize the intentions of Others in our surroundings. This process is characterized by three levels:

– *proto social presence*, which is essentially based on the recognition of the motor intentions of the Other (Other vs. the Self);
– *interactive social presence*, which allows for the recognition of the intentions of the Other that are oriented towards the Self (Other toward the Self);
– *shared social presence*, which allows the Self to enter in resonance (like a diapason) with the intentions of the Other (Other like the Self).

Since these levels are hierarchically organized, the activation of the maximum level of social presence (empathy) requires the activation of the lower levels (namely, interactive and imitative social presence). In other words, shared social presence is associated with the highest level of empathy between the Self and the Other, allowing progression to a state of «we-intentionality» where the objective of the Self and the objective of the Other are at one: this is well exemplified by the notion of «group mind» often described by Jazz musicians (Sawyer, 2007). Empathic social presence allows for the emergence of an intersubjective state, the evolution of which is unpredictable but nevertheless coherent with the objective of each participant. In this perspective, group flow (Sawyer, 2007) can be regarded as the experiential correlate of such we-intentionality, associated with the highest level of social presence (Gaggioli et al., 2011), and can be achieved also using mediated communication (e.g Facebook use, see Mauri et al., 2011).

4.3 Networked Flow: a Six-Stage Model of Group Creativity

In the previous section, we have argued that achieving the highest level of social presence allows the group to experience group flow, maximizing its creative potential. The result of this optimal experience is the creation of new products, concepts or artifacts. In the following, we argue that this process is achieved through different stages, each characterized by specific processes (for a more detailed description of each phase see Gaggioli et al., 2013).

4.3.1 Phase 1: Meeting (Persistence)

The first phase in the emergence of networked flow, *Persistence*, can take place in any social environment where there are a certain number of individuals who share an interactive context. Referring to Goffman (1974), we can define such an interactive context as a *frame*, that is, an area of intersubjective expression shared by participants. Each person in the frame has her own unique intentional structure, which can be represented as a vector pointing to any direction. In rare cases, the directions of the intentionality vectors of different individuals overlap, leading to the emergence of a potential subgroup. In order for this subgroup to be formed effectively, a number of conditions must be satisfied, including, frequency of interaction, sharing of rules, assignment of roles and the recognition of a common objective. Therefore, this phase is characterized by the identification of the other's intentions directed towards the present: at this stage, future oriented intentions do not come into consideration. The frame — in this phase — is not called into question, nor is it possible to foresee any element for a possible transformation of the shared context into something else; we must wait for the second phase in the emergence of networked flow for this to happen.

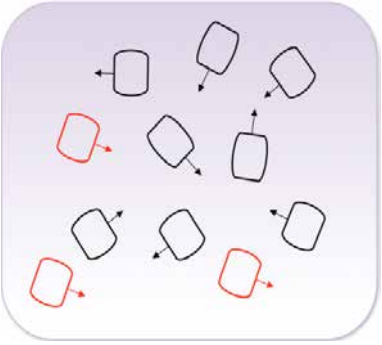

Figure 4.1: Phase 1: Meeting (or Persistence).

4.3.2 Phase 2: Reducing the Distance

In this second phase something new happens; the perception of similarities among the individuals who share the same direction of the intentionvector. The perception of similarities triggers an important dynamic which we have defined "reducing the distance". Individuals who perceive these similarities tend to preferentially interact with each other and to become aware of more and more similarities between them and in their motivations. In this phase the individual still perceives a certain dissatisfaction regarding his personal present intention, caused by the perception of noncompliance regarding intentions directed toward the future. The subject recognizes that the other

individuals he comes across in Phase 1 are experiencing the same sense of dissatisfaction, and this mutual dissatisfaction leads—on a structural level—to the creation of a subgroup which finds itself in a situation of liminality. People start to get close to one another and to form a subgroup: self-definition enhances the identity making process and it is likely that the feeling of involvement in the subgroup increases as well. Among the members of the new subgroup there is a growing perception of a common finality, although this may not be immediately transformed into a goal. However, at this stage the subgroup does not yet put itself in direct contrast with the group (or better, with the frame) of reference; instead, it acts in terms of minority influence and draws on its persuasive skills in order to influence and to affect the general direction of the frame.

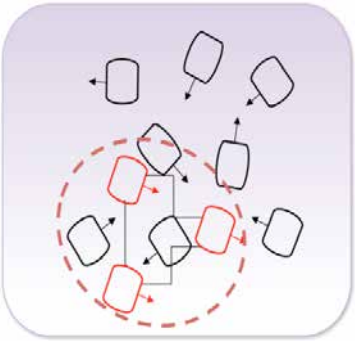

Figure 4.2: Phase 2: Reducing the distance.

4.3.3 Phase 3: The Liminality-Parallel Action

In this phase, the new subgroup starts consolidating its boundaries with respect to the preexisting frame and to position its "intentionvector" towards a common direction that enables the subgroup to close in on the limits of the preexisting frame. Group members experience high level of social presence and identify the group itself as the means to overcome this situation of *liminality*. In this sense, it might be said that the emergence of a co-intentionality is the very first creative act of the subgroup.

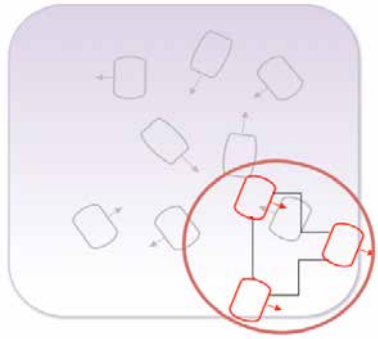

Figure 4.3: Phase 3: Liminality-Parallel Action

4.3.4 Phase 4: Networked Flow

At this stage, the group shares a new frame and experience an optimal state (group flow), which allows participants to express their maximum creative potential. The new group identifies one or more leaders, who we can define in this context as the individual or individuals who are better able than the others to transform what was previously only finality, into a goal. The leader/s help clarify the group's objectives and enhancing its internal cohesion. The preexisting frame is abandoned, and a new frame, which provides a more suitable background to support the group's creative activity, is established. Several key features can indicate the emergence of networked flow:

- the collective *intention* is transformed into a collective *action*;
- the internalization of the collective intention is directed toward the future;
- there is a balance between the resources available to the group and those required by the common action;
- one or more leaders are identified;
- the new frame is made explicit.

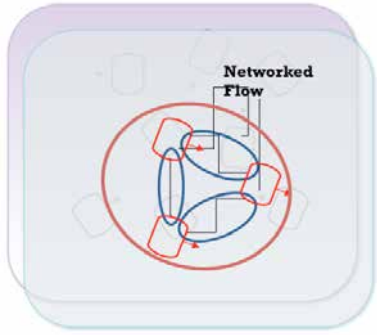

Figure 4.4: Phase 4: Networked Flow

4.3.5 Phase 5: Creation of the Artifact

Once the group has reached the state of networked flow, it affords the possibility of reifying its shared intentionality in the form of a product. This may be artifact, a concept, a piece of art which did not exist before. The group in networked flow is therefore characterized by the adoption (or use) of the new product, and this aspect represents a further distinguishing feature from the previous frame. Individual intentions directed toward the future are fully recognized in the collective action of the group in networked flow. At this stage, however, the artifact is solely and exclusively relevant to the group itself: this is not shared since the artifact has not yet been applied outside the frame.

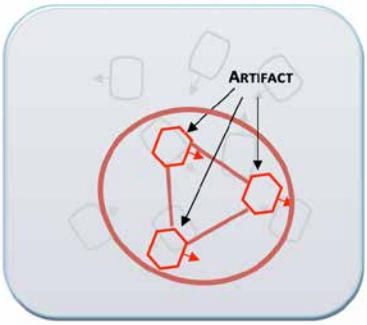

Figure 4.5: Phase 5: Creation of the artifact

4.3.6 Phase 6: Application of the Artifact

Once the artifact has been created the group enters into the sixth and final phase, in which the new artifact (an artistic product, technology, idea, theory, etc...) is taken into the preexisting social network. At this point, the new product must be recognized by the social reality. Therefore, in this stage, the creation of links with other individuals/groups/communities is crucial. The process can lead to either two possible outcomes: (a) the new artifact is recognized and is able to modify the pre-existing social reality: this allows the group to extend its boundaries and originating a creative network, which is able to attract new members who share the same intentionality of the original group; (b) the artifact is not able to affect the existing framework and therefore is not able to propagate itself in the social reality, which either ignores or rejects it.

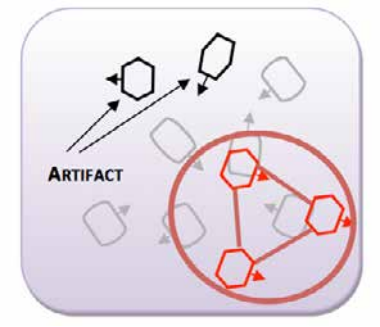

Figure 4.6: Phase 6: Application of the artifact to social reality

4.4 Understanding Networked Flow: Social Network Analysis

The six-stage model of Networked Flow described in the previous section is based on the attempt to define a possible connection between *structural* and *processual* dimensions of collective creativity. The use of the adjective «networked» to define the model reflects our emphasis on the inherent social dynamics that characterize collective creativity. We contend that only by looking at these complex interactions it is possible to understand how a we-intentionality can emerge and stabilize (Gaggioli et al., 2013). The next step is to identify an appropriate methodology for analysing Networked Flow, which is able to take into account both structural and processual aspects of creative collaboration. To this end we introduced Social Network Analysis (SNA) as a suitable procedure to address this issue. By considering individuals as interdependent units as opposed to autonomous elements, SNA offers a promising methodology to study group dynamics as well as to investigate the role of the individuals within these dynamics (Scott; 2000; Wasserman & Faust, 1994). Furthermore, SNA has previously proven useful for gaining insight into social network characteristics associated with creativity (Cattani & Ferriani, 2008; Guimerà, Uzzi, Spiro, & Amaral, 2005). SNA focuses on various aspects of the relational structures and the flow of information, which characterize a network of people, through two types of interpretation, graphs and structural indices (Mazzoni & Gaffuri, 2009; Wasserman & Faust, 1994). Graphs (or sociograms) plot the dots (individuals) and their social relationships (edges). Structural indices depict quantitatively the network of social relations analyzed based on several characteristics (e.g., neighborhood, density, centrality, centralization, cohesion, and others). SNA is based on the flow of messages that individuals of a dyad, which are conceived and mutually dependent entities (i.e., each message sent by X to Y is also a message received by Y from X), send and receive within the network. This aspect is critical in online environments in which posting a message on

a web forumdoes not guarantee that all participants will read it. To address this issue, some authors (Manca, Delfino, & Mazzoni, 2009) have proposed a coding procedure to identify the receivers (or readers) in relational data collected within online environments. For each structural characteristic of a relational network, SNA provides two types of indices: individual indices (i.e., based on relations and exchanges characterizing each actor of the networks) and group indices (i.e., based on relations and exchanges characterizing the network as a whole). To study the Networked Flow, different structural SNA indices have been proposed, such as Density, Group Centralization and Cliques Participation index.

4.4.1 Density

Density of a network (in this case a group) is defined as the percentage (ranging from 0 to 1, or from 0% to 100%) of aggregation of its members calculated based on the totality of direct contacts that each member has activated or received from others (Scott, 2000; Wasserman & Faust, 1994).

4.4.2 Group Centralization

Group Centralization (ranging from 0 to 1, or from 0% to 100%) represents "the dependence of a network on its 'most important' actors" (Mazzoni & Gaffuri, 2009, p. 122). According to Wasserman and Faust (1994) it measures the centrality of a variable or heterogeneity of the actor. It can also be viewed as a measure of inequality between the individual actor values, as it (roughly) indicates the variability, dispersion, or spread. Regarding Degree and Betweenness Centralization indices, the first simply indicates the extent to which single individuals are different from each other in terms of the quantity of links activated (Out-Degree Centralization index) and received (In-Degree Centralization index). The second determines the centralization of the communicative structure based on the individual participants' mediating potential, since it measures the degree to which the group depends on the participants who act as mediators of interaction (Freeman, 1979; Mazzoni & Gaffuri, 2009; Wasserman & Faust, 1994).

4.4.3 Cliques Participation Index (CPI)

This index measures the mean involvement of group members in its cliques. The higher its value, the more opportunities its members have to participate in different discussions (Gaggioli et al., 2013; Mazzoni, 2014). Cliques are defined as sub-graphs composed of at least three adjacent completely connected nodes, i.e., each clique

node is connected to all other nodes of the same clique (Wasserman & Faust, 1994). Within any network, community, or group, although an individual may interact with a number of other participants, he or she will preferentially interact with some individuals rather than others. The clique index (the number of cliques characterizing a group) can therefore indicate the preferential interaction zones within which it is more likely that individuals will interact at a certain time (Gaggioli et al., 2013). As a study by Aviv, Erlich, Ravid, and Geva (2003) showed, the availability of a larger number of cliques may provide group's participants with more opportunities to access different and varied opinions about the subjects discussed. The negotiation process that follows this step could in turn enrich the number of arguments, eventually enhancing group's productivity both quantitatively and qualitatively. However, an issue with the clique index is that it is affected by the number of participants in the group and also by the number of participants in the cliques. To address this issue Mazzoni (2014) introduced the Cliques Participation Index (CPI), which is calculated by adding the participants who make up the various cliques in a certain network, community, or group, and then dividing this number by the total number of members of the main structure. This calculation considers the main group dimensions and the participation of group participants in cliques. Defined in this way, the CPI can also be regarded as a structural indicator of the social presence that characterizes a group. In fact, the CPI is an indicator of the extent to which a group enables its member to be involved in different cliques and benefit from the diverse discussions going on within the group. The higher the CPI, the more group members participate in cliques, increasing the group's internal cohesion, which is a key dimension of social presence, as identified in previous related research (Garrison & Vaughan, 2008; Swan & Shih, 2005; Shea, Hayes, Vickers, Uzuner, Gozza-Cohen, Mehta, & Valtcheva, 2010).

4.4.4 The SNA Procedure: Examples of Analysis

The first step of the SNA procedure consists in collecting relational data to generate sociograms and to calculate structural indexes, such the ones previously described. Data collection can be based on observations (e.g. the quantity of exchanges occurring in a group), trackable communications (i.e. sms or emails) or questionnaires/interviews. In the following example, we list three questions requiring each group member to indicate who are the participants that they perceive «closer» to themselves in terms of shared ideas, values and objectives.

a) Which member of the team do you think most shares your vision?
b) Which member of the team do you think most matches your objectives?
c) Which member of the team do you think is most supportive to your goals?
d) (...)

These type of questions can also be repeated over time to obtain a set of longitudinal data, which allows investigating different aspects of creative collaboration dynamics. Once participants' data are collected, it is possible to generate an *adjacency matrix*, in which each row represents a respondent and each column represents the members of the group who have been selected by the respondent.

	A	B	C	D	E	F	G	H	I	J	K
A						1,0		1,0			1,0
B											1,0
C								1,0			1,0
D								1,0			1,0
E											
F	1,0										1,0
G										1,0	1,0
H	1,0	1,0	1,0	1,0	1,0	1,0	1,0			1,0	1,0
I											1,0
J											
K	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0		

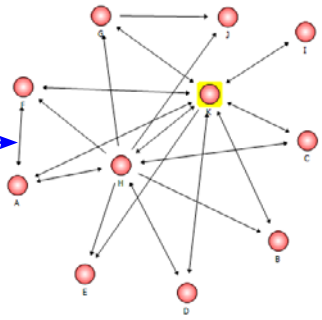

Figure 4.7: An example of adjacency matrix, which provides the possible choices of respondents to the question: *«Which member of the team do you think most shares your vision?»*. It is interesting to note a remarkable centralization of the two most internal members, who probably are the carrier of a vision which is shared by most of the members of this group.

SNA data can also be collected from the observation of the participants' behaviors, e.g. by videotaping their interactions. Clearly, this procedure is facilitated by online collaboration contexts, thanks to the possibility of tracking and analyzing the exchanges of information and contents between participants (i.e. e-mail, web forum, social networking sites). To exemplify this method, we describe two studies in which we used SNA to analyze the Networked Flow process in online collaborative groups.

The first study (for more details see Mazzoni, 2014), involved 26 small groups of adults with a university degree in Education who followed a training course to become designers of online courses. Participants were tasked with designing an innovative online training course. To this end they collaborated using the web platform *Synergeia* (http://bscl.fit.fraunhofer.de/). Two experienced team trainers evaluated the teams' projects along the dimensions of quality and originality. Groups' interaction logs in Synergeia web forum were collected to generate the adjacency matrix of each group. Next we calculated the Cliques Participation Index (CPI) for each team. Results showed that projects created by groups with higher mean involvement in cliques (high CPI) obtained significantly higher evaluations on the originality dimension compared to the groups with low CPI. This result might suggest that participation in cliques allows group members to access different views and opinions, supporting divergent thinking and variety of ideas. Since (as previously mentioned) in our terms

CPI can also be regarded as a structural indicator of the social presence that characterizes a group, these findings could also support a possible role of social presence in promoting group creativity.

In a further study (Gaggioli et al., in press) we investigated the relationship among the indices of social network structure, flow, and creative performance in students collaborating in a blended setting. Thirty undergraduate students enrolled in a Media Psychology course were assigned to five groups tasked with designing a new technology-based psychological application. Team members collaborated over a twelve-week period using two main modalities: face-to-face meeting sessions in the classroom (once a week) and virtual meetings using a groupware tool. Social network indicators of group interaction and presence indices were extracted from communication logs, whereas flow and product creativity were assessed through survey measures. The findings showed that the social network indices of density and degree of centralization (which, in our terms, are two key indicators of collaborative zone of proximal development) were positively correlated with several flow dimensions, supporting the hypothesis that the establishment of a "zone of joint action" can be associated with group flow (Armstrong, 2008; Gaggioli et al., 2013). Furthermore, it was found that the projects of the groups characterized by higher values on density and lower values on centralization received higher scores on several dimensions of creativity.

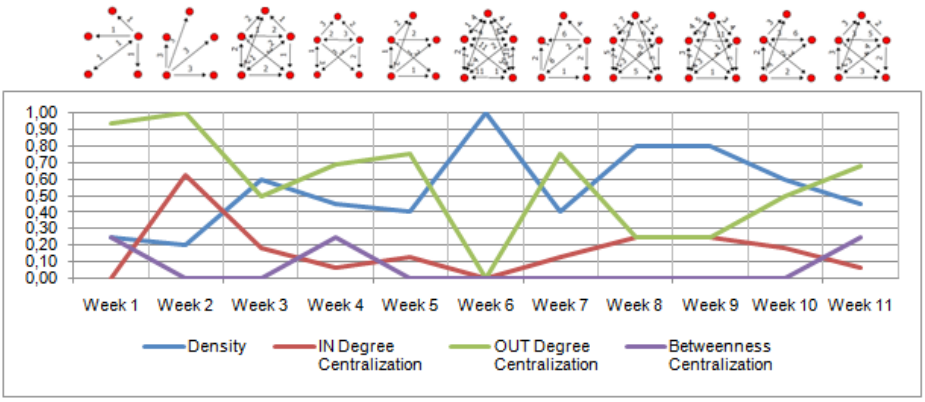

Figure 4.8: Density and Centralization indices of a group over 11 weeks of collaboration (adapted from Gaggioli et al., in press)

In sum, the findings of these preliminary studies suggest that the combination of qualitative evaluation of participants' experience and SNA is a potentially useful approach for investigating Networked Flow and the evolution of creative collaborations over time. SNA provides a mixed-method approach, which can mitigate the disadvantages of using a single method (quantitative/deductive or qualitative/inductive) by combining the advantages of both approaches. In fact, although SNA is primarily

considered a quantitative technique, it also allows for an in-depth examination of ties and the content that is communicated between actors (Jack, 2005).

4.5 Conclusions

In this chapter, we have described a model of collective creativity aimed at analyzing how a creative network is born and develops. Central to this model is the definition of a shared intersubjective space, which we identify with (highest level of) social presence. When shared social presence is achieved, participants can experience networked flow, an optimal state that maximizes the creative potential of the group. Following Glăveanu's distinction between sociocognitive and sociocultural paradigms of collective creativity, we contend that our model is closer to the sociocultural perspective, since (i) it places at the center of the analysis the creative collaboration process and the intersubjective dynamics which characterize it; (ii) it emphasizes the role of interaction between participants and symbolic/physical artifacts involved in the collaboration process; (iii) it aims at casting light on the evolution of the creative collaboration process, by taking into account both the micro and macro-genetic levels; (iv) it looks at how collaboration is embedded within wider social and cultural networks. On the other hand, the Networked Flow model does not propose a rigid dichotomy between creativity «embedded in interaction» (as in the sociocultural view) and creativity «embedded in the mind» (as in the sociocognitive view). Rather, we argue for an approach where cognitive and intersubjective dimensions of collective creativity are taken equally into account. Furthermore, at the methodological level, the Networked Flow model supports both qualitative and quantitative procedures, and introduces social network analysis as a possible *trade union* between them. A future goal is to empirically evaluate the validity of the theoretical phases of Networked Flow, as well as to improve our understanding of the neuropsychological underpinnings of shared social presence.

References

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly*, 50(3), 367-403.

Amabile, T. M. (1983). *The Social Psychology of Creativity*. New York: Springer-Verlag.

Amabile, T. M. (1996). *Creativity in Context*. Boulder, Colorado: Westview Press.

Armstrong, A.C. (2008). The fragility of group flow: The experiences of two small groups in a middle school mathematics classroom. *Journal of Mathematical Behavior*, 27, 101-115.

Aviv, R., Zippy, E., Ravid, G., & Geva, A. (2003). Network analysis of knowledge construction in asynchronous learning networks. *Journal of Asynchronous Learning Networks*, 7, 1–23.

Becchio, C., & Bertone, C. (2005). Il paradosso dell'intenzionalità collettiva. *Giornale Italiano di Psicologia,* 32(4), 851–860.

Biocca, F., Harms, C., & Burgoon, J. K. (2003). Toward a more robust theory and measure of social presence: Review and suggested criteria. *Presence: Teleoperators, and Virtual, Environments*, 12(5), 456–480.

Cattani, G., & Ferriani, S. (2008). A core/periphery perspective on individual creative performance: Social networks and cinematic achievements in the hollywood film industry. *Organization Science*, 19(6), 824–844.

Csikszentmihalyi, M. (1975/2000). *Beyond Boredom and Anxiety*. San Francisco: Jossey-Bass.

Csikszentmihalyi, M. (1996). *Creativity: flow and the psychology of discovery and invention*. New York: Harper Collins.

Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 313-338). Cambridge, UK: Cambridge University Press.

Fernández-Cárdenas, J. M. (2008). The situated aspect of creativity in communicative events: How do children design web pages together? *Thinking Skills and Creativity*, 3, 203-216.

Freeman, L.C. (1979). Centrality in social networks: Conceptual clarification. *Social Networks*, 1 (3), 215-239.

Gaggioli, A., Milani, L., Mazzoni, E., & Riva, G. (2011). Networked Flow: A Framework for Understanding the Dynamics of Creative Collaboration in Educational and Training Settings. *The Open Education Journal*, 4(Suppl 2:M2), 107-115.

Gaggioli, A., Riva, G., Milani, L, & Mazzoni, E. (2013). *Networked Flow: Towards an Understanding of Creative Networks*. New York, Springer-Verlag.

Gaggioli, A., Mazzoni, E., Milani, L., Riva, G. (in press). The Creative Link: Investigating the Relationship Between Social Network Indices, Creative Performance and Flow in Blended Teams. *Computers in Human Behavior*.

Gallagher, R., & Jeannerod, M. (2002). From action to interaction. *Journal of Consciousness Studies*, 9, 3–26.

Garrison, R. D., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. San Francisco, CA: Jossey-Bass.

Glăveanu, V. P. (2011). How are we creative together?: comparing sociocognitive and sociocultural answers. *Theory & psychology*, 21 (4).

Goffman, E. (1974). *Frame analysis. An essay on the organization of experience*. New York: Harper & Row.

Guimerà, R., Uzzi, B., Spiro, J., & Amaral, L. (2005). Team assembly mechanisms determine collaboration network structure and team performance. *Science*, 308, 697–702.

Jack, S. (2005). The Role, Use and Activation of Strong and Weak Network Ties: A Qualitative Analysis. *Journal of Management Studies*, 42 (6), 1233-1259.

Janis, I. (1972). *Victims of groupthink: A psychological study of foreign-policy decisions and fiascos*. Boston: Houghton Mifflin.

John-Steiner, V. (2000). *Creative collaboration*. New York: Oxford University Press.

Hennessey, B. A. & Amabile, T. M. (2010). Creativity. *Annual Review of Psychology*, 61, 569-598.

Manca, S., Delfino, M., Mazzoni, E. (2009). Coding procedures to analyse interaction patterns in educational web forums. *Journal of Computer Assisted Learning*, 25(2), 189-200.

Mauri, M., Villamira, M., Cipresso, P., Balgera, A., & Riva, G. (2011). Why Is Facebook So Successful? Psychophysiological Measures Describe a Core Flow State While Using Facebook. *Cyberpsychology, Behavior and Social Networks*, 14(12), 723-731.

Mazzoni, E. & Gaffuri, P. (2009). Monitoring Activity in e-Learning: a quantitative model based on web tracking and Social Network Analysis. In A. A. Juan, T. Daradoumis, F. Xhafa, S. Caballe, J. Faulin (Eds) *Monitoring and Assessment in Online Collaborative Environments: Emergent Computational Technologies for E-learning Support* (pp. 111-130). IGI Global.

Mazzoni, E. (2014). The Cliques Participation Index (CPI) as an Indicator of Creativity in Online Collaborative Groups. *Journal of Cognitive Education and Psychology*, 13(1).

Nijstad, B., Diehl, M. & Stroebe, W. (2003). Cognitive stimulation and interference in idea generating groups. In P. Paulus & B. Nijstad (Eds.), *Group creativity: Innovation through collaboration* (pp. 137-159). New York: Oxford University Press.

Paulus, P. (2000). Groups, teams, and creativity: the creative potential of idea-generating groups. *Applied Psychology: An International Review*, 49(2), 237-262.

Paulus, P. & Nijstad, B. (2003). Group creativity: An introduction. In P. Paulus & B. Nijstad (Eds.), *Group creativity: Innovation through collaboration* (pp. 3-11). New York: Oxford University Press.

Paulus, P. & Brown, V. (2007). Toward more creative and innovative group idea generation: A cognitive-social-motivational perspective of brainstorming. *Social and Personality Psychology Compass*, 1, 248-265.

Paulus, P., Nakui, T. & Putman, V. (2006). Group brainstorming and teamwork: Some rules for the road to innovation. In L. Thompson & H.-S. Choi (Eds.), *Creativity and innovation in organizational teams* (pp. 69-86). Mahwah: Lawrence Erlbaum Associates.

Riva, G. (2008). Enacting interactivity: The role of presence. In F. Morganti, A. Carassa & G. Riva (Eds.), *Enacting Intersubjectivity: A cognitive and social perspective on the study of interactions* (pp. 97–114). Amsterdam: IOS Press.

Riva, G., Waterworth, J. A., Waterworth, E. L., & Mantovani, F. (2011). From intention to action: The role of presence. *New Ideas in Psychology*, 29(1), 24-37.

Riva, G., & Mantovani, F. (2014). Extending the Self through the Tools and the Others: a General Framework for Presence and Social Presence in Mediated Interactions. In G. Riva, J.A. Waterworth, & D. Murray, (Eds.), *Interacting with Presence: HCI and the Sense of Presence in Computer-mediated Environments*. (pp. 9-31). Warsaw/Berlin: De Gruyter Open

Rizzolatti, G., Fadiga, L., Gallese, V., & Fogassi, L. (1996). Premotor cortex and the recognition of motor actions. *Cognitive Brain Research*, 3, 131–141.

Rizzolatti, G., & Sinigaglia, C. (2006). So quel che fai. *Il cervello che agisce e i neuroni specchio*. Milano: Raffaello Cortina.

Sawyer, K. R. (2003). *Group Creativity: Music, Theater, Collaboration*. New Jersey: LEA.

Sawyer, K. R. (2007). *Group genius: The creative power of collaboration*. New York: Basic Books.

Scott, J. (2000*). Social network analysis: A handbook* (2nd ed.). London: Sage.

Shea, P., Hayes, S., Vickers, J., Uzuner, S., Gozza-Cohen, M, Mehta, R. & Valtcheva, A. (2010). A re-examination of the community of inquiry framework: Social network and quantitative content analysis. *The Internet and Higher Education*, 13(1-2), 10-21.

Sternberg, R. J., & Lubart, T. I. (1999). The concept of creativity: Prospects and paradigms. In R. J. Sternberg (Ed.), *Handbook of creativity* (pp. 3–15). New York: Cambridge University Press.

Swan, K., & Shih, L. F. (2005). On the nature and development of social presence in online course discussions. *Journal of Asynchronous Learning Networks*, 9(3), 115-136.

Vass, E., Littleton, K., Miell, D. & Jones, A. (2008). The discourse of collaborative creative writing: Peer collaboration as a context for mutual inspiration. *Thinking Skills and Creativity*, 3, 192-202.

Wasserman, S., & Faust, K. (1994). *Social Network Analysis. Methods and Applications*. Cambridge: Cambridge University Press.

Winnicott, D.W. (1971). *Playing and reality*. London: Routledge.

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5 Positive change in clinical settings: flow experience in psychodynamic therapies

Abstract: In both psychotherapy and other mental health care settings Positive Psychology models are widely spread among cognitive-behavioral approaches, structured in order to prescribe changes in behavior and in approach towards life. Most of these therapeutic instruments, practical and prescriptive, are not fitting in psychodynamic psychotherapies, which have had little influence from positive psychology. Flow experience, characterized as a fluid, subjective, psychodynamic process, is more suitable to be used in psychodynamic therapy frames. In this chapter we will propose a clinical approach that allows the use of the Flow model in psychodynamic therapies, in a number of different ways, such as during diagnosis, while constructing therapeutic compliance, or during the different phases of the clinical process.

Keywords: Psychotherapy; Flow of Consciousness; Subjective experience; Psychological Well-being; Flow Therapy; Psychodynamic Therapy; Therapeutic relation; Self Evolution.

5.1 Introduction: a Positive View of Human Beings

The emergence of positive psychology, from its inception as a revolutionary discipline, overturned the view that psychologists had previously had of human experience. Since the first provocative books and articles, positive psychologists propose a vision of the human being as a complex, tridimensional, proactive and intentional entity (Csikszentmihalyi, 1975/2000, 1990 1993; Csikszentmihalyi & Csikszentmihalyi, 2006; Seligman 2002a, Seligman & Peterson, 2004; Fredrickson, 2001). Psychological well-being is considered, in this new perspective, as more than a lack of distress or sufferance (Delle Fave & al., 2010, 2011; Ryff, 1989; Ryff & Keyes, 1995); mental health is more than absence of pathology (Seligman, 2008); positive psychological experience is more complex than the ephemeral emotion of joy or happiness (Inghilleri, 1999; Freire, 2013).

Between the '80s and '90s Mihaly Csikszentmihalyi analyzes and defines *Optimal Experience* as a situation of temporary subjective psychological well-being, strictly connected to the involvement in a specific activity which corresponds to the characteristics of the individual's personality (1975/2000, 1982, Csikszentmihalyi & Csikszentmihalyi, 1988 – see chapters 1 & 2). Csikszentmihalyi, moreover, defines the specific characteristics of Optimal Experience, also called *Flow of Consciousness* (1990, 1997), and demonstrates that the repeated experience of Flow can promote the

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development of autotelic[1] personality (Baumann, 2012; Csikszentmihalyi,1989, 1996; Leontiev, 2006; Gardner, 1993a, 1993b, 2007; Nakamura, Csikszentmihalyi, 2002) and the construction of a more complex and resilient Self (Csikszentmihalyi 1993; Csikszentmihalyi & Rathunde 1993; Csikszentmihalyi & al. 1993; Inghilleri, 1999).

Then in 2004 Seligman and Peterson proposed a new idea of the human mental structure, and published a manual of psychological *Virtues and Strength*, also called *VIA (Values In Action) model,* that they provocatively promote in substitution of the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition – American Psychiatric Association, 2013). In this wide and detailed definition of human mental abilities, obtained as a result of an applied research project, the authors lay the foundations for the development of clinical and educational tools (Park, Peterson & Seligman, 2006; Peterson, 2006; Peterson & Seligman, 2004; Peterson & al. 2007). This is a new paradigm, different and not comparable to the classic one of psychopathological diagnosis. According to these authors, within the framework of positive psychology, mental health depends first on the promotion and development of subjective psychological skills, and only at a later level on the elimination of symptoms.

Contemporarily, Barbara Fredrickson developed the *Broad-and-Built Theory* (2001, 2002, 2013), in which she demonstrates that positive emotions and psychological experiences of well-being develop differently from pathology and languishing. While negative emotions develop following a two-dimensional track that goes from a minimum to a maximum of negativity or sufferance perception, positive psychological states develop into a three-dimensional mode (Ceja, Navarro, 2009; Fredrickson & Losada, 2005; Larsen & Fredrickson 1999) which is much more difficult to capture with standard instruments of psychological measurement, and which the author defines as "*Flourishing*". Fredrickson proposes a new approach for evaluating human experience, promoting the concept of Flourishing as a measure of overall life well-being, which is considered as the subjective capability to live within an optimal range of human functioning like goodness, generativity, growth, and resilience. In the author's point of view this model incorporates the promotion of various other concepts of positive psychology, such as psychological virtues and strengths, subjective well-being, positive work spaces, etc. (Cohn & al., 2009; Fredrickson, 2006; Fredrickson & Losada, 2005; Keyes & Haidt, 2002; Seligman, 2011).

1 Autotelic personality has been defined for the first time by Csikszentmihalyi and Gardner in their research on optimal experiences and creativity (Csikszentmihalyi, 1996; Gardner, 1993a, 1993b). It is a quality that characterizes a person who is always receptive, active and open to detecting new challenges adapted to promoting their own experience of Flow. An autotelic person is a person with the ability to understand and extract the intrinsic characteristics of the activities connected to Flow, starting from self-experience, and investigate their presence in other activities of daily experience, in order to maximize the opportunities to find flow and satisfaction in life

5.2 Positive Psychology and Health: From Meta-Theories Towards Therapeutic Instruments

This simple yet revolutionary vision of the human psyche immediately calls for the interest of clinical psychology. If there can be a positive vision of the psychological experience, then why cannot therapeutic tools as well promote the psychological skills of patients bypassing the need to focus on the symptoms? And why cannot there be a positive clinical psychology, a positive mental health approach that defines health differently from a mere absence of disease? Indeed, positive psychologists, while developing their own models of interpretation for psychological experience, have begun to wonder how these could be used in applied psychology as well as in educational and clinical intervention (Csikszentmihalyi & Nakamura, 2011; Ryff, 1989, 2013; Ryff & Singer, 2008; Seligman & Csikszentmihalyi, 2000). In 2006 Csikszentmihalyi and most of the other main representatives of positive psychology published a book entitled *"A life worth living: contribution to Positive Psychology"* (Csikszentmihalyi & Csikszentmihalyi, 2006). In this work they expose in a critical way the main theories, research and contributions from positive psychology that may justify a perceived positive quality of life in various life areas, even in stressing or uneasy situations. In this work, while Christopher Peterson openly proposed to use the VIA model for clinical and therapeutic goals (Peterson, 2006), Martin Seligman provocatively proposes a positive psychology approach to psychotherapist in order to make their therapeutic methods more complex and qualified: "*First, I want to assert clearly that positive psychology is not remotely intended as a replacement for or competitor to clinical psychology. It is intended as a supplement, another arrow in the quiver of those who treat patients in the clinic. [...] I believe that clinical psychology is reaching a dead end—the 65% barrier. [...]"*. The 65% barrier the author refers to is that liminal threshold at which the effect of therapy is not so different from the placebo effect (Seligman, 2006) The same author published an article in 2008 entitled "*Positive Health*", recovering and expanding the proposal of the use of positive psychology vision in health care, as a frame in which various clinical instruments can find a more fruitful place, whether coming from the field of positive psychology or from the classical clinical approaches to mental health.

Seligman and Peterson developed a deep reflection on the influences and possible application of positive psychology to mental health, mental sickness prevention and psychotherapy, with a particular focus on the applications for the cognitive-behavioral therapeutic approach, to which they belong (Seligman 2002b, 2006; Seligman & Peterson 2003; Seligman, Park & Peterson, 2005; Seligman, Rashid & Park 2006). Joseph and Linley also elaborate a similar reflection, more specific to psychological practice: between 2004 and 2008 they published several works in which they define the characteristics of *Positive Therapy*, an approach to psychological clinical practice and psychotherapy in which positive psychology is used as a meta-theory (Joseph & Linley, 2004, 2006; Linley & Joseph, 2004). Even if the approach of these authors is

open and directed to all kinds of clinicians and psychotherapists, most of the technical and methodological proposals in applied and clinical psychology ended up being oriented to cognitive-behavioral therapies. Various practical approaches have been developed in this direction, each one with its specific set of technical instruments, such as Frisch's *Quality of Life Therapy* (2006, 2009a, 2009b) or Fava's *Well-Being Therapy* (Fava, 2012; Fava & Tomba, 2009; Runi & Fava, 2008; Ruini, Tomba & Fava, 2007). The strategy of these psychotherapeutic models is to focus on the development of psychological well-being subjectively perceived by the client, which becomes the core of a short-term therapeutic process. In this way the therapy, oriented toward the reinforcement of the client's subjective abilities, will obtain both the result of eliminating or diminishing the symptoms, and reinforcing the client's personality in order to prevent future relapse (Fava & Tomba, 2009; Frisch 2006; Goldwum & al. 2004; Goldwum & Colombo, 2010; Seligman 2002b; Seligman & Peterson 2003;).

Delle Fave and colleagues also studied the impact of theoretical positive psychology models in health care situations, but the main focus of their research is on the influence of eudaimonic experience in the subjective daily perception of health and disease (Delle Fave, 2006; Delle Fave & al. 2011) They were among the first groups to use the experience of Flow as a tool for the assessment of capacities to develop resilience and autotelic abilities in situations of great physical and emotional stress. Delle Fave and colleagues investigated both the various situations of chronic health conditions, as well as the human experience of health professionals. They demonstrated that Flow experience can be a significant variable in the perceived subjective experience of people who face sufferance and pain in everyday life, and consequently that the perceived quality of life can vary in patients with the same diagnosis or in the same category of professionals (Delle Fave, 2010; Delle Fave & Massimini, 1982; Delle Fave & al. 2003; Bassi & al. 2012). This research demonstrates that there is a close link between Flow experience and health/illness perceptions and, consequently, that the capability of finding flow in everyday life is connected with the subjective positive view of life, quality of life and mental health. The authors use the Flow model, measured by ESM[2], as a monitoring tool of the daily experience of the research sample to define personality characteristics, but they do not offer a clinical application that has the purpose of changing the individuals' style of perception. More recently, other studies have suggested a close correlation between flow and psychotherapy, but again using it as a tool for monitoring the change of the patient's experience during the evolution of the therapeutic process and not with an applicative intent (Freire 2013; Freire, & Teixeira, in press: Freire & al. 2012, 2014).

2 Experience Sampling Method (see Bassi & al., 2007; Csikszentmihalyi, M. & Larson 1987; Delle Fave, & Massimini, 1992; Massimini & al. 1987).

5.3 Positive Psychology and Psychodynamic Psychotherapy: Common Grounds and Proposals for Contamination

To develop a clinical approach that uses Flow as an instrument in therapeutic processes, it is necessary to define a theoretical and methodological framework based on the connection of selected models from both positive psychology and psychodynamic psychotherapies.

The first of these models is the the concept of *Subjective Daily Experience* (see chap. 1). Most of the modern approaches in psychodynamic psychotherapies (eg Gislon, 2000; Stern, 2004, 2010; Winston & Winston, 2002) have a major focus on the patient's daily experience in order to accompany the latter in a gradual process of change which can give, right from the start, a contribution to the improvement of the client's quality of life. In this direction positive psychology provides a clear, comprehensive, exhaustive and dynamic definition of the psychological state of subjective daily experience (Inghilleri, 1999) that can be used as a frame for the psychotherapeutic setting. The author defines *SDE* as a subjective perception of the concrete events of everyday life, that produce feelings, emotions and a psychological state which orientates the individual towards a subjective selection (Csikszentmihalyi & Massimini, 1985; Massimini & Delle Fave, 2000; Massimini & Inghilleri, 1993) of the experiences and cultural objects (Inghilleri, 1999, 2009; Monod, 1971) that will be looked for or avoided in the future. *Subjective Psychological Selection* is strictly related to *Cultural Selection* and to the relation that people have with objects and their cultural meanings, or *"Artifact"*. While individuals perceive and select their own daily experience, they also select the cultural artifacts that the social context proposes inside the environment. In this way each person contributes to maintaining or changing the cultural system. As we can see in chapter 1, Flow is a driving force in these processes of subjective and cultural selection, and the opportunity to experience Flow in everyday life connects the subjective experience of people with social relations and cultural dynamics.

Some attempts to introduce a positive psychology approach in psychodynamic therapies, in addition to the already mentioned Linley and Joseph, were also made by clinicians outside the positive psychology field. In 2010 Summers and Barber published *"Psychodynamic Therapy. A Guide to Evidence-Based Practice"*, in which they propose an enrichment of classic therapeutic setting through both cognitive-behavioral psychotherapy and positive psychology. In this vision they consider Csikszentmihalyi's concept of Flow, Fredrickson's concept of Positive Emotions and Seligman and Peterson's approach to Happiness and character Strength and Virtues as a broad framework which guides the therapist in the interpretation of the behavior and emotions of the client and the selection of the therapeutic intervention. Grafanaki & colleagues (2007) directed their attention more specifically to the quality of the patient's subjective experience in the therapy sessions: they use the Flow model to detect *peak moments* in the interaction between therapist and patient, considering

these situations as the turning points of therapy towards psychological change. But the most interesting contamination comes from a clinician who, though not using the terminology from positive psychology, perfectly identifies the meaning and approach that may derive from it. In 2004 Daniel Stern introduced the concept of *"Present Moment"* both in psychotherapy and everyday life, as an experience of psychological fulfillment, that produces positive emotions, and is characterized as a temporary peak situation very similar to Csikszentmihalyi's Flow. In the author's conception the present moment is central to the introjections of everyday experience, and can also appear in the sessions of psychotherapy. It then becomes a fruitful opportunity for the therapist to enter into a deeper relationship with the client and with their inner world. Present moments lay the foundation on which patient and therapist can weave the *intersubjective matrix* that is the basis of the therapeutic process and of the patient's psychological development. In a later work Stern arises in a broader perspective and proposes the concept of *"Forms of Vitality"* (2010), which resembles the approach of Strengths and Virtues of Seligman and Peterson, but still maintains a strictly psychodynamic slant.

5.4 Flow of Consciousness in Psychodynamic Psychotherapies: the Basis for the Birth of a *Flow Therapy*

The context within which we introduce the Flow concept in psychotherapy consists of an interconnection between three concepts originating from positive psychology: ***Optimal Experience*** (Csikszentmihalyi 1982; 1990; Csikszentmihalyi, Rathunde, 1993), ***Creativity Theory***[3] (Gardner, 1993, 2007) and ***Subjective Experience*** (Inghilleri, 1999). These three models share two common focuses: the first regards the importance of the relation between concrete, situated, daily experiences and intrapsychic dynamics; the second refers to the centrality of the subjective capacity to select situations able to promote psychological well-being (i.e. autotelic personality). In Csikszentmihalyi's theory, Flow emerges from a situation or activity in which the psychological characteristics and skills of the individual are valued at the maximum; according to Gardner, creativity develops when a person encounters a specific activity or discipline of study that fuels their ability to interpret reality according to unconventional parameters; Inghilleri argues that the way in which daily experience is sub-

3 Gardner's Theory of Creativity is at the base, together with the concept of Flow, the ability to develop an autotelic personality. This theory proposes creative ability as an individual competence, closely linked to a domain of action. According to the author, creativity emerges from a fruitful asynchrony, an imbalance between or within three nodes of subjective experience: individual, social forces and cultural context. Gardner argues that, when a person perceives a conflict between different visions or options, he is driven to seek an alternative (and then creative) solution that allows the resolution or minimization of the perceived conflict.

jectively perceived, together with psychological states and emotions that derive from it, are the central point for the development of a complex and flexible Self, and are in close correlation with the transmission and the enrichment of the cultural system. The autotelic ability is considered as the capacity of a person to identify and select new activities that promote Flow experience, well-being states and Self-satisfaction. This competence can be considered a creative characteristic per se, but often autotelic persons develop several creative situations and solutions in order to multiply the opportunity to experience Flow. This process of continuous research of new opportunities for optimal experience, improves the everyday life of autotelic persons, which is richer in optimal experience as compared to the average person, and makes the individual more flexible when considering new and unexpected situations.

Following this vision in which Flow, Creativity and Subjective Experience are closely related in a ratio of reciprocal causality, here we summarize the characteristics of the experience of Flow that are most noteworthy for the purpose of its use in a psychotherapeutic setting, referring to the first chapter of this volume for a more detailed description of the theory of Csikszentmihalyi. Flow of Consciousness is to be considered as a dynamic psychological experience that is based on both affective and motivational positive states, and which is fundamental for the psychological development because it nourishes the Self making it gradually more complex and stronger. Its occurrence has a relatively short duration, and is closely related to an action or activity. Among the indicators and variables that are considered necessary and sufficient to say that one is faced with a situation of Flow[4], there are three which can be considered as the main factors from a psychodynamic perspective. Indeed, on their manifestation depends and follows the occurrence of all the others. These three characteristics are: intrinsic motivation, self-determination and balance between challenges and skills. *Self-determination* means that the individual chooses to perform a certain activity independently, as well as that the individual chooses to do that thing at that particular moment, and not at another. This is because at that moment they feel to be in a condition of focusing on the task without any interference coming from either their own physical or mental state or from outside. *Intrinsic motivation* means that the subject realizes that the main reason for carrying out a certain activity is that it produces a state of intense psychological well-being. This does not mean that there cannot be other incentives to action, such as in situations related to the working environment, but that other possible benefits, *at that precise moment*, are secondary to the objective of achieving a state of fulfillment. Rather than a *balance between challenges and skills,* it is to be considered as the balance *subjectively perceived* by

4 The characteristics that distinguish the Optimal Experience are: intrinsic motivation, self-determination, balance between challenges and skills, absence of boredom, absence of anxiety, clear goals, immediate feedback, concentration on the task, lack of conscious control, altered perception of time, and positive affective state.

the person between the demands of the environment and their own personal skills. If a person has a good self-awareness and a proper examination of reality, their perception of the balance between challenges and skills will be close to the objective situation. Conversely, if our patient suffered from low self-esteem and a negative self-consideration, their evaluation of the request of the task will always be superior to the skills they perceive to possess, and consequently will never reach the state of optimal experience, or will reach it with tasks that require minimal skills. Whereas if we are dealing with a mythomaniac or with a person with a hypertrophied ego, they will feel encouraged to face situations far superior to their own resources, sometimes putting themselves in danger or ridicule, because of the pathological overestimation of their own abilities. Nevertheless, it can occur, despite the negative feedback received from the context, that our patient retains carryovers of intense feelings of subjective well-being in the most paradoxical situations.

5.5 *Flow Therapy:* Model and Instruments

The Flow of Consciousness, as a universal experience of mankind (Csikszentmihalyi & Rathunde, 1993; Delle Fave & al., 2011), can be considered a feature of every individual psychodynamic. In order to consider Flow in therapeutic settings not only as an instrument to evaluate the quality of improvement, but also as a mental process on which to work, we have to answer to a tricky question first: *Should Flow be seen as a therapeutic experience or as an object of investigation?* The answer is both. The therapist may examine the occurrence of Flow in the present and previous daily life of the client, to quantify it and to identify its idiosyncratic characteristics, in order to promote new opportunities of Flow in present and future experience. At the same time the experience of psychotherapy per se can be a fruitful situation in which to examine Flow, both for the patient and for the therapist. This second option, while more challenging to obtain, promises to be a conceptual model rather than a methodological one, while the former opportunity to analyze and promote the Flow can be more easily confined within a methodological framework with its specific tools.

5.5.1 The Therapy Session as Experience of Flow

Psychotherapy is a continuous transition between the inner (the session) and the outer (the daily life). This constant movement is not only cognitive but also affective, and fosters the development of a close personal relation between client and therapist. The dance that the couple performs between therapeutic space and the world, present and past, emotion and cognition, pain and relief, loneliness and understanding, produces massive transference and countertransference investment on the part of both. This particular emotional and relational situation may be really generative of

Flow experiences. Recent research has established that the Flow experience can be a shared experience (see chap. 4 – Aubè & al., 2014; Delle Fave & Bassi, 2009; Gaggioli & al., 2011). In our proposal Flow can be considered a shared experience when it is developed thanks to the relational characteristics of an activity or a situation. In the case of psychotherapic setting, both the interacting persons are deeply involved in the therapeutic relationship. The communication with the counterpart and the development of mutual understanding and empathy focus the attention and the energy of both patient and therapist, in fact, the therapy is first of all a process of care through the relationship. Both therapist and client are involved in an activity of great interest and involvement, and the relational aspect is the one in which they share the intense emotions derived from the intimate contact with another human being, with their sensitivity and their richness. In some phases of the therapy, when this intimate feeling of empathy is stronger, the conditions may lead to experiment shared moments of Flow, which allow the therapeutic relationship to make a quantum leap and simultaneously enable the patient to feel both more accepted by the therapist and closer to the acquisition of their own autonomy. A simple indicator of these situations is to be traced in the perception of time, which is often slowed down, in contrast with the need to measure and define the times of the encounters that is characteristic of this profession.

An important consideration with respect to the possibility of experiencing and stimulating Flow in the session concerns the personal characteristics and skills of the therapist. In order to promote Flow experience in clients the first requirement is that the therapist be prone to experiencing Flow during their work. This ability will depend both on the characteristics of the psychotherapist's personality and on the kind of involvement they have in their work and with their patients. Their involvement may spring from gaining knowledge of the patient's private life, or the emergence of the healthy aspects of the inner child, the first motions of entrustment or the gradual therapeutic successes... In any of these cases, if the therapist works for the love of their profession, opportunities for Shared Flow will develop with different patients. From these situations, the therapist will learn how to research and promote Flow within their work, and how, through this, to activate time after time shared Flow with their patients. The therapeutic sessions will become, in this sense, a protected place in which clients can find Flow for the first time, or recover it after many years in which they have been depressed, emotionally deprived and unhappy. This may be the case of people with a dysthymic disorder, a severe form of depression, a nervous breakdown due to bereavement or an inability to adapt after a transfer or a migration process. These and other categories of clients can find benefit in a clinical approach oriented to shared Flow development. In a second step, reinforced by the experiences of well-being inside the therapy (inner), the patient can be supported in looking for new opportunities of Flow in daily life (outer), and in developing a form of autotelic ability that will, in turn reinforce them and prevent future relapses.

5.5.2 Flow as Object of the Therapy

The process of psychodynamic psychotherapy is a path of personal growth and change that can last from several months to several years, with the aim to leading the person to a more positive, strong and complex way of being. In this journey all the experiences of life that have contributed to the actual situation of illness, and the ways in which the patient perceives and reacts to the daily situation at the present status of things are taken into consideration. In the same way in which they examine the structuring and pathogenic experiences of the client's past and present life, the therapist can consider the occurrence of Flow in the present and previous daily life of the client, quantify it and identify its idiosyncratic characteristics, in order to promote new opportunities of Flow in present and future experience.

The first step is *to identify Flow experience*. The therapist can use different instruments to help the client in this detection and characterization process: the first place is in the clinical interview, which can be combined with the use of diaries (including virtual ones – e.g. Bassi & al. 2007; Caselli & al. 2011; de Cordova & al., 2010; Delle Fave & Massimini, 1992; Riva, 2011), questionnaires (eg Boffi & al. 2012; Jackson & al., 2008) or other similar instruments. The therapist can also ask the patient to bring cultural artifacts (Inghilleri, Riva, 2012) such as photographs, drawings or objects related to past experiences of Flow. The patient has to be given a clear and detailed definition of Optimal Experience, so that they can be able to identify any connected situation even in the distant past. First of all the patient has to describe the presence of Flow in their remote and recent past life, in order of quantity, quality and subjective perception. In a following step the patient has to be required to define, in a narrative way, the most recurrent situations or activities promoting Flow, the tasks proposed by the environment and the skills brought into play by the patient themselves.

Once the raw data is collected, the therapist must use the clinical interview, through the interpretation of the events shared by the patient, in order to obtain a *characterization of the experience of Flow* for that specific person. This means first of all, the description of the trend of Flow experience in the patient's history (in order of quantity and quality) and the identification of the moment in the patient's life which have marked an evolution or involution of this trend or a change in the activities promoting Flow. Then the therapist has to extrapolate the characteristics that define such situations promoting flow. These are to be intended both as general characteristics of the experiences connected to flow, and as the personality and psychological features elicited in the subject by the situation. A person may be more inclined to develop a state of Flow in individual situations rather than in social ones, in physical or in mental activities, in experiences with a high or low degree of risk. Many teenagers, for example, report Flow states experienced in team sports, like soccer, basketball or volleyball. But while for someone the driving force is connected with the social participation with peers, the consideration of being looked upon by the teammates, the satisfaction of a shared goal and victory; for another the same match can

promote Flow through the individual actions completed successfully, which exhibit their sporting talents and supremacy over the teammates.

Once a *Flow Profile* of the patient has been compiled, which defines them in a unique way by relating their characteristics of personality with their daily experience and with the cultural opportunities provided by the environment, the information provided by the profile can be used to stimulate an increase in the flow-promoting situation in the everyday life of the patient. The *promotion of Flow* can follow different strategies. Firstly, where possible, it has to recover or redefine a space for activities and situations already known as triggers of Flow, in order to increase the frequency and quality of well-being already present in the subject. It is just like recovering space for self-care, for sport and leisure activity, for social relations, for natural environment frequentation. At a second level, the therapist can use the Flow Profile to detect other kinds of situations or activities that possess similar characteristics or elicit the same area of skills in the client. This is a way of stimulating the development of some form of autotelic skills. It is the case of those sports personalities which, having reached the end of their career due to age or accident, decide to invest all their energies becoming coaches, or working to promote sports culture in young people, or applying for improving the sporting environment. Besides working on the Flow, the therapist can work on the enhancement and strengthening of other subjective strengths (Peterson, 2006; Peterson & Seligman, 2004; Ryff & Singer, 2008), to reinforce the psychological structure of the patient and increase their predisposition to perceive and detect Flow. A restoration of self-esteem, for example, can return a more accurate perception of the balance between challenges and skills and decrease the level of anxiety, making it easier to achieve the state of Flow. A recovery of a broader social network can facilitate the contact with richer and more varied activities within which it is possible for the person to identify new and unexpected sources of Flow. Finally, the transfer of the experience of *Flow in Therapy* to situations of life "outside the sessions" can support the regeneration of social relations and the chance to try empathic situations and positive emotions in relationships with other people, supporting the social reintegration of the patient and their perception of a better quality of relational experience.

5.6 Conclusions: Mr. X and His Flow

We conclude this chapter with a brief case study: the treatment of Mr. X, a 32 year-old man employed in the Air Force (Riva, 2007). He underwent psychotherapy due to the onset of an anxiety problem that had begun to manifest itself in the form of panic attacks during a six-month stay abroad for service. His therapy lasted two and a half years and during this period the therapist had the opportunity to delineate his Flow Profile and to let him experiment with Shared Flow. The life experience of Mr. X. has been characterized by negative and absent parental figures and, at the same time, by the participation in groups and social situations characterized by a great sense of

belonging but also a high level of danger and borderline situations. His Flow Profile showed as a main characteristic the need feel a sense of vitality and feelings of psychological well-being, to find himself in extreme, dangerous, adrenaline-charged situations with possible implications of violence. The Air Force had been proposed as a possible way in which Mr. X may invest his need for discipline but also for risk, danger and demonstration of courage. On his arrival in therapy Mr. X had been relieved from active duty because of his anxiety disorder, and had been assigned to administrative duties. This change had brought him into a state of deep dejection, dissatisfaction and low esteem. Unfortunately, at the time of taking charge of his case it was not possible to orient the patient towards activities similar or comparable to those that had revealed as states of Flow in his previous experience, because the access to risky assets had been prohibited to him. So part of the therapy has been devoted to deepen his history and his psychological strengths and weaknesses, in order to understand in which area of life he would be able to transfer his need of extreme and risky challenges. In the end an answer was found in his family experience: Mr. X had been happily married for several years, but had always felt scared by the idea to becoming a father, due to the bad experience with both his parents, who had proven unable to perform their duties of protection and education towards him and his brother. The focus had then been directed to the theme of paternity, considered as an extreme and risky challenge, in respect of which Mr. X, distancing himself from his family history, proved to have all the necessary characteristics to become a caring and responsible parent, but was not aware of this. During the therapy the dissimilarities that he had developed in contrast with his parents have been brought to light, and the personal features that characterize him as a conscious adult figure have been returned to Mr. X in a picture of himself that is more complex and detailed than the one which he had previously. During therapy, Mr. X, who was initially very reserved and defensive, has developed a relationship of trust and mutual respect with the psychotherapist. When he finally got to face his deepest concerns about his adequacy as a father and husband, the concentration on the topic, the involvement in the relationship and the level of empathy were so high as to repeatedly activate situations of Shared Flow. For the first time Mr. X experienced Flow inside a relational activity and not in an individual high-risk situation. From this first experience he would be able to develop well-being experiences in other relational contexts, first of all in regard to his approach toward his wife. The therapy ended when Mr. X declared he felt strong enough to stand on his own two feet. One year later he called back to announce he had become father of a beautiful daughter.

References

American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders* (Fifth ed.). Arlington, VA: American Psychiatric Publishing.

Aube´ C., Brunelle E. & Rousseau V. (2014) Flow experience and team performance: The role of team goal commitment and information Exchange. *Motivation & Emotion*, 38, 120–130. DOI 10.1007/s11031-013-9365-2.

Baumann, N. (2012). Autotelic Personality. In Engeser S. (Ed.) *Advances in flow research*. Dordrecht, NL :Springer.

Bassi, M., Preziosa, A., & Pozzoli, S. (2007). Experience sampling method e lo studio dell'esperienza quotidiana: implicazioni per l'intervento. In A. Delle Fave (Ed.), *La condivisione del benessere. Il contributo della psicologia positiva* (pp. 169–189). Milano: Franco Angeli.

Bassi, M., Ferrario, N., Ba, G., Delle Fave, A. & Viganò C. (2012). Quality of Experience During Psychosocial Rehabilitation: A Real-Time Investigation With Experience Sampling Method. *Psychiatric Rehabilitation Journal*. 35, (6), 447–453.

Boffi M., Diana B., Riva E., Inghilleri P., Argenton L., Villani D., Muzio M. & Riva G. (2012), "L'adattamento italiano della *Dispositional Flow Scale* IIDFS-2" – In: Muzio M., Riva G., Argenton L. (a cura di), *Flow, benessere e prestazione eccellente. Dai modelli teorici alle applicazioni nello sport e in azienda*, Franco Angeli, Milano

Caselli, M. de Cordova, F., Riva E. & Vittadini N. (2011) *Tecnologie digitali e pratiche identitarie tra gli adolescenti figli di famiglie immigrate (numero monografico)–Ikon : forme e processi del comunicare*.

de Cordova, F., Riva, E. & Vittadini, N. (2010) Emerging communication practices and how they affect immigrant adolescents in their developmental process. – In: Billias, N. (Ed.) *Proceedings of the 5. Global Conference of Cybercultures,* Interdisciplinary Net, 2010.

Ceja, L. & Navarro, J. (2009). Dynamics of flow: A nonlinear perspective. *Journal of Happiness Studies, 10,* 665-684. doi:10.1007/s10902-008-9113-6.

Cohn, M. A., Fredrickson, B. L., Brown, S. L., Mikels, J. A., & Conway, A. M. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience. *Emotion, 9*, 361-368.

Csikszentmihalyi, M. (1975/2000). *Beyond boredom and anxiety*. San Francisco: Jossey Bass.

Csikszentmihalyi, M. (1982). Towards a psychology of optimal experience, in L. Wheeler (Ed.), *Review of Personality and Social Psychology*, vol.2, Beverly Hills: Sage.

Csikszentmihalyi, M. (1989). *Research on Motivation in Education*, *vol. 3, Goals and Cognitions*. New York: Academic Press.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.

Csikszentmihalyi, M. (1993), *The Evolving Self: a psychology for a third millennium*, New York: HarperCollins

Csikszentmihalyi, M. (1996). *Creativity. Flow and the psychology of discovery and invention*. New York: Harper Perennial

Csikszentmihalyi, M. (1997). *Finding flow. The psychology of engagement with everyday life*. New York: Basic Books.

Csikszentmihalyi, M. & Csikszentmihalyi, I. (1988). *Optimal experience: Studies of flow in consciousness.* New York: Cambridge University Press.

Csikszentmihalyi, M. & Csikszentmihalyi, I. (2006), *A life worth living: Contributions to positive psychology* (pp. 165–181). New York: Oxford University Press.

Csikszentmihalyi, M. & Larson, R. (1987). Validity and Reliability of the Experience Sampling Method. *Journal of Nervous and Mental Disease,* 175 (9), 526-36.

Csikszentmihalyi M. & Massimini F. (1985). On the psychological selection of bio-cultural information, *New Ideas in Psychology*, 3, 115-138

Csikszentmihalyi, M. & Rathunde, K. (1993). *The Measurement of Flow in Everyday Life. Toward a Theory of Emergent Motivation*. In Nebraska Symposium of Motivation, 40, Lincoln: University of Nebraska Press.

Csikszentmihalyi, M., Rathunde, K. & Whalen, S. (1993). *Talented teenagers: A longitudinal study of their development.* New York: Cambridge University Press.

Csikszentmihalyi, M. & Nakamura, J. (2011). Positive Psychology: Where did it come from, where is it going? In K.M. Sheldon, T. B. Kashdan, & M.F. Steger (Eds.) *Designing Positive Psychology*. New York, Oxford University Press, pp.2-9.

Delle Fave, A. (2006). The impact of subjective experience on the quality of life. a central issue for health professionals. In M. Csikszentmihalyi & I. Csikszentmihalyi (Eds.), *A life worth living: Contributions to positive psychology* (pp. 165–181). New York: Oxford University Press.

Delle Fave, A. (2010). Development through disability. The unfolding and sharing of psychological resources. In G. W. Burns (Ed.), *Happiness, healing, enhancement. Your casebook collection for applying positive psychology in the therapy* (pp. 88–99). Hoboken, NJ: Wiley & Sons

Delle Fave, A., & Bassi, M. (2009). Sharing optimal experiences and promoting good community life in a multicultural society. *Journal of Positive Psychology*, *4*, 280–289.

Delle Fave, A. & Massimini, F. (1992). The ESM and the measurement of clinical change: A case of anxiety disorder. In M. W. deVries (Ed.), *The experience of psychopathology: Investigating mental disorders in their natural settings* (pp. 280–289). New York: Cambridge.

Delle Fave, A., Lombardi, M., & Massimini, F. (2003). Disability and development: Individual and cultural issues. In L. Loewenstein, D. Trent, R. Roth (Eds.), *Catching the future: Women and men in global psychology* (pp. 104–113). Lengerich: Pabst Science Publishers

Delle Fave, A., Massimini, F. & Bassi, M. (2011). *Psychological selection and optimal experience across cultures. Social Empowerment thorough Personal Growth.* New York: Springer.

Delle Fave, A., Brdar, I., Freire, T., Vella-Brodrick, D.A., & Wissing, M.P. (2010). The investigation of eudaimonic happiness: Qualitative and quantitative findings. *Social Indicators Research*, DOI 10.1007/s11205-010-9632-5.

Fava G.A. (2012) *The clinical role of psychological well-being.*, *World Psychiatry,* 2012, 11, pp. 102–103.

Fava G.A., Tomba E. (2009), *Increasing Psychological Well-Being and Resilience by Psychotherapeutic Methods, Journal of Personality*, 77, pp. 1903 – 1934.

Fredrickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist, 56,* 218-226.

Fredrickson, B.L. (2002). Positive emotions. In C. R. Snyder & S. J. Lopez (eds.) *Handbook of Positive Psychology* (pp. 120-134). New York: Oxford University Press.

Fredrickson, B.L. (2006). Unpacking positive emotions: Investigating the seeds of human flourishing. *Journal of Positive Psychology*, 1, 57-60.

Fredrickson, B.L. (2013). Positive emotions broaden and build. In E. Ashby Plant & P. G. Devine (Eds.), *Advances on Experimental Social Psychology, 47,* 1-53. Burlington: Academic Press.

Fredrickson, B.L. & Losada, M. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist,* 60 (7) 678-686.

Freire, T. (2013). *Positive Leisure Science:From Subjective Experience to Social Context.* Dordrecht, NL: Springer. DOI 10.1007/978-94-007-5058-6_1.

Freire, T. (2010). From vulnerability to skillfulness: leisure and positive intervention in therapy with adolescents. In George W. Burns (Ed.), Happiness, healing, enhancement: Your casebook collection for applying positive psychology in therapy, (pp. 100–138). Hoboken, NJ: John Wiley and Sons

Freire, T., & Teixeira, A. (in press). Terapia cognitivo-comportamental: da psicopatologia ao funcionamento ótimo de crianças e adolescentes. In P. Monteiro (Ed.), Psicologia e psiquiatria da infância e da adolescência. Lisboa: Lidel.

Freire, T., Araújo, M., Teixeira, A., & Lima, I. (2012). Implementação e avaliação de um programa de intervenção em grupo para o desenvolvimento positivo de adolescentes: Desafio: ser+. Psicologia Educação e Cultura, XVI(1), 231-255.

Freire, T., Teixeira, A., Silva, E., & Matias, G. (2014). Interventions for youth depression: From symptom reduction to well-being and optimal functioning. Manuscript submitted for publication.

Frisch, M.B. (2006). *Quality of Life Therapy: Applying a Life Satisfaction Approach to Positive Psychology and Cognitive Therapy.* Hoboken: John Wiley and Sons.

Frisch, M.B. (2009a). Quality of Life Therapy and Coaching (QOLTC). In S.J. Lopez (Ed.). Encyclopedia Of Positive Psychology (pp. 824-826). New York: Wiley-Blackwell.

Frisch, Michael B. (2009b). The Quality of Life Inventory (QOLI') Handbook: A Practical Guide for Laypersons, Clients, and Coaches. Minneapolis, Minnesota: Pearson Assessments.

Gaggioli A., Riva G., Milani L., Mazzoni E. (2013) *Networked Flow: Towards an understanding of creative networks.* New York: Springer.

Gardner, H. (1993a). *Multiple intelligences: The theory in practice*. New York: Basic Books.

Gardner, H. (1993b) *Creating minds. An anatomy of creativity seen thorough the lives of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham and Ghandi.*, Basic Books, New York.

Gardner, H. (2007) *Five minds for the future.,* Boston, Massachusetts: Harvard Business School Press.

Gislon M.C. (2000), *Trattato di psicoterapia breve integrata*. Bassano del Grappa: Dialogos.

Goldwum, G., Colombo, F (2010), *Psicologia Positiva: Applicazioni per il benessere.* Trento: Erickson.

Goldwum, G., Baruffi, M., Bielli, D., Colombo, F., Corsale, B., Marchi, S. (2007). Training Applicativi in Psicologia Positiva. In A. Delle Fave (Ed.), *La Condivisione del Benessere. Il Contributo della Psicologia Positiva.* Milano: Franco Angeli.

Grafanaki, S., Brennan, M., Holmes, S., Tang, K., Alvarez, S. (2007). In Search of Flow in Counseling and Psychotherapy: Identifying the necessary ingredients of peak moments of therapy interaction. *Person-Centered and Experiential Psychotherapies*, 6 (4), 239-254.

Inghilleri, P. (1999). *From Subjective Experience to Cultural Change.* Cambridge: Cambridge University Press.

Inghilleri P. (2009), *Psicologia culturale*, Milano: Raffaello Cortina.

Inghilleri P., Riva E. (2012), "L'uso clinico degli artefatti" – In: Inghilleri P., Castiglioni M., *Capire e curare gli adolescenti. Nuove forme di clinica Transculturale.*, Guerini e Associati, Milano.

Jackson, S. A., Martin, A. J., & Eklund, R. C. (2008). Long and Short Measures of Flow: The Construct Validity of the FSS-2, DFS-2, and New Brief Counterparts. *Journal of sport and exercise psychology*, *30*(5), 561-587.

Joseph, S., Linley, P.A. (2004). Positive therapy: A positive psychological theory of therapeutic practice. In P.A. Linley, S. Joseph (Eds.), *Positive psychology in practice.* Hoboken: John Wiley & Sons Inc.

Joseph, S., Linley, P.A. (2006). *Positive therapy: A meta-theory for positive psychological practice*. London: Taylor & Francis.

Keyes, C. & Haidt, J. (2002) *Flourishing*. Washington, DC: American Psychological Association Books.

Larsen, R. J., & Fredrickson, B.L. (1999). Measurement issues in emotion research. In D. Kahnemann, E. Diener, & N. Schwarz (Eds.), *Well-being: Foundations of hedonic psychology* (pp. 4060). New York: Russell-Sage.

Leontiev, D. (2006). Positive personality development: Approaching Personal Autonomy. In. M. Csikszentmihalyi & I. Csikszentmihalyi (Eds.) *A life worth living. Contribution to Positive psychology.* Oxford: Oxford University Press.

Linley, P.A., Joseph, S. (2004). *Positive psychology in practice*. Hoboken: John Wiley & Sons Inc.

Massimini, F. & Delle Fave, A. (2000), Individual development in a bio-cultural perspective. *American Psychologist,* 55, pp. 24-33

Massimini F. & Inghilleri P. (1993). *La selezione psicologica umana. (Human psychological selection),* Milano: Cooperativa Libraria IULM.

Massimini, F., Csikszentmihalyi, M., Carli, M. (1987) The monitoring of optimal experience. A tool for psychiatric rehabilitation. *Journal of Nervous and Mental Disease, 175*, 545-549.

Monod J. (1971). *Chance and necessity*. New York: Alfred A. Knopf

Park, N., Peterson, C. & Seligman, M.E.P. (2006). Character strengths in fifty-four nations and in the fifty US states. *The Journal of Positive Psychology,* 1(3): 118–129.

Peterson, C. (2006). The Values in Action (VIA) Classification of Strengths. In. M. Csikszentmihalyi & I. Csikszentmihalyi (Eds.) *A life worth living. Contribution to Positive psychology.* Oxford: Oxford University Press.

Peterson, C., Seligman, M.E.P. (2004). *Character Strengths and Virtues A Handbook and Classification*. Washington DC: APA Press and Oxford University Press.

Peterson, C., Ruch, W., Beermann, U., Park, N. & Seligman, M.P.E. (2007) Strengths of character, orientations to happiness, and life satisfaction, *The Journal of Positive Psychology,* 2 (3), pp. 149-156.

Riva E. (2007). "Nel nome del Padre". *Passaggi. Rivista italiana di scienze transculturali,* 13(07), pp. 69-98, Roma: Carocci Editore.

Riva E. (2011), "Inter-religious and inter-cultural families in Italy : an analysis of North African-Italian marriages." *Journal of Muslim Mental Health*.

Ruini C., Fava G.A. (2008) *New psychotherapeutic technique for preventing relapse: Well-being Therapy.*, *Journal of Affective Disorders*, 107, pp. S98–S99.

Ruini C., Tomba E., Fava G.A. (2007) *Well-Being Therapy (WBT): una strategia psicoterapica per la promozione del benessere psicologico.*, in: A. Delle Fave (Ed.) *La Condivisione del Benessere. Il Contributo della Psicologia Positiva.,* Milano: Franco Angeli, pp. 113–128.

Ryff, C.D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology,* 57, 1069-1081.

Ryff, C. D. (2012). Existential well-being and health. In P. T. P. Wong (Ed.), *The human quest for meaning* (2nd ed., pp. 233-248). New York: Routledge.

Ryff, C., & Keyes, C. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, *69*, 719–727.

Ryff, C. D. & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies*, *9*, 13–39.

Seligman, M.E.P. (2002a). *Authentic happiness: Using the new positive psychology to realize your potential for lasting fulfillment*. New York: Free Press

Seligman M.E.P. (2002b). Positive Psychology, positive Prevention and Positive Therapy. In C.R. Snyder, S. Lopez (Eds.), *Handbook of Positive Psychology.* Oxford: Oxford University Press.

Seligman, M.E.P. (2006). Afterward: Breaking the 65 Percent Barrier. In M. Csikszentmihalyi, I. Csikszentmihalyi Selega (Eds.), *A life worth living. Contribution to Positive psychology.* Oxford: Oxford University Press.

Seligman, M.E.P. (2008). Positive Health. *Applied psychology: An international review*, 57, 3-18.

Seligman, M. E. P. (2011) *Flourish.* N.Y.: Simon & Schuster.

Seligman, M.E.P. & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *1*, 5–14.

Seligman, M.E.P., Peterson, C. (2003). Positive Clinical Psychology. In L.G. Aspinwall, U.M. Staudinger (Eds.), *A Psychology of Human Strengths: Fundamental questions and future directions for a positive psychology*. Washington DC: APA Books.

Seligman, M.E.P., Park, N., Peterson, C. (2005) Positive Psychology Progress. Empirical Validation for Intervention. *American Psychologist*, 60 (5), 410-421.

Seligman, M.E.P., Rashid, T., Park, A.C. (2006). Positive Psychotherapy., *American Psychologist*, 61, 774-788.

Stern, D.N. (2004). *The Present Moment in Psychotherapy and Everyday Life*. New York: Norton.

Stern, D.N. (2010). *Forms of Vitality: Exploring Dynamic Experience in Psychology and the Arts*. Oxford: Oxford University Press.

Summers, R.F. & Barber, J.P. (2010), *Psychodynamic Therapy: A Guide to Evidence Based Practice*, The Guilford Press, New Your, NY.

Winston A. & Winston B. (2002). *Handbook of Integrated Short-Term Psychotherapy*. Washington DC: American Psychiatric Publishing.

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6 Positive Change in Environment: Aesthetics, Environmental Flowability and Well-Being

Abstract: Environmental Psychology states that restoration and environmental preference could be explained by referring to our evolutionary past, or taking into account some of the universal features of the place. This contribution shows an alternative point of view, focusing on the concepts of flow. This chapter focuses on a new framework aiming to establish a link between optimal experiences, psychological well-being and aesthetic judgments, introducing the idea of *Flowability* as a subjective criterion to evaluate a place and consider it as potentially regenerative.

Keywords: Well-being; Restorativeness; Environmental preferences; Cultural selection; Evolutionary processes, Cultural artifacts; Flowability

6.1 Introduction

The connection between environmental features, aesthetic preference and psychological well-being is a paradigmatic example of the dilemmatic bond which links scientific psychology and common sense. It is in fact a widespread belief that such a link exists, and psychological research too has shown that human beings attend their favorite places as triggers of positive feelings and emotions when they are going through critical moments (Korpela et alii, 2001; 2003). The problem arises when this bond is investigated from a scientific point of view, considering that the theoretical analysis could be divided into at least three fundamental aspects. Firstly, it is necessary to examine whether there are distinctive environmental features that, more than others, elicit a positive response. The identification of these characteristics involves several higher order issues, such as, the assessment of whether these are universally recognized or automatically chosen. This query calls into question the second key issue, which concerns the subjective experience in dealing with these environmental features. To exert a preference means exercising a judgment based on available data, on the gestaltic qualities experienced in a specific context, or in an exercise of imagination/recalling of that event based on an environmental stimulus, such as in a video or a picture. The third aspect concerns the conceptualization, and the subsequent measurement, of the fundamental characteristics of psychological well-being. Also in this case it can be disputed whether the state of well-being has to be considered as a short or long term phenomenon, as when it occurs sharply when facing a specific environment.

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Since the seventies, environmental psychology has tried to give scientific foundation to such findings, already widely present in people's common sense. The mainstream explanation was oriented by an epistemology that considered the *environment as a stimulus* that triggers a normative human response or activates a cognitive scheme. Not surprisingly, studies of this kind have deepened only the first aspect, the one concerning environmental features that foster psychological well-being, exploring only in part the other two. Recently, however, some innovative proposals have been advanced taking into greater account the experiential (Ryan *et alii*, 2010; Joye & van den Berg, 2011) and cultural aspects (Kitayama *et alii*, 2003; Buijs *et alii*, 2009) of our relationship with the environment. These theories suggest new contact points between the seminal works of Csikszentmihalyi (1975) and Kaplan & Kaplan (1983), towards a new framework which integrates the complexity of the experience of place and its generative features (Rainisio & Inghilleri, 2013) in the classical model. We suggest, in fact, that a phenomenological point of view would be useful to better define a systemic model of how the physical environment interacts with preference and psychological well-being, as it would be to include individual agency and emotionality. Before analyzing the more recent theories, it is necessary to deepen the mainstream framework and its underlying epistemological structure.

6.2 Place as a Stimulus

The models proposed in this field mainly follow two different ideas of mental functioning, in their turn deriving from two separate scientific paradigms. The first one is based on an evolutionary perspective, within which the interpretation of preference and psychological well-being is linked to the possibility that human beings have maintained in their aesthetic judgment a preference for habitats that maximize their chances of fitness, offering an abundance of resources and enlarging the opportunities for defense or protection. This perspective entails a corollary of at least three basic aspects. Firstly, the mechanism that activates preference and psychological well-being, resulting from phylogenesis, is automatic and not subject to the conscious control of the individual. Secondly, it follows that the subjective and cultural differences do not interfere with this automatic link, which is configured therefore as universal. Thirdly, people would tend to choose environments that have been a fertile ground for human evolution, and thus explains the data, shared by much research, which show a significant difference in preference between the natural and built environments, to all advantage of the first. A paradigmatic example is the savannah hypothesis (Orians, 1986). According to this theory the savannah, where allegedly the origin of man as a species took place, is also the prototype of the environment that guaranteed the hunter-gatherers of the Pleistocene the greater fitness possible.

The presence of scattered trees allowed to easily identify and collect fallen fruit and get find shelter from the sun, and at the same time constituted a minimum

obstruction to the observation of the behavior of other predators, or to the search for a possible prey. The large animals present in the area guaranteed meat supply, while the grassy and wavy ground allowed orientation and the adoption of a nomadic lifestyle. This hypothesis is supported by evidences from various studies, mostly conducted in natural environment. Orians (1980), by analyzing natural drawings in a Japanese population, emphasized the tendency to modify the shapes of the local trees to make them look more like the savannah trees. Orians & Heerwagen (1992) conducted a cross-cultural analysis of the preference for different types of trees, which resulted in shared patterns corresponding to the characteristics of the typical savannah vegetation. Similar results were reported by Summit & Sommer (1999), which found a widespread preference for the acacia tree, and Lohr & Pearson-Mims (2006), which showed more positive emotional reactions facing environments characterized by leafy trees compared to other shapes. Balling & Falk (1982) have compared the preferences of a sample with respect to different biomes, including tropical forests, coniferous and temperate deserts and the savannah itself. The results showed a greater preference for savannah-like environments, however, limited to the lower age group. So the authors hypothesized that the *savannah effect* is predominant in childhood, but is later mitigated by individual and cultural inclinations. The data collected from this 1982 study have been re-used for a similar work (Falk & Balling, 2010), based on the cross-cultural comparison between American and Nigerian citizens. The new conclusions identified the savannah biome as preferred by both populations, with no significant cultural differences. Appleton (1975) did not focus his *prospect and refuge* theory on a specific biome, but further underlined that our preference is oriented by our basic need to control the surrounding environment (*prospect*) and to be safe from external attacks by predators (*refuge*). This theory would explain our preference for panoramas and elevations, which at the same time provide control and protection allowing a broad view. A study conducted on a sample of children tested this hypothesis, resulting in only a partial confirmation, as the *prospect* factor was found to be closely related to aesthetic preference whereas the *refuge* factor did not have the same statistical significance (Fisher & Shrout, 2006). Both theories follow the general idea that Wilson (1984) called *biophilia*, a supposed innate bond between human beings and the other living creatures developed in the phylogenesis as functional to the survival of the species.

Following an evolutionary approach, they also differ considerably from the models developed in a cognitive perspective. Cognitive science, focusing on skills (and limitations) of man as information processor, gives in fact less importance to the innate and automatic behaviors. It follows a model that explains the environmental preference through a steady process that matches the environmental stimuli and the subjective schemes of categorization and action. Hence arise two important corollaries. First of all, the matching activity is eminently subjective, as the content of the schemes differ from person to person. Secondly, the ability to cope with those stimuli would be largely influenced by the past experiences and, in a broader sense, by the

culture of belonging. Schemes are in fact molded from the everyday experience and from the information and suggestions received in the educational process by caregivers and the community at large.

These aspects are an important innovation compared to the evolutionary model, as they propose an idea of subjective compatibility that goes beyond the phylogenetic determinism. Purcell (1986) suggested that preference might be given to those environments which possess an optimal level of discrepancy from one's own scheme, in order to generate a mild form of psycho-physical arousal without activating negative feelings such as boredom or anxiety. Conversely, Whitfield (1983) stated that preference might be oriented to environmental stimuli that mostly resemble the subjective scheme. Here too, as argued for other cognitivist theories, the representation of the relationship between man and environment appears to be "cold", unable to account for the emotional complexity of everyday experience. Moreover, even if a cognitive mediation is theorized, the holistic nature of that relationship is not taken into adequate consideration, focusing only on how subjective schemata are activated by external stimuli.

An integrative theory that unifies cognitive and evolutionary aspects was proposed by Kaplan, Kaplan & Ryan (1998). The peculiarity of this point of view consists in considering cognition as the adaptive product of phylogenesis and assumes the existence of two basic needs for the optimal cognitive functioning, which is a prerequisite for survival, and specifically: the understanding of the context for action and the exploration of the same. If understanding is the central system that governs decision, exploration is equally important because it allows the acquisition of new information, and thus a qualitative increase in knowledge as a function of adaptation. The intersection of these two basic needs, understanding and exploration, with the degree of inference activated in the act of perception along the continuum of immediate-inferred, generates a 2x2 matrix which has four variables:

1. **Coherence:** comprehensibility immediately perceived (visual order)
2. **Legibility:** inferred comprehensibility (wayfinding, distinctive space)
3. **Complexity:** complexity immediately perceived (visual richness, high number of elements, various textures)
4. **Mystery:** complexity inferred (promise of new information on the environment deriving from its exploration)

While in the seminal study of Berlyne (1960) the complexity has been indicated as the main determinant of preference, in this theory the four factors described must remain in balance to maximize the pleasantness of the environment and perceived fitness with itself.

Despite the diversity of approaches, both the cognitive model on environmental aesthetics and the evolutionary models left two important aspects behind. The first concerns the subjective experience in dealing with environmental quality. The second deals with the short and long term effects of the exposure to restorative environments.

It may therefore be useful to abandon the narrow frame of mainstream environmental psychology and engage in a reflection from a phenomenological point of view, which holistically reinserts those aspects that seem to be missing in the theories described above: the quality of the experience and the effects this may have on human behavior. According to this argument, a phenomenological framework should be discussed introducing two new epistemologies closely linked together, *place as an experience* and *place as generative*.

6.3 Place as an Experience

To integrate the mainstream framework with a phenomenological perspective could be useful to deepen the underestimated role of daily experience, since the basis of such an approach lies in the close ties between experience and place. Whereas phenomenology is the study of "*things or experiences as human beings experience them*" (Seamon, 1987), place is considered as a conditio sine qua non of all existing things, as for humans *"to be is to be in a place"* (Casey, 1993). People are bound by the body to an environmental context, and, consequently, to their experience. To experience is, in this perspective, mainly to experience in a situated body a situated thing. As Seamon (2013) pointed out:

> Phenomenologically, place is not the physical environment separate from people associated with it but, rather, the indivisible, normally unnoticed phenomenon of person-or-people-experiencing-place (p. 11)

According to this point of view, he suggested (1982) that the human experience of the physical environment should be one of the main topics for environmental psychology. It is possible to refer to some scholars who have studied the environmental experiences and their relevance for aesthetic judgment and well-being. In popular culture the connection between environment and particular experiences, generally called *peak experiences* (Maslow, 1959), has been well-known since centuries; suffice it to mention the ritual vision quests of Native Americans, the spread of the romantic sublime in the European imaginary, or the centrality of the *wilderness* idea for the American culture. Moreover, nature is frequently associated with mysticism, ecstasy and other "supernatural" experiences in daily speech and thought. Kaplan & Kaplan (1989) suggested that a complete restorative environment can be experienced as such when presenting four main features:

1. **Fascination:** to activate the *involuntary* attention permitting the *voluntary* one to recover.
2. **Being away:** to trigger feelings of being "elsewhere", far from the daily routine.
3. **Extent:** to experience the environment as unique and differentiated from others.

4. **Compatibility:** to perceive a high fitness between the subjective goals and the possibilities offered by the socio-physical environment.

Restorative environments should then be conductive to a state of *cognitive clarity,* a state of mind characterized by the ability to focus on a cognitive task and to correctly select between the available opportunities.

Similarly, Williams & Harvey (2001) described it as a *transcendence experience*, characterized by three factors:

1. a feeling of **being overwhelmed and fascinated** by the natural environment, with a **strong involvement** in the moment
2. a sense of **strong novelty** for the experience
3. a feeling of **compatibility and ease**

According to the authors, such an experience can also be divided in two distinct forms. A *diminutive experience*, characterized by a feeling of humility and insignificance, was found to be associated with high novelty and low compatibility. Conversely, the other typology is characterized by a strong sense of compatibility and familiarity.

A quite similar experience was described by Ryan and colleagues (2010) as triggered by the *subjective vitality* (Ryan & Frederick, 1997). This study has emphasized that *vitality* and natural elements are related factors, assuming an experience of revitalization as main mediator between environment and psychological well-being, and also as being able to activate long-term positive processes on self-perception.

As *biophilia* could be indicated as the philosophical substratum for an evolutionary perspective, we suggest the flow theory (Csikszentmihalyi, 1975, 1990) as an integrative framework to resume the formerly described theories. In fact, the concept of *optimal experience* is characterized by some key elements that appear to integrate and summarize them:

a) Challenges-skills balance

Flow was found to be triggered by a perceived balance between situational challenge and personal skills, that is to say that the requests of the outer world (the environment) are balanced with the perceptions and the expectations coming from the inner world. This idea is very similar to the compatibility concept as formulated by Kaplan.

b) Merging

Flow was linked with a strong sensation of merging between the Self and the context, a feeling commonly reported by the researchers in environmental psychology, which could be summed up in the expression *"deep experience"*.

c) Intrinsic motivation

During optimal experience, the main subjective motivation is the experience itself, the related sense of competence and completeness, without any external goal. A similar *disinterested pleasure* is considered as a main element of the aesthetic

gratification in environment (e.g. Kant, 1790), that conversely is normally driven by an external object of attraction.

d) Effortless attention

During *Flow* the attentional resources are allocated voluntarily on a specific set of environmental stimuli, but this allocation is totally *effortless* and the control on action is perceived as automatic. Similarly, Kaplan defined *fascination* as a state of effortless attention, in which environmental stimuli are supposed to be able to attract the *involuntary attention*, permitting the voluntary one to recover.

e) Positive affects/clarity

Flow is characterized by a general sense of well-being and absence of boredom and anxiety, a sensation reported in relation to every *transcendence experience* in nature. Another characteristic that optimal experience shared with the concept of *cognitive clarity* is the peculiarity of being associated with feelings of full involvement, optimally functioning, mindfulness, and ideal exchange with the outer world.

As shown, the described theories have many points in common, but differ on a fundamental argument, specifically the causes of this experience and the role of attention. In Kaplan, the compatibility between man and environment is just one of the factors that lead to well-being, partially subjected to involuntary attraction of attention trough environmental features (*fascination*). His definition of well-being is then anchored to the concept of *recovery*, implying a return to a state of optimal cognitive functioning after a state of mental fatigue. The Flow Theory instead assigns a primary role to experience and not to the context, as the focus of attention is considered at the same time voluntary and *effortless* (Csikszentmihalyi & Nakamura, 2010). Furthermore, well-being is not reached by a restoration process, but trough a feeling of growth of psychic complexity during the action. However, in both theories the balance between the environment and the internal world is considered as necessary to trigger the most intense feelings of well-being. In fact, Kaplan himself admits that involuntary attention can be attracted by what is being done and not only by environmental features (*fascination for process*), while Williams & Harvey (2001) stated that the higher level of well-being is linked with the *deep flow* experiences, connoted by high levels of fascination and compatibility, and triggered by familiar contexts. Moreover, Flow Theory should also be a useful framework to explain the long term effects of positive experiences in environment and the mechanism of preference.

6.4 Place as Generative

According to the phenomenologists, place is not a static, but a dynamic and *generative* entity. It means that places and the experience thereof continuously evolve following six dynamic processes (Seamon, 2012): *interaction, identity, release, realization, creation and intensification*. This also means that significant changes may

also be led by the relationship between person and place. Scholars have pointed out several findings in support of long-term changes associated to the experience of place. Kaplan & Talbott (1983) stated that a *wilderness experience* had a deep impact on the individual personality of a group of young people involved in a natural camp. Wells (2000) found that a group of children living in an area with greater presence of trees developed a better ability to cope with stressful life events, also controlling the data for economic income. Kuo and colleagues (1998) underlined that the presence of natural areas empowered number and strength of social relationships in a Chicago apartment block.

Again, we suggest that an explanation to those findings should be found in *flow theory* and its developmental implications. First of all, after an experience of flow, *the organization of the self is more complex than it had been before* (Csikszentmihalyi, 1990, p.41). It means that an optimal experience may lead to a lasting change in self-perception and self-confidence. If there is no subjective experience *without place*, then every place compatible with a flow experience should become a *positive place*, and should be linked in memory and cognition with the positive experience of increased skills and self-esteem, especially if the context is relevant to that particular experience. It will depend on the subjective *compatibility* (or challenge-skills balance) as perceived in a precise moment of life. At the same time, the positive emotions experienced in a particular place could *"broaden people's momentary thought-action repertories, widening the array of the thoughts and actions that come to mind"* (Fredrickson, 2001) and promote, on the long-term, a complete mental health, a subjective state of *flourishing in life* (Keyes, 2002). According with this argument, place couldn't be only considered as a trigger for attentional and stress recovery, as argued by Kaplan & Kaplan or Ulrich, but mainly as able to promote a long lasting well-being.

Moreover, as suggested by Csikszentmihalyi & Robinson (1990) the objects involved in this experience (in our case, the place) will become subject of aesthetic pleasure and preference. In this perspective, a favorite place is where I lived the highest possible number of positive experiences. If we consider instead the typology of places, the favorite will be the one where I had the highest number of flow experiences or, the one that presents more evidence of the possibility of having experiences of flow based on past experience. According to these arguments, the *flow experience* could even be a trigger to support and strengthen place attachment and identification.

Lastly, all this will have a significant impact on places. In fact, a shared investment of psychic energy on a place will facilitate its conservation and protection, increase its semiotic complexity and activate its "transmission" to future generations, just as it happens for the other memes of our cultures (Dawkins, 1989; Inghilleri, 1999). Summarizing, it is not that evolutionary and stimulus-driven effects do not affect people's well-being in environment. These elements, rooted in our bio-cultural heritage, should be considered as positive factors to enable our optimal experiences in environment, which in turn activate several effects on psychological well-being. In

the following section we will discuss some results that support these hypotheses, first providing experimental verification for our assumptions.

6.5 Preliminary Results

6.5.1 Procedure

An explorative research was conducted involving university students from Italy and Algeria (n= 169). The main aim was to deepen the hypothesized links between environmental preference, restoration and flow experience. The procedure merged two consolidated research traditions in environmental psychology (restorativeness and preference). In the experiment, each student watched one picture of a landscape for a minute in a setting where potential outside disturbance was controlled for, after which a questionnaire was administered. In total, we showed nine pictures representing three types of biomes (savannah, forest and desert) and every picture was watched by at least 15 participants. The biomes have been selected because of their significance for both the environmental contexts and for the literature in this field. Our post-exposure questionnaire was composed of:

1. A short (18 items) version of *Perceived Restorativeness Scale* (*PRS*, Hartig *et alii,* 1997; Pasini & Berto, 2007), including an item on environmental preference.
2. A short version of *Revised Restoration Scale* (*RRS;* Han, 2003).
3. An adapted version of *Neighborhood Attachment Scale* (*NAS*, Bonnes *et alii;* 1997), to deepen the role of place attachment.

The experiment was completed with a section dedicated to *optimal experiences*. The introductive part of the *Flow Questionnaire* (Csikszentmihalyi, 1975), which brings together some of the most common descriptions of the state of flow, was used as a stimulus to make participants understand what specific experience we were referring to.

That stimulus was followed by four ex novo items, designed to deepen the following aspects of flow experience in environment:

1. Perceived probability of a flow experience facing that environment ("*Walking a. in a place like that I could feel this way"*).
2. Experiential past with regard to that environment (*"It happened to me to feel this way in places like that"*).
3. Place capability in activating optimal experiences (*"Places like that can help me to feel this way"*).
4. Strategic use of places as triggers for optimal experiences (*"Sometimes I go to places like that to feel this way"*).

This scale is the first proposal of a *Flow in Environment Scale* (FLIES), an instrument able to analyze the connection between optimal experience and environmental contexts. The scale showed adequate psychometric properties.

The four items belong to one single factor, that we could call *Environmental Flowability*, intended as the perceived potential of a place to enable optimal experiences. This factor explains 79.74% of the variance, and has high saturation of items on the factor (all values higher than .84).

6.5.2 Results

We hypothesized that Flow would play a role in influencing preferences, well-being and restoration in environment, as well as that Flow should be linked with place attachment. Observing the matrix below (Tab.5.1) what emerges is a significant correlation between the perceived *flowability,* the two measures of *restorativeness* (PRS .698; RS .773), environmental preference (.656) and place attachment (.690).

Table 6.1: Matrix of correlations between flowability and other main variables

	Preference	Restoration (PRS)	Restoration (RS)	Place attachment
Flowability	**.656**	**.698**	**.773**	**.690**
N.	166	159	130	160
p. (2 tales)	.000	.000	.000	.000

Moreover, we investigated the influence of *flowability* on environmental preference by estimating its predictive potential through a linear regression. The results stated that the perceived flow opportunities explains the 43% of the preference variance (R. .656; R sq. .430; F. 123.57; P. .000), emphasizing the role of flow experience in producing aesthetic pleasure and influencing the judgment of preference. *Figure 5.1* exemplifies this trend, showing a nearly-linear covariance between *flowability* and environmental preference. Also, we found similar and significant results about the *flowability-place attachment* links(R. .690; R sq. .476; F. 148.89; P. .000). This data indicated that almost half (47,6%) of the variance in place attachment could be explained by *flowability*, providing confirmation to our hypothesis that identifies optimal experiences as important triggers to establish symbolic bonds between the person and the physical environment. On the other hand, considering the relationship between *flowability* and *restorativeness* (PRS and RRS), a different explanation is proposed. The strong correlation between the three scales and the high multicollinearity values (tolerance

.394; VIF 2.537), could be due to a wide overlapping between the two constructs, whereas conceptualizations of flow and restoration tend to share some fundamental aspects as argued above. Not surprisingly, the higher FLIES-PRS correlations are observed on two PRS factors, *fascination* and *compatibility*, which call into question the two fundamental elements of interaction between the two: the optimal allocation of attentional resources and the compatibility between perceived challenges and environmental skills.

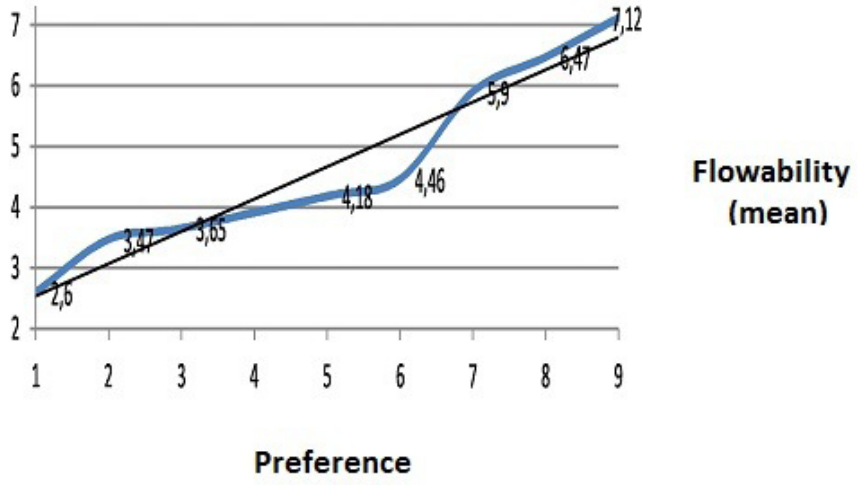

Figure 6.1: Flowability-preference covariance

Pending further experimental support to this data, it can be suggested that the subjective perception of possible Flow experiences fosters aesthetic preference and influences place attachment. Also, a significant association was found between *Flowability* and *restorativeness*, assuming that the two constructs (Flow and restoration) could also be seen as two partially different descriptions of the same mental state (a peak experience), which could be adequately described by the notion of optimal experience as conceptualized by Csikszentmihalyi.

6.6 Concluding Remarks

The classical man-environment relationship model, based on an interaction between an external stimulus and a behavioral response, has so far offered a restricted explanation of the links between place, preference and subjective wellbeing. Environmental psychology has in fact privileged an evolutionary explanation based on an automatic response or, alternatively, on abstract information processing. However, we

suggest the adoption of a phenomenological perspective and to consider place and experience as a totality which can only be understood through the study of subjective experience in an environment. In particular, we identified the flow experience as a framework able to explain environmental preference and the long term effects on subjective well-being. We also underlined that some existing theories, like Kaplan's Attention Restoration Theory, should be incorporated within this framework. Preliminary results showed a strong overlap between the two concepts, suggesting that people judge a place and its regenerative potential by relying on Flowability, namely evaluating its potential for generating optimal experiences.

References

Appleton, J. (1975). *The experience of landscape.* London, UK: Wiley.

Balling, J.D., Falk, J.H. (1982). Development of visual preference for natural environments. *Environment and Behavior, 14,* 5-28.

Berlyne, D.E. (1960). *Conflict, arousal, and curiosity.* New York, NY: McGraw-Hill.

Bonnes, M., Bonaiuto, M., Aiello, A., Perugini, M., Ercolani, P. (1997). A transactional perspective on residential satisfaction. In C. Despres, D. Piche (Eds.), *Housing surveys: Advances in theory and methods* (pp.75-99*)*. Quebec, Canada: CRAD Universite Laval.

Buijs, A. E., Elands, B. H. M., Langers, F. (2009). No wilderness for immigrants: Cultural differences in images of nature and landscape preferences. *Landscape and Urban Planning, 91* (3), 113-123.

Casey, E. S. (1993). *Getting back into place.* Bloomington, IN: Indiana University Press.

Csikszentmihalyi, M. (1975). *Beyond Boredom and Anxiety,* San Francisco: Jossey-Bass. Csikszentmihalyi, M. (1990). *Flow.* New York, NY: Harper & Row.

Csikszentmihalyi, M., Nakamura, J. (2010). Effortless attention in everyday life: A systematic phenomenology. In B. Bruya (Ed.), *Effortless attention: A new perspective in the cognitive science of attention and action* (pp.179-190). Cambridge, MA: MIT Press.

Csikszentmihalyi, M., Robinson, R. E. (1990). *The art of seeing.* Malibu, CA: Getty Press. Dawkins, R. (1989). *The selfish gene.* London, UK: Oxford University Press.

Falk, J. H., Balling, J. D. (2010). Evolutionary influence on human landscape preference. *Environment and Behavior, 42*(4), 479-493.

Fisher, M.A., Shrout, P.E. (2006). Children's liking of landscape paintings as a function of their perception of prospect, refuge and hazard. *Environment and Behavior, 38* (3), 373-393.

Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist,* 56 (3), 218-226.

Han, K. T. (2003). A reliable and valid self-rating measure of the restorative quality of natural environments, *Landscape & Urban Planning, 995, 1*–24.

Hartig, T., Korpela, K., Evans, G. W., Garling, T. (1997). A measure of restorative quality in environments. *Scandinavian Housing & Planning Research, 23,* 3-26.

Inghilleri, P. (1999). *From subjective experience to cultural change.* Cambridge, UK: Cambridge University Press.

Joye, Y., van den Berg, A. (2011). Is love for green in our genes? A critical analysis of evolutionary assumptions in restorative environments research. *Urban Forestry & Urban Greening,* 10, 261-268.

Kant, I. (1987). *Critique of Judgment.* 1790. Trans. W. S. Pluhar. Indianapolis: Hackett.

Kaplan, R., Kaplan, S. (1989). The experience of nature: A psychological perspective. New York, NY: Cambridge University Press.

Kaplan, R., Kaplan, S., Ryan, R.L. (1998). With people in mind: Design and management of everyday nature. Washington, DC: Island Press.

Kaplan, S., Kaplan, R. (1983). *Cognition and environment: Functioning in an uncertain world.* Ann Arbor, MI: Ulrich's.

Kaplan S., Talbot J.F. (1983). Psychological Benefits of a Wilderness Experience. In I. Altman, J. F. Wohlwill (Eds.) *Behavior and the Natural Environment* (163-203). New York, NY: Plenum Press.

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior,* 43, 207-222.

Kitayama, S., Duffy, S., Kawamura, T., Larsen, J.T. (2003). Perceiving an object and its context in different cultures: A cultural look at the New Look. *Psychological Science,* 14, 201-206.

Korpela, K. M. (2003). Negative mood and adult place preference. *Environment & Behavior,* 35, 331-346.

Korpela, K. M., Hartig, T., Kaiser, F., Fuhrer, U. (2001). Restorative experience and self-regulation in favourite places. *Environment & Behavior,* 33, 572-589.

Kuo, F. E., Sullivan,W. C., Coley, R. L., Brunson, L. (1998). Fertile ground for community: Innercity neighborhood common spaces. *American Journal of Community Psychology, 26,* 823-851.

Lohr, V.I., Pearson-Mims, C.H. (2006). Responses to scenes with spreading, rounded, and conical tree forms. *Environment & Behavior, 38,* 667-688.

Maslow, A.H. (Ed.) (1959). *New knowledge in human values.* New York: Harper.

Orians. G.H. (1980). Habitat selection: general theory and applications to human behavior. In J. S. Lockard (Ed.), *The Evolution of Human Social Behavior* (pp. 49-66). Amsterdam: Elsevier.

Orians. G.H. (1986). An ecological and evolutionary approach to landscape aesthetics. In E. C Penning-Rowsell, D. Lowenthal (Eds.), *Landscape meanings and values* (pp. 3-22). London: Allen and Unwin.

Orians, G. H., Heerwagen, J. H. (1992). Evolved responses to landscapes. In J. Barkow, L. Cosmides & J. Tooby (Eds.), *The adapted mind* (pp. 555-579). New York: Oxford University Press.

Pasini, M., Berth, R. (2007). Una scala per la misura della *restorativeness* dei luoghi. *Quaderni DiPav, 20,* 87-102.

Purcell, A. T. (1986). Environmental peception and affect: A schema discrepancy model. Environment & Behavior, 18, 3-30.

Rainisio, N., Inghilleri, P. (2013). Culture, Environmental Psychology and Well-Being. In H. Knoop, A. Delle Fave (Eds.) *Well-Being and Cultures* (pp. 101-116). Netherlands: Springer.

Ryan, R.M, & Frederick, C. (1997). On energy, personality, and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality, 65,* 529-566.

Ryan, R.M., Weinstein, N., Bernstein, J.H., Brown K.W., Mistretta L., & Gagne, M. (2010). Vitalizing effects of being outdoors and in nature. *Journal of Environmental Psychology, 30 (2),* 159-168.

Seamon, D. (1982). The phenomenological contribution to environmental psychology. *Journal of environmental psychology,* 2, 119-140.

Seamon, D. (1987). Phenomenology and environment-behavior research. In G. T. Moore and E. Zube (Eds.), *Advances in environment, behavior and design, 1* (pp. 3-27). New York, NY: Plenum Press.

Seamon, D. (2013).Place attachment and phenomenology: The synergistic dynamism of place, In L. C. Manzo, P. Devine-Wright (Eds.), *Place attachment* (pp. 11-22). New York, NY: Routledge.

Summit, J., Sommer, R. (1999). Further studies of preferred tree shapes. *Environment & Behavior,* 31, 550-556.

Wells, N. M. (2000). At home with nature: The effects of nearby nature on children's cognitive functioning. *Environment & Behavior,* 32, 775-795.

Whitfield, T.W.A. (1983). Predicting preference for familiar, everyday objects: An experimental confrontation between two theories of aesthetic behaviour. Journal of Environmental Psychology, 3, 221-237.

Williams, K., Harvey, D. (2001). Trascendent experience in forest environments. *Journal of Environmental Psychology. 21,* 249-260.

Wilson, E.O. (1984). *Biophilia*. Cambridge, MA: Harvard University Press.

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7 Positive Change and Political Participation: Well-Being as an Indicator of the Quality of Citizens' Engagement

Abstract: Political participation has long been considered as a source of benefits for the community. Its role in the evolution of society has been assessed through diverse social indicators, from which well-being has been assigned a central position. In this chapter we look at the historical progress of such indicators, highlighting the contribution of psychology. We suggest that a eudaimonic perspective can explain the link between individuals' well-being and participation. In particular flow can be used as referential theory to describe mechanisms affecting both personal growth and social context, resulting in an inspiring notion to design participative settings.

Keywords: Well-Being; Citizen Participation; Quality of Life; Flow of Consciousness; Quality of Participation; Social Indicators; Eudaimonia; Subjective Well-Being

7.1 Envisioning Better Societies: Concepts and Measures for a Positive Change

Political participation is often seen as a main goal for modern democracies, in consideration of its positive relation with diverse dimensions of our lives such as wealth, health or education (Field, 2003; Halpern, 2005). Hence the decline faced by traditional forms of participation (e.g. Gray & Caul, 2000) has been considered as a warning sign for the future development of our societies. Yet the role of political participation in creating a positive change is not so straightforward, and we need awareness regarding the quality of participation as well as the quantity. In this chapter we consider how well-being, among other social indicators, has been used to inform society at large about the direction of its progress. Indeed, different conceptions of well-being will highlight different qualities of participation. To this end, the evolution of positive psychology is looked upon as resulting from a long multidisciplinary path devoted to exploring the notion of well-being within societies, while featuring connections with some major social changes. We aim to emphasize the contribution of the eudaimonic perspective, suggesting how flow of consciousness can be fruitfully integrated to understand participatory behaviors.

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7.1.1 The Evolution of the Concept of Quality of Life

The ambition for a positive change of society is portrayed well by the notion of Quality of Life (QoL), which has become increasingly important in the public debate of industrialized Western societies since the '60s. The very nature of QoL is extremely heterogeneous, including environmental, social and political concerns. As emphasized by Rapley (2003), the focus of attention can vary from a macroscopic to a microscopic level. The latter is well represented by psychological studies on well-being, but it is also important to briefly take into account the former in order to fully comprehend the political value of the issue in general.

Since its inception, QoL has been closely related to the development of social indicators, conceived as statistical measures designed to monitor the progress of issues and phenomena of central importance to human well-being (OECD, 1976). Since the early works by William Ogburn, published in the *American Journal of Sociology,* the goal has been to analyze regularities underlying the dynamics of industrialized societies. Given the historical and cultural context, the indicators had a mainly economic nature: the effort of monetizing as many dimensions as possible aimed to build a quantitative description of reality. In this context Kuznets created the Gross Domestic Product index (GDP), measuring the value of goods and services produced in a country in a given period of time (1934). Although the author had highlighted that GDP per capita can only serve as a generic indicator of economic standards of living, it quickly established itself both as a measure of welfare in general and of the very notion of development. The reaction to the implementation of such economic measures was not long in coming. Refusing to assess QoL mainly through a mercantile measure was not simply and academic debate, but a proper cultural stance:

> The early stages of social indicators research did not only exert an enormous scientific influence, but these activities were also undertaken with a strong sense of commitment and a sense of mission and thus became well known as the 'social indicators movement' (Noll, 2004, p. 152).

The debate was not simply about GDP itself or the use made of it, to a broader extent it concerned the privileged role of economists to the detriment of other cultural actors in selecting the information to be used by political decision makers. It is indeed a crucial issue, as the information selected to be monitored can then shape not only political decisions, but also the public perception about what is relevant in a society. This perspective provides understanding to the famous speech given by Robert F. Kennedy when he declared that GDP "measures everything, in short, except that which makes life worthwhile. And it can tell us everything about America except why we are proud that we are Americans" (1968, p. 5). Such a strong spirit of change, in the country that more than others was embracing capitalism, has favored the study of alternative measures. From the beginning the research has been characterized by a continuum between two opposing poles that are still present nowadays (Noll & Zapf, 1994). On

the one hand there is the American approach characterized by a mainly psychological background and therefore more sensitive to the individual and their subjectivity, which produced the etymological shift from the notion of *welfare* to that of *well-being*. On the other hand is the Scandinavian tradition rooted in sociological studies, which focused on the objective resources available to the individual and which were defined in terms of "money, property, knowledge, psychic and physical energy, social relations, security and so on" (Erikson & Uusitalo, 1987, p. 189). As clarified by Erikson, they tried to

> [...] assess the individual's level of living in a way which makes it as little influenced as possible by the individual's evaluation of his own situation. This seems all the more natural as the individual's level of living is to a large extent based on his 'command over resources', resources which can be used for the ends which he himself finds most satisfactory (1993, p. 77).

7.1.2 Change Through Knowledge

For the purposes of the present chapter we want to stress two main aspects of current efforts towards a positive change in society, as embodied by the QoL approach. First of all the role of such measures – regardless of their nature, i.e. objective, subjective, economic, psychological – is not to provide decision makers with immediate practical guidance for every single issue arising in daily practice. Be it GDP or a happiness assessment, social indicators cannot be used as the gasoline warning light, which entails a single predetermined action. As a result of the adjustment of expectations (Innes, 1990) and the systematization of knowledge (Andrews, 1990), a new awareness about the role of social indicators has been established:

> A system of social reporting has several functions, the most important of which is to inform the general public. In a democracy, social reporting has a very special function; it is to inform the citizens about the prevailing living conditions in their society and give them a perspective on national development by comparing this with developments in other countries. Democracy assumes that the citizens have access to such knowledge in order to be able to challenge the government, discover new welfare problems and bring alternative solutions to a decision stage by means of political parties and organizations. Accordingly, social reporting has a very special role in society's production of information; it belongs to the democratic infrastructure and has a special political function. To put it simply, social reporting places welfare issues on the political agenda. It supplies material to the public debate, influences the media and, indirectly, the administration. The two objectives – policy analysis and public information – might in practice be implemented within the same system, but they might lead to different reporting programmes, if only one objective is adopted. Different audiences look for and need different kinds of information, and their demands may sometimes clash. Social reporting as public information clearly has a critical function, not restricted to issues of daily planning, and covers a much larger field than policy analysis. This critical function may be highly controversial in unstable political situations and in times of economic crisis (Vogel, 1989, p. 441).

Secondly, these indicators are not conceived as autonomous instruments built in an abstract neutral space. They are seen as culturally determined tools, whose theoretical background must not only be declared but even developed to provide perspective on complex phenomena (see Allardt, 1993; Lane, 1996). This conceptual change enriches the notion of QoL and discloses the difficulty of finding a unique definition for it (Brown, 2000; Cummins, Gullone, & Lau, 2002; Felce & Perry, 1995). Notwithstanding the academic debates about its ambiguity as a scientific notion, Fahey, Nolan and Whelan (2003) emphasize the QoL elements on which there is general agreement and that are conveyed to social and political stakeholders. To begin with, broader information about the social and economical environment is useful to contextualize individual and subjective data, which remain an essential component. This brings the consideration of QoL as a multidimensional concept, which therefore requires a multidisciplinary approach to its understanding, despite there being some critical positions of this approach, (see Cummins, 1996; Veenhoven, 1996). Finally, multidimensionality requires not only the different aspects to be taken into account, but also the assessment of the relationship between them. As a result of these three factors, the measurement of QoL is by mutual agreement conceived as the combination of objective measures (e.g. family attributes, environmental features, employment rate, level of schooling) and subjective indicators related to these dimensions (e.g. satisfaction with family relationships, sense of community, job satisfaction, self-efficacy).

7.2 The Political Role of Well-Being Studies

Within the described framework, a number of studies have revolved around the benefits of being politically active, with the aim of including measures of such behaviors in QoL appraisal. In western societies a positive prejudice towards participation is largely influenced by an Aristotelian conception of human nature, as in his view political action is the fulfillment of a shared innate inclination. Social sciences have looked for empirical support for such a perspective on three levels.

1. First, participation reduces the distance between citizens and institutions, making the latter more responsive to collective needs and *enhancing objective living conditions* (see Erikson, 1993; Wandersman & Florin, 2000).
2. Second, it *improves well-being at a collective level* exerting a positive effect on social cohesion and quality of democracy (Putnam, 2000), for example strengthening sense of community (see Obst, Smith, & Zinkiewicz, 2002).
3. Third, it is a source of *individual well-being, subjectively perceived only by those directly involved in participatory behaviors*. Participation, then, is important not only because of the goals it pursues, it is intrinsically valuable.

The last level of investigation has been examined by positive psychology, the results of which can be presented in reference to the two main philosophical traditions in well-

being research: hedonism and eudaimonism. Delle Fave, Massimini and Bassi (2011) effectively summarize some key points distinguishing these two positions. To begin with, hedonism conceives well-being as a *state of homeostatic balance* addressed to satisfy individual needs, whereas eudaimonism focuses on the *process of complexity enhancement* leading to it. Hedonism, then, defines well-being as a *subjectively felt presence of positive affect and absence of negative affect*, whilst eudaimonism emphasizes the *active role of the individual in pursuing opportunities for growth*. Lastly, hedonic well-being is an *individual dimension* to be fulfilled also through the community, while in contrast eudaimonic well-being is a *primarily collective and shared factor*. It is fundamental to consider both aspects, since "hedonic and eudaimonic foci are both overlapping and distinct and [...] an understanding of well-being may be enhanced by measuring it in differentiated ways" (Ryan & Deci, 2001, p. 148). Nevertheless, beyond the strictly scientific domain, these two different traditions also imagine different relations with the rest of the society.

7.2.1 The Hedonic Level: Complementing the Political Agenda

Hedonic well-being is a wide philosophical concept, even though scientific reviews about its origins, especially when in comparison with eudaimonia, often exacerbate some aspects for the sake of clarity. If to a certain extent "hedonistic happiness can occur with no effort—sitting on the couch watching TV, one hand on the remote, and the other in a bag of chips" (King, Eells, & Burton, 2002, p. 37), examining in depth specific theories can offer a more complex picture. For example, Bentham's hedonic calculus (1996) takes into account seven aspects of pleasure, including *extent* (actions whose pleasure affects a higher number of people are to be preferred) and *duration* (temporary pleasure is less valuable than long-term results). Hence, also hedonically one could prefer to volunteer rather than idling in front of the TV. Yet, "although there are many ways to evaluate the pleasure/pain continuum in human experience, most research within the new hedonic psychology has used assessment of subjective well-being" (Ryan & Deci, 2001, p. 144). Subjective well-being (SWB) itself is a multifaceted concept (see Kim-Prieto, Diener, Tamir, Scollon, & Diener, 2013) often identified with the idea of "happiness": it represents people's evaluation of their own lives, including cognitive and emotional components (Diener, 2009), and nowadays is often considered one of the most popular contributions from psychology to QoL studies.

Two reasons cited by Veenhoven (1991) for choosing such a construct, namely having a *punctual definition* and consequently a *greater ease in measurement*, have proved fundamental for the success of SWB, especially if utilized to inform political decision makers. Undoubtedly the choice of reducing the width of the definition of well-being, drawing the attention to partial components (e.g. satisfaction about life circumstances, positive affect, global evaluations), can be scientifically fruitful in that narrower constructs are simpler in their theoretical explanation and empirical

assessment. Nevertheless we wonder what is actually conveyed by such constructs once they migrate through different disciplines – e.g. philosophy, psychology, sociology, economics, political science – and are finally received by politicians and the general public. We completely recognize diverging definitions as a healthy diversity and not a flaw, but this entails that, despite the robustness of each definition, considered in its entirety the notion of SWB is much less homogeneous and stable than it is initially perceived to be (Duncan, 2013). As for assessment tools, greater ease in measurement doesn't reduce conceptual diversity, but surely favors the spread of such measures which are often brief and quick to be administered. In this perspective, the difficulties faced by policy makers when choosing for the allocation of limited resources to different, non-comparable domains (e.g. economic growth versus environmental quality) can be easily solved by appraising how they affect SWB and deciding accordingly, moving "beyond a total reliance on intuition and ideology" (Diener, Lucas, Schimmack, & Helliwell, 2009, p. 55). In our view, such asserted neutrality underplays the varied definitions underlying the general concept of SWB or happiness, which can reach incomparability when encompassing non-western concepts: for example, the Buddhist notion of happiness applied in Bhutan as policy indicator advocates detachment from the material world, hence being much closer to the Greek idea of *ataraxia* than to the goal of pleasure fulfillment (Mancall, 2004). In sum, we argue that in contrast with the concern for raising awareness in the general public (Pavot & Diener, 2004), presenting SWB indicators as purely non-ideological instruments would recreate the preconditions for the kind of misunderstanding and misuse that occurred with GDP.

Considering such cautions, it is important to highlight how hedonic measures have greatly contributed to the success of subjective assessments. The very features discussed above have effectively complemented the political agenda, favoring the cultural shift towards psychological appraisals. Exemplar is the case of Easterlin paradox (Easterlin, 1974), which proves how the percentage of very happy people in the US didn't increase from the '40s to the '70s, notwithstanding the dramatic economic growth. Similar approaches have opened the way to a large amount of studies showing that national productivity is relevant to happiness as far as it gives access to the fulfillment of basic needs, but once such a break-even point is reached its increase is "not accompanied on average by invariant increases in SWB" (Diener & Oishi, 2000, p. 204). If not all scholars have come to argue that "happiness was significantly and *negatively* related to income, and happiness growth was significantly and negatively related to income growth" (Kenny, 1999, p. 15), there is at least large consensus about the fact that the richer the national context is, the less strong the relation between wealth and happiness is (Diener & Oishi, 2000). Indeed, evidence suggests that people are not conscious of such an effect and overestimate the importance of money for our happiness (Aknin, Norton, & Dunn, 2009), presumably also because they are prone to spending it in the wrong way (Frank, 2004).

Among the dimensions studied in relation to happiness, particular attention is devoted to prosocial behaviors, which can provide more significant increases in well-being. A number of studies has shown this effect both with correlational methods (Lucas, 2001; Meier & Stutzer, 2008; Williams & Shiaw, 1999) and experiments highlighting the direction of causal effects (Aknin, Sandstrom, Dunn, & Norton, 2011; Lyubomirsky, Sheldon, & Schkade, 2005). This research is even more politically relevant in as much as SWB, in wealthier countries with higher levels of education, is more strongly correlated with political freedom – conceived as the absence of restrictions on directly participating in the political system thanks to civic and political rights like freedom of speech or free elections – than with economic freedom (Veenhoven, 2000). The importance of developing a public space where citizens can engage themselves for the community's interest has been thoroughly analyzed by Stutzer and Frey, who have made the effort to use hedonic categories to portray eudaimonic concepts by using the notion of *procedural utility*, that is "the non-instrumental pleasure and displeasure of a process as opposed to the consequences" (2006, p. 393). The authors have focused on Switzerland, which supports direct participation via popular referenda with conditions varying among the different cantons. Research has shown that general happiness is greater with direct access to decision-making practices in comparison to other socio-demographic variables (Frey & Stutzer, 2002a). Disentangling the different dimensions of the notion of utility, they highlight that people derive procedural utility from directly engaging in political issues, irrespective of the outcome utility obtained (Frey & Stutzer, 2000; 2002b). These reflections point out that citizens cannot be considered as mere end users of well-being, but rather as players actively involved in its creation. This leads us to the eudaimonic perspective.

7.2.2 The Eudaimonic Level: Imagining New Perspectives

If the implementation of hedonic measures is problematic, then the eudaimonic tradition is no less so.

> It could be that the apparent disagreement about eudaimonia stems from the philosophical ambiguity of the concept. A variety of authors have interpreted Aristotle's original writings and, for scientific purposes, clearly, there is not sufficient consensus to treat this concept as a singular variable. [...] it becomes clear that, to date, there remain serious problems in the translation of eudaimonia from philosophy to psychology (Biswas-Diener, Kashdan, & King, 2009, p. 209).

This severe judgment draws attention to two relevant aspects. Firstly, the role of Aristotle is crucial to modern scientific reflections regarding eudaimonia, even to the extent that the contribution of other philosophers, such as Plato, is underplayed (Grinde, 2012). Secondly, the difficulty of accomplishing the passage of eudaimonia from philosophic principles to psychological constructs has given rise to multiple theories, which emphasize different factors underlying wellbeing and are usually

accompanied by articulated assessment instruments. For example, Ryff defines Psychological Well-Being referring to six facets (self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth) (Ryff & Keyes, 1995), whereas the Self-Determination Theory focuses on the importance of satisfying three basic needs, namely competence, relatedness, and autonomy (Deci & Ryan, 2000). Such variety is actually seen as a generative resource for the whole debate on well-being (Waterman, 2008), especially considering the earlier stage of eudaimonic approach compared to hedonic research. Indeed such complexity is considered necessary, as it is "costly for psychology to equate rigor with an absence of theory, complexities or abstractions" (Ryan & Huta, 2009, p. 202).

This last stance on the role and features of eudaimonia entails two fundamental consequences. The first is *scientific*, and posits that the call for a "Big One" conception of well-being (Kashdan, Biswas-Diener, & King, 2008) is not only premature but also undesirable, in that feeling good (hedonism) and functioning well (eudaimonia) are conceptually and empirically distinct (Keyes, 2006; Keyes & Annas, 2009; Waterman, Schwartz, & Conti, 2008). The second is *political*, in so far as the political use of eudaimonic knowledge in fostering a positive social change is concerned. As formerly discussed, the notion of QoL altogether is an elusive concept considered "among the most inconsistently used terms within the human sciences" (Cummins, Gullone, & Lau, 2002, p. 8). Yet, this did not prevent it from exerting a decisive influence in different sectors of society during the last few decades. At the same time, although methodologically more homogeneous, SWB measures have proven not to be directly translatable in specific policy goals or governmental actions (Duncan, 2013; Frey & Gallus, 2013; Thin, 2011). Hence it appears that scientific uniformity is not the most relevant feature to provide government with what is necessary, that is an effective feedback on the delivered programmes. We agree with those scholars advocating a more influential role of psychosocial scientists in such informative function (Diener & Diener, 2011), but the assumed neutrality of the hedonic approach alone does not seem the most effective means. We argue that to pursue this goal it is necessary to call for explicit recognition of the ultimately political mission of some branches of psychology – aimed in the first place at community psychology but to be extended to positive psychology – and to accordingly redesign its practices by directly engaging in the field (Burton, Kagan, & Duckett, 2013). What is most needed by social actors involved in such a dialogue towards a positive change alongside the academic community, whether they are politicians, associations, or communities, is not only a variety of social indicators but above all a vision of society that allows them to imagine a genuinely new perspective. In our view here is the added value of eudaimonic theories, which provide a highly meaningful context for the proposed instruments. From this point of view, the search for well-being is mainly a wide cultural project aimed at changing values, as in Kasser's proposal of building an alternative to materialism (2011). Yet, it appears that "efforts to broadly implement the solutions have been largely uncoordinated, as there exists no central organizing body [...] to conceptually unify the many disparate

antimaterialistic activities in which people have engaged" (Kasser, 2006, p. 204). If it is true that no eudaimonic theory in particular has succeeded in fulfilling such an organizational function to this day, we propose the example of the Degrowth Movement widespread in many European countries, which promotes equality, community conviviality and the reduction of the ecological footprint (see Fournier, 2008; Kallis, 2011; Latouche, 2007). Its proposal of a society, aimed at re-politicizing the role of economics to subordinate it to democracy and citizenship, has successfully structured a eudaimonic concept of well-being capable of transforming theoretical reflections in concrete institutional and political initiatives. Far from considering the Degrowth as the ultimate recapitulation of eudaimonic principles, we see in this phenomenon one of many fulfillments of their potential. In the next section we will examine the eudaimonic value of participation, underlining its connections with the flow of consciousness.

7.3 Personal Development for Social Change: the Role of Flow of Consciousness in Participatory Behaviors

Community psychology has greatly contributed to the study of how participation can build well-being at both the collective and individual level. Given the very nature of such research, the connections between these two levels are often emphasized; hence, even focusing on the studies devoted to the latter, we can find data fully coherent with a eudaimonic perspective. For instance, Keyes (2003) has developed a model describing five dimensions of social well-being, which effectively depicts some of its individual components as being more strictly interrelated with the social environment. International data has shown that participatory behaviors can positively affect social well-being in some cultural contexts, even though the relation is not cross-culturally demonstrated (Cicognani, et al., 2008).

The literature devoted to specific groups has also highlighted important effects. Developmental research has shown that experiencing power and control, i.e. having the opportunity to actively participate in one's social environment, is conducive to experience of self-determination and self-efficacy, fundamental components of well-being (Prilleltensky, Nelson, & Peirson, 2001). Indeed, the role of participatory behaviors in increasing youth's self-efficacy is confirmed by Smetana, Campione-Barr and Metzger (2006). In a similar fashion, studies on migrants' conditions have illustrated how direct involvement in groups and associations can make them experience a sense of skillfulness, positivity, mastery and purpose (García-Ramírez, Manuel, Paloma, & Hernández-Plaza, 2011). Through these forms of participation migrants can develop critical thinking and learn to recompose different domains of the self (e.g. gender, social class, political position), regaining a sense of agency to cope with oppressing living conditions. In this perspective they can experience well-being through the perception of socio-political control over their environment (Prilleltensky, 2008). Similar

conclusions have been drawn with reference to the general population: "participation in social movements frequently involves enlargement of personal identity for participation and offers fulfillment and realization of the self" (Gamson, 1992, p. 56).

Yet, Benford and Snow have noted that "the question of how participation precipitates the enlargement of personal identity [...] has not been satisfactorily answered" (2000, p. 631). We suggest that a fruitful answer to this point can be offered explaining participatory behaviors through *Flow of Consciousness* (Csikszentmihalyi, 1975/2000). Such a theoretical construct, by virtue of its remarkable connections with the core principles of the eudaimonic approach, accounts for a wide range of phenomena. We aim to explore our proposal at two different levels – the individual and the environment. Indeed the relation between these two components represents the *file rouge* of eudaimonic well-being stemming from participation. Furthermore, flow itself can be conceived as a theory describing a very high-level interaction between human being and space. Hence, our goal is to offer an explanation of what happens to the individual during political participation and how this can be favored in participatory settings.

The first level to be considered is the most circumscribed, being referred to *activists*. In many modern societies there is a significant minority of people supporting some public cause by enacting behaviors with a political value (from institutional actions like promoting a political candidate to unconventional initiatives like boycotting). As stated by Wallace and Pichler these

> people participate in civil society because they follow a particular enthusiasm which is important for them [...] or because they feel they want to contribute to society [...]. These kinds of enthusiasms and commitments are aspects of life that can lead to self-actualisation in a Maslowian sense (2009, p. 259).

Hence activists involved in participatory activities experience flow, an optimal experience characterized by a sense of engagement and enjoyment (Csikszentmihalyi, 1975/2000). Such characteristics concur to qualify flow as an autotelic experience (Csikszentmihalyi, 1997), which means that its highly rewarding nature drives people to repeat the actions from which it is generated, without any additional external reward. If we imagine the replication of such a mechanism on a daily basis, in the long term it can account for how activists come to determine their own *life theme*, that is the original and personal set of interests and purposes pursued in a lifetime (Csikszentmihalyi & Beattie, 1979; Inghilleri, 1999). These two aspects, namely the intrinsic motivation in participating and the self-determination related with it, are key factors to foster individual's well-being. Such a paramount role of intrinsic motivation in participation is consistent with data from Omoto and Snyder (1995), who have demonstrated that more self-oriented volunteers are actively engaged for a longer period as compared to those more altruistically oriented. Consistent with this is the data presented by Klar and Kasser (2009), which suggested that political activism is motivating in itself. Similarly, Meier and Stutzer (2008) have shown that volunteering

is intrinsically rewarding, as it offers the opportunity to fulfill prosocial aspirations and to engage in challenging tasks.

This last aspect is strictly connected with another key component of flow, the subjective perception that by fully exploiting our skills we can face the challenges set by a specific situation. This sort of high-level balance drives an activist to constantly learn new skills and to test them in contexts characterized by increasing complexity. This dynamic explains how participation positively affects self-efficacy and agency, from the leafleting appointed to beginners to the management of a campaign carried out by experts. Nevertheless, such increases in complexity are not only cognitive: the insurgence of flow entails brief moments of total concentration on the task and loss of self-consciousness, involving in an ordered interaction affective and motivational processes (Csikszentmihalyi, 1990). Then it qualifies itself as a composite holistic growth of the self allowing the integration of new components of identity (Inghilleri, 1999), which explains how participation can produce an enlargement of personal identity (Benford & Snow, 2000; Gamson, 1992). In addition to theoretical consonances with community psychology constructs, research confirms the recognition of flow in a sample of political activists, accounting for more frequent engagement and more important roles in the group (Boffi, 2012a). We suggest that further development of such monitoring would allow the improved comprehension of the motivational dynamics of participation with a common measure.

The second level of our reflection concerns *participatory settings*, including all those public spaces open to diverse stakeholders for consultative or deliberative purposes. Such spaces are easily accessed by activists, but in given circumstances they can also attract other cohorts of citizens by means of extrinsic rewards (e.g. improving objective life conditions). In this case the whole group of participants is characterized by varied levels of commitment, depending on how much each individual values participation in general or the specific issue in particular. Hence, properly designing participatory activities is fundamental in order to keep as many citizens as possible involved in the process. Mannarini, Fedi and Trippetti, summarizing the effects of consultative arenas, give prominence to the fact that "positive feelings, and specifically being globally satisfied with the experience, strengthened the willingness of undertaking participatory behaviors in the future. Satisfaction emerged then as a factor of sustainable participation, enabling citizens to persist or transfer participatory behaviors to other settings" (2010, p. 270). We suggest that referring to flow experience to appraise the quality of participatory settings is one step beyond sustainability of participation, as it would allow not only the monitoring of a positive state of satisfaction but rather a real process of flourishing in the individual. Table 7.1 presents in brief the structural analogies between the desired features of a participatory setting able to favor a positive experience and the respective dimension of flow to be monitored.

Table 7.1: Structural analogies between features of positive participatory settings and dimensions of flow

Positive participatory settings – adapted from (Mannarini, Fedi, & Trippetti, 2010)	Characteristics of flow – adapted from (Jackson & Marsh, 1996)
Accessible Providing participants with adequate time and information on the issue at stake.	**Challenge-skill balance** Perception of competence in the situation, not only in physical activities but also in intellectual and social ones.
Sustainable Smooth relationships resulting in a general positive feeling.	**Positive affect** General positive sensation, to be complemented with the notion of "group flow"
Transparent Make publicly clear aims and scope of participation.	**Clear goals** Identify specific route of action; goals can be immediate or distant in the future.
Effective Concrete effects in the environment and the community.	**Unambiguous feedback** Closely related to established goals, it allows the regular monitoring of the effective consequences of executed actions.

Finding an adequate way of appraising the environmental attributes conducive to flow is crucial. Indeed, people who are not intrinsically motivated can easily find participation demanding and withdraw if the process is not adequately managed (Kagan, 2006). In such a perspective it is essential to realize what resources must be provided to the citizens in order to grant them access to participation (Cantor & Sanderson, 1999). In fact, even though flow is intrinsic in nature, it does not mean that it cannot be triggered by extrinsic motivations that become intrinsic during the execution of the task. In other words, if a citizen engages in participation just to obtain a bus-stop closer to their residence, experiencing a positive interaction and a sense of growth can transform their motivation and make them persevere for other broader goals. Since the issue of attracting and motivating non-activists is considered crucial, we also suggest a further move in developing a program to monitor flow in society. It is indeed well known that the activities producing flow vary across different cultural domains (Delle Fave, Massimini, & Bassi, 2011): diverse socio-cultural contexts prescribe particular life tasks for individuals to pursue, and provide consistent opportunities for them (Cantor & Sanderson, 1999). If those in charge of promoting participation policies were informed of such a distribution of flow-generating activities in each community, it would be possible for them to design new forms of participation more sensitive to such preferences and more likely to succeed. Indeed, since during the experience of flow the self is prone to including new elements, we expect the spontaneous insurgence of such optimal experience to facilitate an effect of *conscientisation*,

that is the acquisition of critical thinking and awareness about oneself and the world (Campbell & Jovchelovitch, 2000).

7.4 Conclusions

In this chapter we aimed to develop a meta-analytical reflection on the role of psychology in studying and informing the society on the importance of political participation. We are of the persuasion that an increased consciousness of the historical function of the psychological discipline can lead to a better use of its knowledge in present communities. Furthermore, we call for a determined stance in fulfilling the mission of positive psychology, which is to overtly interact with other stakeholders in pursuing common well-being.

In presenting the different perspectives we tried to include contrasting voices, being convinced that from this long-time debate useful insights can be derived. Yet, our attention revolved mainly around the eudaimonic approach (see also chapter 1), as we recognize in it the potential to effectively deal with the environmental and social rights issues at stake. Our effort was to depict a wide, multidisciplinary framework for the flow theory, hoping that it can be of inspiration to scholars from other backgrounds as well.

Ultimately, our proposal of integrating flow of consciousness among the measures of political participation aims at encouraging a qualitative observation of this phenomenon. The diminishing engagement of citizens in traditional forms of participation cannot be looked at only in a quantitative perspective. For instance, data has shown how the Italian political system is no more able to offer opportunities of self-development to its practitioners (Boffi, 2012b), hence it is highly relevant to explore the many reasons behind political withdrawal. Against a general drop in voting turnout, it becomes crucial to understand whether we are facing an informed and critical decision of abstaining from voting or rather a generic loss of interest. On the other side, the same question has to be asked at the emergence of popular "antagonist" movements, to appraise to what extent these represent an aware reaction to system malfunctions instead of a political emotional outburst.

We see a great space for developing such an approach, notwithstanding the methodological difficulties. The recent decision to examine more in depth eudaimonic measures in the European Social Survey (2013) proves the interest for such a wider picture, and once again highlights the need for new instruments. Our proposal in particular offers a demanding challenge to all scholars devoted to flow research. The assessments hypothesized at different levels (i.e. individual, group) requires the evaluation of which tools, among those already existing, can better provide the necessary information, or if new efforts are to be made. Specific attention should be devoted to group dynamics of flow, which we expect to be fruitfully expanded in collaboration with community psychologists.

References

Aknin, L. B., Norton, M. I., & Dunn, E. W. (2009). From wealth to well-being? Money matters, but less than people think. *Journal of Positive Psychology, 4*, 523–527.

Aknin, L. B., Sandstrom, G. M., Dunn, E. W., & Norton, M. I. (2011). Investing in Others: Prosocial Spending for (Pro)Social Change. In R. Biswas-Diener, *Positive Psychology as Social Change* (p. 219-234). Springer Netherlands.

Allardt, E. (1993). Having, loving, being: An alternative to the Swedish model of welfare research. In M. Nussbaum, & A. Sen (Eds.), *The quality of life* (p. 88-94). New York: Oxford University Press.

Andrews, F. (1990). Evolution of a Movement. *Journal of Public Policy*(9), 401-405.

Benford, R. D., & Snow, D. A. (2000). Framing processes and social movements: An overview and assessment. *Annual review of sociology, 26*(1), 611-639.

Bentham, J. (1996). *An Introduction to the Principles of Morals and Legislation.* (J. H. Burns, & L. A. Hart, Eds.) Oxford: Clarendon Press.

Biswas-Diener, R., Kashdan, T. B., & King, L. A. (2009). Two traditions of happiness research, not two distinct types of happiness. *Journal of Positive Psychology, 4*, 208–211.

Boffi, M. (2012a). Flow as a measure of political engagement. *ECPP 2012. 6th European Conference on Positive Psychology.* 26-29 June, Moscow.

Boffi, M. (2012b). Politicians as cultural selectors: favoring or discouraging youth participation. *Human Affairs: Postdisciplinary Humanities & Social Sciences Quarterly, 22*(3).

Brown, R. I. (2000). Quality of life: Challenges and confrontation. In K. Keith, & R. Schalock, *Cross-cultural Perspectives on Quality of Life* (p. 347-362). Washington: AAMR.

Burton, M., Kagan, C., & Duckett, P. (2013). Making the psychological political – challenges for community psychology. *Global Journal of Community Psychology Practice, 3*(4).

Campbell, C., & Jovchelovitch, S. (2000). Health, community and development: Towards a social psychology of participation. *Journal of Community & Applied Social Psychology, 10*(4), 255-270.

Cantor, N., & Sanderson, C. A. (1999). Life task participation and well-being: The importance of taking part in daily life. In D. Kahneman, E. Diener, & N. Schwarz, *Well-being: The foundations of hedonic psychology* (p. 230-243). New York: Russell Sage Foundation.

Cicognani, E., Pirini, C., Keyes, C., Joshanloo, M., Rostami, R., & Nosratabadi, M. (2008). Social participation, sense of community and social well being: A study on American, Italian and Iranian university students. *Social Indicators Research, 89*(1), 97-112.

Csikszentmihalyi, M. (1975/2000). *Beyond Boredom and Anxiety.* San Francisco: Jossey-Bass.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience.* New York: Harper & Row.

Csikszentmihalyi, M. (1997). *Finding flow. The psychology of engagement with everyday life.* New York: Basic Books.

Csikszentmihalyi, M., & Beattie, O. (1979). Life themes: A theoretical and empirical explorationof their origins and effects. *Journal of Humanistic Psychology, 19*, 677–693.

Cummins, R. A. (1996). The domains of life satisfaction: an attempt to order chaos. *Social Indicators Research, 38*, 303-328.

Cummins, R. A., Gullone, E., & Lau, A. L. (2002). A model of subjective well-being homeostasis: the role of personality. In R. A. Cummins, E. Gullone, & A. L. Lau, *The Universality of Subjective Well-Being Indicators* (p. 7-46). Dordrech: Kluwer Academic Publishers.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227–268.

Delle Fave, A., Massimini, F., & Bassi, M. (2011). *Psychological selection and optimal experience across cultures: social empowerment through personal growth.* New York: Springer.

Diener, E. (2009). *The science of well-being (Vol. 37).* Dordrecht, NL: Springer.

Diener, E., & Diener, C. (2011). Monitoring psychosocial prosperity for social change. In R. Biswas-Diener, *Positive psychology as social change* (p. 53-71). Springer Netherlands.

Diener, E., & Oishi, S. (2000). Money and Happiness. In E. Diener, & E. M. Suh (Eds.), *Culture and Subjective Well-being* (p. 185-218). Cambridge: Bradford.

Diener, E., Lucas, R. E., Schimmack, U., & Helliwell, J. F. (2009). *Well-Being for Public Policy.* Oxford: Oxford University Press.

Duncan, G. (2013). Should happiness-maximization be the goal of government? In A. Delle Fave, *The Exploration of Happiness* (p. 303-320). Springer Netherlands.

Easterlin, R. A. (1974). Does economic growth improve human lot? Some empirical evidence. In P. A. Davis, & M. W. Reder, *Nation and Households in economic growth: Essays in honour of Moses Abromowitz* (p. 89-125). New York: Academic Press.

Erikson, R. (1993). Description of Inequality: The Swedish Approach to Welfare Research. In M. Nussbaum, & A. Sen (Eds.), *The Quality of Life* (p. 67-87). Oxford: Clarendon Press.

Erikson, R., & Uusitalo, H. (1987). The Scandinavian Approach to Welfare Research. In R. Erikson, E. Hansen, S. Ringen, & H. Uusitalo (Eds.), *The Scandinavian Model, Welfare States and Welfare Research* (p. 177-193). New York: M.E. Sharpe.

European Social Survey. (2013). *Round 6 Module on Personal and Social Wellbeing – Final Module in Template.* Retrieved from www.europeansocialsurvey.org: http://www.europeansocialsurvey.org/docs/round6/questionnaire/ESS6_final_personal_and_social_well_being_module_template.pdf

Fahey, T., Nolan, B., & Whelan, C. (2003). *Monitoring quality of life in Europe.* Luxembourg: Office for Official Publications of the European Communities.

Felce, D., & Perry, J. (1995). Quality of Life: Its Definition and Measurement. *Research in Developmental Disabilities, 16*(1), 51-74.

Field, J. (2003). *Social capital.* London: Routledge.

Fournier, V. (2008). Escaping from the economy: the politics of degrowth. *International Journal of Sociology and Social Policy, 28*(11/12), 528-545.

Frank, R. H. (2004). How not to buy happiness. *Daedalus, 133*, 69–79.

Frey, B. S., & Gallus, J. (2013). Subjective Well-Being and Policy. *Topoi, 32*(2), 207-212.

Frey, B. S., & Stutzer, A. (2000). Happiness prospers in democracy. *Journal of Happiness Studies, 1*, 79–102.

Frey, B. S., & Stutzer, A. (2002a). *Happiness and Economics: How the economy and institutions affect well-being.* Princeton: Princeton University Press.

Frey, B. S., & Stutzer, A. (2002b). What Can Economists Learn from Happiness Research? *Journal of Economic Literature, 40*, 402-435.

Gamson, W. A. (1992). The social psychology of collective action. In A. Morris, & C. Mueller, *Frontiers of social movement theory* (p. 53-76). New Haven: Yale University Press.

García-Ramírez, M., Manuel, L., Paloma, V., & Hernández-Plaza, S. (2011). A liberation psychology approach to acculturative integration of migrant populations. *American Journal of Community Psychology, 47*(1-2), 86-97.

Gray, M., & Caul, M. (2000). Declining voter turnout in advanced industrial democracies, 1950 to 1997. *Comparative Political Studies, 33*, 1091–1121.

Grinde, B. (2012). *The biology of happiness.* Springer Netherlands.

Halpern, D. (2005). *Social capital.* Cambridge: Polity.

Inghilleri, P. (1999). *From Subjective Experience to Cultural Change.* New York: Cambridge University Press.

Innes, E. J. (1990). Disappointment and Legacies of Social Indicators. *Journal of Public Policy*(9), 429-432.

Jackson, S. A., & Marsh, H. W. (1996). Development and validation of a scale to measure optimal experience: The flow state scale. *Journal of Sport & Exercise Psychology, 18*, 17-35.

Kagan, C. (2006). *Making a difference: Participation and well-being*. Liverpool: New Start Publishing.

Kallis, G. (2011). In defence of degrowth. *Ecological Economics, 70*(5), 873-880.

Kashdan, T. B., Biswas-Diener, R., & King, L. A. (2008). Reconsidering happiness: the costs of distinguishing between hedonics and eudaimonia. *The Journal of Positive Psychology, 3*(4), 219-233.

Kasser, T. (2006). Materialism and its alternatives. In M. Csikszentmihalyi, & I. Csikszentmihalyi (Eds.), *A life worth living: Contributions to positive psychology* (p. 200-214). Oxford: Oxford University Press.

Kasser, T. (2011). Ecological challenges, materialistic values, and social change. In R. Biswas-Diener, *Positive Psychology as Social Change* (p. 89-108). Springer Netherlands.

Kennedy, R. F. (1968, Marzo 18). Tratto il giorno Ottobre 7, 2010 da www.glaserprogress.org: http://www.glaserprogress.org/program_areas/pdf/Remarks_of_Robert_F_Kennedy.pdf

Kenny, C. (1999). Does growth cause happiness, or does happiness cause growth? *Kyklos, 52*(1), 3-25.

Keyes, C. L. (2003). Complete mental health: An agenda for the 21th century. In C. L. Keyes, & J. Haidt, *Flourishing. Positive psychology and the life well-lived* (p. 293–312). Washington DC: American Psychological Association Press.

Keyes, C. L. (2006). The subjective well-being of America's youth: Toward a comprehensive assessment. *Adolescent & Family Health, 4*(1), 3-11.

Keyes, C. L., & Annas, J. (2009). Feeling good and functioning well: distinctive concepts in ancient philosophy and contemporary science. *The Journal of Positive Psychology, 4*(3), 197-201.

Kim-Prieto, C., Diener, E., Tamir, M., Scollon, C., & Diener, M. (2013). Integrating the Diverse Definitions of Happiness: A Time-Sequential Framework of Subjective Well-Being. In A. Delle Fave, *The Exploration of Happiness. Present and Future Perspectives* (p. 47-75). Dordrecht: Springer Netherlands.

King, L. A., Eells, J. E., & Burton, C. M. (2002). The good life, broadly and narrowly considered. In P. A. Linley, & S. Joseph, *Positive psychology in practice* (p. 35–52). New York: Wiley.

Klar, M., & Kasser, T. (2009). Some Benefits of Being an Activist: Measuring Activism and Its Role in Psychological Well-Being. *Political Psychology, 30*(5), 755-777.

Kuznets, S. (1934). *National Income, 1929-1932*. 73rd US Congress, 2nd session, Senate document no.124, pag. 7.

Lane, R. E. (1996). Quality of life and quality of persons: A new role for government? In A. Offer (Ed.), *In pursuit of the quality of life* (p. 256-293). New York: Oxford University Press.

Latouche, S. (2007). Degrowth: an electoral stake? *International Journal of Inclusive Democracy, 3*(1), 14-18.

Lucas, R. E. (2001). Pleasant affect and sociability: Towards a comprehensive model of extraverted feelings and behaviors. *Dissertation Abstracts International, 61(10-B), 5610, UMI No. AAI9990068*.

Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology, 9*, 111–131.

Mancall, M. (2004). Gross national happiness and development: an essay. In K. Ura, & K. Galay, *Gross national happiness and development* (p. 1-54). Thimpu: Centre for Bhutan studies.

Mannarini, T., Fedi, A., & Trippetti, S. (2010). Public involvement: How to encourage citizen participation? *Journal of Community and Applied Social Psychology*, 262-274.

Meier, S., & Stutzer, A. (2008). Is volunteering rewarding in itself? *Economica, 75*, 39–59.

Noll, H.-H. (2004). Social indicators and quality of life research: Background, achievements and current trends. In N. Genov (Ed.), *Advances in sociological knowledge. Over half a century* (Vol. I, p. 151-181). Wiesbaden: VS Verlag fuer Sozialwissenschaften.

Noll, H.-H., & Zapf, W. (1994). Social Indicators Research: Societal Monitoring and Social Reporting. In I. Borg, & P. P. Mohler (Eds.), *Trends and Perspectives in Empirical Social Research* (p. 1-16). Berlin/New York: de Gruyter.

Obst, P., Smith, S. G., & Zinkiewicz, L. (2002). An exploration of sense of community, part 3: Dimensions and predictors of psychological sense of community in geographical communities. *Journal of Community Psychology, 30*(1), 119-133.

OECD. (1976). *Measuring Social Well-Being: A Progress Report on the Development of Social Indicators*. Paris: OECD.

Omoto, A. M., & Snyder, M. (1995). Sustained helping without obligation: motivation, longevity of service, and perceived attitude change among AIDS volunteers. *Journal of personality and social psychology, 68*(4), 671-686.

Pavot, W., & Diener, E. (2004). Findings on Subjective Well-Being: Applications to Public Policy, Clinical Interventions, and Education. In P. A. Linley, & S. Joseph (Eds.), *Positive Psycholgy in Practice* (p. 679-692). Hoboken, NJ: John Wiley & Sons.

Prilleltensky, I. (2008). Migrant well-being is a multilevel, dynamic, value dependent phenomenon. *American Journal of Community Psychology, 42*(3-4), 359-364.

Prilleltensky, I., Nelson, G., & Peirson, L. (2001). The role of power and control in children's lives: An ecological analysis of pathways toward wellness, resilience and problems. *Journal of Community & Applied Social Psychology, 11*(2), 143-158.

Putnam, R. D. (2000). *Bowling Alone: The Collapse and Survival of American Community.* New York: Simon and Schuster.

Rapley, M. (2003). *Quality of life research*. London: Sage Publications.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52*, 141-166.

Ryan, R. M., & Huta, V. (2009). Wellness as healthy functioning or wellness as happiness: the importance of eudaimonic thinking (response to the Kashdan et al. and Waterman discussion). *The Journal of Positive Psychology, 4*(3), 202-204.

Ryff, C. D., & Keyes, C. L. (1995). The structure of psychological well-being revisited. *Journal of personality and social psychology, 69*(4), 719-727.

Smetana, J. G., Campione-Barr, N., & Metzger, A. (2006). Adolescent development in interpersonal and societal contexts. *Annual Review of Psychology, 57*(1), 255-284.

Stutzer, A., & Frey, B. S. (2006). Political participation and procedural utility: An empirical study. *European Journal of Political Research, 45*, 391–418.

Thin, N. (2011). Socially Responsible Cheermongery: On the Sociocultural Contexts and Levels of Social Happiness Policies. In R. Biswas-Diener, *Positive Psychology as Social Change* (p. 33-49). Springer Netherlands.

Veenhoven, R. (1991). Questions on happiness: classical topics, modern answers, blind spots. In F. Strack, M. Argyle, & N. Schwarz (Eds.), *Subjective wellbeing* (p. 7-26). Oxford: Pergamon Press.

Veenhoven, R. (1996). Happy Life-expectancy: a comprehensive measure of quality-of-life in nations. *Social Indicators Research, 39*, 1-58.

Veenhoven, R. (2000). Freedom and Happiness: a comparative study in fouty-four nations in the early 1990s. In E. Diener, M. Eunkook, & M. Suh (Eds.), *Culture and Subjective well-being* (p. 257-288). Cambridge, MA: MIT Press.

Vogel, J. (1989). Social Indicators: A Swedish Perspective. *Journal of Public Policy, 9*(4), 439-444.

Wallace, C., & Pichler, F. (2009). More participation, happier society? A comparative study of civil society and the quality of life. *Social indicators research, 93*(2), 255-274.

Wandersman, A., & Florin, P. (2000). Citizen participation and community organizations. In J. Rappaport, & E. Seidman, *Handbook of community psychology* (p. 247–272). New York: Kluwer Academic/Plenum Press.

Waterman, A. S. (2008). Reconsidering happiness: a eudaimonist's perspective. *The Journal of Positive Psychology, 3*(4), 234-252.

Waterman, A. S., Schwartz, S., & Conti, R. (2008). The implications of two conceptions of happiness (hedonic enjoyment and eudaimonia) for the understanding of intrinsic motivation. *Journal of Happiness Studies, 9*(1), 41-79.

Williams, S., & Shiaw, W. T. (1999). Mood and organizational citizenship behavior: The effects of positive affect on employee organizational citizenship behavior intentions. *Journal of Psychology, 133*, 656-668.

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8 Positive Change and Scholastic Education

Abstract: In this contribution the authors will explore the relationship between the school learning environment and positive psychological experience and theory. Specific attention will be addressed to flow, classroom experiences and optimal learning environments reported by scholars of education. The research reported in this chapter examined associations between flow and characteristics of both students and learning environments in secondary school classrooms. The theoretical bases of related lines of inquiry in Australia and the USA were derived from flow theory. The research methodology was *systematic phenomenology* in which targeted empirical questions were answered by the application of empirical tools and statistical analyses. The research shows the importance of positive relationships, intrinsic motivation, emotional support, relational support, positive self-esteem and self-concept for promoting flow and student engagement in the classroom. The application of meta-cognitive strategies such as planning, strategizing, provision of feedback, high expectations and mastery experiences were also revealed as essential facilitators of flow in learning environments.

Keywords: Flow; Positive education; Learning environment; High school

8.1 Introduction

This chapter presents two empirically validated models incorporating flow theory and classroom learning environment constructs. These models and the methods of confirmation exemplify optimal learning environments characterized by flow experiences. Each operationalizes experiences and respective conducive conditions to enable research and also to inform design of positive change in schooling. The first is the *capabilities-expectations model of student engagement in school learning* developed in Australia (Cavanagh, Kennish & Sturgess, 2008). The second is the *environmental complexity model of optimal learning environments* developed in the USA (Shernoff, Tonks, Abdi, & Cavanagh, 2013).

8.2 The Capabilities-Expectations Model of Student Engagement in School Learning

According to flow theory, experiencing flow requires a high level of skills and challenge along with a balance between these experiences. The capabilities-expectations

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model of student engagement was based on this aspect of flow theory. To increase relevance to the learning environment notion, skills were reconceptualised as *learning capabilities* and challenge was reconceptualised as *expectations of learning*. Student engagement in learning was defined as a "balance between the student's capability for learning and the *expectations of learning* in a particular learning environment – both capability and expectations are context specific" (Cavanagh, Kennish & Sturgess, 2008, p. 9). Flow is experienced when strong capabilities are applied to a situation with demanding expectations. For example, a highly competent student is expected to complete difficult tasks. This model is also applicable when less capable students are engaged. In this case, engagement is possible because although the expectations of success are low, these are commensurate with the student's ability.

The construct of *learning capabilities* was hypothesized to be comprised of two broad attributes of students – the expressive self as typified in studies of self-esteem and self-concept and the managerial self as typified in studies of self-regulation and self-efficacy. Additionally, resilience was included in the model due to the prevalence of this notion in the research on school engagement and participation (Howard & Johnson, 1999).The five sub-constructs were operationally defined as follows (for more detail, see Cavanagh, Kennish & Sturgess, 2008):

a) Self-esteem*:* Positive self-image and involving the evaluations we make about how worthy we are as human beings.
b) Self-concept*:* An individual's perception of self and "it is formed through experience with the environment, interactions with significant others, and attributions of one's own behavior" (Marsh, Smith, Barnes & Butler, 1983, p. 773).
c) Resilience: The overcoming of the negative effects of risk exposure and coping successfully with resulting traumatic experiences, requiring an incidence of both risks and factors that either promote a positive outcome or avoid a negative outcome.
d) Self-regulation: Self-regulated students "are aware of the qualities of their own knowledge, beliefs, motivation, knowledge and cognitive processing – elements that jointly create situated updates of the task on which the students work" (Butler & Winne, 1995, p. 245). The awareness and gaining of information from experiences occurs through a process of feedback which can be internal (e.g. student self-reflection) or external (e.g. from the teacher). In this way, "students personally initiate and direct their own efforts to acquire knowledge and skill rather than relying on teachers, parents, or other agents of instruction" (Zimmerman, 1989, p. 329).
e) Self-efficacy: Bandura (1986) proposed self-efficacy perceptions are developed by people interpreting information from their experiences. He proposed that the most significant source of information comes from the interpreted results of past performance, which he termed mastery experiences. These can create a strong sense of efficacy to accomplish comparable tasks in the future. Significantly, self-efficacy beliefs are context specific judgments, are sensitive to contextual factors,

and require measurement with a high degree of specificity (Bandura, 1986). Through the use of self-regulatory processes (goal-setting, self-monitoring, self-evaluation, and strategy use), student's self-efficacy beliefs influence academic motivation (Zimmerman, 2000).

The construct of *expectations of learning* was approached from the perspective of curriculum theory on the assumption that what students are expected to learn should be explicated as goals, outcomes or objectives within the curriculum. Wiggins and McTighe (2001) developed a six-faceted model of understanding. Understanding is a fundamental aspect of contemporary conceptions of learning and curriculum. Wiggins and McTighe (2001, p. 45) stressed that "understanding is family of related abilities". The six facets of (context-specific) understanding were explained by Wiggins and McTighe (2001) as follows:

a) Explanation: Providing thorough and justifiable accounts of phenomena, facts, and data.
b) Interpretation: Telling meaningful stories, offering apt translations, providing a revealing historical or personal dimension to ideas and events, making subjects personal or accessible through images, anecdotes, analogies, and models.
c) Application: Effectively using and adapting what is known in diverse contexts.
d) Perspective: Seeing and hearing points of view through critical eyes and ears and seeing the big picture.
e) Empathy: Finding value in what others might find odd, alien, or implausible and perceiving sensitively on the basis of prior indirect experience.
f) Self-knowledge: Perceiving the personal style, prejudices, projections, and habits of mind that both shape and impede our own understanding, and being aware of what is not understood and why understanding is so hard.

8.3 Empirical Investigations of the Capabilities-Expectations Model

Three aspects of the *capabilities-expectations* model of student engagement in classroom learning were investigated. The first was its application in the construction of linear scales to measure student *learning capabilities* and the *expectations of their learning*. The second was estimating the match between capabilities and expectations to gauge student engagement. Specifically, measuring the proportion of students with equivalent scores for the two constructs on the premise that equivalent scores would indicate engagement. The third concerned the relationship between the engagement constructs and features of the classroom learning environment.

8.3.1 Measurement of Capabilities and Expectations

Two instruments were developed to measure student capabilities and expectations. The first was an interview rating scale with a rubric based on the *capabilities-expectations* model (Cavanagh & Kennish, 2009). Two interviewers conducted interviews with a representative sample of 195 secondary school students from city and country schools in Western Australia. Students from Years 8 to 12 reported on experiences in English, Mathematics, Science or Society and Environment classes. The interviewers assigned a rating on a scale from '0' (no evidence) to '5' using the descriptors in the *capabilities-expectations* model. Two Rasch Model (Rasch, 1960), analyses were performed using RUMM2030 (RUMMLab, 2007). The resultant fit statistics generally indicated the data fit the Rasch Model well, showing that two measures had been constructed. The second instrument elicited self-report rating scale data directly from students. The sample was 553 Secondary School students from Years 8 to 10 attending two government schools in metropolitan Perth Western Australia (Kennish & Cavanagh, 2010). The *Secondary School Engagement in Classroom Learning Survey* comprised two 25-item scales, one to measure the *learning capabilities* of a student, and the other to measure the expectations of that student's learning. After scale refinement, *learning capabilities* data and *expectations of learning* data fitted the Rasch Model signifying that they meet a variety of Rasch's criteria for a valid measure.

The analyses of the interview ratings and self-report data showed that construction of scales to measure *learning capabilities* and *expectations of learning* was feasible. The availability of measures based on the multiple component models is strong evidence of construct validity for *learning capabilities* and *expectations of learning*.

8.3.2 The Balance Between *Learning Capabilities* and *Expectations of Learning*

The *capabilities-expectations* model assumes engagement requires equivalence between what a student can do and the expectations experienced. A 27-item version of the *Secondary School Engagement in Classroom Learning Survey* was administered to 1760 secondary school students throughout Western Australia (see Cavanagh, 2012a). The sample was representative of state-wide proportions of boys and girls, subject areas (English, Mathematics, Science and Society and Environment), Year Cohort (Year 8, 9 10 and 11), and school location (metropolitan or rural/remote). Data were fitted to the Rasch Rating Scale model and scores and respective standard errors were estimated for each student for *learning capabilities* and *expectations of learning* respectively. Each pair of scores and the error in each score were then subject to a paired sample t-test. The distribution of t-values showed 17.9% (312 students) outside of the 95% confidence interval. A similar procedure was applied to data previously obtained using the interview rating process. Data from 195 students showed 17.4% (34 students) had t-values outside of the 95% confidence interval. This indicates that two

instruments applied to two different samples produced similar results. Over 80% of the students had equivalent scores for capabilities and expectations which suggests a high level of engagement in the classes and students investigated.

8.3.3 The Relationship Between Engagement Constructs and the Classroom Learning Environment

As a measure of the classroom learning environment, Cavanagh (2012b) selected items from the Classroom Environment and Educational Outcomes Questionnaire (Cavanagh & Waugh (2004). The constructs investigated were educational values, self learning outcomes, classroom/peer learning attitudes and behaviors, classroom/peer support, classroom/peer discussion, classroom planning, teacher support and expectations, as well as parental involvement. The learning environment items were combined with items from the Secondary School Engagement in Classroom Learning Survey and a 85-item instrument was administered to the sample of 1760 Western Australian secondary school students. Data were analyzed using the Rasch Model and also structural equation modeling. Data from 60 items fitted the Rasch Model well. The items were mainly on learning capabilities, expectations of learning, educational values, self learning outcomes, classroom/peer learning attitudes and behaviors, classroom/peer support, classroom/peer discussion and classroom planning. Significantly, this analysis suggests the existence of a student trait that combines their experience of engagement attributes with their experience of aspects of the classroom learning environment.

Structural equation modeling of the data was better able to explain the multi-variate nature of the data (Harbaugh & Cavanagh, 2012). The structural model included seven exogenous variables (parental support, educational values, learning outcomes, teacher expectations, learning actions, class learning, and class support via collaboration) with three endogenous variables (student perceptions of capabilities, student capability actions and classroom expectations). The model fit was excellent and eleven paths between the exogenous and endogenous variables had significant regression parameters ($\alpha = .05$ or .001). Specifically:

a) Perceptions of capabilities were predicted by parental support educational values, learning outcomes, teacher expectations.
b) Capability actions were predicted by learning actions class learning.
c) Classroom expectations were predicted by educational values, learning outcomes, teacher expectations, and class learning.

For the endogenous variables, perceptions of capabilities predicted capability actions which in turn predicted classroom expectations. Importantly, both the Rasch Model analysis and the structural equation modeling provided evidence of strong associa-

tions between constructs in the *capabilities-expectations* model of engagement and elements of the classroom learning environment.

8.4 The Environmental Complexity Model of Optimal Learning Environments

Shernoff and colleagues similarly investigated the relationship between student engagement and the learning environment (Shernoff, Cavanagh, Tonks, Abdi, & Anderson, under review; Shernoff et al., 2013; Shernoff, Tonks, & Anderson, 2014). Shernoff, Csikszentmihalyi, Schneider and Shernoff (2003) defined engagement as an emergent state of high concentration, interest and enjoyment in learning activities, based on the subjective *experience of flow*. Consistent with the findings of Cavanagh and colleagues reported above and also supporting flow theory, they found that classroom engagement in high schools was maximized when perceived challenges and skills were high and in balance. The constructs informing the Shernoff et al. (Shernoff et al., 2014, under review) study of engagement in formal and informal learning environments evolved from decades of previous ESM research on flow and the quality of adolescents' experience (e.g., Csikszentmihalyi & Larson, 1984; Csikszentmihalyi, Rathunde, & Whalen, 1993; Csikszentmihalyi & Schneider, 2000; Hektner, Schmidt, & Csikszentmihalyi, 2007). These studies consistently identified discrete, salient aspects of adolescent experience: a) *self-esteem*, consisting of perceptions of success, meeting expectations, cooperation, control, and belongingness (referred to in Shernoff et al.'s studies as "*classroom self-esteem"* due to the classroom context), b) *intrinsic motivation,* including perceptions of interest, enjoyment, wishing to do the activity, stimulation, importance, and curiosity, c) *vitality*, including feeling competitive, creative, active, excited, and happy, and d) particularly in studies of classrooms or schools (e.g., Shernoff, 2012; Shernoff, Abdi, Anderson, & Csikszentmihalyi, in press) *academic intensity,* including perceptions of competence, challenge, effort, and concentration. Despite these consistently-found facets of experience, it is important to remember that the ESM was designed to measure an individual's overall quality of experience conceived as a unidimensional characteristic, presumably related to flow (Csikszentmihalyi, 1975; Csikszentmihalyi & Larson, 1987; Csikszentmihalyi, Larson, & Prescott, 1977). Thus, Shernoff et al. (2014, under review) sought to test for evidence of that unidimensionality, and if found, to measure it.

The work of Shernoff and colleagues is premised on the assumption that peak engagement is of intrinsic value (i.e., is its own reward) much as flow experiences are conceptualized. In addition, Shernoff (2013) also suggests that learning itself, or at least the *experience* of meaningful learning (i.e., involving the gaining of skill or acquisition of talent beyond the learning of isolated facts and rudiments of knowledge), is flow-like, consisting of experiential *episodes* characterized by motion, rhythm, and self-encapsulated meaning systems. Common examples are the experience of songs,

performances, games, and other episodes typically having a temporal beginning, middle and end. Given this assumption, Shernoff (2012, 2013) then defines optimal learning environments as those in which engagement is heightened or pervasive. These contrast to mainstream public classrooms in which engagement was found to be rare (Shernoff & Csikszentmihalyi, 2009). Based on empirical studies, several examples of optimal learning environments emerged, such as academic and arts enrichment in high quality after school programs (Shernoff & Vandell, 2007; Vandell et al., 2005), and video game approaches to traditional engineering education (Coller, Shernoff, & Strati, 2011).

Shernoff and colleagues proceeded to conduct a thorough review of the literature on student engagement, flow, motivation to learn, learning environments, and classroom climate (e.g., American Psychological Association, 1997; Brophy & Good, 1986; Fraser, 1998; Larson, 2011; Reeve, Jang, Carrell, Jeon, & Barch, 2004; Skinner & Belmont, 1993; Turner, 2010; Urdan & Turner, 2005; Zedan, 2010) and suggested a research-based hypothesis regarding key features of learning environments promoting meaningful engagement. They hypothesized that a distinguishing, comprehensive characteristic is proposed to be *environmental complexity,* or combination of environmental challenge and environmental support. They further propose that both the environmental challenge and support dimensions are comprised of several associated but distinct components that the literature suggests are operative in facilitating engagement in learning, many of them rooted in principles of flow and positive psychology.

8.5 Dimensions of Environmental Challenge and Environmental Support

The *environmental challenge* dimension is a multifaceted construct hypothesized to feature *clear prescriptions for meaningful and goal-directed action* through:

a) Conceptual and/or language development: Opportunities to learn or discover rules, abstract principles, or theory, and to apply them to specific contexts; activities requiring academic literacy; and opportunities to plan, strategize, utilize knowledge, and practice (e.g., Moje, 2008; National Research Council, 2001).
b) Complex, challenging, and situated tasks: Solving meaningful problems and/or fashioning reasonably complex products with domain-specific materials or tools, requiring the development of related skills (Csikszentmihalyi, 1996; Gardner, 1993). The level of challenge is optimal for ability level (i.e., challenging but reachable; Csikszentmihalyi, 1990).
c) Clear goals: learning goals that are clear (Csikszentmihalyi, 1990) and designed or embedded into the activity (Wiggins & McTighe, 2005).
d) Importance/relevance of the activity: Importance or relevance of the activity to one's self (Tomlinson, 1999) or larger community (Damon, 2008; Schutz, 2006),

often in the context of real world issues or community service as with experiential or problem-based learning.

e) Assessment and expectations for mastery: The clear expectation that obtained competencies will be demonstrated, performed, or assessed in a way regarded as mutually meaningful to both student and instructor, and for a level of performance that is within reasonably high standards for mastery or competency (APA, 1997; Wiggins, 1993).

The *environmental support* dimension is a multifaceted construct representing the provision of *instrumental and emotional resources necessary for meeting challenges*, including:

a) Motivational support: Teacher support for autonomy (Reeve et al., 2004), competence (Urdan & Turner, 2005), interest development (Hidi & Renninger, 2006), intrinsic motivation (Deci & Ryan, 1985; Sansone & Harackiewicz, 2000), flow (Csikszentmihalyi, 1990), and/or self-efficacy (Bandura, 1977a, 1977b).

b) Positive Relationships: Positive teacher-student relations and rapport; positive peer relations; social cohesion; value for individuality and diversity; and absence of negative interactions (Furrer & Skinner, 2003; Roorda, Koomen, Spilt, & Oort, 2011).

c) Interactivity and transactional learning: Interactivity among teacher and students; every student has a clear and valued role; opportunities to make valued intellectual contributions; expertise is distributed; community construction of knowledge (Lave & Wenger, 1991; Zhang, Scardamalia, Reeve, & Messina, 2009).

d) Performance feedback: Feedback on targeted competencies and/or performance is provided by the instructor, peers, and/or it is embedded into the activity, and is timely, specific, and accurate (Csikszentmihalyi, 1990); use of effective scaffolding (Meyer & Smithenry, 2014) presence of positive as well as constructive feedback (Kluger & DeNisi, 1996).

e) Physical activity: Presence of physical activity and opportunities for action, as with "hands on" learning activities (Prince, 2004).

Overall, the challenge dimension features clear prescriptions for meaningful and goal-directed action by presenting a task to be completed or a challenge to be mastered. In the classroom, environmental challenge may be stimulated by the assessment of skills, learning, and/or performance. Similar to the research by Cavanaugh et al. (2008) described above, the challenge dimension is indicative of high expectations for academic mastery, competency, and/or success. The support dimension represents the provision of resources necessary for meeting challenges, including competence, emotional, and relational support. These features include motivational supports for students' autonomy, interest, intrinsic motivation, and flow. Key to the

support dimension is an opportunity for activity and interactivity in which respected members are valued for their unique have unique roles and contributions.

8.6 The Influence of Learning Environment Dimensions on Student Engagement

In their 2014 study, Shernoff et al. investigated the following research question: *What is the influence of these research-based dimensions of the learning environment on students' engagement while participating in that environment?* Student engagement in high school classes was captured by the Experience Sampling Method (ESM) and linked to instructional episodes and corresponding characteristics of the learning environment assessed from videoed classroom observations. They observed seven 9th-12th grade class sessions in a variety of core subjects: English, Math, Science, Social Studies, and Spanish. A total of five teachers and 140 students in two schools (referred to as School A and School B) participated in the study. The procedure of the study was as follows. Student participants first completed a High School Background Survey that solicited age/grade level, gender, race/ethnicity, socioeconomic status, self-reported grades, and educational aspirations. Each class session was videoed in its entirety by two video cameras, one focused on the teacher and the other on a focus group of four to five conveniently located students. The Experience Sampling Method (ESM) was administered in each class observed (See Hektner, Schmidt, & Csikszentmihalyi, 2007 for reliability and validity information). Following each signal, students completed a Record of Experience (RoE), which took approximately four to five minutes to complete. It included items for which participants rated their engagement, perceptions of the activity, and their subjective mood state on Likert-type response scales. Two researchers coded the classroom videos, focusing on observations of classroom interactions preceding each ESM signal. The unit of analysis for coding was the learning environment as a whole (as opposed to the teacher or the students), coded for theoretically-based dimension of the learning environment as described above. For this purpose, an observational assessment instrument for the learning environment was created called the *Optimal Learning Environment – Observational Log and Assessment* (OLE-OLA) designed by Shernoff (2013).

Characteristics of the learning environment were then coded for each of the instructional episodes preceding each of the beeps (n = 27 episodes). An Optimal Learning Environment Scale (OLES) was created from the fourteen dimensions of the learning environment. For this purpose, data were analyzed with the Rasch Model (Rasch, 1960), computer program, RUMM2030 (RUMMLab, 2007). Internal reliability was high (α = .88), and there was ample evidence of numerous aspects of validity. The scale was significantly related to students' perceptions of involvement, contributing ideas, positive affect, engagement, challenge, skill use, feeling accepted, and effort. Thus, in optimal learning environments, students were significantly but appropriately

challenged with complex tasks and high teacher expectations; and were also given the supports to be successful, including competence, motivational, relational, and social/emotional supports.

Multilevel, cross-classified models (Bryk & Raudenbush, 2002; Snijders & Bosker, 2012) were used to analyze the influence of learning environment dimensions on student engagement and other aspects of students' quality of experience. The variance component of the cross-classified instructional episode factor was significantly greater than zero, and this significant variation was entirely accounted for by the combination of all 14 dimensions of the learning environment. The Rasch measure of optimal learning environments derived from the OLES was a significant predictor of engagement after controls. A composite of only the five environmental challenge dimensions as well as a composite of the five environmental support dimensions were also significant predictors after controls.

In addition, the influence of each dimension of the learning environment was analyzed separately. Results revealed that the superordinate global rating of environmental complexity (combination of environmental challenge and support) was a positive predictor of engagement, as were both the global ratings of environmental challenge and support. Specific dimensions of the learning environment that were positively related to engagement included support for motivation, importance of the activity, clear goals, and feedback. Positive relationships were also a significant predictor, but only when the control variable for class/teacher was removed (while still controlling for person-level factors). Thus, positive relationships were significant predictor of engagement across episodes, but one likely accounted for by the specific teacher or class (i.e. *"mentoring"* – see chap.11).

The results suggested that there is significant variation in engagement across instructional episodes in high school classes, and that properties of the learning environment account for this variation. In addition students' engagement, as well as other markers of quality of experience, were largely accounted for by *environmental complexity*, in which environmental challenge and support were simultaneously present. Observations from videos suggested that environmental complexity was frequently created through structured tasks in individual or small group work with teacher monitoring. When students believed that what they were doing was both important and had clear goals, they were more likely to interact within the classroom environment with interest and absorb what is available in the environment. When they additionally were supported to reach those goals, both emotionally and with timely performance feedback, they adopted an attitude of excitement, fun, and interest in learning.

8.7 Conclusion

The two lines of inquiry described above sought to measure flow-oriented engagement and then to examine its association with student and learning environment

variables. The empirical studies conducted suggested that characteristics of both students and learning environments can account for variance in engagement and flow in both Australian and US classrooms.

There are some common themes that exemplify the application of positive psychological theory across the two models of student engagement and the learning environment. One is the epistemology within the models. Both models were derived from flow theory and assumed that classroom engagement was related or similar to flow experiences encountered by learners during learning activities. The *capabilities-expectations* model conceptualizes this as individual student capability for learning in conjunction with perceived expectations of what is required of the learner. In the notion of *environmental complexity*, there is a combination of environmental challenge and environmental support hypothesized to facilitate engagement in learning activities. The components within the major constructs comprising the two models are also similar and reflective of the well-being and flow aspects of positive psychology. The consonance becomes stronger when the respective learning environment elements are included. The importance of positive relationships, intrinsic motivation, emotional support, relational support, positive self-esteem and self-concept are present in both. Furthermore, application of meta-cognitive strategies such as planning, strategizing, provision of feedback, high expectations and mastery experiences can be seen.

Another theme is the methodology applied in the validation and understanding of the models characterized by *systematic phenomenology*. Such an approach investigates lived subjective experiences, the traditional concern of phenomenology, systematically using empirical tools and statistical analyses to answer targeted empirical questions. Systematic phenomenology is commonly applied in investigations of flow (Hekter, Schmidt & Csikszentmihalyi, 2007), although less commonly utilized in studies of classrooms, learning, and academic engagement. Testing the two models for evidence of construct validity using applied measurement techniques with instruments being developed, administered and data analyzed with statistical modeling (Rasch, Structural Education Modelling and Hierarchical Linear Modelling). This approach is proffered as a strength of positive psychology. Seligman (2011, p. 1) argued his "... writings [on positive psychology] are believable because of the underlying science", and the appeal coming from "... the fact that it is grounded in careful science: statistical tests, validated questionnaires, thoroughly researched exercises, and large representative samples".

Most significantly from a conceptual and theoretical standpoint is that both investigations provided evidence of significant unidimensionality among various properties of engaging classroom experiences. Although both conceptual models broke these experiences and characteristics of the students and learning environments into component parts (and in conceptually distinct ways), evidence suggests that these components are not only highly interrelated; they indeed may be part and parcel of a singular overriding classroom dynamic or quality of experience. It is not

only interesting and important, but exciting, to consider what that unidimensionality represents. What is that singular quality of learning environments when experienced as engaging? We only know that if it could be bottled and sold, teachers and students alike would line up to pay for it.

The research presented does provide a few clues, however. It is likely that learning environments are more engaging, and can be positively changed, when student capabilities and actions flourish as facilitated by the challenges, expectations and support in the learning environment. Of course, at this point we come full circle in the paradox between dimensionality and unidimensionality. So: is it one thing, or many? We cannot resolve this paradoxical riddle, but we are reasonably confident that positive change and well-being in education will be characterized by flow experiences.

References

The American Psychological Association (1997). Learner-centered psychological principles: A framework for school redesign and reform Retrieved 10/13/10 from http://www.cdl.org/resource-library/articles/learner_centered.php

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewoods Cliffs, NJ: Prentice-Hall.

Bandura, A. (1977a). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215. doi: 10.1037//0033-295X.84.2.191

Bandura, A. (1977b). *Social learning theory*. New York: General Learning Press.

Brophy, J. E., & Good, T. L. (1986). Teacher behavior and student achievement. In M. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 328-375). London: Collier Macmillan.

Bryk, A. S., & Raudenbush, S. W. (2002). *Hierarchical linear models: Applications and data analysis methods*. Thousand Oaks, CA: Sage.

Cavanagh, R. F. (2012a). *Engagement in classroom learning: Ascertaining the proportion of students who have a balance between what they can do and what they are expected to do*. Paper presented at the 2012 Annual International Conference of the Australian Association for Research in Education, December 2-December 6, Sydney.

Cavanagh, R. F. (2012b). *Associations between the classroom learning environment and student engagement in learning 1: A Rasch Model Approach*. Paper presented at the 2012 Annual International Conference of the Australian Association for Research in Education, December 2-December 6, Sydney.

Cavanagh, R. F., & Kennish, P. (2009). *Quantifying student engagement in classroom learning: Student learning capabilities and the expectations of their learning.* Paper presented at the 2009 Annual International Conference Annual International Conference of the Australian Association for Research in Education November 29-December 3, Canberra.

Cavanagh, R. F., Kennish, P., & Sturgess, K. (2008) *Development of a theoretical framework to inform measurement of secondary school student engagement with learning*. Paper presented at the 2008 Annual Conference of the Australian Association for Research in Education: Brisbane.

Cavanagh, R. F., & Waugh, R. F. (2004). Secondary school renewal: The effect of classroom learning culture on improving educational outcomes. *Learning Environments Research*, *7*(1), 245-269.

Coller, B. D., Shernoff, D. J., & Strati, A. D. (2011). Measuring engagement as students learn dynamic systems & control with a video game. *Advances in Engineering Education, 2*, 1-32.

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety* (1st ed.). San Francisco: Jossey-Bass Publishers.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper Perennial.

Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: HarperCollins.

Csikszentmihalyi, M., & Larson, R. (1984). *Being adolescent: Conflict and growth in the teenage years*. New York: Basic Books.

Csikszentmihalyi, M., & Larson, R. (1987). Validity and reliability of the experience-sampling method. *Journal of Nervous & Mental Disease, 175*, 525-536.

Csikszentmihalyi, M., Larson, R., & Prescott, S. (1977). The ecology of adolescent activity and experience. *Journal of Youth and Adolescence, 6*, 281-294.

Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1993). *Talented teenagers: The roots of success and failure*. New York: Cambridge University Press.

Csikszentmihalyi, M., & Schneider, B. (2000). *Becoming adult: How teenagers prepare for the world of work*. New York: Basic Books.

Damon, W. (2008). *The path to purpose: How young people find their calling in life*. New York: Free Press.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Fox, J., Nie, Z., & Byrnes, J. (2012). Sem: Structural Equation Models. R package version 3.0-0. Retrieved from http://CRAN.R-project.org/package=sem

Fraser, B. J. (1998). Classroom environment instruments: Development, validity and applications. *Learning Environments Research, 1*, 7-33.

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology, 95*, 148-162. doi: 10.1037/0022-0663.95.1.148

Gardner, H. (1993). *Creating minds: An anatomy of creativity seen through the lives of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi*. New York, NY: Basicbooks, Inc.

Harbaugh, G., & Cavanagh, R. F. (2012). *Associations between the classroom learning environment and student engagement in learning 2: A structural equation modeling approach*. Paper presented at the 2012 Annual International Conference of the Australian Association for Research in Education, December 2-December 6, Sydney.

Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). *Experience sampling method: Measuring the quality of everyday life*. Thousand Oaks, CA: Sage.

Hidi, S., & Renninger, K. A. (2006). The four-phase model of interest development. *Educational Psychologist, 41*, 111-127. doi: 10.1207/s15326985ep4102_4

Howard, S., & Johnson, B. (1999). Tracking student resilience. *Children Australia, 24*(3), 14-23.

Kennish, P., & Cavanagh, R. F. (2010). *Measuring engagement in classroom learning among Western Australian students using Rasch Analysis.* Paper presented at the 2010 Annual International Conference of the Australian Association for Research in Education, November 29-December 2, Melbourne.

Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin, 119*, 254-284. doi: 10.1037//0033-2909.119.2.254

Larson, S. C. (2011). *The effects of academic literacy instruction on engagement and conceptual understanding of biology in ninth grade students.* Aurora: Aurora University.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

Marsh, H. W., Smith, I.D., Barnes, J., & Butler, S. (1983). Self-concept: reliability, stability, dimensionality, validity, and the measurement of change. *Journal of Educational Psychology, 75,*(5), 772-790.

Meyer, D. K., & Smithenry, D. W. (2014). Scaffolding collective engagement. In D. J. Shernoff & J. Bempechat (Eds.), *Engaging youth in schools: Evidence-based models to guide future innovations*. New York: NSSE Yearbooks by Teachers College Record.

Moje, E. B. (2008). Responsive literacy teaching in high school content areas. . In J. R. Conley, J. R. Freidhoff, M. B. Sherry & S. F. Tuckey (Eds.), *Meeting the challenge of adolescent literacy: Research we have, research we need* (pp. 321-406). New York: The Guilford Press.

Nakamura, J., & Csikszentmihalyi, M. (2002). The concept of flow. In C. R. Snyder and S. J. Lopez (Eds.), *Handbook of positive Psychology*. (pp. 89-105). New York, NY: Oxford University Press.

Nakamura, J., & Csikszentmihalyi, M. (2009). Flow theory and research. In C. R. Snyder and S. J. Lopez (Eds.), *Oxford handbook of positive Psychology*. (pp. 195-206). New York, NY: Oxford University Press.

National Research Council (2001). *Adding it up: Helping children learn mathematics*. Washington, D.C: National Academy Press.

Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education, 93*, 223-231. doi: 10.1002/j.2168-9830.2004.tb00809.x

Rasch, G. (1960). *Probabilistic models for some intelligence and attainment tests*. Chicago: MESA Press.

Reeve, J., Jang, H., Carrell, D., Jeon, S., & Barch, J. (2004). Enhancing students' engagement by increasing teachers' autonomy support. *Motivation and Emotion, 28*, 147-169. doi: 10.1023/B:MOEM.0000032312.95499.6f

Roorda, D. L., Koomen, H. M. Y., Spilt, J. L., & Oort, F. J. (2011). The influence of affective teacher-student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research, 81*, 493-529. doi: 10.3102/0034654311421793

RUMMLab. (2007). *RUMM2020 Rasch Unidimensional Measurement Models*. RUMM Laboratory Pty Ltd.

Sansone, C., & Harackiewicz, J. M. (2000). *Intrinsic and extrinsic motivation : The search for optimal motivation and performance*. San Diego, CA: Academic.

Schmidt, J. A., Shernoff, D. J., & Csikszentmihalyi, M. (2007). Individual and situational factors related to the experience of in adolescence: A multi-level approach. In A. D. Ong and M. H. M. van Dulmen (Eds.), *Oxford handbook of methods in positive psychology (2nd ed)*. (pp.542-558). New York, NY: Oxford University Press.

Schutz, A. (2006). Home is a prison in the global city: The tragic failure of school-based community engagement strategies. *Review of Educational Research, 76*, 691-743. doi: 10.3102/00346543076004691

Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. New York, NY: Free Press.

Seligman, M., Ernst, R. Gillham, K. & Linkins, M. (2009). Positive Education: positive psychology and classroom interventions. *Oxford Review of Education, 35*(3)*,* 293-311.

Shernoff, D. J. (2012). Engagement and positive youth development: Creating optimal learning environments. In K. R. Harris, S. Graham & T. Urdan (Eds.), *The apa educational psychology handbook.* (Vol. 3, pp. 195-220). Washington, D.C.:: American Psychological Association.

Shernoff, D. J. (2013). *Optimal learning environments to promote student engagement*. New York: Springer.

Shernoff, D. J., Abdi, B., Anderson, B., & Csikszentmihalyi, M. (in press). Flow in schools revisited: Cultivating engaged learners and optimal learning environments. In M. J. Furlong, R. C. Gilman & E. S. Heubner (Eds.), *Handbook of positive psychology in schools* (2nd ed., pp. 131-145). New York: Routledge, Taylor, and Francis.

Shernoff, D. J., Cavanaugh, R. F., Tonks, S. M., , Abdi, B., and Anderson, B. (under review). The influence of theory-based dimensions of the learning environment on student engagemetn in high school classrooms.

Shernoff, D. J., & Csikszentmihalyi, M. (2009). Flow in schools: Cultivating engaged learners and optimal learning environments. In R. C. Gilman, E. S. Heubner & M. J. Furlong (Eds.), *Handbook of positive psychology in schools* (pp. 131-145). New York: Routledge.

Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly, 18*, 158-176. doi: 10.1521/scpq.18.2.158.21860

Shernoff, D. J., Tonks, S., Abdi, B., & Cavanagh, R. F. (2013). *Elements of the learning environment impacting student engagement in public high school classrooms*. Paper presented at the American Educational Research Association, San Francisco, CA.

Shernoff, D. J., Tonks, S., & Anderson, B. G. (2014). The impact of the learning environment on student engagement in high school classrooms. In D. J. Shernoff & J. Bempechat (Eds.), *Engaging youth in schools: Evidence-based models to guide future innovations*. New York: NSSE Yearbooks by Teachers College Record.

Shernoff, D. J., & Vandell, D. L. (2007). Engagement in after-school program activities: Quality of experience from the perspective of participants. *Journal of Youth and Adolescence, 36*, 891-903. doi: 10.1007/s10964-007-9183-5

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the classroom: Reciprocal effects of teacher behavior and student engagement across the school year. *Journal of Educational Psychology, 85*, 571-581. doi: 10.1037/a0012840

Snijders, T. A. B., & Bosker, R. J. (2012). *Multilevel analysis: An introduction to basic and avanced multilevel modeling* (2nd ed.). Thousand Oaks, CA: Sage.

Tomlinson, C. A. (1999). The differentiated classroom: Responding to the needs of all learners (pp. 145). Alexandria VA: Association for Supervision and Curriculum Development.

Turner, J. C. (2010). *Understanding classroom research and its contributions to our understanding of motivation to learn.* Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.

Urdan, T. C., & Turner, J. C. (2005). Competence motivation in the classroom. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 297-317). New York: Guilford.

Vandell, D. L., Shernoff, D. J., Pierce, K. M., Bolt, D. M., Dadisman, K., & Brown, B. B. (2005). Activities, engagement, and emotion in after-school programs (and elsewhere). *New Directions for Youth Development*, 150, 121-129. doi: 10.1002/yd.111

Wiggins, G. (1993). Assessment: Authenticity, context, and validity. *Phi Delta Kappan, 75*, (3) 200-208, 210-214.

Wiggins, G., & McTighe, J. (2005). *Understanding by design, expanded 2nd edition*. Alexandria, VA: Association for Supervision and Curriculum Development.

Zedan, R. (2010). New dimensions in the classroom climate. *Learning Environments Research, 13*, 75-88. doi: 10.1007/s10984-009-9068-5

Zhang, J., Scardamalia, M., Reeve, R., & Messina, R. (2009). Designs for collective cognitive responsibility in knowledge-building communities. *Journal of the Learning Sciences, 18*, 7-44. doi: 10.1080/10508400802581676

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology, 81*(3), 329-339.

Zimmerman, B.J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25,* 82-91.

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9 Positive Change and Flow in Sport

Abstract: Different experimental research underlined a critical link between peak performances in sport and Flow. After presenting this data and discussing the role of optimal experience in sport psychology, this chapter discusses tools and strategies available for trainers and instructors for activating positive change in athletes and teams. Moreover, sports and business are similar realities, in which a careful handling of the human capital can make the difference between success and failure. From this perspective and according to multidimensional Flow construct, the chapter concludes that, to reach optimal functioning, the individual needs challenging tasks, clear, realistic objectives and adequate feedback.

Keywords: Flow; Peak performance; Peak experience; Sport psychology; Positive psychology.

9.1 Introduction

Modern psychology became an interpreter of the need to integrate the interest in mental illness and psychic discomfort, typical of the classical psychology tradition, through an investigation on growth processes and the expression of potential in individuals, groups and organizations. The consolidation of a psychological practice "in negative" (Seligman, 2002), oriented towards the improvement of well-being through reduction or, whenever possible, elimination of psychopathological deficit, has been put in opposition to a kind of psychology oriented towards epistemological, theoretical and practical analysis of what is positive, that is, positive psychology.

Positive psychology gave a strong and innovative contribution at a theoretical and applied level: it emphasizes the crucial role of the individual's resources and potentials, something that previous research – oriented towards the analysis of deficiencies, deficits and pathologies – did not highlight. This change is a reversal of perspective: interventions set out to deploy a person's abilities and resources are privileged, rather than the reduction or compensation of personal limits (Delle Fave, Massimini & Bassi, 2011). Furthermore, this perspective brings the relationship between the single person's well-being and the community's development to the researchers' attention, suggesting that it is possible working on the quality of personal experience to improve well-being and generate resilience in individuals, societies and organizations (Botella, Riva, Gaggioli, Wiederhold, Alcaniz & Baños, 2012; Riva, Banos, Botella, Wiederhold & Gaggioli, 2012).

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A similar historical evolution happened in sports psychology. Sports psychology was traditionally focused on improvement of performance through the elimination of negative factors such as performance anxiety, fear of failure or success, burn-out or fear of injuries. With the development of positive psychology, sports psychology enlarged its area of interventions to the improvement of the athlete's physical and mental abilities, working on factors such as motivation and flow. Working on flow allows improving performance without giving up results and well-being, both on the part of the single athlete or the team. Our approach, starting from flow, offers concrete tools to build peak performance; in the next section we will explore these constructs.

9.2 Peak Moments

The specificity of the *flow*, *peak experience*, *peak performance* and *exercise high* constructs (Berger & Motl, 2001) has its common denominator in apex experiences defined as *peak moments*. They are states characterized by a total investment of the individual's psycho-physical resources on the action, with the consequent exclusion from attentive space of any external element by the generating action (see Table 1). These states don't answer to voluntary planning and anticipation rules, but they are obtained as a result of a complex synergy of multidimensional temporary factors. Except for *peak experience*, they all have a high probability of appearance during motor-sportive activities, even though they can be experienced during very different kinds of activities (Csikszentmihalyi, 1990; Harnison, 2011; McInman & Grove, 1991).

Table 9.1: Peak moments

PEAK PERFORMANCE	PEAK EXPERIENCE	EXERCISE HIGH
Task-generated initial attraction		Deep well-being, euphoria
Clear focus of attention on the ongoing activity	Passive involvement	Sense of perfection and spirituality
Spontaneity	Positive and deep affective states with high emotional intensity	Space-time alienation
Strong sense of self		Perception of physical and/or psychological strength
Exceptional functioning of the individual system	Focus on internal states	It happens during an active behavior (typically reported by runners or athletes who practice functionally similar motor-sportive activities)
Higher performance than individual standard	Deep fulfillment	
	Lack of manifest behavior	

9.2.1 Peak Moments and Flow

This section illustrates how peak moments relate to flow state (see *Figure 1*). *Peak performance* is defined as a state of exceptional functioning of the individual's psychophysical system (Berger & Motl, 2001), characterized by a clear focus of attention on the activity, spontaneity and strong sense of Self (Berger & Motl, 2001) *Peak performance* and *flow* present common aspects such as focus on task, clear objectives and union of action and conscience (Jackson & Marsh, 1996). Delle Fave and Massimini (1999) put a stress on how the term *peak performance* indicates a particular form of behavior, where its exceptionality (in terms of performance) is promoted by a positive experiential state, describable as *flow*. *Peak experience* is a psychological state characterized by positive, deep affective states and a high emotional intensity, such as happiness, ecstasy and enlightenment (Berger & Motl, 2001). It is a rare event, characterized by a state of 'transcendence', ecstatic contemplation, fulfillment, but also by a condition of receptivity and passivity. Attention is not necessarily focused on an external stimulus, or connected to a practical activity (see also chap. 5). This construct is different from *flow* for its characterizing condition of receptivity and passive fruition, for the focus of attentive resources upon internal states and components, as well as for the lack of dynamic balance between the level of challenge and the perceived and monitored response abilities through the search of continuous *feedback*.

Exercise high is defined as an experiential state, usually unexpected, characterized by perception of deep well-being, euphoria, physical and/or psychological strength, demolition of space-time barriers, sense of perfection and spirituality. It is experienced during running or any similar motor activity (Berger & Motl, 2001). It can be considered as a specialized form of *peak experience* (Berger, 1996), even though it is always observed in behavioral states of activity. The experience related to this kind of alienation is not always lived and reported as positive, characterizing itself as ambiguous, if not sometimes as a negative. The state of *exercise high*, differently from the *flow* state, does not represent a condition of positive predisposition in light of ability's growth and improvement of performance levels.

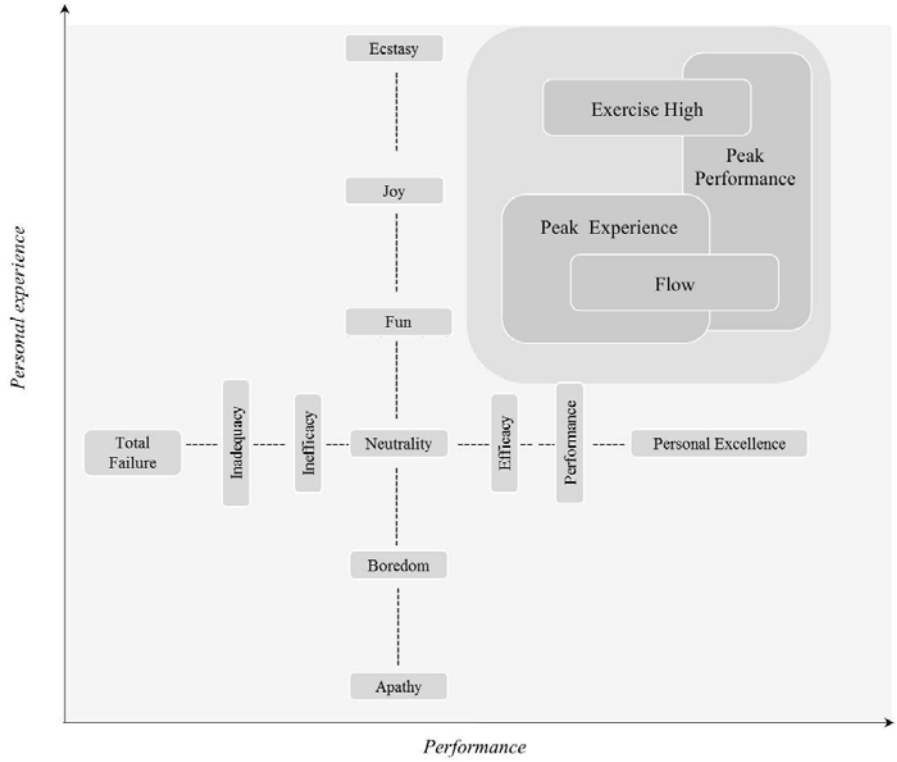

Figure 9.1: Flow and Peak Moments (Berger & Tobar, 2007, modified)

9.3 Flow andSports

Flow and sports were first put into relation in 1997, in Orlando, Florida. This concept is actually widely known: scouts, for example, select young talented players basing their criteria upon youngsters' capabilities to express a condition of optimal functioning on the field.

The event we're describing is an important basketball game: the Hoop Summit, which takes place every year and is organized by Nike, therefore characterized by a strong media impact. It is broadcast all over the world in prime time. The teams who play this game are the best under 20 players of the U.S., put against the best players of the same age from the rest of the world. Sandro Gamba – former coach of the Italian National Basketball team, Hall of Fame – was chosen to be Head Coach for "Rest of the World" team. Dirk Nowitzki, nowadays one of the best players in the world, winner of the 2011 NBA championship with the Dallas Mavericks, was among the ones who were selected that year. Scouts in 1997, saw something in his leadership

skills, his style of play (being ahead of the game) and emotional intelligence, even though Nowitzki didn't show mature technical skills: the factors noticed by the scouts are necessary preconditions to enter a state of flow. One year later – 1998 –, during the Goodwill Games in New York, the American relay race team (4x400) established a new world record with a time of 2'54"20. The press described the excellent performance and commented it by saying the athletes were running in a flow state. The term was used with no uncertainties: everyone seemed to know its meaning.

From that moment on, the study of optimal experience became an object of interest for both people in sports and psychologists, since sport and physical activity can easily induce a flow state (Csikszentmihalyi, 1990; Jackson & Csikszentmihalyi, 1999).

9.4 Flow State Scale

In line with tools and assessment protocols used in sports psychology (Tenenbaum, Eklund, & Kamata, 2012), the study of optimal experience in sports requires the construction of measuring tools that are multidimensional in nature, specifically made for consideration of the target's peculiarities and the experiential setting. Sports require, in fact, quick data collecting procedures, automatic and not invasive. Alternatively to the use of the *Experience Sampling Method* and the *Flow Questionnaire* (citations), some integrated approaches were proposed, where the qualitative analysis of flow experience (Jackson, 1992, 1995) is followed by a quantitative analysis of optimal experience and its comparison with other psychological variables (Jackson & Csikszentmihalyi, 1999; Jackson & Eklund, 2002; Jackson, Kimiecik, Ford, & Marsh, 1998; Jackson & Marsh, 1996; Jackson, Martin, & Eklund, 2008; A. Martin & Jackson, 2008).

Born in 1996 from Jackson & Marsh's work, the "*Flow State Scale*" (FSS) is a first attempt to move in this direction. It has been validated in Italian by Muzio and colleagues (2012)), and shows how the experience of a flow state can be explained by nine dimensions as described by Csikszentmihalyi (1990):

- D1. Balance between challenge and skills. Every action involves different opportunities to act, that require specific abilities. During flow state, people perceive the situation as stimulating and challenging, while individual resources are balanced and adequate to the situation.
- D2. Union between action and conscience. This dimension refers to total involvement in the action, so that automatisms allow the person experiencing a flow state to give a more fluid performance, avoiding perception of exertion or intrusive thoughts.
- D3. Clear objectives. To live an optimal experience, coherent and non-contradictive information is necessary. Having clear, defined and measurable objectives is important to increase motivation and give a meaning to the experience.

- D4. Immediate and direct feedback. During performance, it is necessary that people receive clear and timed feedback from the situation, so that they can constantly monitor how they're doing with their task and reach their expected goals.
- D5. Focus on task. Attention is focused uniquely on the ongoing task and there's no space for unnecessary information.
- D6. Sense of control. This dimension refers to the perception that people have, in a flow state, of an automatic and spontaneous control.
- D7. Loss of self-consciousness. People perceive themselves as part of the task they're carrying out. Psychological energy is completely focused on the action and they feel free and careless of other people's judgment. The feeling that one's limits can be overcome increases the feeling of perceived self-efficacy.
- D8. Distortion of time. The sense of time is altered: in some cases it is perceived as slowed down, in others it feels sped up. This dimension can be a consequence of the intense focus required to face the task, or it can determine the positive quality of the experience.
- D9. Autotelic experience. This dimension refers to the intrinsic satisfaction produced by the task, independently on the original motivation and expected results. The task is easier to carry out when satisfaction emerges from executing it, without need for an external reward.

In virtue of these dimensions, optimal experience is actively searched for and, in particular, it is preferable to repeat those activities that allow it to be experienced frequently. The state of flow favors individual development since, in order to be maintained and replicated within an activity, it induces a subject to search for action opportunities that get more and more complex, to which are linked progressively more complex abilities. Because of these elements, and of the tendency to 'foster' these individual skills during the execution of flow activities, this experiential state represents the compass needle of *psychological selection* (Delle Fave et al; 2011), the basic selective criteria upon which the path of individual development is built.

9.5 From Nine Dimensions to Mental Preparation

Other than monitoring the quality of experience, interventions made at the right time can increase the chance of finding and building a state of flow again. In order to make this possible, a program of integrated mental preparation must be promoted (Bull, 1991; Harmison, 2011; Muzio, Riva, & Argenton, 2012; Vealey, 2007) and it must take these four factors into account:

- structural, oriented towards analysis and consideration of the athlete's psychological conformation;
- functional, for an optimization of elaboration processes of cognitive system's information;

– psychophysiological, oriented towards modulation of psycho-physical reactivity;
– systemic, for a situated athlete's conceptualization in the referring social contexts.

At the same time, the mental preparation program must be shared with the athlete during three specific times (Weinberg & Gould, 2007):

– Education, aimed at developing the knowledge of how mental abilities influence performance and allowing the recognition of their trainability.
– Learning, moment of acquisition of techniques and strategies necessary to the development of different mental abilities.
– Training, stage aimed at automatizing mental abilities and their transfer to the challenge.

We finally get to the point where we have to operatively take into account how the nine dimensions are a starting point and, at the same time, the objective of a mental preparation protocol.

Table 9.2: From flow to mental training

MENTAL PREPARATION:TOOLS & TECHNIQUES	FLOW EXPERIENCE: TRAINABLE DIMENSIONS
Interview	Crosses all dimensions
Psycho-diagnostic assessment	Optimal functioning profile Screening
Goal Setting	D3: *Clear Objectives*
Proprioceptive Training	D2: *Union between action and conscience* D4: *Immediate Feedback*
Stress Handling and Relaxing	D1: *Challenge-Skills balance* D4: *Immediate Feedback* D6: *Sense of control*
Thought control and self-talk	D1: *Challenge-Skills balance* D5: *Focus* D6: *Sense of control* D7: *Loss of Self-conscience*
Concentration	D5: *Focus* D6: *Sense of control*
Imagery	D1: *Challenge-Skills balance* D3: *Clear Objectives* D5: *Focus* D6: *Sense of control*
Ideomotor training	D1: *Challenge-Skills balance* D3: *Clear Objectives* D5: *Focus* D6: *Sense of control*
Evaluation	D1: *Challenge-Skills balance* D4: *Immediate Feedback*

9.5.1 Interview

The interview is dedicated to the start of a mental preparation path and it will have to support the construction of a trusting atmosphere, favored by empathy and assertiveness, in order to promote expression of attitudes, expectations and needs not only in the athlete, but in the entire surrounding environment.

9.5.2 Psycho-Diagnostic Assessment

The psycho-diagnostic assessment's aim is to evaluate the athlete's psychological characteristics, functioning in emotional and cognitive terms, as well as in their perception of self during performance and training. In this stage, a great deal of attention must be dedicated to the relationship between flow and personality aspects. In this regard, Csikszentmihalyi (1990) highlighted how some individuals – *autotelic personalities* – are more predisposed to experience flow, irrespective of the situation. These individuals differentiate in information processing, in maintaining attention for more time, as well as for the ability to see potential obstacles as challenges for one's growth (Baumann, 2012; Delle Fave, Massimini, & Bassi, 2011; Keller & Bless, 2008; Nakamura & Csikszentmihalyi, 2011; Ross & Keiser, in press). After a psychological profile is defined and latent or manifest psychopathological traits are possibly excluded or monitored, the assessment process will give indications regarding the style of the athlete's current functioning according to an integrated perspective (Tenenbaum, et al., 2012 – see also cap. 5).

9.5.3 Goal Setting

Goal setting is a highly useful tool for sports performance improvement (Bandura & Locke, 2003; Nahrgang et al., 2013; Simões, Vasconcelos-Raposo, Silva, & Fernandes, 2012); it is influenced by a complexity of factors. Among them, the importance given to reaching a goal, the task's complexity, the level of perceived satisfaction and self-efficacy (Locke & Latham, 2013). Specifically, goals support behavior in three modalities (Locke & Latham, 2013). They carry a *directive function*, an *energizing* one and they act on *persistence*. Constance and *commitment* are reinforced by these functions. To be effective, goals must present a certain degree of challenge; they must be meaningful and realistic. They can be short, medium or long-term and *performance*, *process* or *result*-based goals (Locke & Latham, 2002). Supported by strategies and methods to reach them, goals must be translated into operative plans, guaranteed by a constant monitoring of the athlete's progress. It's not a surprise finding that D3 is a crucial dimension for a profile of optimal functioning.

9.5.4 Proprioceptive Training

Depending on the athlete's perceptive-cognitive style, a proprioceptive training highlights the value, the improvement of perceptive sensibility and the kind of relationship with performance-supporting environmental elements, such as surfaces, tools and equipment. By doing so, it becomes possible to set a development program in D2 (*union between action and conscience*) and D4 (*immediate feedback*).

9.5.5 Stress Handling and Relaxing

Relaxing techniques favor acquisition of self-knowledge and body control, they allow monitoring and regulation of arousal levels in order to handle anxiety states and psychophysical tension (Keller & Bless, 2008; Neil, Hanton, Mellalieu, & Fletcher, 2011). The relationship between *arousal* and performance is influenced by individual characteristics. *Arousal* being a multidimensional phenomenon, the athlete will have to learn to recognize – starting from a flow situation – what is his own optimal activation balance (physiologically, emotionally and cognitively) in order to reproduce it. The effect on performance depends, mostly, on the perceived self-efficacy level and the athlete's trust in his or her skills. Consequently, applying these relaxation and stress-handling techniques will permit the athlete to:

- Improve his or her knowledge in terms of optimal activation;
- Define situational and personal factors that influence activation, perception of anxiety and, consequently, performance;
- Recognize predictive signals of high arousal and anxiety levels during performance, increasing his own attention to D4 (*immediate feedback*) and modulating the *balance between challenge and skills* (D1) functionally;
- Re-interpreting psycho-physiological activation states, switching negative and non-productive aspects with positive and productive elements;
- Integrating his or her own *sense of control* (D6)

9.5.6 Thought Control and Self-Talk

Thought's influence upon behavior can be noted mostly through *self-talk*, which expresses itself as an internal dialogue, it being either silent or vocalized, and is aimed at increasing behavior control (Dagrou, Gauvin, & Halliwell, 1992; Hardy, Gammage, & Hall, 2001; Hardy, Hall, & Alexander, 2001). This technique is a representation of the set of beliefs and expectations every athlete develops, in regards to his competitive efficacy. Studies in the motivational field suggest that feeling responsible for the control of one's own actions determines higher chances to be intrinsically motivated (Deci & Ryan, 1985) and, consequently, more predisposed to experience flow states.

Self-talk favors the development of *self-confidence*, of new skills and allows for correction of wrong automatisms (Muzio, et al., 2012). After the education phase – not differently from the technical and physical ones – learning and training have to intervene.

9.5.7 Focus

An optimal handling of attentional resources allows the athlete to exclusively focus on stimuli that are functional to his performance, to voluntarily switch attention on new information sources and keep focus on the selected stimuli (D5, *focus on task*). Some examples: the ability to control pain and exertion, or to tolerate frustration. The selective system's efficacy increases progressively with experience and competitive level (Goleman, 2013). Uncontrolled and insufficient changes in the focus of attention can damage performance. Distractors can be external (spectators, climate conditions, rivals, referee...) or internal (exertion, pain, anxiety, frustration, excessive self-monitoring, continuous control). Among the methodologies used for the development of attentional control abilities, (Memmert, 2009; Nideffer, 1985, 1992; Nougier, Stein, & Bonnel, 1991) there are imagery, structuration of aimed training sessions, use of routines.

9.6 Imagery

Visualization techniques or *imagery* support the voluntary creation of an experience – exclusively mental – that reproduces real experience (Moran, Guillot, MacIntyre, & Collet, 2012; Murphy & Martin, 2002). They can be represented by visual images, tactile and proprioceptive sensations, smells, tastes and sounds. In evaluation phase, it is necessary to investigate, for every athlete, the personal meaning that evoked images have and the emotional reactions that derive from them (Gregg, Hall, McGowan, & Hall, 2011). The perspective according to which the images are visualized can be internal or external. In the first case, the athlete visualizes him or herself from an internal angle, as if he/she is actually carrying out the imagined task. In the latter case, the athlete visualizes him or herself as a spectator. The choice of one or the other perspective depends from the athlete's spontaneous tendency (personality aspects) and the visualized situation (discipline's specific characteristics). The use of mental images results in the effective development of focus skills, self-trust, emotional reactions control, technical and tactical skills, and optimization of time needed to recover from injuries. In applying imagery to mental training, it is useful to observe some indications, in order to optimize its efficacy (K. A. Martin, Moritz, & Hall, 1999): vividness, multi-sensoriality and controllability are essential.

9.6.1 Ideomotor Training

The use of imagery is put into effect in ideomotor training programs, meaning, all forms of exercise where a mental self-representation is present and is systematically repeated and conscious, specifically of the partial or global motor action to be learned, perfected or stabilized, in absence of an externally visible execution (Koch, Keller, & Prinz, 2004; Shin, Proctor, & Capaldi, 2010). Ideomotor training carries out different functions, such as *programming*, *training* and *regulation*.

9.6.2 Evaluation and Follow up

Evaluation requires constant monitoring of the athlete's progress and results through integrated tools. The development of mental abilities requires time investment and a methodical application. Supportive tools such as structured interviews and evaluation forms come to use in this regard. Their use allows support through qualitative feedback such as feelings, thoughts and affective states as well as quantitative kinds of feedback (Tenenbaum, 2012).

9.7 Future Directions

The informational, fact-finding and technological fluidity that characterizes our everyday life sees an essential resource in innovation, both to compete at best and to start an individual and social empowerment program. In this scenario, the search for results does not only attract the world of sports, but the business field as well, and is not always of the idea that well-being and success can be related (Csikszentmihalyi, 2004 – see also chap. 10). After all, sports and business are similar realities, characterized by competitive contexts, in which a careful handling of the human capital can make the difference between success and failure.

Much like in sports, flow can represent a surplus value in organizational contexts as well. It is, in fact, significantly correlated with improvement of performance, of satisfaction levels in employees, collaborators and clients, as well as low levels of absenteeism (Bakker, Schaufeli, Leiter, & Taris, 2008; Fullagar & Kelloway, 2009; Rolle, 2010; Taris, Cox, & Tisserand, 2008). The multidimensional structure of the flow construct, if applied to a business setting, assumes that, to reach a state of optimal functioning, the individual needs challenging tasks, clear, realistic objectives and adequate feedback. In this light, an evaluation tool such as the Flow State Scale can contribute to the start of change projects aimed at improving concrete and specific areas.

References

Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress, 22*(3), 187-200.

Bandura, A., & Locke, E. A. (2003). Negative self-efficacy and goal effects revisited. *The Journal of applied psychology, 88*(1), 87-99.

Baumann, N. (2012). Autotelic Personality. In S. Engeser (Ed.), *Advances in Flow Research* (pp. 165-186). New York, NY Springer New York.

Berger, B. G. (1996). Psychological benefits of an active lifestyle: What we know and what we need to know. *Quest, 48*(3), 330-353.

Berger, B. G., & Motl, R. W. (2000). Exercise and mood: A selective review and synthesis of research employing the profile of mood states. *Journal of Applied Sport Psychology, 12*(1), 69-92.

Berger, B. G., & Motl, R. (2001). Physical activity and quality of life. In R.N. Singer, H.A. Hausenblas, & C.M. Janelle (Eds.). *Handbook of sport psychology* (pp. 636-671). New York, NY: Wiley.

Botella, C., Riva, G., Gaggioli, A., Wiederhold, B. K., Alcaniz, M., & Baños, R. M. (2012). The present and future of positive technologies. *CyberPsychology, Behavior, and Social Networking, 15*(2), 78-84.

Bull, S. J. (1991). Personal and situational influences on adherence to mental skills training. *Journal of Sport & Exercise Psychology, 13*(2), 121-132.

Csikszentmihalyi, M. (1990). *Flow. The psychology of optimal experience*. New York, NY: Harper & Row.

Csikszentmihalyi, M. (2004). *Good Business: Leadership, flow and the making of meaning*. New York, NY: Penguin Group.

Csikszentmihalyi, M., & Jackson, S. A. (1999). *Flow in sports: The keys to optimal experiences and performances*. Champaign, IL: Human Kinetics.

Dagrou, E., Gauvin, L., & Halliwell, W. (1992). The effects of positive, negative and neutral self-talk on motor performance. *Canadian journal of sport sciences, 17*(2), 145-147.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum.

Delle Fave, A., & Massimini, F. (1999). Inter-cultural relations: A challenge for psychology. *Modernization and cultural identity*, 11-22.

Delle Fave, A., Massimini, F., & Bassi, M. (2011). *Psychological Selection and Opimal Experience across Culture. Social empowerment through personal growth*. London, UK: Springer.

Fullagar, C. J., & Kelloway, E. K. (2009). Flow at work: An experience sampling approach. *Journal of Occupational and Organizational Psychology, 82*(3), 595-615.

Goleman, D. (2013). Focus: the hidden driver of excellence. New York, NY: Harper & Collins.

Gregg, M., Hall, C., McGowan, E., & Hall, N. (2011). The Relationship between Imagery Ability and Imagery Use among Athletes. *Journal of Applied Sport Psychology, 23*(2), 129-141.

Hardy, J., Gammage, K., & Hall, C. (2001). A descriptive study of athlete self-talk. *Sport Psychologist, 15*(2), 306-318.

Hardy, J., Hall, C. R., & Alexander, M. R. (2001). Exploring self-talk and affective states in sport. *Journal of Sports Sciences, 19*(7), 469-475.

Harmison, R. J. (2011). Peak performance in sport: Identifying ideal performance states and developing athletes' psychological skills. *Sport, Exercise, and Performance Psychology, 1*(4), 3-18.

Jackson, S. A. (1992). Athletes in flow: A qualitative investigation of flow states in elite figure skaters. *Journal of Applied Sport Psychology, 4*(2), 161-180.

Jackson, S. A. (1995). Factors influencing the occurrence of flow state in elite athletes. *Journal of Applied Sport Psychology, 7*(2), 138-166.

Jackson, S. A., & Marsh, H. W. (1996). Development and validation of a scale to measure optimal experience: the Flow State Scale. *Journal of Sport & Exercise Psychology*, *18*(1), 17-35.

Jackson, S. A., Martin, A. J., & Eklund, R. C. (2008). Long and Short Measures of Flow: The Construct Validity of the FSS-2, DFS-2, and New Brief Counterparts. *Journal of sport and exercise psychology*, *30*(5), 561-587.

Jackson, S. A., & Eklund, R. C. (2002). Assessing flow in physical activity: the Flow State Scale-2 and Dispositional Flow Scale-2. *Journal of Sport & Exercise Psychology*, *24*(2), 133-150.

Jackson, S. A., Kimiecik, J. C., Ford, S. K., & Marsh, H. W. (1998). Psychological correlates of flow in sport. *Journal of Sport & Exercise Psychology*, *20*(4), 358-378.

Keller, J., & Bless, H. (2008). Flow and regulatory compatibility: an experimental approach to the flow model of intrinsic motivation. *Personality & social psychology bulletin, 34*(2), 196-209.

Koch, I., Keller, P., & Prinz, W. (2004). The Ideomotor approach to action control: Implications for skilled performance. *International Journal of Sport and Exercise Psychology, 2*(4), 362-375.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist, 57*(9), 705-717.

Locke, E. A., & Latham, G. P. (2013). *New Developments in Goal Setting and Task Performance*. New York, NY: Taylor & Francis.

Martin, A. J., & Jackson, S. A. (2008). Brief approaches to assessing task absorption and enhanced subjective experience: Examining 'short'and 'core'flow in diverse performance domains. *Motivation and Emotion, 32*(3), 141-157.

Martin, K. A., Moritz, S. E., & Hall, C. R. (1999). Imagery use in sport: A literature review and applied model. *The Sport Psychologist, 13*(3), 245-268.

McInman, A. D., & Grove, J. R. (1991). Peak moments in sport: A literature review. *Quest, 43*(3), 333-351.

Memmert, D. (2009). Pay attention! A review of visual attentional expertise in sport. *International Review of Sport and Exercise Psychology, 2*(2), 119-138.

Moran, A., Guillot, A., MacIntyre, T., & Collet, C. (2012). Re-imagining motor imagery: Building bridges between cognitive neuroscience and sport psychology. *British journal of psychology, 103*(2), 224-247.

Murphy, S. M., & Martin, K. A. (2002). The use of imagery in spor. In T. Horn (Ed.), *Advances in sport psychology* (pp. 405-439). Champaign, IL: Human Kinetics.

Muzio, M., Riva, G., & Argenton, L. (Eds.). (2012). *Flow, Benessere e Prestazione Eccellente. Dai modeli teorici alle applicazioni nello sport e in azienda*. Milano: Franco Angeli.

Nahrgang, J. D., DeRue, D. S., Hollenbeck, J. R., Spitzmuller, M., Jundt, D. K., & Ilgen, D. R. (2013). Goal setting in teams: The impact of learning and performance goals on process and performance. *Organizational Behavior and Human Decision Processes, 122*(1), 12-21.

Nakamura, J., & Csikszentmihalyi, M. (2011). Flow theory and research. In S. J. Lopez & C. R. Snyder (Eds.), *The Oxford Handbook of Positive Psychology* (pp.191-206). New York: Oxford University Press.

Neil, R., Hanton, S., Mellalieu, S. D., & Fletcher, D. (2011). Competition stress and emotions in sport performers: The role of further appraisals. *Psychology of Sport and Exercise, 12*(4), 460-470.

Nideffer, R. M. (1985). *Athletes' guide to mental training*. Chamapign, IL: Human Kinetics Publishers.

Nideffer, R. M. (1992). *Psyched to Win*. Champaign, IL: Leisure Press.

Nougier, V., Stein, J.-F., & Bonnel, A.-M. (1991). Information processing in sport and "orienting of attention." *International Journal of Sport Psychology, 22*(4), 307-327.

Riva, G., Baños, R. M., Botella, C., Wiederhold, B. K., & Gaggioli, A. (2012). Positive technology: using interactive technologies to promote positive functioning. *Cyberpsychology, Behavior, and Social Networking, 15*(2), 69-77.

Ross, S. R., & Keiser, H. N. (in press). Autotelic personality through a five-factor lens: Individual differences in flow-propensity. *Personality and Individual Differences*.

Seligman, M.E.P. (2002). *Autentic Happiness. Using the new positive psychology to realize your potential for lasting fulfillment.* New York, Ny: Free Press.

Shin, Y. K., Proctor, R. W., & Capaldi, E. J. (2010). A review of contemporary ideomotor theory. *Psychological bulletin, 136*(6), 943-974.

Simões, P., Vasconcelos-Raposo, J., Silva, A., & Fernandes, H. (2012). Effects of a Process-Oriented Goal Setting Model on Swimmer's Performance, *Journal of Human Kinetics*, *32*(1), 65.

Taris, T., Cox, T., & Tisserand, M. (2008). Engagement at work: An emerging concept. *Work & Stress, 22*(3), 185-186.

Tenenbaum, G., Eklund, R. C., & Kamata, A. (Eds.). (2012). *Measurement in Sport and Exercise Psychology*. Champaign: Human Kinetics.

Vealey, R. S. (2007). Mental Skills Training in Sport. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of Sport Psychology* (pp. 285-309). Hoboken, NJ: John Wiley & Sons, Inc.

Weinberg, R. S., & Gould, D. (2007). *Foundations of Sport and Exercise Psychology*, Champaihgn, IL: Human Kinetics.

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10 Positive Change and Transgenerational Relationships in Family Business

Abstract: Italy is a country of small and medium sized enterprises, located contemporarily within local-regional culture and in the international commercial network. A great part of these enterprises are run by single families, involving all family members: this is at the same time both a strength and weakness, as family links can, by one side, improve the individual engagement in work, but may also, on the other side, affect the climate of the whole workspace with incorrect and stressing relational dynamics borrowed from the previously established family relationship. In this chapter the authors discuss the family system as a bio-cultural mechanism and present the role of good management based on Flow theory and its applications.

Keywords: Transgenerational relationships; Flow transmission, Family business.

10.1 Introduction

The family is an exceptional instrument for the transmission of information: within which both the genetic and cultural heritages are transmitted. This social structure has taken on varied myriad of forms over the centuries and between different countries, yet some universal traits recur: the tendency for procreation, the safeguard of the survival of the children, their education according to the main principles of a given culture. In general terms and from an evolutionary point of view, human beings and the groups they form and of which they are part (for example, the family) develop by means of a bio-cultural process that brings an increase in capacity and complexity (Massimini & Inghilleri, 1993; Massimini, Delle Fave & Csikszentmihalyi, 1988). The mechanism of natural selection (Darwin, 1859) has allowed the human species to adapt to various environmental conditions and has produced biological and genetic changes that have led individuals and social groups to build artifacts and cultural products that can be transmitted through time and are increasingly complex. Once the genetic fundamentals are set that guarantee the possibility of developing a cultural system as complex as the human one, this evolves with the times, manner and content that are only partially attributable to the genetic system (Shennan, 2008), which in turn is likely to be conditioned by the cultural instructions (Rogers & Ehrlich, 2008 – see also chap.1).

Some of the issues highlighted by Darwin on the genetic evolution are of particular interest outside of the biological context. By means thereof, the populations

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and, more generally, the flow of information, have been studied by social sciences from an evolutionist point of view, yet not in a reductionist manner. In this sense, the thought of Dawkins (1976/2006, 1982) is particularly interesting. Dawkins' argument starts from the consideration that the human species, due to the biological and cognitive characteristics of its mind, the outcome of evolution, was able to form a hereditary system of transgenerational transmission of information different from the genetic one, but just as powerful and lasting: a cultural form. The human mind is biologically able to conceive and build efficient replicators of cultural information that are transmitted over time because they are deposited outside of the individuals, in extra-somatic locations. This leads to the development of tools, family systems, social norms, religions, hunting and harvest techniques, agriculture, art, ideologies, institutions, and so on. These cultural elements, which are veritable basic units of culture, are defined memes, from the greek *mimeomai* which means "to replicate by imitation" (Blackmore, 1999; Dawkins, 1976). Other authors, on the contrary, use the broader term artifacts, including in this category both the material (an object) and intangible (an idea) products of culture (Cole, 1995; Inghilleri, 1999, Vygotskij, 1934/1962).

Dawkins identifies the three characteristics that have allowed genes to become successful replicators of biological information, even for millions of years, as: *copying-fidelity*, that is, the ability to make identical copies of the original; *fecundity*, that is, the ability to make a certain number of copies; *longevity*, that is, the ability to exist long enough to express the previous two properties, namely to make a certain number of copies faithful to the original.

Dawkins also points out the distinction between *vehicles* and *replicators*. The first are the containers of the information transmitted over time, whereas the latter make up the information that is actually replicated from one generation to another. The first is represented, in biology, by the cells of the organism, the latter by the genetic information contained in the DNA. The first die (from one biological generation to another), the latter survive (from generation to generation). The author lays emphasis on the following key point, that copying-fidelity, fecundity and longevity are the three general properties that make successful replicators, *regardless of the type of information involved*. In other words, genes are good replicators of a specific type of information – biological information. But other kinds of replicators can be identified which pertain to other types of information. As stated previously, it is precisely this biological evolution that has led to a second type of replicator. The extraordinary features of the central nervous system of the human species, the associated symbolic capacity, language, the ability to build long-lasting artifacts, have, in fact, led to the creation of memes, a new kind of replicator or unit of information transmission, in this case, not of biological but of cultural information. Within the memes too, we can distinguish the vehicle (for example, returning to the topic of interest here, the organization of a family system) from the replicator (the specific values, ideologies, and family customs).

10.2 The Family Business as Bio-Cultural System: Competition Between Memes and Genes and the Function of Flow

It is no coincidence that we have introduced the family as an example of a memetic/cultural system. As a matter of fact, it represents a case of extreme complexity as it conveys, according to Dawkins' thought, both biological information (genes transmitted from parents to children), and cultural information (values and lifestyles of the family culture). This process becomes increasingly complex where the family organizes itself around a specific cultural unit such as a company or a production activity. Considering family-run businesses, which can range from small businesses to large multinational companies, the biological system is complemented by a specific and well-defined cultural system characterized not only by values but also by practical production strategies. These structures, which are very popular in Italy, are now present in all the industrialized countries where the recent economic crisis has accentuated the exodus from large companies, fostering the emergence of smaller businesses (Cesaro & Cancelli, 2004). In structures such as these the generations work side by side, the adult children and grandchildren work with their fathers or grandfathers, males work with females. The family owned company is, in other words, a complex vehicle of cultural and biological replicators.

We will address this issue starting from the basic consideration that neither genes nor memes, in this case neither the biological family nor the family company, are transmitted by themselves. As suggested previously (Csikszentmihalyi & Massimini, 1985; Inghilleri, 1999; Massimini, Delle Fave & Csikszentmihalyi, 1988) the two hereditary systems are reproduced and transmitted over time only by means of human action and the investment of psychic energy upon them. It is through the mechanism of psychological selection, as defined in the first chapter of this volume, that the processes of biological evolution and cultural evolution are carried out. By focusing cognition, motivation and emotion on specific biological or cultural entities, specific entities are maintained over time and are transmitted to the following generations. This is true for genes that are transmitted through specific processes of psychological selection (the choice of partners, the decision to procreate and educate children, the care for health). Indeed, this is also true for memes: for example, the decision to follow a rule, to buy an object, to keep a tradition alive, to preserve a monument or, indeed, to set up and then develop a business. As pointed out in the first chapter, these selection processes are based on the psychological ability to have meaningful experiences, such as the Flow of consciousness, when interaction occurs with specific elements, be they biological (the genes represented by the children) or cultural (different memes). It is therefore clear that when our mind and our experience encounter biological and cultural entities simultaneously, or bio-cultural entities as we have defined the family and the family business, the situation becomes complex. The processes of psychological selection may in fact be directed towards

different possibilities, following only the biological interest, or only the cultural one, or both (bio-cultural interest), or paradoxically by denying them both.

The specific relationship between Flow and the memes characteristic of a company or a business activity has been studied specifically (Csikszentmihalyi, 2004; Cesaro, 2012). Here however, the issue will be addressed from a different point of view. We will start by considering that the experience of Flow can occur in the everyday life of an entrepreneur whose family members work in the company, within the different situations of bio-cultural interest that have been outlined above. In general terms we can imagine four possible situations from an experiential viewpoint:

- entrepreneurs who experience *Flow in the family and at work*
- entrepreneurs who experience *Flow in the family* and an absence of Flow at work
- entrepreneurs who experience *Flow at work* and an absence of Flow in the family
- entrepreneurs who experience an *absence of Flow* in the family and at work

In the first case the entrepreneur loves their work, links it to purposes higher than mere earning and finds optimal experiences in the company. Work becomes an important moment in life, able to provide moments of Flow. This, however, also occurs in the family, while being with the spouse and children in the evening, on weekends, on holidays, but also at the company if they work there. The person is thus able to invest psychic energy in an integrated manner on different objects, those pertaining to family affections and those pertaining to work and productivity. In the second case the person finds satisfaction and experiential fulfillment in the domestic sphere, at home, with the children, whereas the work and the company are factors of anxiety, stress, or in some cases boredom. These states may also affect the relationship with the family members if they work in the company. The third case represents the opposite situation. The work provides rewarding moments, stimuli, a meaning. The homecoming, the time spent with the children and the spouse outside of work, does not represent a positive experience, but rather entails a contrary situation. In the fourth case, the daily life, both at home and at the company, is experientially negative and an optimal psychological state is never achieved.

It should be emphasized that these four prototypical situations, which will be discussed later with concrete examples, inevitably involve important psychological processes, of satisfaction and of conflict. The conflict, since the family and the family business are bio-cultural entities, can also be understood as the struggle between the biological interest (the future of the children) and the cultural interest (the future of the company). In the case of satisfaction, we can expect an increase in the complexity of both the individual's inner Self and of the bio-cultural element represented by the family and the company. The result will be the attainment, on the one hand, of psychological well-being and development of economic well-being and development on the other. In case of conflict there are several options: either the conflict is solved in a positive way, or it endures with destructive effects on a psychological level for the people involved, and from the position of the company. However, the four situations

should not be considered static and unchanging, but rather moments of a process during which the possibility of a change that can enable the creation of moments of Flow and thus of development, is always accessible. This too will be discussed in the cases considered below.

The state of Flow of Consciousness, as seen in the first chapter, is composed of several factors, each of which is necessary, but not sufficient in itself, to bring out the optimal experience. Summarizing, the factors necessary to achieve a state of Flow are: clear goals, immediate feedback, balance between challenges and skills, concentration on the situation, absence of self-observation, presence of intrinsic motivation, merging between action and awareness, sense of automatic control, altered sense of time, positive affective state, absence of boredom, and lack of anxiety.

We wish, however, to bring forward other variables that must be considered in the cases of family businesses that will be described below: the presence of a defined symbolic system, the relationship with the territory, the culture and values shared in the company and in the family, the characteristics of the physical structures in which the work is performed (factories, offices, laboratories, warehouses, etc.), existing technologies, and the system of rules upon which the relations rest.

10.3 Family, Company and Flow

The family is inherently complex: the components are not chosen but one can freely choose to accept the family constraints, thus partaking in its symbolic system, culture and values. Following the discussion of Csikszentmihalyi (1990), it can be stated that some factors are particularly important in order to achieve an optimal experience within a family:

- ***Presence of intrinsic motivation***:
  To provide, flow, a family has to have a goal for its existence. [...] positive goals are necessary to focus the psychic energies of parents and children on common tasks. [...] For such goals to result in interactions that will help increase the complexity of Its members, the family must be both differentiated and integrated. (Csikszentmihalyi, 1990, p.180).
- ***Differentiation***:
  Each member achieves their goals and is free to develop their own unique traits, maximizing personal skills, defining in a personal way their own goals.
- ***Integration:***
  The guarantee that what happens to one person will affect all the others.
- ***Clear objectives in daily life***:
  In addition to long-term goals, it is imperative to have a constant supply of short-term objectives (Csikszentmihalyi, 1990, p.180).

- ***Feedback:***
  Family activities should also provide clear feedback. [...] keeping open channels of communication (Csikszentmihalyi, 1990, p. 181), to communicate the problems as well as the achievement of the objectives.
- ***Full sense of ability***:
  The balancing of challenges and skills is another factor as necessary in enjoying social relationships in general, and family life in particular, as it is for any other flow activity (Csikszentmihalyi, 1990, p.181)
- ***Positive affective state***:
  Csikszentmihalyi states that *There are great opportunities for joy and for growth that can only be experienced in family life* (1990, p.184). Unconditional acceptance is especially important to children.

In a company, by contrast, it is more likely that other factors define Flow: the vision, the dream of an entrepreneur, the partners who are chosen to achieve a goal, the satisfaction for the achievements accomplished, the visibility and recognition of power in a given market. The very idea of setting up the company or the need to innovate are often sufficient to feel well-being (Cesaro, 2004) and the entrepreneur's push for change is often an intrinsic motivation (Deci & Ryan, 1985) and part of the basis of optimal experience.

Among the variables that we have most frequently ascertained in the presence (or absence) of Flow in the family and in the company, the culture should be mentioned as shield/protection for both systems. As recalled by Csikszentmihalyi:

> One of the major functions of every culture has been to shield its members from chaos, to reassure them of their importance and ultimate success (1990, p.11).

In fact, this principle will emerge several times in our discussion, where the hypothesis of the simultaneous presence of strong shared culture and the state of Flow will be reaffirmed, in confirmation of the statement that:

> When a culture succeeds in evolving a set of goals and rules so compelling and so well matched to the skills of the population that its members are able to experience flow with unusual frequency and intensity, the analogy between games and cultures is even closer (Csikszentmihalyi, 1990, p.81).

10.4 The Case Histories

The following are case studies that tell stories of families and businesses with whom we have worked, studied and researched over the past 20 years and in which we have observed the dynamics described above.

10.4.1 Story 1: From the Absence to the Creation of Flow in the Company and in the Family

> The generational transition within family entrepreneurship is very often complex. We remember a family with two children, a common situation: the first is the one who works, is committed, follows in the father's footsteps, gives continuity, in other words, is reassuring, and looks ahead. The second is the creative one, funny, playful, enjoys life, is always late when – and if – at work, full of ideas, friends, travels and a vision of life based on the "here and now". Conflicts arise constantly. The parents suffer, and hope that things will settle down sooner or later. Instead, the sons-in-law, daughters-in-law and grandchildren get involved: the first complicate things; the younger ones, on the other hand, give a renewed hope for a better future. The real help that can be offered to all of them is to try to protect the roots, defend the heritage and speak out. As in jealousy, resentment, fear, one forgets to tell the motivations for the achievements, mistakes, dreams and disappointments.

In this situation the optimal experience in the family was affected mainly by the lack of a positive affective state, not so much because of the parents, but because of the conflict between the children. At the same time, the differences in values and culture prevented them from having clear goals, especially at the family level. In addition to this, the balance between challenges and skills is not recognized by any of the family members involved. So, with these preconditions, it is very unlikely that an optimal experience can be fostered in the company, or at least, not until the conflict between the children is resolved, often with the removal of one of the two. Although the family of origin was lacking some of the elements to allow the emergence of the Flow, the latter can still be transferred to the new family, so that the heirs obtain optimal experience – that's what happens in the second part of the story.

> "I never forget that I got as far as fourth grade and even if I wanted to study, my family needed my job." The roots, the sense of belonging to an identity that was never repudiated, had always been that father's strong point. He always carried within himself the customs, traditions and values of a rural culture. Start early in the morning, work hard and intensely until five in the evening, but then always remember that "life is not just work, but also". These were the rules. After the hard work comes the family, friends, the Church, physical activity, the participation in rituals, a walk in the city center. These are simple and concrete activities that the generation of new managers and young entrepreneurs can hardly feel as being part of themselves, as true and basic elements of a life organized by the seasons and not by Google's agenda. The company was founded by

> the man who had used several occasions spending time on the market, in contact with people, seizing opportunities and alliances with other people with distinct backgrounds and skills. He had worked with his wife always beside him, with great tenacity and simple world views: perseverance, tenacity, reliability, a touch of cunning, a lot of luck after many a moment of economic difficulty; completely normal for someone who was born and has lived in the countryside. International success had never made that man forget the system of rules and the basic values for which he was recognized and appreciated: a rough person but sincere and reliable. The children, initially involved in equal manner within the company, in time took two different roads: the one imitating in his own way the rules and habits of the father, the other preferring a concept of delegation of the daily management to external managers, enjoying the fruits of the success achieved by the family. The "cultural" conflicts soon led to a climate of tension and unease in all three families, the original one and the two families which the two youngsters had in the meantime created. The final break came when the youngest decided to create a new, creative company like his father's, but with modern styles and views. Work rules were clear and communicated to all employees and customers who shared these goals and values. The well-being flowed year after year together with the positive results. Within the family that state was enjoyed to the full. Leaving had been the only way to regain a positive state.

In this case, we can see that the creation of a new company and thus of a new challenge, laid the groundwork for an optimal experience in the company. The feedback is immediate, the goals are well defined and the relational climate is decidedly positive. All this entails a positive impact on the family as well. In fact, the Flow of the company in time pours into the new family created by one of the children. In the families of origin, on the contrary, too many aspects were missing for an optimal experience to arise, starting from a negative emotional basis, the lack of an adequate feedback and the inconsistency of common and clearly shared objectives. It is interesting to note that the charge of psychic energy that the Flow involves and the feeling of well-being connected to it can have consequences on the family too (Cesaro, 2011), emphasizing yet again the strong bond that exists between family and business.

10.4.2 Story 2: Initial Presence of Flow in the Family, Lack of Flow in the Company and Consequent Discomfort in the Family as Well

If the core values in the company are declared but it is not possible to put them into practice and the original values of the parents are adhered to by the family due to the daily strain experienced at work, the persons, both the old and young, feel bad in both contexts. Often psychosomatic illnesses emerge; Flow does not occur neither in the family nor in the company and this creates problems that do not allow the realization of any experience of well-being.

> We could not understand why everyone in that family felt so bad: the discomfort could be perceived right in their physique. Body and mind were entwined in a discomfort which was expressed every time they had the opportunity to talk about it in private with their closest friends and a

> few trusted consultants. Theirs was a financially healthy company with a solid position in the international market, despite having started from nothing, simply as a response to the parents' desire to succeed. They were both eager to redeem themselves from various difficulties suffered during youth, in their families of origin, due to the uncertain economic conditions as well as to premature bereavements. Year after year, however, the organizational climate was becoming increasingly tense and the evident and hidden conflicts wore the relationships out, day after day, at all levels. The communication between people was mainly handled by the father, who had always practiced the principle of trust and generosity toward employees and customers. His style was that of the "domineering father" apparently able to control and decide everything in the company and in the family. The mother was a "volcano of creativity", dynamic and involved in every possible initiative, curious and eager to enjoy every opportunity that life had to offer. The children had a strong bond with the territory, great respect and gratitude for the parents but, other than executing orders, had never experienced the feeling of autonomy and responsibility. They eventually developed a lack of confidence in themselves and, gradually, in others. All their decisions were contradicted every day and the feeling of insecurity and organizational confusion was in contrast with the image of positivity and confidence that the brand communicated on the market. Parents and children could not explain their inability to communicate: "Sorry if I'm not the son you wanted" was the unspoken sentence that echoed every day from the now young adults who were trying to find compensation for their discomfort outside the company and the family, moreover without great results. "What did we do wrong?" was, instead, the recurring thought in the conversations between the parents, shifting responsibilities and disappointments to one another for a situation too overwhelming for their capacities and energies, now waning as time went by. Sell the company? Entrust it to a manager? Run the risk of demolishing it under the weight of the tensions, sufferings and difficult relationships that had already defiled employees and customers? The feeling was that only a precipitating event, a shock, a bereavement, could make them stop and bring order and a little peace, perhaps after a period of further suffering. The hope was that a consultant or a – very – positive event from the outside such as a birth could light up the gray and painful climate that accompanied their solitudes, furthermore, lived in gilded cathedrals.

In this case, it is clear that the lack of a positive affective state is a hindrance to laying the groundwork for Flow to occur in the family. At the same time, the absence of feedback in the family blocks the occurrence of Flow within the company, spreading a sense of inadequacy and low self esteem among the family members. Consequently, the balance between challenges and skills does not occur, triggering a high state of chronic anxiety that often involves psychosomatic illnesses too. All of this has repercussions for the collapse of the intrinsic motivation, as well as the lack of clear goals in the company as in the family. Finally, the parents' lack of unconditional acceptance of the children was a serious detriment to the development of an optimal experience.

The second part of this case, however, gives new hope: some of the founding values of the family found acknowledgement in the behavior of the children and endured the difficulties at least until a partial solution of the problems. This came about when the social engagement and corporate social responsibility were put into play. The father's habit of "doing charity" in silence, following old-time Christian ethics, was combined with the desire of one of the children to be engaged as leader of an international solidarity project. In those years there were several proposals for financings to benefit from tax breaks or promotion. That is how, at a meeting of entrepreneurs, a project for

social assistance was presented, based on the family values and not as a mere business project. *"Donating a share of our profits is giving meaning to what we do every day: I have learned this as well from my parents"*. No advertising would be done. In different ways, the family styles and values were perpetuated, thus creating psychological and economic well-being.

10.4.3 Story 3: Flow in the Family, Flow in the Company. The Case of Acquisitions and the Value of Corporate Culture

In the companies, the continued demand for psychic energy necessary to face the adjustments of conduct and organization urged by the state of evolution or crisis within the market, brings the individual to play an active role by committing their own personal resources and skills, pleased with their operations, focusing their attention and increasing their state of well-being and their professional background. Or, conversely, the individual may suffer from the situation, passively performing the duties assigned (in a sort of perpetual state of routine). In the latter case it will not be possible to reach a state of balance, since the person, in the long run, will perceive their ability to face and solve problems as being higher than required (Cesaro, 2011) and are therefore unable to reach the Flow state if not stimulated with new goals to reach. So as to understand the first hypothesis (that of participating actively in the change) we present a letter written by an employee of a company which, after a difficult acquisition, was able to transfer the family values within the organization.

> I gladly remember the first day of work as if it were yesterday. After all, a year goes by quickly but, little as it is, we have seen things change a lot. The key words today are "innovation – novelty – change – evolution – keep up with the times" or rather these represent our owner. Visible changes, starting from the smaller things, up to the real innovations: modern machinery, capable of giving quality and volume in an increasingly competitive market, and improvements on an individual and collective level in a group driven to a greater open-mindedness. The ensemble of all these innovations, represents for us newcomers a strong stimulus for radical change. Not only did the "friend money" contribute to give importance to our daily lives, but it was also important to see growth in a company with the desire to grow. Another key factor in the development of a company is the family, very much felt in this company, but also from mine and I think from all of ours. The family means help, understanding, support, security, future, and so much more that fills the life of each of us. There is one thing I am certain of now: my job which, despite the crisis and the negative aspects of the reality that surrounds us, is what allows us to live, think and act more serenely with an eye on a future with better prospects.

It may also happen that the family has all the features that allow the presence of Flow, thanks to a strong culture of shared values, and is not able to transfer this symbolic system into the company, often due to real contrasts between different cultures as in the case of acquisitions or mergers with other companies, or when economic market

crisis bring the small family businesses face to face with financial problems. The creation of alliances and business networks can help overcome the economic problems but this often drives persons to identity crises that threaten their sense of belonging and, in the long run, the intrinsic motivation for working well. The case comes to mind of a company that had absorbed a competitor, whose owners were members of a family with an equally important history and experience, but with totally different values, style, and languages. This second company was in serious difficulty due to the economic crisis, the internal climate was very tense and communication was limited to operational needs. The relationships between the employees were saddened by personal events, by bereavements and a "lapse" into mere production activities. Relations with the outside world were limited to mutual convenience, to the quality of the product and to times of hard work. Year after year, everything had clouded: the faces of the persons, the walls of the company, and the results of the financial statements. Yet all the family members involved in the organization appreciated and supported each other, though, outside of work, they had made different life choices and chosen different values. They met at the factory, but lost sight each other in everyday life. Perhaps they were incapable of processing their common grief and their difficulties in the market, but most of all they had forgotten how to smile and their juvenile buoyancy. There was simply no communication, and the collaborators had followed them down this road. Selling the company not only had the meaning of saving what could be saved from the point of view of the assets, but it had been an opportunity to be invigorated with a new energy. But initially it was not so: the two different family cultures collided and for a couple of years the relations were agonizing and frustrating. Conflicts and organizational confusion would have worn down the entire system, but for the commitment of the new family in wanting to reaffirm the consistency of the principles and values that characterized it. In this case we have a family with a strong positive affective state. The culture (corporate in this case) can effectively be the shield and the vehicle through which it is possible to protect the members from chaos, reassuring them of their importance and finalizing the success of their actions (Csikszentmihalyi, 1990).

10.4.4 Story 4: Flow in the Family, Flow in the Company. Well-Being Created Also by the Ability to Face and Overcome Grief and Shock.

In the following case we find optimal experience that concerns both the family and the company mainly through the rituals, traditions, and the symbolic system of the family.

> We were all sitting around the kitchen table with the father. In his bathrobe and with the spontaneous smile on his face, hollowed by suffering, his eyes shined as always. The disease had

> worn him out only in the body but the spirit was very strong. We were about to start our meeting to decide the future of that family. The documents and the notary were ready, to ensure the correctness of the decisions made for the future of children and grandchildren. The mother stopped us and asked for a silent prayer: the only embarrassed person was the notary. He wondered about the meaning of such a private and intimate rite in a business meeting. But we knew the importance of rites, those which sanction commitment to the values of that family. The economic wealth of the family was mostly invested in a group of companies where the daily activity involved persons who could feel they were part of a project, a path to which they clung because they shared primarily the values that the family represented. Most of the customers and suppliers had a clear image of the principles, ethics, and the example of that father to whom the children referred, especially in times of difficulty. The climate entailed was predominantly positive.

We recall another case:

> Sadness filled the room. He had died a few weeks before: she had followed him into an entrepreneurial venture made of commitment, sacrifice, and eventually rewards. The young children had completed their studies, and two of them were on the gateway to work, ready to commit themselves and understand if that was to be their path, their enterprise. Then suddenly tragedy struck. We needed the courage to go on: that was what employees, consultants and shareholders hoped for, in profound hard-working silence. There was the history, the culture, the bond with a territory that was small but still original, authentic, that clutched tightly around that family. And that was their starting point. They all worked hard and within a few years they developed a successful activity, starting from the experiences and values of the family and giving expression, within that company, to the heritage of their popular culture. After several years of collaboration we met in those modern, bright, smiling offices: on the wall hung the photograph of that smiling man, a positive example for those children, now "captains" of a vital and generous organization. The deep-rooted origins had drawn their strength from a family renewed by a number of true passions around which everyone recognized themselves.

In this "optimal" case all the elements of Flow were present in the family and by means of clear goals, immediate feedback, a positive affective state and a strong intrinsic motivation it was possible to transfer the optimal experience to the organization as well. The vehicle for this transfer is contained explicitly in the culture, in a strong system of symbols and in the values shared in the family and company, but also in the possibility to feel capable and motivated within the roles and moments of the family, as fathers, mothers and children.

10.5 Conclusions

The case studies reported above suggest that the presence of Flow in one of the two systems, family and company, may affect the other. It is possible that an optimal experience in the family influences the company and vice versa; at the same time the opposite is also possible, that is the lack of Flow can have a negative impact where Flow has never occurred or has occurred in the past and is failing. Another aspect,

implicit in the stories reported, is pointed out: when Flow is present, there is not only a positive correlation with the well-being perceived but also a better economic return and a more relaxed business climate, which helps productivity. The optimal experience, endowed with meaning and source of well-being, brings with it a eudaimonic idea: personal happiness and development of the organization and of the community combine in the direction of *good work* (Gardner, Csikszentmihalyi & Damon, 2002) and *good business* (Csikszentmihalyi, 2004).

References

Blackmore S. (1999). *The Meme Machine*, Oxford: Oxford University Press

Cesaro F. (2004) *Piccoli e scatenati. Formazione, ricerca e consulenza per le piccole organizzazioni.* Milano: Guerini & Associati

Cesaro F. (2012) *L'ho fatto per voi. Storie di aziende famigliari che nascono, crescono e muoiono.* Milano: Guerini & Associati

Cesaro F. & Cancelli, S., (2004), *Gruppi in azione: le piccole aziende famiglia del nord e lo sviluppo della società*, in DIPAV, *Quaderni, Quadrimestrale di Psicologia e Antropologia Culturale*, 11, 71-92

Cesaro F., Bini M. (2011) *Racconti di fabbrica. Narrazioni attorno al lavoro quotidiano.* Milano: Guerini & Associati,

Cole, M. (1996), *Cultural psychology: a once and future discipline*, Cambridge: Belknap Press

Csikszentmihalyi, M. (1990) *Flow. The psychology of optimal experience.* New York: HarperPerennial

Csikszentmihalyi M. (2004). *Good Business: Leadership, flow, and the making of meaning*. New York, NY: Penguin Books

Csikszentmihalyi M. & Massimini F. (1985). On the Psychological Selection of Bio-Cultural Information, *New Ideas in Psychology*, 3, 115-138

Darwin, C. (1859). *On the origin of species by means of natural selection.* London: John Murray

Dawkins, R. (1982). *The extended phenotype.* Oxford: W.H. Freeman & Co.

Dawkins, R. (1976/2006). *The selfish gene.* New York: Oxford University Press

Deci E. L., Ryan R. M. (1985) *Intrinsic motivation and self-determination in human behavior*, New York: Plenum.

Gardner, H., Csikszentmihalyi, M., & Damon, W. (2002). *Good business: leadership, flow, and the making of meaning*. New York: Basic Books.

Inghilleri P. (1995) *Esperienza soggettiva, personalità, evoluzione culturale.* Torino: UTET

Inghilleri, P. (1999). *From subjective experience to cultural change.* New York: Cambridge University Press.

Massimini F. & Inghilleri P. (Eds.). (1993). *La selezione psicologica umana. (Human Psychological Selection),* Milano: Cooperativa Libraria IULM

Massimini F., Csikszentmihalyi M. & Delle Fave A. (1988). Flow and biocultural evolution, in: Csikszentmihalyi M. & Selega Csikszentmihalyi I. (Eds.) *Optimal experience. Psychological studies of flow in consciousness*, New York: Cambridge University Press.

Rogers, D. S., & Ehrlich, P. R. (2008). Natural selection and cultural rates of change. *Proceedings of the National Academy of Sciences of the United States of America , 105* (9), 3416-3420.

Shennan, S. (2008). Canoes and cultural evolution. *Proceedings of the National Academy of Sciences of the United States of America , 105* (9), 3175-3176.
Vygotskij L. (1934/1962). *Thought and language*. Cambridge: MIT Press.

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11 Positive Change and Mentoring in Adulthood

Abstract: As an adult-developmental relationship, mentoring has been investigated with respect to professional development specifically and human development broadly. This chapter's first half discusses mentoring at work, employing a systems perspective to highlight the role of mentoring in positive change. A case is described in which mentoring encourages finding flow at work. The chapter's second half discusses mentoring in relation to individual change more broadly. It examines an individual's movement toward greater personal complexity through mentored engagement in a complex flow activity, the martial art of aikido.

Keywords: Mentoring; Adult development; Flow activity; Complexity; Good Work; Memes; Modeling; Culture; Apprenticeship; Graduate education; Systems perspective; Aikido.

11.1 Introduction

Positive psychology has been guided by a working assumption that positive change is possible throughout life. In addition, it has highlighted the positive roles that other people may play in an individual's life. One kind of interpersonal tie that may contribute to positive change is the relationship between mentor and protégé. ***Indeed, in its essence mentoring*** – like parenting, teaching, coaching ***– is a developmental relationship***.

As others have noted, mentoring has been a persistently fuzzy construct (Merriam, 1983; Haggard et al., 2010). One reason may be the different contexts in which it occurs. Despite "the classical notion of a young person being guided in all aspects of life by an older, wiser person" (Merriam, 1983, p. 169), mentoring often takes place – and has been most extensively studied – within particular contexts: programs serving at-risk youth, graduate/professional education, and the transition to work and/or organizational membership (Allen & Eby, 2007). Regarding many features (e.g., level of closeness), definitions of mentoring disagree. However, there is reasonable consensus that across diverse contexts mentorships are developmental

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relationships that are asymmetrical (the mentor is more experienced), reciprocal (a distant role model is not a mentor), and sustained (a single interaction, however formative, is not a mentorship).

This chapter focuses on mentoring during adulthood, a topic studied extensively in recent years (Allen & Eby, 2007; Ragins & Kram, 2007). For example, catalyzed by Kram's (1985) important study of mentoring at work, researchers have traced the developmental course of mentor-protégé relationships, examined their negative as well as positive aspects, and identified multiple functions that mentors may play for protégés in relation to both their psychosocial and career development. Considerable research has examined the possible benefits of mentoring for the protégé, with greatest attention devoted to the positive academic and professional outcomes associated with being mentored. Increasingly, research also has addressed how mentoring may benefit the mentor and the organization to which the mentor and protégé belong (Tong & Kram, 2012). Mentoring has been ascribed psychosocial benefits for the mentor such as a sense of personal fulfillment, and career benefits such as higher rates of promotion (Allen et al., 2006; Eby & Lockwood, 2005). From an organizational standpoint, more research is needed but mentoring has long been viewed as supporting efforts to integrate new workers, develop leaders, and facilitate generational succession (Kram, 1985).

In the Good Work Project (Gardner, Csikszentmihalyi, & Damon, 2001), a series of interview studies that investigated the conditions of excellent, ethical and engaging work (*good work*) in the professions, mentoring emerged as one possible contributor to good work. However, in contrast to the impact of the mentoring relationship on protégé, mentor, and organization, the literature on mentoring at work has been largely silent on the significance of these relationships for the well-being of the profession in which mentor and protégé work and therefore, indirectly, for the well-being of those served by the profession.

A study of mentoring "lineages" in science (Nakamura, Shernoff & Hooker, 2009) was conducted as part of the Good Work Project's Transmission of Excellence Study. It investigated whether and how mentors play a role in the perpetuation of good work across generations by helping novices learn what good work looks like in their profession and how to do it. The next section describes the evolutionary systems perspective on mentoring that framed the study of scientific lineages and summarizes some of the study's key findings. The second half of the chapter carries forward the theoretical perspective and the focus on adulthood but shifts attention from the role of mentoring in professional formation to its role in positive adult development more broadly.

11.2 Good Work and Good Mentoring in Science

From an evolutionary systems perspective on culture (Inghilleri, 1999; Massimini, Csikszentmihalyi, & Delle Fave, 1988) and creativity (Csikszentmihalyi, 1988, 1999),

culture can be viewed as the aggregate of a society's symbolically encoded information: knowledge, practices, and tools as well as values, norms, and beliefs. A culture is comprised of many specific *domains*: professions, arts, cuisines, technologies, and so on. The basic unit of cultural information was dubbed a "meme" by biologist Richard Dawkins (1976) to underline the notion that like a gene in the biological context, an element of culture – a theory, song, shovel – undergoes processes of variation and selective survival across generations. Applying this perspective to the world of work (Gardner, Csikszentmihalyi, & Damon, 2001), a profession such as science encompasses three interacting elements: the domain, person, and field. The cultural *domain* (e.g., scientific concepts, instruments, values, findings) evolves over time. The *individual* in his/her role as student and later practitioner masters the domain and contributes to it (e.g., presents theory or results). The social *field*, the community associated with the domain, preserves or transforms the domain's contents. Most notably, its gatekeepers elicit and judge contributions to the domain and also transmit the domain to the next generation. In the field of science, the former include funders, journal editors, faculty search committees; the latter include textbook writers, teachers – and *mentors*.

Mentors have traditionally been thought of in terms of the functions that they serve for the protégé (primarily psychosocial and career support; Kram, 1985). But they can also be thought of in terms of the memes that they selectively make available to their protégés and the means by which they make them available.

In many lines of work, including the sciences (Zuckerman, 1977), self-conscious lineages or lines of descent exist. In the study described in this section, semi-structured interviews were conducted with 36 members of three "mentoring lineages" in science. The "heads" of the lineages were senior scientists identified through research and by experts in their field as exemplars of the two manifest dimensions of *good work* as defined by the Good Work Project (the third, subjective dimension of good work is workers' experience of meaningful engagement.) That is, the lineage heads' work was regarded as high in quality (excellence) and they had reputations for scientific integrity and responsibility (ethics). Further, their labs had produced many active scientists. In each lineage, we interviewed the lineage head (Generation 1, or G1), scientists who had trained with the lineage head (i.e., Generation 2s or G2s), and scientists who had trained with these former students of the lineage head (i.e., Generation 3s or G3s).

11.2.1 Mentors' Memes

In terms of memes, quantitative and qualitative analysis showed that several practices and guiding values essential to good work, notably honesty and integrity in research and fair and equal treatment of others, were discussed by all three lineage heads. Moreover, these "good-work" memes tended to be absorbed by all three lineage

heads' students, who in turn tended to hand the values and practices down to their own students. Values such as honesty typically are acquired (or not) prior to adulthood. However, a newcomer to a profession may not know how these basic values translate into professional practice; for example, the handling of data or the reporting of results.

Alongside these shared "good-work" memes were lineage "signature" memes. That is, each lineage head embodied a different variation of good work. Excellence and responsible practice were given distinctive expression by each of them, understandable in terms of factors such as background, personality, and priorities. There is not just one way to do good work. Stated broadly, one of the lineage heads put greatest emphasis on the relation to the domain; one, the relation to the field; and one, the relation to the wider society. Furthermore, some distinctive memes were embodied but not endorsed by mentors; and some memes were absorbed by students while others were not.

To illustrate, an eminent cell biologist, Joseph Gall, was viewed by former students as a paragon of integrity and fairness – good-work memes – like the other lineage heads. For example, his lab became a haven for talented female students at a time when women in science were still relatively uncommon and many were encountering discrimination. In terms of his signature memes, he was distinguished in part by an unswerving focus on the research process itself, which he had loved since childhood. Many scientists of all generations in all three lineages mentioned their intrinsic motivation as scientists but only in Gall's lineage did the mentor tend to be described as strongly reinforcing this focus on the relationship to the domain. As in the other lineages, some of Gall's signature memes could be traced across generations, while other practices (e.g., neatness) and personal qualities (e.g., reserve) were not emulated by mentees.

In addition to exemplifying good work, Gall provides an example of the organization of a life around flow (the experiential state of full absorption in an ongoing activity; Csikszentmihalyi, 1990), under conditions – the elite ranks of science – that can undermine intrinsic motivation. Whereas many scientists step away from the lab bench when they become highly successful, Gall's daily conduct and larger career decisions continued to be guided across adulthood by his love of the hands-on work of science. As he put it, "enjoying the process of doing the science as opposed to being focused only on the goal is very important." The terms in which he described his work capture his intrinsic motivation: "awe and wonder," "so enjoyable," "it's just beautiful," "something new every day," "pleasurable." A former student described Gall's reluctance to leave the bench to take a phone call letting him know that he had received a prestigious honor. His comments make clear that research has been for him a flow activity. Indeed, when Gall described his work, he noted his "ability to concentrate, not to be distracted" and observed that he may be "very disconcerting to other people in the degree to which I can concentrate on something and not pay too much attention to what's going on around me."

11.2.2 Mentors' Means of Influence

In addition to the question of *what* was perpetuated across generations, the study addressed *how*, behaviorally, mentors were perceived as having an effect on mentees. The topic has been given comparatively little attention in research on mentoring at work. The sciences are like traditional arts, crafts, and trades, in the sense that much of the learning takes place through lengthy apprenticeship and relies on the action of the mentee – it is learning by doing. This key feature should be kept in mind as the overarching context in which the mentoring studied took place. All apprenticeships do not become mentorships. Indeed, graduate advisor-advisee relationships hold the potential for both exploitation and neglect. However, they are of interest in the study of positive development because the extended relationship and guided participation (Vygotsky, 1978) that define learning by apprenticeship create rich opportunities for mentoring relationships to form and to catalyze enduring change. This is consistent with developmental research that implicates other long, immersive engagements – military service, good marriages – in lasting psychological change during adulthood.

Three means of influence within these apprenticeships recurred in the lineage heads' and mentees' interviews: *informal talk*, *serving as a model*, and *shaping the environment* so that it extended the mentor's own direct influence. *Informal talk* was a means of mentoring for all three lineage heads. However, it was less salient than one might expect given the conventional image of mentors as sources of guidance and counsel. Instructing, directing, and close Socratic questioning were not mentioned frequently by the lineage heads. Exhorting, prescribing, and scolding by all accounts were absent from their interactions with mentees. The primary forms of talk ranged from task-focused dialogues about the student's work, to wide-ranging group discussions; the conversations tended to have expressive as well as instrumental functions.

Modeling appeared to be a more pervasive mode of influence. To a great extent, the lineage heads described, and were described as, affecting mentees through example. The majority of mentees reported that observing and emulating the lineage head was an important means by which they had learned. In the lineage heads' case, modeling and conversation were mutually reinforcing—two means by which the same memes were communicated. It may in general be most effective when mentors use modeling and conversation together, enacting the values and practices they endorse and making tacit lessons explicit through comments.

The lineage heads also described deliberately *creating environments* that were positive developmental contexts. They did so by shaping the physical environment, the culture, and the social system in which their mentees worked. The importance of this cannot be overstated. When learning occurs through apprenticeship, the mentee is typically immersed over a long period of time in the microcosm – the small world – of a lab, studio, or workplace (cf. Gallimore, John-Steiner, & Tharp, 1992). The environments created by the lineage heads *complemented* their own direct impact: novices absorbed technical knowledge and skills from "step-ahead peers,"

individuals possessing greater experience yet not so advanced that they could not be emulated (cf. Vygotsky, 1978). The environments also *amplified* the lineage heads' direct impact: their ethos and structure embodied the mentors' values.

As was true of the memes that the lineage heads embodied, the means they employed were three variations on a theme. There appear to be different ways of mentoring well, just as there are different ways of doing good work. For example, Joseph Gall fostered an environment that was quiet, harmonious, and "nice" whereas another environment was characterized by high energy and constant interaction. Gall placed greatest emphasis on providing a model for his students. He observed, "I think my major function is to work with [students] enough that they see how I work." Former students echoed this view of his approach to mentoring, and appreciated the way of life that he modeled: "He was obviously having a good time doing what he was doing, and he made it look like a very good life."

11.2.3 Additional Features of Mentoring Relationships in the Lineage Study

Considerable research on mentoring has examined the quality and characteristics of mentor-protégé relationships. Among the scientists in the lineage study, the quality of the relationship with the primary mentor, as conveyed in the interview, was strongly associated with the number of memes ascribed to the mentor. Mentee descriptions of the most positive relationships indicated that the mentors were perceived as providing multi-dimensional support. For example, one important aspect of support at this advanced level of training in science was the mentor's balancing of intellectual freedom and guidance. Details varied across relationships but the common theme was that students received both the freedom to pursue their research and input from the mentor when it was needed.

Several additional factors that emerged in the lineage study are essential to mention, from the standpoints of both theory and practice. They temper any impression that the mentoring typically entailed a process of radical transformation. Further, they dispel any impression that professional formation is a unidirectional process – an impression that might be created by the evolutionary systems perspective on professional formation adopted here, with its emphasis on the transmission of culture down the generations and its valorizing of the survival of a profession's defining mission (e.g., patient care, student learning, advance of knowledge) and principles of conduct (e.g., professional integrity). These additional factors are selection and affinity, and mentee agency and initiative.

The lineage study focused on the influence of the mentors' memes on subsequent generations. At the same time, mentor and/or mentee sometimes chose the relationship based on preexisting affinities. For instance, Gall tended to select students with a love of science, avoiding potential advisees whose orientation was careerist. As a mentor, he thus was reinforcing students' preexisting intrinsic motivation and

assuring by example that it is possible to have a successful career in science without chasing after success; he was not typically instilling a love of science in extrinsically motivated students.

In addition, although the lineage study focused on the ways that mentors influence mentees, there were multiple ways in which mentees played an active role in these relationships. For example, many mentees had sought out their mentors, although not always for the qualities they would later emulate. Mentees initiated conversations when they needed guidance. They actively attended to and emulated their mentors and step-ahead peers. Although some mentees identified memes that they had absorbed unconsciously (e.g., mentoring practices), others described actively accepting some of their mentor's memes and deliberately rejecting other memes. They described combining the influences of multiple mentors, integrating what they were absorbing with their own preexisting preferences and dispositions, and consciously disavowing the negative example of "anti-mentors" they encountered. All these processes highlight the agency of the mentee. They may lead to the emergence of new memes and in any case contribute to formation of the mentee's distinctive set of memes.

The lineage study adopted an evolutionary systems perspective on mentoring in the professions. The perspective helps illuminate the contribution of mentoring to continuity and change in a profession's values, practices, and other memes. Of particular interest are memes that safeguard good work in the profession across generations as conditions in the profession change. The second half of this chapter turns from mentoring during the transition to work and professional formation, to mentoring that affects an individual's development more broadly.

11.3 Mentored Development in a Complex Flow Activity

The canonical image of non-work mentoring in adulthood may be the relationship with an older individual (a relative, neighbor, former coach or teacher) who offers practical wisdom (Schwartz & Sharpe, 2006) or provides a model regarding the navigation of life in general. Non-work mentoring was addressed in early discussions of mentoring in adulthood (e.g., Levinson, 1978; Vaillant, 1977) and continues to be a focus of research on youth mentoring (Rhodes & DuBois, 2008), but the topic has not been central to recent theory and research on mentoring and adult development. Yet it brings together two central concerns of positive psychology: the conditions of significant positive change and the constructive role that others play in people's lives.

The study of lineages in science examined mentors' "meme pools" and the larger cultural domain of science in terms of variants of good work and shared versus signature memes. Another feature of cultural domains is their *complexity,* or degree of internal differentiation and integration. Pertinent here, the complexity of a domain may affect its capacity to promote positive change at the individual level (Inghilleri,

1999; see Csikszentmihalyi, 1999, for a discussion of the opportunities for change at the cultural level that are associated with a domain's complexity). The more complex a domain, in theory the greater the developmental opportunities it contains and the more important mentoring becomes. The experiential model of optimal development (Rathunde & Csikszentmihalyi, 2006; cf. Csikszentmihalyi, 1990) suggests that movement toward higher *psychological complexity* is favored when optimal experience (i.e., flow) is able to serve as the selective mechanism determining an individual's allocation of attention and use of time. Thus a logical place to study optimal development is in cultural domains with which individuals freely choose to engage.

This section draws attention to mentoring in what might be called the *third commitments* of adult life. These are life domains that hold a place in some individuals' lives alongside adulthood's two normatively primary commitments, work and family. Common third commitments are religious or spiritual activity, civic engagement, and leisure. One feature of third commitments is that unlike paid work, they are not as a category defined by extrinsic rewards and expectations. The profession of science, the focus of the first half of the chapter, has tended to attract individuals who find their work intrinsically as well as extrinsically rewarding (Gardner, Csikszentmihalyi, & Damon, 2001) but many occupations do not. Third commitments are likely to better illuminate the relationship between positive experience (here, flow) and mentored development. We examine a longtime practitioner's account of mentored development in his third commitment, the Japanese martial art of aikido. The case comes from a set of interviews with serious aikido practitioners (*aikidoka*) in the U.S. that explored their experiences as students and/or mentors. The interviews were conducted as part of the Transmission of Excellence Study.

The first half of this chapter adopted a mentor-centered perspective in order to examine the effects that exemplars of good work have on their mentees. To illuminate the role of mentoring across the unfolding of an individual's developmental path, this half of the chapter shifts to a protégé perspective. This half of the chapter, like the first, considers mentoring that is tied to a specific cultural domain and takes the form of master-student apprenticeship. An evolutionary systems perspective is again adopted. Given the relative lack of research on this kind of mentoring, rich description is presented.

11.3.1 Aikido as a Complex Flow Activity

Aikido is a martial art that originated in Japan during the 1920s and 1930s, and following World War II diffused to Europe, the U.S., and elsewhere. As developed, practiced, and taught by its founder, Morihei Ueshiba (1883-1969), aikido is one example of a *complex* cultural domain. It is a martial art yet its goal is social harmony, it integrates mastery of a tradition and creative self-expression, and it is a physical practice meant to train the mind/spirit as well as the body and harmonize (integrate) them.

The martial arts are thought to afford opportunities for flow in daily life (Csikszentmihalyi, 1990) and for positive individual change over time (Saotome, 1989). The following description of a black belt test, based on the accounts of multiple observers and the student himself, illustrates the experience of flow in the practice of aikido:

> [T]he speed and intensity of the attacks increased, and yet there was still a general sense of time's moving slowly, at an unhurried, dreamlike pace.... [He] was beginning to get the feeling that he was not "doing" anything at all, that the movements of his body were "just happening" without thought or effort. The exam continued in this spirit, like a long, hypnotic phrase of music.... He experienced no effort or strain whatever.... He had no question that he would be hit or trapped. If need be, he could go on forever.... (Leonard, 2006, pp. 91-93)

Based on theoretical discussions of complexity and human development (Rathunde & Csikszentmihalyi, 2006), we can expect that the possibilities for positive change through participation in a flow activity will be greater and their duration longer the more complex the activity is – if the novice's engagement with this complexity is scaffolded in some way.

In martial arts such as aikido, master aikidoka and the schools (dojos) they establish provide this scaffolding. Development originally took place through immersion in a long-term, residential, master/apprentice relationship. This relationship embedded the novice in a community of practice and a self-conscious lineage. In the latter respects it resembles the mentoring in graduate science education discussed earlier. Physical practices such as aikido also bring into perspective a characteristic of all cultural domains: their intergenerational persistence depends heavily on their embodiment in human carriers.

11.3.2 Aikido and the Growth of Vital Engagement

The U.S. aikidoka on whom this section focuses had been training intensively and teaching, alongside a full-time job, for more than two decades. His dedication had led him to be singled out by his teachers ("I was always there, all the time"). He summarized: "I've always had people that I could watch and learn from, who gave me a model not only technically, gave me a feel for what the technique was like, but gave me models about aikido in general; as a technical art, as an interaction between various people, as a teaching art, as a creative art." He has had three mentors, all Japanese, and continues to think of them as his teachers. The most senior (Generation 1; hereafter, G1) had been a full-time, live-in apprentice (*uchi deshi*) of the founder of aikido (G0 in the lineage). The other two were senior students of G1 who had followed him from Japan (hereafter, G2a and G2b). One of them (G2a) was this aikidoka's first mentor but left aikido a few years after the aikidoka began studying with him, leading to the latter's assumption of teaching responsibilities after only four years of training. Over time, the relationships became "very close," characterized by mutual trust.

The aikidoka's commitment to this cultural domain appears to have evolved over time. By his account, the origin of his commitment was simple: "It really fascinated me." Having been brought along to a class by his brother, "something appealed about it and I just kept doing it. And I never really sat down and analyzed, 'Why am I doing this?'" His first mentor (G2a) influenced him less through his teaching than his stance toward aikido: "it was his attitude of how important it was to him that convinced me that it could be important." He remains fascinated, two decades later: "'*What are you going to do today?*' …. 'The same thing I did yesterday.' '*When are you going to stop doing that?*' 'When it stops being interesting.'" Of his current, increasingly self-directed practice he ventured: "What fascinates me, *I think,* is being able to take anything that I run into [e.g., a book, a museum exhibit] and bring it here and explore it…. It never gets boring." His goal is "development, continued development." Of aikido, he suggested that "training as a path to improving yourself is the core to it." In his view, aikido's value is that of the monastic traditions generally: "Simple work every day, and your mind on something higher than yourself."

It appears this aikidoka followed one of three logically possible paths to a life organized around a vital engagement – a source of both absorption (flow) and meaning (Nakamura, 2001). His path began in initial fascination with the activity itself, to which meaning then accrued. Alternatively, vital engagement with a domain might begin purely because of its perceived importance. Or, from the start it might be perceived as both important and enjoyable. The aikidoka's goals for his students are consistent with having come to be vitally engaged with aikido: "The most important thing that you can give them is a desire to do it. If you can convey a sense of how valuable it is, and how enjoyable it can be, that's all [they need]. If you give them that, the rest of it they'll do."

11.3.3 The Mentored Development of Complex Capacities for Action

Movement toward an increasingly complex self-environment relationship occurs through engagement with more and more difficult challenges in a domain (Rathunde & Csikszentmihalyi, 2006). In this aikidoka's account, development in aikido requires commitment to many years of consistent practice, and keen attention to the models provided by mentors.

In terms of *memes* absorbed, the aikidoka closely studied and emulated G1's movements, which he admired: "It's beautiful… He [G1] can control everything that's going on and make it look effortless." G1, the aikidoka reasoned, had internalized the movements of the founder himself. He absorbed G1's commitment to creativity, and G2b's commitment to disciplined work. As already noted, early in his training he absorbed from his first mentor (G2a) a view that aikido has value. The "idea of openness," discussed shortly, was associated with G1, whose posture and movement

embodied it. In addition, both G1 and G2b were models of continued development, "always working on something."

In terms of *means of mentoring*, the aikidoka was not taught aikido by G1 and G2b as a highly codified basic "skill set" that cannot be changed; "I don't know that I would have stayed if I was taught that way." While recognizing that some individuals are comfortable formalizing and teaching what they know without change, he characterized this as a kind of stagnation that he would find "boring" as student or teacher. This said, he makes clear that his "learning mode" was markedly different prior to the past 5 or 6 years. Until then, it was "Be with your teacher, learn the technique, develop your skills, listen, steal everything you can, absorb everything you can." To a significant degree, he perceived development in aikido as technical and dependent on the mentee's willingness to "grind."

Comparison with apprenticeship in the science lineages is instructive. As a physical practice originating in Eastern culture, the importance of modeling and direct experience is even greater in aikido and as such the Japanese mentors' use "talk aimed at you" less. Developing involved getting "a feel" or tacit sense through extended, close watching and through doing. A developmental meme that the aikidoka absorbed from G2a was to be proactive as a student, like the apprentice consigned to sweeping the floor in an artist's studio. He was told by G2a, "Don't expect them to give it to you; steal it." In terms of the balance of challenge and support provided by his mentors, the early experiences appear shaded toward challenge. G1 could be "very severe.... intimidating." A developmental meme that his students reported absorbing from the aikidoka was "take feedback seriously but not personally."

In the science lineages, mutual selection contributed to successful mentorships. The aikidoka counseled recognizing and avoiding harmful mentors as a part of selection – "You should evaluate that before you start." However, "if someone fascinates you, then if they say, 'We're walking this way,' then we're walking this way for a while." That is, trust is an essential foundation of mentored development: "you have to trust them and you can't judge."

He was conscious that he absorbed distinct but complementary memes from the three mentors ("you get a little bit from all of them") due to differences in personality, priorities, and length of experience. He echoed the novice scientists who learned differently from step-ahead peers and from their advisors: "when I first saw [G1], he was so much better than we were that we had no idea what he was doing" – the complexity of his motions was too great – whereas with G2b it was more possible to "see the process."

To return to the notion of development as growth of psychological complexity, the aikidoka provided a vivid description of the increase in complexity through differentiation and integration modeled by his mentors. He saw them "physically take an idea" and work on it for two or three years; he watched it subtly change over time; eventually he saw it get fully internalized. A measure of its integration was that it would "disappear."

Finally, training methods were among the memes that the aikidoka absorbed from his mentors. His mentors' teaching practices not only influenced him directly, as a student, they also became examples for him as a teacher. In the same way, many of the scientists in the earlier lineage study both consciously and unconsciously emulated facets of their mentors' approaches to mentoring when they had students of their own. The aikidoka felt he had integrated ("welded together") distinctive aspects of his mentors' approaches as teachers. He expects students to train hard and become technically proficient – "able to demonstrate clear, beautiful technique." His students are perceived by others as "serious," "kind of severe," with "a little bit of an edge" – terms he applied to G1 and to himself earlier in their respective aikido careers. As noted, over the many years of their relationships, the aikidoka could see his mentors' demonstrations evolve as they continued to explore and develop; he has been determined to do the same ("stay fresh") as a teacher.

In at least one respect, the aikidoka has modified what he experienced as a student. Like his mentors, he eschews "telling people how to do a technique" ("put your foot *here*"). However, he talks more, not to tell his students what to do step-by-step but to draw on his explorations and offer students an idea or image verbally along with demonstrating a movement. His development as a practitioner has contributed to his teaching. The reverse is also true. Through showing and telling rather than following tradition and demonstrating without commentary, his own understanding has developed: "if I wasn't challenged to try to figure out how to explain it, I don't know if I'd understand it as much."

11.3.4 Integrating Power and Gentleness

A conversation with the aikidoka's original mentor (G2a) 5 or 6 years earlier had catalyzed a qualitative change in his approach to aikido. This kind of input from a mentor may be especially important developmentally. His former teacher told him that if he did not make the practice his own, he was wasting his time; "I had to find something that I wanted to do, and do it." Whereas previously he had focused on emulating his mentors, he began to focus on "working on his own stuff." In contrast to his earlier approach, "Now it's more digesting and developing what you stole." His current view is that "there has to be something of you in it"; it should be "artistic in a creative sense." G1 is again a model. In the aikidoka's view, disciplined work is the necessary foundation for creativity, as it is for visual artists (Csikszentmihalyi & Robinson, 1986).

Previously, his style "was much more rigid and much more aggressive than it is now"; his training focused on conditioning, physical toughness, and hard throws. For 5 or 6 years, while also exploring other questions in his practice (What does it mean to be fluid? What does it mean to be an art?), he has tried to learn if it is possible, physically, to be simultaneously powerful and gentle. The trigger event was an experience adjusting his interactions on the mat to take care of a disabled partner

and then wondering if the gentleness could be generalized to any attacker. Given the severe style he had cultivated, this meant experimenting physically with restraint, openness, and gentleness of technique while maintaining its martial quality ("we're not dancing"). There is clear, immediate feedback in these efforts: when he succeeds in being "powerful" but "soft," he can press someone large into the ground and they smile at him. In his view, positive change is "real" only if it can be enacted on the physical plane; development occurs "from the outside, in." He described his efforts to achieve greater physical openness as "difficult," "dramatic," and "very personal." He is pursuing "his own stuff"; at the same time, G1 in particular is a model of the integration of power and openness in his own technique and posture. Further, this integration of opposites is fundamental to the philosophy of aikido. Leonard (2006) suggested that the flow experience he had observed was a manifestation of this characteristic of aikido:

> The genius of Aikido is to transform the most violent attack, by embracing it, into a dance, and it was the essence of dance we saw there on the mat – neither powerful nor delicate, neither destructive nor creative, neither masculine nor feminine, but all such seeming opposites connected and drawn to a point of balance. (Leonard, 2006, p. 92)

This extended example has described one way that mentored engagement in a "third commitment" can provide a sustained source of flow and meaning, and a pathway to greater psychological complexity. Other developmental pathways and other roles for mentoring can be envisioned both within aikido and beyond it. In closing, we examine one set of general implications from the case study.

11.3.5 Forms of Complexity

In the previous section, the domain of aikido was selected in part because of its complexity, and the need for mentoring in the face of complexity was a focus. One conceptual yield of examining this case in detail concerns differentiation of the concept of complexity in mentored development. The aikidoka's case suggests the following types of complex domain. In *simple complexity* a cultural domain integrates a graduated set of increasingly demanding challenges. Interaction with the domain can lead to the growth of a skill or integrated set of skills, accompanied by the optimal experience of flow (Csikszentmihalyi, 1990). The dynamic is described as movement up a flow channel between excess challenge (producing anxiety), and inadequate challenge (producing boredom). This "simple" complexity describes a wide range of domains. As Csikszentmihalyi has observed in the example of chess, complex and culturally valued domains of this kind contain developmental promise but also an inherent developmental risk. They may be so complex that they can be a source of enjoyment and the organizing focus of a life for years as the individual acquires, refines,

and integrates increasingly high levels of skill. Their challenges, however, may be finite; if they are exhausted, the individual can be left with the existential dilemma of feeling there is, so to speak, no place left to grow. In the aikidoka's account, for many years his efforts were organized by the goals of developing technical mastery and gaining an increasingly refined "feel" for the art. His account suggests that at his level of mastery, boredom is a greater threat than anxiety and increasingly the challenges he engages are self-generated.

In an extension of simple complexity that might be called *multiplied complexity,* the fullest form of an activity intrinsically contains two or more fundamentally distinct sets of challenges, each itself characterized by a graded set of opportunities for action (i.e., simple complexity). Mastering the activity requires mastering distinct sets of complex challenges and integrating them. An example is biathlon; athletes must learn to both ski and shoot, as well as to coordinate the two. Compared to an activity characterized by simple complexity (e.g., skiing or shooting alone), developmental opportunities are multiplied in activities of this kind, as are possible developmental trajectories. Development can still be summarized as movement up a single flow channel (one grows as a biathlete), but one can also envision sequential trajectories or switches between trajectories, with a higher-order set of challenges related to integrating distinct developmental processes, capacities, and performances. In the aikidoka's case, his approaches to both learning and teaching became more complex over time, he perceived gains in his practice and his teaching as mutually beneficial, and each mentor provided models of both learning and teaching. Although in these ways the two sets of action opportunities were harmoniously interwoven, teaching contained unique challenges and as a teacher he consciously deviated from the practices of his mentors. In other domains characterized by multiplied complexity there might be less integration and mentors might be influential in other ways. Thus, while this distinction between simple and multiplied complexity in practice sometimes may blur, it has the value of suggesting new questions concerning possible developmental trajectories and the mentor's role in supporting them.

Finally, in *dialectical complexity* an activity requires integrating two sets of challenges that are not just different – they are inherently in tension or indeed in opposition. Enhancing one of them would seem to undermine the other. Consider one example, the challenge of maintaining "disinterested interest" as a professional (Hughes, 1963). Good work in medicine, law, or education requires passion, which encourages full and sympathetic engagement with a patient, case, or student. Concurrently good work requires dispassion, which enables impartial exercise of expert judgment. Dialectical complexity entails integrating the two in professional judgment and action. One both steps in, and steps back. Dialectical complexity further expands the developmental possibilities held by domains. It also raises new questions about the developmental paths presented by cultural activities, such as the question of what kinds of internal and external resources may be required in order to be both passionate and dispassionate, as in the example above. We have been considering mentoring

as an external resource. For example, mentors may encourage engagement of qualitatively different forms of complexity (G2a's urging to integrate tradition and creative self-expression); they may show through their own embodied example that dialectical complexity is possible (G1's manifestation of openness and power). Concerning internal resources, the concept of complex personality (Rathunde & Csikszentmihalyi, 2006) mirrors this form of cultural complexity, suggesting that to transform a cultural domain (i.e., to create), an individual must have the capacity to function in two opposed ways (e.g., to think divergently and convergently) and the metaskills to move between them.

Some cultural activities evolve to possess all three kinds of complexity. The martial art of aikido has provided one example. As detailed in earlier sections, growth of technical skill illustrates "simple" complexity and the concurrent roles of learner and teacher, multiplied complexity; the integration of power with gentleness illustrates dialectical complexity. To draw one example from the sphere of work, investigative journalists must maintain disinterested interest (dialectical complexity), master and integrate skills of inquiry with skills of communication (multiplied complexity), and hone each set of skills to a high level (simple complexity).

Complex *flow* activities are more likely to survive and more likely to lead to psychological growth than complex activities that do not tend to promote flow. Insofar as the rewards of experiencing flow introduce intrinsic motivation for individuals to stay involved and to keep moving toward increasingly complex levels of activity, in this way cultural evolution is affected by *psychological* selection (Csikszentmihalyi, 1990; Massimini et al., 1988; Massimini & Delle Fave, 2000). However, complex systems of all kinds, including cultural domains, are vulnerable to a tendency to break down into more elemental forms. This fragility may be greatest for dialectically complex domains, which integrate across apparent opposition rather than only difference. Dialectical complexity is neither obvious to pursue nor easy to achieve.

Aikido again illustrates this point. A survey of aikido practitioners in Japan and the U.S. about the meaning of aikido (Dykhuizen, 1996) showed that in the process of diffusion, the physical component of the domain was transmitted with greater fidelity than the philosophical or spiritual component. Our interviews suggest that the heads of some U.S. dojos foregrounded the physical practice while heads of others foregrounded the philosophical principles; heads of some likened aikido to dance while heads of others likened it to combat training. To the extent that students in these dojos learn by diligently emulating their mentors, one would anticipate evolution toward distinct and less complex traditions within aikido, carried by distinct mentoring lineages. Because each variant retains a pathway to increasing (simple) complexity, it may remain an attractive source of flow and personal growth for self-selected students. Thus, the influence of individuals like this aikidoka's mentors, who model and encourage the integration of apparently opposed capacities, may be particularly critical to the intergenerational survival of dialectically complex cultural forms.

11.4 Conclusion

The first half of this chapter offered a model of mentoring at work that extends traditional models by focusing on what is transmitted and how. The model foregrounds the role of mentoring in the selective survival and transformation of the cultural domain that defines a profession. The society served by a profession relies on the survival – and evolution – of the memes that support good work. Lineage research suggests that mentors play a role in this process of cultural continuity and change by influencing the development of the next generation.

The second half of the chapter turned to mentoring in one of life's "third commitments," in order to address the role of mentors in positive change more broadly. Pursuits to which adults regularly devote significant time despite the absence of extrinsic rewards may be the clearest examples of the ways a cultural domain fosters individual development during adulthood. An extended case example provided a detailed account of how the complexity of a cultural domain affects the possible paths to greater psychological complexity, and the roles that mentors may play along this path. Analysis of the case suggested that a cultural domain may be dialectically complex and when it is, the opportunities for personal growth are amplified. Mentors may encourage and embody the integration of apparent opposites and create environments that foster dialectical complexity. Alternatively, they may cultivate the realization of one pole of the dialectic. Mentors thus may play a crucial role in the intergenerational preservation or dissolution of dialectical complexity.

Future theory and research might seek to identify other key characteristics of cultural domains that affect the opportunities for positive change they afford and the role of mentors in engaging these opportunities. It might also examine systematically the mechanisms by which mentors encourage movement toward greater psychological complexity.

References

Allen, T. & Eby, L. (Eds.). (2007). *The Blackwell handbook of mentoring: A multiple perspectives approach*. Oxford, U.K.: Blackwell Publishing.

Allen, T.D., Lentz, E., & Day, R. (2006). Career success outcomes associated with mentoring others: A comparison of mentors and nonmentors. *Journal of Career Development, 32,* 272-285.

Csikszentmihalyi, M. (1988). Society, culture, and person: A systems view of creativity. In R.J. Sternberg (Ed.), *The nature of creativity* (pp. 325-339). New York: Cambridge University Press.

Csikszentmihalyi, M. (1990). *Flow*. New York: HarperCollins.

Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R.J. Sternberg (Ed.), *Handbook of creativity* (pp. 313-335). Cambridge, U.K.: Cambridge University Press.

Csikszentmihalyi, M., & Robinson, R.E. (1986). Culture, time, and the development of talent. In R.J. Sternberg & J.E. Davidson (Eds.), *Conceptions of giftedness* (pp. 264-284). New York: Cambridge University Press.

Dawkins, R. (1976). *The selfish gene*. New York: Oxford University Press.

Dykhuizen, C.J. (1996). *Aikido: A comparative inquiry into cultural context and the practice, meaning, and perceived outcomes of training*. Unpublished doctoral dissertation, Kent State University, Kent, OH.

Eby, L.T., & Lockwood, A. (2005). Protégés' and mentors' reactions to participating in formal mentoring programs: A qualitative investigation. *Journal of Vocational Behavior, 67,* 441-458.

Gallimore, R., John-Steiner, V.P., & Tharp, R. G. (1992). *The developmental and psychological foundations of mentoring.* Unpublished manuscript.

Gardner, H., Csikszentmihalyi, M., & Damon, W. (2001). *Good work.* New York: Basic Books.

Haggard, D.L., Dougherty, T.W., Turban, D.B., & Wilbanks, J.E. (2010). Who is a mentor? A review of evolving definitions and implications for research. *Journal of Management, 37,* 280-304.

Hughes, E.C. (1963). Professions. *Daedalus, 92*, 655-668.

Inghilleri, P. (1999). *From subjective experience to cultural change*. Cambridge, UK: Cambridge University Press.

Kram, K. E. (1985). *Mentoring at work*. Glenview, IL: Scott, Foresman.

Leonard, G. (2006). *The silent pulse.* Layton, UT: Gibbs Smith.

Levinson, D. J. (1978). *Seasons of a man's life*. New York: Knopf.

Massimini, F., Csikszentmihalyi, M., & Delle Fave, A. (1988). Flow and biocultural evolution. In M. Csikszentmihalyi & I. Csikszentmihalyi (Eds.), *Optimal experience* (pp. 60-81). Cambridge, UK: Cambridge University Press.

Massimini, F., & Delle Fave, A. (2000). Individual development in a bio-cultural perspective. *American Psychologist, 55,* 24-33.

Merriam, S. (1983). Mentors and protégés: A critical review of the literature. *Adult Education Quarterly, 33,* 161-173.

Nakamura, J. (2001). The nature of vital engagement in adulthood. In M. Michaelson & J. Nakamura (Eds.), Supportive frameworks for youth engagement. *New Directions in Child Development*, *93,* 5-18.

Nakamura, J., Shernoff, D., Hooker, C. (2009). *Good mentoring.* San Francisco: Jossey-Bass.

Ragins, B.R., & Kram, K.E. (Eds.). (2007). *The handbook of mentoring at work: Theory, research and practice*. Thousand Oaks, CA: Sage.

Rathunde, K., & Csikszentmihalyi, M. (2006). The developing person: An experiential perspective. In R.M. Lerner (Ed.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (pp. 465-515). New York: Wiley.

Rhodes, J. E., & DuBois, D. L. (2008). Mentoring relationships and programs for youth. *Current Directions in Psychological Science, 17,* 254-258.

Saotome, M. (1989). *The principles of aikido.* Boston, MA: Shambala.

Schwartz, B., & Sharpe, K. (2006). Practical wisdom: Aristotle meets positive psychology. *Journal of Happiness Studies, 7,* 377-395.

Tong, C., & Kram, K.E. (2012). The efficacy of mentoring: Benefits for mentees, mentors, and organizations. In J. Passmore, D. Peterson, & T. Freire (Eds.), *Wiley-Blackwell Handbook of the psychology of coaching and mentoring* (pp. 217-242). Hoboken, NJ: Wiley.

Vaillant, G. (1977). *Adaptation to life.* Boston: Little, Brown.

Vygotsky, L. (1978). *Mind in society.* Cambridge, MA: Harvard University Press.

Zuckerman, H. (1977). *Scientific elite: Nobel laureates in the United States.* New York: Free Press.

Wendy Fischman, Lynn Barendsen

12 Positive Change and Quality of Time in Daily Life

Abstract: This chapter focuses on the relationship between "quality" and "time" and how individuals define "time well spent" and use it to bring about optimal experiences in their personal and professional lives. In describing our findings, we report on both qualitative and quantitative data collected over five years, from individuals in seven different countries. At the end of the chapter, we discuss how we are using our findings to create applications of our work, as well as some general lessons about how we as individuals might incorporate these findings into our own lives.

Keywords: Time; Quality; Optimal experience; Applications; Lessons.

12.1 Introduction

The phrase "Wish not so much to live long as to live well" can be found in the Poor Richard's Almanac, compiled by Benjamin Franklin more than 250 years ago. Interestingly, many of the phrases in this document relate to the theme of time. This particular phrase raises an interesting question: is it better to live long, or live well? What does it mean to live well? What is a "quality life?"

In 2008, the Good Project[6] launched a study to explore the concept of ***Quality***[7]. We were curious about the meaning of quality, how people judge quality, and if modern technology influences how people think about quality. In other words, does the ability to do things quicker or with more information change the notion of quality? In our study, we sought to understand how individuals with unprecedented access to resources and efficiencies think about the quality of personal belongings, consumer experiences, work, and time. By asking what quality looks like, when it matters, and what experiences shape how people characterize excellence, we wanted to understand the meaning and value individuals in contemporary societies attribute to quality.

When we first began our research, we predicted that individuals would define quality in terms of objects and services. We thought that individuals would list criteria or identify specific features that marked or defined quality. For example, individuals might tell us about a watch that is "high quality" because of its price, the status of the

6 For more information, see www.thegoodproject.org

7 We appreciate and acknowledge the generosity of Faber-Castell which has funded this research.

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store from which it was purchased, the country in which it was made, or the specific features which deem the object "excellent." Based on our own research on the Good Project, which studied the kind of work that individuals do and how they go about doing it, we wondered if individuals might define quality in terms of their work—in terms of "excellence" in their respective professions. However, after interviewing nearly a hundred individuals and surveying thousands of people across the globe, we were surprised and interested to find that "time" was the most unifying concept of quality; indeed "quality time" is how individuals define and judge quality.

Interestingly, "quality time" has become a frequently used phrase in contemporary society. Most often, it is utilized when referring to time spent with others – time to deeply connect with friends or relatives (more than a quick phone call or email). But in order to understand the relationship between "quality" and "time" and how individuals make decisions about the role of "quality time" in their lives, we set out to specifically collect data about these questions. After careful analyses, we coined the term "time well spent" to describe the kind of activities individuals deem worthy of their personal and professional investments of time. In the following chapter, we describe individuals' perceptions of "time well spent" as well as "wasted time," and how individuals bring about optimal experiences through their own meanings of these terms. In describing our findings, we allude to both qualitative and quantitative data collected over five years, from individuals in seven different countries. At the end of the chapter, we discuss how we are using our findings to create applications of our work, as well as some general lessons about how we as individuals might incorporate these findings into our own personal and professional lives. Ultimately, we hope to help people live well *and* long, but to begin with, we explore what "living well" actually means.

12.2 Literature Review

When we began our research in 2008, we conducted an initial review of literature on quality within the business sector[8]. We focused on this literature with the assumption that the business world had spent considerable effort defining and refining the concept. Our assumption proved accurate: we were able to identify trends and perspectives on quality, and reveal valuable characteristics that determine quality goods and services. This brief survey of literature focused on three particular sectors of business: banking, health care, and tourism. Below, we summarize the most relevant understandings for the purposes of this chapter.

Characteristics of quality have evolved steadily during the time that western societies have evolved from a focus on industry, through the service and knowledge

8 Colleague Kathleen Farrell conducted this initial literature review.

sectors, and adjusted to consider the advent of the Internet. Although numerous perspectives on quality emerged over these years of history, five well-established orientations emerged including: 1) the transcendent or innate character of a product that defies exact definition; 2) a product-based orientation that focuses on difference in elements or attributes; 3) a user-based orientation that assumes that the judgment of quality is determined by the consumer; 4) a manufacturing-based orientation that focuses on level of conformity to production, safety and design standards; and 5) a value-based orientation which uses other constructs such as excellence and consumer trends to determine quality. This final construct is considered in conjunction with cost and marketability.

Garvin (1985) proposed eight dimensions of quality that bridge the above quality dimensions: performance, features, reliability, conformance, durability, serviceability, aesthetics and perceived quality. With the rise of a service-based economy, there also arose a need to redefine quality within this context. Parasuraman, Zeithamel, and Berry (1985) conducted research identifying further characteristics of quality services and later developed an instrument (SERVQUAL) that is still a standard for service quality research (Parasuraman, Zeithamel, and Berry, 1988). These dimensions of service quality include: reliability, responsiveness, competence, access, courtesy, communication, and credibility. With the advent of the Internet, the applicability of these models was once again questioned and further refined. Although many characteristics of in-person service might also be applied to Internet service, there were additional issues to consider such as privacy, accuracy, and availability (to name just a few).

Critiques of the various models surveyed within each of three business realms (banking, health care and tourism) suggest that the business literature provided an important but not complete introduction to how individuals consider quality in their lives. In particular, this initial review suggests that further research into "consumer culture" may help to inform our understanding of quality in important ways. Objects may help us to find meaning in our lives and hone our identities. Additionally, goods and services may be experiences that educate and define us, for example by creating memories (Csikszentmihalyi & Rochberg-Halton, 1981; Gabriel & Lang, 1995; Thomson, 2000; Turkel, 2007). These and other such sources might provide a useful framework, moving thinking about quality from a "user-based" perspective to a "human-based" perspective. As we consider the meaning of quality within individuals' lives, this perspective becomes invaluable. As a result, more recently we have focused our review of literature on this "human-based" perspective, and considerations of quality in relation to our understanding of experiences (quality of life, quality of work) and quality of time.

A number of studies examine how individuals prioritize and spend their time and consider the implications on quality of life. For example, Masuda and Sortheix conducted a seven-year longitudinal study of two hundred and two MBA students from 6 different universities in the United States. Participants were surveyed about their

family, work and leisure goals, family and work values, as well as life satisfaction. When family goals are given priority over work and leisure goals, higher life satisfaction is reported (2011). The implications of this study are important for the public discourse about balance between work, family and leisure, offering empirical evidence for the value of giving individuals more time for their families.

In addition, Mezzich et al. (2011) present an instrument designed to measure quality of life: the Multicultural Quality of Life Index (MQLI). After an extensive review of health care and social science literature, 10 dimensions of quality of life were identified, including Physical Well-being, Psychological/Emotional Well-being, Self-Care and Independent Functioning, Occupational Functioning, Interpersonal Functioning, Social-Emotional Support, Community and Services Support, Personal Fulfillment, Spiritual Fulfillment, and Global Perception of Quality of Life. This instrument was found to be largely successful in terms of ease of use, cultural applicability, comprehensiveness, and self-ratedness. Its ease of use (can be completed in 2-3 minutes) and comprehensiveness indicates that it could have wide applicability in a variety of settings.

Two studies in particular, described below, examine subjective understandings of time and are of particular relevance to considerations of time well spent. Both studies describe the concept of time "affluence." The first of these describes how, counter intuitively, "giving time gets you time." The second of these studies focuses on morality, and investigates whether a focus on giving time makes individuals more ethical.

First, Mogliner et al. (2012) describe subjective and objective uses of time. Whereas objective use of time is limited (24 hours in every day, 60 minutes in an hour), subjective use of time is more malleable. Interestingly, our separate experiments suggest that giving of one's time in a prosocial manner increases the subjective understanding of time. This subjective understanding is directly related to one's sense of "self-efficacy" – how effective and useful one feels about oneself. In other words, time affluence can be increased, "Spending time on others makes people feel like they have done a lot with their time – and the more they feel they have done with their time, the more time they will feel they have." (p. 1) The authors compare spending time on others versus wasted time, spending time on oneself, or gaining some unexpected free time. Among other things, Mogilner et al. questioned whether spending time on others is experienced as more "meaningful" – considering that deeply meaningful tasks are sometimes characterized as "flow" experiences (Csikszentmihalyi, 1990). The results reveal that time given to another was not reported as more meaningful that time spent on oneself. This and a variety of other factors suggest that only "self-efficacy" explains the effect of giving time on time affluence. The authors also point out that giving time increases not only subjective time, but in some cases can also increase objective time – if the time given to help someone else saves them time on a particular task, for example, helping to work on a house renovation (2012). This study is significant because it suggests that if people spend more time on others, they may feel less time constrained and more effective. This is positive news in the face of

numerous reports about negative effects of "time famine," or the feeling of not having *enough* time (deGraaf, 2003; Kasser & Sheldon, 2009).

In a later, second study, Gino and Mogilner (2013) conducted a series of experiments that examined whether a focus on time, as opposed to money, would make people behave more ethically. Operating with the supposition that those who are focused on money behave in more self-interested and less self-reflective ways, they sought to discover if a focus on time would encourage more self-reflection, and thereby, more ethical behavior. These four different experiments, conducted with varied "primes," tasks and measures, the authors consistently found that moving the focus to time over money decreases the occurrence of dishonesty. These studies are significant for our purposes in that they provide evidence that how people spend their time is related to how they understand themselves.

Finally, we offer a brief look into three additional perspectives to offer a sampling of the current academic discourse around time, which seems to be emerging as a "popular" topic. First, Philosopher Mark Kingwell approaches the issue of time via philosophical discussion about how we spend our leisure time. Using the (only somewhat) hypothetical proposition of a robot working class (although we're not quite there yet, in the future there may well be robot butlers and/or maids) Kingwell considers the consequences of creating such a class of workers. What would we all do with our additional free time? Kingwell distinguishes between the "slacker" and the "idler." The "slacker" is someone who avoids work without a commitment to anything else, whose decisions are dominated by the idea of work as the thing to be avoided. The "idler" is someone not interested in work at all, but committed to something else, which is usually some kind of leisure activity. Through a discussion of economists, philosophers, and thinkers such as Thorstein Veblen, Karl Marx, and Pierre Bourdieu, Kingwell explains that the hypothetical liberation that such technological advancements could create, would in fact only free us to try to outdo one another, become consumers and experience "leisure time that must be filled with experiences supplied by the culture industry." (p. 7) If individuals are freed from mundane tasks, to acquire more time for leisure, this free time will be occupied by choices made from a different industry – the culture industry. As Kingwell explains it, redistributing work to a robot class is worrisome not because of the effect on the quality of the work but the impact on the quality of ourselves, because "work hones skills, challenges cognition, and at its best, serves noble ends." (p. 8) With this contrast in mind, idle time is much more worthwhile than slacking or wasting time. In other words, how we spend our leisure time changes the quality of both our work and leisure experiences.

Second, in a provocative essay, "In Praise of Laziness" economist and political scientist Joseph Schumpeter (2013) argues for the importance of leisure time. Schumpeter paints a picture of the business world as too frenzied, filled with too many disruptions. In particular, he focuses on creative workers and argues that they require large portions of unbroken time. This description of the overscheduled nature of today's working world is a regular part of the public discourse. Schumpeter's

perspective suggests that our economy may suffer as creative individuals – who make change – produce a different quality of work.

Third, in Locust and the Bee, Mulgan discusses the relationship between time and value, explaining that individuals' relationship to time has impact on how we interact with those around us. Specifically, he discusses the history and future of capitalism, and considers fields such as healthcare, education and green industry. Considering time as another type of currency, he explains, "For anyone living rationally and wisely, the quality of life will always be a higher value than money or consumption" (224).

In summary, public and academic discourse is replete with the subject of time, and increasingly, concerned with how the quality of our life experiences (both work and leisure) has been impacted with the evolving nature of how we experience time. As discussed below, our study of quality and "time well spent" contributes to this discourse as well as providing suggested applications to help and encourage individuals to structure time in order to allow for "optimal experiences" in their lives.

12.3 Findings: Our Study

Between 2008 and 2013, we embarked a large-scale study on "quality," involving participants from around the world, using both quantitative and qualitative measures[9]. Specifically, we conducted in-depth interviews with individuals in several different countries and disseminated a survey to 7000 individuals in seven different countries. We sought to understand the ways in which people define quality, when and how they experience it, and how they make decisions about quality, both in terms of establishing priorities and navigating compromises. At the beginning stages of research, we carried out three rounds of interviews with children, adolescents, and adults in the United States, each one building upon findings from the previous stages. In this way, we were able to refine our research instruments using words and examples that emerged organically in conversations with others. Then, based on our qualitative findings, we developed a comprehensive 74-question survey for adults, which included questions about quality as it relates to objects, work, time, as well as questions about the relative quality of digital and non-digital experiences. The question-

9 Specific countries include: Brazil, China, Germany, India, Indonesia, Turkey, and the United States

naire was adapted, translated, and disseminated in seven different countries over the period of two years.[10]

12.3.1 Methodology

The research on quality was carried out over five years (2008-2013) in four phases. Each phase built on previous findings, including measures and tools of research as well as type of participant (age and locale). Here, we outline the specific phases and our methods used to carry out the work:

12.3.1.1 Phase 1

We conducted 81 in-depth interviews with people in the United States. This phase included three different groups: 1) interviews with 22 participants (based on personal connections) including children, young adults, and adults about the various tools they use in their work and whether the quality of these tools had an impact on the quality of what they produce; 2) based on a "snowball" method, we interviewed 22 adults to understand how individuals define quality in general; and 3) we used Craig's List[11] in Boston and Seattle to recruit 37 individuals to participate in an interview about their general perspectives on quality, but also more questions about time and how it factors into individuals' overall conceptions of quality. In this phase, all interviews were conducted in-person or over the telephone with semi-structured interview questionnaires. Each interviews lasted about an hour. They were recorded, and the interviewer wrote summary sheets about each interview, including quotes taken down during the actual interview and checked on the recording.

12.3.1.2 Phase 2

We used the themes from our qualitative findings from the first phase to develop a comprehensive Internet survey that was administered to a broader population in the United States. The survey took approximately 20 minutes to complete and included questions about quality as it relates to objects, time, and work, as well as questions about the relative quality of digital and non-digital experiences. To recruit partici-

10 There are some limitations to the data collected, primarily that the survey was disseminated through the Internet, therefore individuals had to have access to the Internet in order to complete the survey (which does not always accurately reflect the demography of each country). However, we worked with a consumer awards program, ResearchNow, to recruit the most reflective group as possible in terms of demography. Every person who completed the survey was 18 years of age or older and was a member of the awards program.

11 Craig's List is a website that posts classified advertisements.

pants, we used a combination of Craigslist, Facebook, and an online market research firm called ResearchNow[12]. We secured a "random" sample of 1000 individuals, representative of the United States population in terms of educational attainment, age, employment status, race/ethnicity, and household income.

12.3.1.3 Phase 3

We expanded our research to the global context — incorporating six other counties, including Brazil, China, Germany, India, Indonesia, and Turkey. After some adapting and translating (when appropriate), we continued to work with ResearchNow to secure responses from 1000 individuals in each country whom reflected the demographics of each country (as much as possible given that this was a survey that only could be accessed via the Internet). After a thorough analysis of the data, we met with a group of "country experts," two individuals from each country, who helped us to interpret and make sense of some of the findings in order to double and triple check that we put the findings into appropriate context.

12.3.1.4 Phase 4

We interviewed 27 global employees of Faber Castell to "pilot test" and explore our findings about "time well spent." The participants were located in various countries worldwide. The employees represented different departments within the company (e.g. human resources, sales, marketing, management, etc.) who held various roles within these departments and markets. All interviews were conducted via telephone, and each lasted an hour (and were recorded).

12.4 Findings

12.4.1.1 Time as an Indicator of Quality

Though we began our study with key questions about quality in general, we found that "time" is an essential factor in how people define and think about quality in their lives. Even though we sought to understand the relationship between time and quality from the outset of our study, we did not anticipate that the concept of time would be so important to how people make decisions about quality in their personal and professional lives. In our first set of interviews with individuals in the United

12 ResearchNow invites individuals who are affiliated with consumer rewards programs to join their response panel and then draws purposeful samples from the panel to meet client-specific needs (e.g. recruiting a sample that reflects the demography of a specific country).

States we observed dissonance in people's descriptions of quality. Despite expressing a strong commitment to quality and articulating detailed accounts of what quality looks like, most interviewees also acknowledge that they frequently settle for less than they think is best. When asked about this, they typically explain that although buying high-quality goods and supporting excellent companies is extremely important, ultimately they act in ways that preserve quality time. Rarely did participants talk about the scarcity of time; rather, they explained that when forced to choose between getting coffee at a preferred local shop or at a national chain, they would compromise on their preference if that meant they could spend that time with friends and family. Therefore, although the quality of objects, work, and services matter to people, the quality of time is uniquely important. A female law student, for example, comments, "Quality is something that is worth the time and effort you put in, an object or experience that gives you high return emotionally and spiritually (as opposed to monetarily)." In other words, time is a currency that can ensure life-balance and enable individuals to pursue meaningful relationships and interests.

Interestingly, the survey participants echoed the sentiments of the interviewees: Time is paramount in terms of quality. Specifically, as shown in *Figure 1*, when asked in what ways quality is most important, Western cultures generally indicated "time" and Eastern cultures indicated "objects". However, respondents of the survey indicated that objects are considered to be quality for their durability (objects last a long time) and utility (objects function well and help individuals be efficient and productive), which both relate to time — they allow individuals to do the things they like without wasting time or resources (see *Figure 2*). In other words, individuals ultimately pursue goods based on the intrinsic temporal value that those goods hold (e.g. "Can this help me spend my time better?") rather than questions about the absolute quality of the object itself.

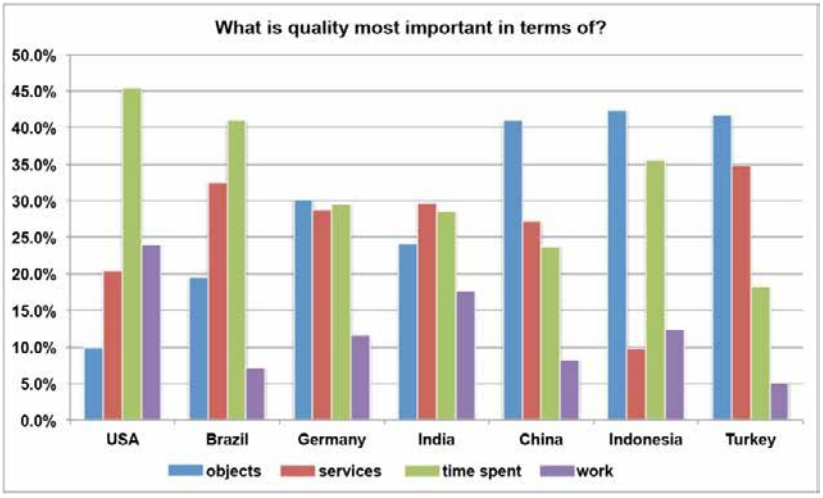

Figure 12.1: What is quality most important in term of?

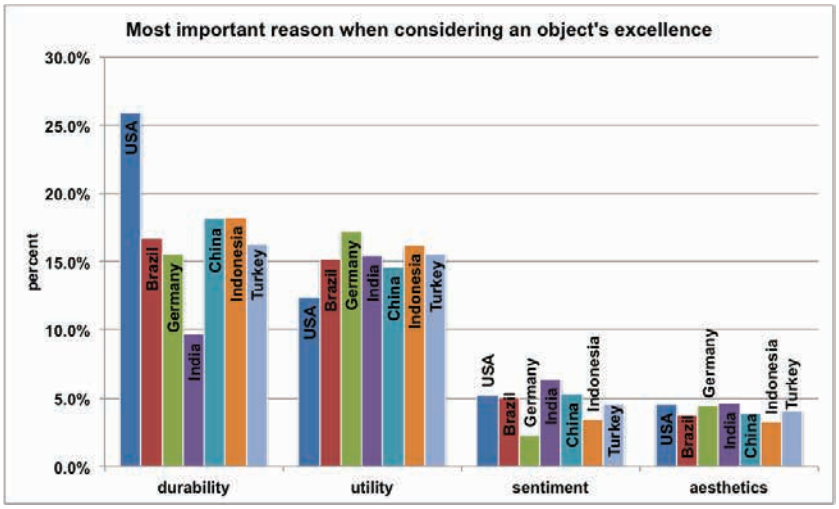

Figure 12.2: Most important reason when condsidering an object's excellence

12.4.1.2 Time Well Spent and Wasted Time

Based on these data, we developed the term "time well spent" to explain the ways in which individuals describe valuable investments and uses of their time. Several individuals indicated that in modern society, how we spend our time has become paradoxically more important as we have accrued more ways in which to spend it. Throughout history, leisure time has been scarce, but never before have we had as many ways to fill our leisure time as we do today. Hunter-gatherers could rest or socialize with others in their society; today, we have myriad ways to spend our leisure time. Based on our survey data, individuals indicated that it can be difficult to choose between spending time with friends, learning new things, watching television, using the Internet, and other things as well. Though in general, individuals feel that "time well spent" includes a variety of activities, the highest ranked items are: spending time with friends and family (19%), using technology for entertainment (13%), learning something new (13%), and hobbies (12%). Interestingly, in terms of defining "time well spent," activities often carried out by oneself, without contact with others are ranked the lowest of the group: reading, sleeping, and exercising (less than 1%) and being alone (2%).

Specifically, we note some differences by country, particularly in terms of how countries' responses related to the Human Development Index (HDI)[13]. Countries with a higher HDI (those above 0.80, namely the United States and Germany) rank

13 The Human Development Index is a composite of the country's social and economic standing.

family and friends as the top response in terms of defining time well spent (33% for the United States, 27% for Germany). Not only are the rankings of family and friends lower for each of the countries with a lower HDI (Brazil, China, Indonesia, India, Turkey), but calling the use of technology for entertainment "time well spent" is higher (Brazil: 12%, India: 12%, China: 19%, Indonesia: 22%, and Turkey: 11%; compared to the high-HDI countries of the US [6%] and Germany [7%]).

Interestingly, even survey participants who expressed technology for entertainment as "time well spent" also indicated that technology can be "time wasted" – time spent that did not improve the quality of their daily experience. Specifically, technology for entertainment is the highest ranked "time waste" for every country, regardless of the HDI index, though individuals in countries with the highest HDI are more decisive about technology as a "time sink." Seen in *Figure 3*, the highest HDI countries (United States & Germany) are much more likely to call technology "time wasted" than the lower HDI countries. However, as is largely evident, more people in most countries believe that technology is more of a "time waste," than "time well spent."

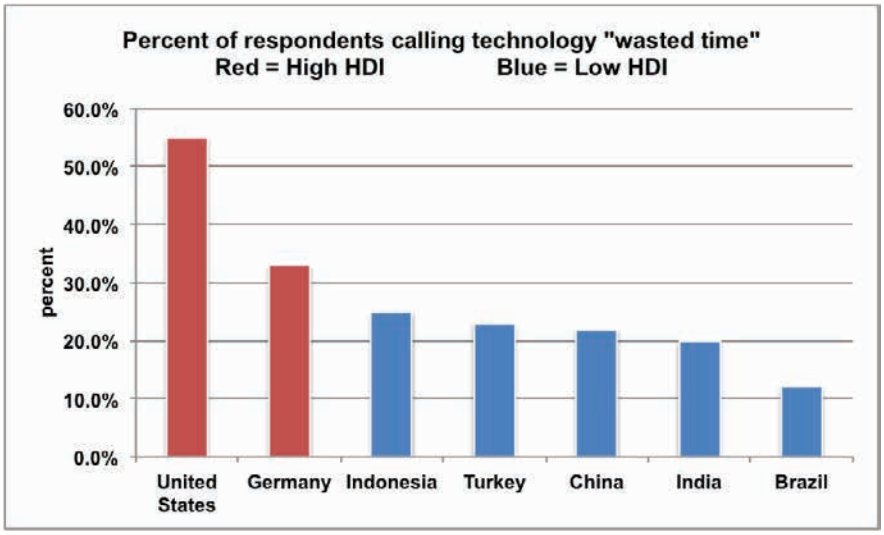

Figure 12.3: Percent of respondents calling technology „wasted time"

This finding shows that despite prevalence of the use of technology, it is a "double-edged sword" for many individuals. Through both the interviews and surveys, we found that the widespread use of modern technologies (e.g. laptop computers, smartphones, tablets) seems to have both a positive and negative impact on how individuals spend their time. As revealed in our interviews in the United States, individuals praise the ability of technology to keep them connected to friends and family (e.g. via email or Skype, or other venues). However, "surfing the web," or playing games that do not necessarily keep them connected to others, is considered to be a waste

of time. Moreover, many individuals indicate that technology can lead them to communicate with others inefficiently or impersonally; for example people may be more likely to send an email to a colleague across the hall rather than having a face-to-face conversation.

Perhaps the most revealing data is about how individuals indicated using time within the last 24 hours – in terms of time well spent and wasted time – and how they plan to use future free time. Specifically, at least 20% of the sample in each of the seven countries surveyed is aware of the fact that they waste their time with technology, and yet do not plan on changing their future behaviors so as not to waste time in that way again. Furthermore, this finding is represented by individuals from countries with varying HDIs, across all ages, and ranges of socioeconomic status, and is equally distributed between males and females (*Figure 4*). Technology, therefore, presents a unique challenge for many people: it can provide an efficient and unique way to stay connected to others and spend time well, and it can just as easily devolve into a waste of quality time.

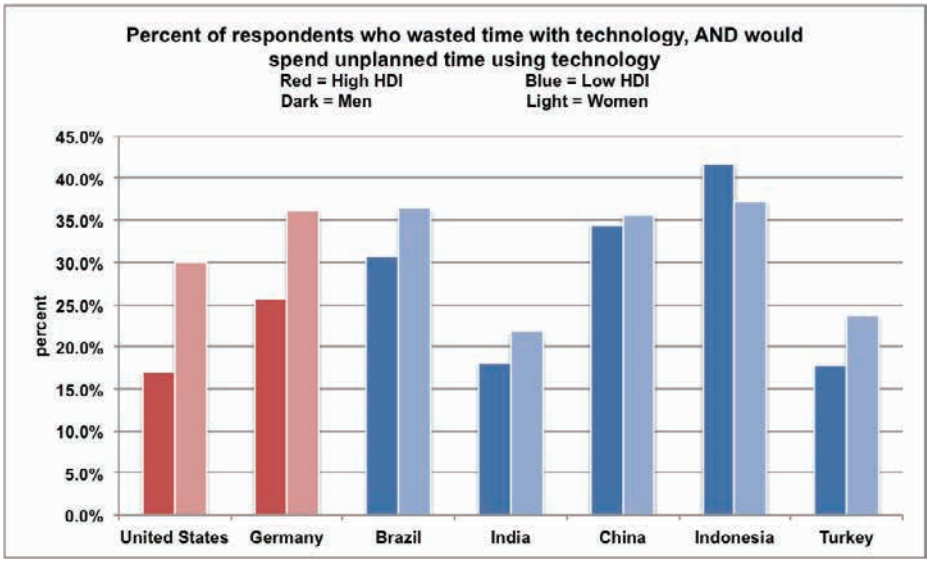

Figure 12.4: Percent of respondent who wasted time with technology, AND would spend unplanned time using technology

12.4.1.3 Personal Meaning and the Optimal Experience

As defined and described by Mihaly Csikszentmihalyi's concept of flow (Flow, The Psychology of Optimal Experience), optimal experiences happen when people

deeply enjoy what they are doing — whether this be at work or in leisure. In fact, in earlier work, Csikszentmihalyi notes that "flow," most likely occurs when people are engaged in work, because of the inherent challenges involved. Building on this work in our study, we also find that meaning and engagement are the most important factors in terms of how people understand "quality." In other words, in defining an excellent restaurant meal, individuals would talk about the people around the table and the opportunity to talk with them about topics that matter, rather than the food, service, lighting, or general ambiance. Similarly, in terms of what makes one pair of shoes better than another, individuals would comment on whether the shoes would last a long time (that they were made well) or the experience that led the person to acquiring the shoes (maybe they purchased them with their best friend, or a pair of shoes were bought in preparation for a family trip). Price and convenience are rarely mentioned as indicators or criteria of quality.

Individuals in both our interviews and surveys described experiences in which they can deeply connect with others as "optimal" or "high quality" experiences. Furthermore, though we had predicted at the outset that individuals may define or make judgments about quality in terms of external criteria (e.g. price, status, etc.), we learned that in fact objects are only "high quality," if they are durable (last a long time) and if they represent a piece of someone's identity (either the person who owns the object or the person who gives the object). Individuals also explained that the time that goes into creating products and experiences can imbue them with meaning and characteristics that make them high quality in many individuals' eyes. In other words, the care and patience expressed by a barista in a coffee shop (even though the coffee may take longer to get) or a handmade card or a hand-written note (even though it may not be letter-perfect), are more important than a final product that might be flawless, but generated by a robot or someone unknown to the client.

Moreover, interviewees explained that they evaluate an object, in part, by considering whether the item helps them spend time in ways that are personally rewarding. Interview participants clarified that handmade goods are better because they reflect time investment. We noted with curiosity individuals' explanations that computers, cameras, and mobile devices are not deemed high quality just because of their reliability and features, but also because they help to maintain personal relationships, enable hobbies, capture and save time for special life moments. A young man who works in the music industry remarks: "Quality objects are things that I've been able to get enjoyment out of, that's what makes them quality, they play an important role in who I am."

However, it is important to note that though many individuals believe in the value of doing things "by hand," they don't always care about the tools they use for such endeavors. In plain terms, individuals are not particular about the kind of writing implements they use — nearly two thirds of our survey sample responded that they do not believe that a higher quality tool (such as a pen or pencil) leads to a higher quality end product (such as a handwritten note). The quality is judged not on the tool or

on the overall aesthetics of the product, but instead, the time and care expressed in creating something by hand and the enjoyment in creating it. These data indicate that people care more about the process than the product: the act of writing a note and the time the act represents, is most important.

Similarly, survey respondents also reported a preference for using "traditional" means to carry out tasks, rather than the digital alternatives (reading a book as opposed to using an e-reader, seeing a painting in a gallery as opposed to viewing it on the Internet). Interestingly, we found a relationship between the level of development within a country and individuals' preference for engaging with digital or traditional media: countries with lower HDI were more likely to want to engage with digital media as opposed to traditional media. This includes the need to write (by hand) as opposed to type (on a computer)—though nearly 60% of individuals surveyed in the United States, and 40% in Germany and Indonesia, report regularly feeling the need to use a writing implement, fewer than 20% of respondents in Brazil, China, India, and Turkey report ever feeling the need to write by hand, as opposed to using a computer. Perhaps those who live in countries with less access to technology, value it more.

12.4.1.4 Prioritizing Quality in Everyday Life

To help individuals not only read about our findings, but also make use of them, we have embarked on two major applications for these learnings in two professional spheres, business and education. To promote the idea of "time well spent," we have started by working with a large global company (Faber-Castell) to encourage "time well spent" within and beyond their company through the development of an award focused on these ideas. In order to do this, we conducted a series of interviews with Faber-Castell employees, representing various high-level positions and markets around the world. Second, we developed a course for educators which encourages reflection about their understandings of quality and its implications for teaching and learning.

12.4.1 Time Well Spent Award

Interestingly, Faber-Castell hoped to find a way to incorporate the concept of "time well spent" both internally (within the company) and externally (with clients and customers). To learn about some of day-to-day activities within the company and how "time well spent" most resonated with employees, we conducted interviews to learn more about how this concept was applicable to the Faber-Castell workplace. Specifically, we were interested in what company employees consider to be "time well spent" in their work and personal lives, and how they believed the idea of "time well spent" is communicated to customers and consumers of Faber-Castell's products. Our inter-

viewees (n=27) were universally receptive to the idea of "time well spent," and almost unanimously believed that it is a concept that should be on the minds of all Faber-Castell employees.

In general, we learned that employees believe that Faber-Castell is a company that produces high-quality products and that cares about its employees. Employees almost unanimously believe in the company's mission to produce the highest-quality offering in its space, and believe that producing a quality product is top priority. The understandings we gathered from these interviews gave us the background necessary to work with Faber Castell on a new initiative to encourage "time well spent" both internally and externally—to help employees experience "time well spent" at work and ultimately, to encourage customers and clients to spend time well using their products (writing implements, art supplies, and cosmetics).

We are currently working on a Time Well Spent Award, which will be given to selected Faber-Castell employees who carry out projects that help others in their market, department, or office to spend their time "well." Through written materials describing the award, we will encourage project ideas to be varied—for example, some projects may address issues of human resources, marketing, or general administration—but all of them will be focused on the concept of "time well spent." We have developed a set of criteria for this award which describe categories to evaluate the project, including 1) working with others (e.g. collaboration, building and sustaining relationships); 2) lasting design (e.g. replicability, eco-sustainability); 3) cognitive inputs (e.g. reflection, creativity and innovation); and 4) quality (e.g. excellence and social responsibility). The criteria have been developed to be fairly flexible and brief in order to be translated into multiple languages and in order to allow for creativity. We hope that through the award program we will encourage new, innovative thinking about how to instill time well spent within the company and beyond.

12.4.2 Quality Course

Additionally, we have sought out the opportunity to apply our findings in the classroom. At Project Zero, our research group housed at the Harvard Graduate School of Education, we host an annual conference each July. Educators from around the world attend this gathering to learn about Project Zero research and its implications in the classroom. We believe that many of the findings from our Quality Study are relevant to teaching and learning in the 21st century, and welcomed the chance to work with educators in this setting. We have now taught this course twice.

The goals of the course were for participants to explore their own definitions of "quality" and to unpack what this term means to them personally and professionally. Interestingly, throughout the course, we validated many of the findings from individuals all around the world — quality is most important in terms of time, and decisions about how to use time wisely (rather than to waste it, or just let it pass) are

paramount. Spending time with family and friends—being around those for whom we care most — is much more important than spending time with technology or running errands. With this in mind, we asked participants about how we can ensure that students experience "quality" learning and teaching in school and also asked them to think further about how they define "quality" learning and teaching.

During this two and a half hour "mini course" we addressed four essential questions: 1) What is quality? 2) Why is quality important? 3) Who decides what quality is? and 4) How can we encourage quality? We explored these questions through a combination of presentation, hands-on activities, and discussion. Participants grappled with some of the same survey questions used in our research (to deepen their understandings of our research and to begin conversation about an otherwise overly-broad topic). Separating into pairs, they interviewed one another using questions also used in our research, asking them to consider how they spend their time, their judgments about their work and quality, and their preconceptions about the word "quality."

As part of our course, participants also worked with our (currently unpublished) text entitled *Quality Through the Ages*. The book is a compilation of 45 examples of quality over time—spanning some of the earliest inventions (e.g. clay and painting) to modern day monuments, professions, and other examples and spheres of quality (e.g. Shakespeare, tracking of time, the Internet). All of the participants read a short essay discussing the Olympics. We initially chose this particular essay because we thought that it brought up interesting issues for teachers and because it was timely (during our first teaching of the course, the Summer Olympics were just about to be held in London); during subsequent sessions we have returned to this essay because it inspires excellent conversation and enables educators from many diverse cultures to discuss their particular perspectives, for example, what excellence, such as the Olympics, means in their own setting. Specifically, we addressed important topics such as standards of quality in the classroom in terms of how to judge individual work and group work and whether it should be subjective or objective and how encouragement toward high quality can lead to too much pressure. Additionally, questions were raised about how to determine when standards of quality are unrealistic, and whether educators' definitions of quality are value-dependent. Educators also discussed some of the factors that impact quality work in the classroom, asking themselves how to encourage young people to work hard for intrinsic (learning for its own sake) rather than extrinsic rewards, e.g. winning awards, earning high marks and getting accepted to prestigious colleges and universities).

Interestingly, the issue of time was once again present in the discussion that emerged. In the classroom, knowing how to judge time is a crucial skill students need to learn. When is a paper "done?" When is it time to move on to the next assignment? Furthermore, the relationship of quality and balance proved a very useful concept for teachers. Balance related to many aspects of the course—how to strive for quality work and at the same time keep balance in our personal lives, how to balance the double-edged sword of technology use (it helps people be more efficient, but is also

labeled as a waste of time), and how to encourage deep passion and "flow" in work, but not lose sight of the ultimate goal.

12.5 Conclusion

Though quality and quality time are regular and significant themes in public discourse, our study revealed interesting findings about the importance of "time well spent" and how time is paramount in individuals' understanding of quality, especially as it relates to both objects and services. Individuals across the globe have mixed feelings about the relationship between technology and time—while they know that technology can save time, they are conflicted about whether technology is "time well spent" or a time waste. In addition, though they value the efficiency technology provides, individuals most often prefer and appreciate the experience of carrying out daily tasks with non-digital means (such as writing thank you notes by hand, reading a tangible book). As discussed earlier, our research has also uncovered potentially important differences across countries and cultures regarding these findings. Based on this research and the applications we have developed, we conclude with a series of suggestions about how individuals can bring about optimal experiences in both their personal and professional lives.

***Place the highest value on your use of time*:** As described in the research findings above, in general, individuals believe that time is the most important aspect of quality. As one interview participant commented: "Time well spent is...a scarce, fixed resource. How are you investing your time? It's the same way that people think about money. Twenty-four hours in the day, that's all you get...I don't think it takes a lot of explanation." In other words, treat time as precious (we can't earn more of it), be careful not to "waste time" when possible, and reflect upon the kinds of activities that bring deep enjoyment to help spend time wisely.

Plan well; it takes time to decide how to use time: In our survey, we asked participants to think about what they might do if they had free, unplanned time, for example, if a half-a-day commitment was cancelled with short notice. Most individuals reported that they would not spend this "free" time engaged with activities that they had earlier (in the survey) indicated as "time well spent" (e.g. being with friends and family, hobbies, learning something new). In other words, individuals need time to plan and think clearly about how to use their time *in advance* of unplanned time. Choosing how to spend time "last minute," may lead to activities and tasks that people do not value.

Blend the use of on-line and on-line for activities and connections: Technology is a double-edged sword. It can be seductive and superficially fun, and sometimes considered to be "time well spent," but it is also a waste of time. In other words, using technology for efficiency, productiveness, and accessibility (connecting with people around the world) improves our lives greatly, but getting caught spending hours on

Facebook, Twitter, or just "surfing the Internet," does not help create optimal experiences. Furthermore, as many of our interview participants explained, technology does not replace in-person, face-to-face experiences. Seeing a beautiful painting on the Internet is not the same as travelling to see the same painting in a museum. Reading a book by physically turning each page may bring more enjoyment than touching an arrow on an e-reader. Our quality of life is improved by technology, but at the same time, technology does not (and should not) replace the meaning and enjoyment of doing things "by hand."

Invest your best efforts, not just money: Individuals receive more pleasure from results when it is clear that time was invested in the product. Time indicates care. Individuals told us that they would rather stand in a long line to get coffee made by a barista who knows them well, rather than go somewhere else that might be quicker (and less expensive). Individuals would also rather go out of their way to pick out fruits and vegetables from an organic farm, rather than a large market, because they believe the food was handled and managed with care. These same individuals also told us that their family would value the meal more if they knew that someone went out of their way for the food brought to the table. Though money is helpful in many ways, and gives individuals access and security to many things in life, individuals derive meaning from objects, services, and work that express effort, care, and time.

Pursue and cherish quality, not mere quantity: Though quality and quantity are different concepts, in modern society they can be easily confused, and sometimes inextricably linked. Public perception is that quality reflects quantity or that quantity is an indicator of quality—high quality items are *more* expensive, things that take *less* time are better, status is attained when *fewer* people have access. However, throughout the process of our research, it is clear that people around the world do not seem to pursue quantity (or think of the meaningfulness of their lives in terms of this), individuals want to experience quality—mostly in terms of time well spent. Simply put, as Franklin stated many years ago, we should focus on the "quality," not the "quantity" of life.

Ultimately, these lessons bring us back to the opening line of this chapter, and a final life lesson: "Wish not so much to live long as to live well."

References

Csikszentmihalyi, M. & Rochberg-Halton, E. (1981). *The meaning of things: Domestic symbols and the self.* Cambridge: Cambridge University Press.

deGraaf, J. (Ed.) (2003). *Take back your time: Fighting overwork and time poverty in America.* San Francisco, CA: Berrett-Koehler.

Economist: Schumpeter. (2013, August 17). In praise of laziness: Business people would be better off if they did less and thought more. *The Economist*.

Gabriel, Y. & Lang, T. (1995). *The unmanageable consumer: Contemporary consumption and its fragmentations.* London: Sage Publications.

Garvin, D. (1984, Fall). What does "Product Quality" really mean? *Sloan Management Review, 26* (1), 25-43.

Gino, F. & Mogilner C. (2013). Time, Money, and Morality. *Psychological Science.* Retrieved from http://pss.sagepub.com/content/early/2013/0956797613506438

Kasser, T., & Sheldon, K. (2009). Time affluence as a parth toward personal happiness and ethical business practice: Empirical evidence from four studies. *Journal of Business Ethics, 84*, 243-255.

Kingwell, M. (2013, March 25). The Barbed Gift of Leisure. *The Chronicle of Higher Education*.

Masuda, A. D., & Sortheix, F. M. (2012). Work-Family Values, Priority Goals and Life Satisfaction: A Seven Year Follow-up of MBA Students. *Journal of Happiness Studies*, *13*(6), 1131-1144.

Mehl, M. R., Vazire, S., Holleran, S. E., & Clark, C. S. (2010). Eavesdropping on Happiness: Well-Being is Related to Having Less Small Talk and More Substantive Conversations. *Psychological Science*, *21*(4), 539-541.

Mezzich, J. E., Cohen, N. L., Ruiperez, M. A., Banzato, C. E., & Zapata-Vega, M. I. (2011). The Multicultural Quality of Life Index: presentation and validation. *Journal of Evaluation in Clinical Practice*, *17*, 357-364.

Mogilner, C., Chance, Z., & Norton, M. I. (2012). Giving Time Gives You Time. *Psychological Science*, *23*(10), 1233-1238.

Mulgan, G. (2013). Capitalism's Generative Ideas. *The Locust and the Bee: Predators and Creators in Capitalism's Future* (pp. 198-229). Princeton: Princeton University Press.

Parasuraman, A. Zeithamel, V.A. & Berry, L. L. (1985, Fall). A conceptual model of service quality and its implications for future research. *Journal of Marketing, 49*, 41-50.

Parasuraman, A. Zeithamel, V.A. & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing, 64* (1) 12-40.

Thompson, C. J. (2000). Postmodern consumer goals made easy!!! In S. Ratneshwar, D. G. Mick, & C. Huffman, (Eds.) *The why of consumption: Contemporary perspectives on consumer motives, goals and desires,* (pp. 120-139). London: Routledge.

Turkle, S. (2007) What makes an object evocative? In S. Turkel, *Evocative objects: Things we think with,* (pp. 307-326). Cambridge, MA: MIT Press.

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