JOAQUIM ARMANDO FERREIRA
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EDUARDO SANTOS (EDS.)

CAREER DEVELOPMENT IN CONTEXT

Festschrift for Fred Vondracek

The biography and work of Fred Vondracek are inseparable. The contributions of the authors who have had the privilege of being close to the research and the life of Fred Vondracek provide a clear picture of him as an exemplary paradigm of the concept of person in context. His agency in contexts of dramatic structural changes and transitions in society are representative of both his personal experience and his scientific position. Fred 's ability to bring new insights into the field of developmental psychology has opened our minds to the need for new research paradigms, which his colleagues and followers testify to in this book. Combining classical approaches to human development with ecological and living systems emergent models, Fred Vondracek's work reveals a modern and harmonious view of life. Individuals and social structures are no longer separate pieces in an unresolved puzzle, but instead produce developmental synergies. In the elegance and rigor of his writings we perceive his impetus to advance the theoretical and conceptual development, as well as the methodologies to guide research and practical intervention, always illuminated by his magnificent soul - a true representative of the "alma mater conimbrigensis".

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CAREER DEVELOPMENT IN CONTEXT

FESTSCHRIFT FOR FRED VONDRACEK

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INTRODUCTION

Joaquim Armando Ferreira,
Eduardo Santos
Matthias Reitzle

Fred Vondracek's biography and work are inseparable. The contributions of the authors who have had the privilege to be close to Fred Vondracek's research and life provide a clear picture of him as a prototype of the concept person-in-context. His agency in contexts of dramatic structural changes and transitions in society are both his personal print and scientific stance. Fred's ability to bring new insights into the field of developmental psychology opened our minds to the need for new research paradigms to which his colleagues and followers testify in this book.

Uniting classical approaches to human development with the emergent ecological and systemic models, Fred Vondracek's work unveils a modern and harmonic vision of life. Individuals and social structures are no longer separate pieces in an unsolved puzzle, but unfold developmental synergies instead. In the elegance and rigor of his writings, we sense his drive to advance theoretical reasoning as well as practical intervention, always enlightened by his magnificent soul - a true representative of the "alma mater conimbrigensis".

The tribute to Fred Vondracek's life and career, as reflected by the chapters of this volume, is not only the authors' grateful

work, but an invitation to students, teachers, researchers, and practitioners to follow the exemplary vigor, honesty, and guidance of a central figure in contemporary vocational psychology.

Although invited contributions to a Festschrift do not follow a prescribed structure, the chapters of this volume can be roughly subsumed under two headings. The first five papers are dedicated to theoretical concepts, historical notes with reference to Fred Vondracek's biography as well as to his academic field, and/or offer a colorful collection of research pinpointing the relation to Fred's work, ideas, and theoretical perspectives. Similarly framed, the second part consisting of four papers introduces research methods and practical applications of vocational counseling, a topic which has always held a prominent place in Fred's academic career.

In the first chapter, Donald H. Ford offers detailed insights into Fred Vondracek's biography and academic trajectory. As a companion, colleague, and close friend, Ford presents a manifold portrait based on five decades of shared experience that could hardly be delivered by any other of Fred's colleagues. Ford artfully documents and explains how Fred's early experiences in war-torn Germany led to his persistent pursuit of higher education and how his immigration to the United States represented a major step in overcoming multiple daunting barriers to achieving his educational and occupational goals. After a lively description of Fred's energetic achievement of three college degrees in seven years, he provides an informed portrait of Fred's subsequent career steps and versatile roles as university professor, administrator, scholar and researcher. Beyond variety, the chapter carves out the "fil rouge", the consistent themes in Fred's personal and career development including his emphasis on context influencing human development and his deep appreciation of essential support and stimulation provided by family, friends, students, and colleagues.

Richard M. Lerner and his co-authors prize the substance of the early collaborations between Lerner and Vondracek and masterfully demonstrate how their early work foreshadowed important advances in theory and application. Specifically, recent developments in the elaboration of the Relational Developmental Systems (RDS) metatheory, most notably its focus on developmental regulations involving adaptive, mutually beneficial, individual-context relations are traced back to Fred Vondracek's subscription to an interdisciplinary, system-theory type view of development. Based on these conceptual considerations, the authors demonstrate how an RDS-based intervention program (the Five Cs Model of Positive Youth Development) can be designed, implemented, and tested.

Matthias Reitzle's chapter tries to relate researchers' theoretical conceptions to their socio-historical contexts and their biographical experiences based on the collaboration and the numerous conversations the author shared with Fred Vondracek. The case in point is their gradual difference in emphasizing agency vs. structural constraints with regard to vocational choice and career development. In order to illustrate this dualism and to outline the prevailing Zeitgeist of vocational psychology during Fred Vondracek's early academic years, a historical excursion to a debate between Donald E. Super and Walter S. Neff is arranged. Back to the present, the popular concepts of "boundaryless" and "protean" careers are critically examined with regard to the agency vs. structure dualism. Following this line of reasoning, the chapter concludes with some biographical notes on Fred and the author, giving rise to the idea that personal experience may contribute to researchers' ways of thinking and theoretical convictions.

Rainer K. Silbereisen with major contributions by Martin Obschonka, Maria Pavlova, and Eva Schmitt-Rodermund, provides

a very informative account of Fred Vondracek's influence on and contributions to his and his research group's work over the course of more than a quarter century of dramatic socio-economic and political change. In a detailed account of research processes and results, the chapter demonstrates how scholars with different backgrounds can merge their conceptual, methodological, and substantive interests and viewpoints to enrich each other and to address real-world problems and challenges. Points of convergence between Fred's work and that of the chapter's authors include a life-span orientation with a special emphasis on the formative years and careful attention to the role of changing contexts and context systems in the development of occupational careers.

Laura Nota, in collaboration with Maria Cristina Ginevra, Sara Santilli, Ilaria Di Maggio, and Salvatore Soresi, focus their chapter on the need for early vocational guidance with children and preadolescents, particularly with those youngsters who became underprivileged in the course of social and economic change. Thereby, they acknowledge that this line of reasoning represents one of several affinities of their work with that of Fred Vondracek. Such early intervention should be designed to enhance the individual's strengths and make optimal use of the resources offered by the context in order to achieve positive development. Laura Nota and her colleagues then offer many empirical findings representing their efforts designed to strengthen hope, optimism, future orientation, resilience, occupational knowledge, and career adaptability in children and adolescents. Finally, they conclude their chapter by endorsing Fred's suggestion, offered more than 30 years ago, to pay close attention to family processes because of their great importance in the vocational development of children and adolescents.

The second part, "Methods and Applications," is opened by Bora Lee who convincingly argues for an extended use of per-

son-oriented methods in research on vocational behavior and development, noting that such methods are often the methods of choice from the developmental-contextual and living systems perspectives espoused by Fred Vondracek and his collaborators. Using examples from Fred's research and from other selected studies, she documents the benefits of person-oriented methods such as P-technique factor analysis, cluster analysis, configural frequency analysis, multi-level modeling, latent class analysis, and dynamic factor analysis. Lee concludes that person-oriented methodologies fare better than variable-oriented methods in describing and examining dynamic processes and the uniqueness and complexity of human behavior without abandoning variable-oriented approaches whenever they prove appropriate.

Kazuaki Shimizu, stimulated by his multi-year collaboration with Fred Vondracek and Fred's former students, presents methodological perspectives on the dimensionality of career indecision. He examines historical approaches that addressed career indecision as a diagnostic problem, various other approaches that created typologies of career indecision using a variety of methodological approaches, and a series of factor analytic studies. Shimizu convincingly clarifies that a distinction should be made between career indecision and indecisiveness, not only conceptually but also in terms of measurement. To accomplish this, he stresses the importance of longitudinal studies like those carried out with Fred almost 30 years ago that nowadays can immensely profit from modern longitudinal data analysis including structural equation modeling.

Jean Guichard with his co-authors Valérie Cohen-Scali with her co-authors Jacques Pouyaud, and Jean Guichard generously credits the life-span developmental framework proposed by Fred Vondracek and his colleagues by fostering the understanding of subjective identity as a dynamic system of subjective identity

forms. The chapter illustrates how complex theoretical constructs can be used to guide interventions focused on both, life designing processes and career guidance. Using case studies, the authors demonstrate how interviews in the form of constructivist dialogues about designing one's life, visualized by a mapping of a person's semantic world, help young people to understand the multiple connections between their different life domains, and thereby promote processes of reasoning about oneself and planning of one's future.

Joaquim Ferreira and Eduardo Santos focus their chapter on the rationale and initial planning of a program designed to promote optimal human functioning in discouraged youth attending the 9th grade in a public school in Portugal. Such programs can be of utmost relevance as students have to make important educational decisions in the transition from the 9th to the 10th grade. The underlying approach is based on the "Thriving with Social Purpose" (TSP) framework that was developed by M. E. Ford and Smith, inspired by Donald Ford's Living System Framework, which is a holistic and integrative meta-model of behavior and person-in-context functioning.

The final chapter tries to integrate the various contributions to this volume and to relate these to Fred W. Vondracek's ideas. Based on the essence of this volume and Fred's pioneering work, a preview to promising future directions in career development research is outlined. A major focus lies on key concepts of dynamic systems theory such as attractor states, circular causation, synchronization, equifinality and multifinality. These concepts are briefly explained and projected on major topics of career development.

Concepts, History, and Research Reports

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I
FRED VONDRACEK'S PATTERN OF LIFE SPAN DEVELOPMENT

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Abstract

This chapter uses Fred Vondracek's *Living systems theory of vocational behavior and development* to analyze how his personal lifespan development helped shape his approach to education and work. Based on more than 50 years of common history at the Pennsylvania State University and Fred's accounts of his early family history during World War II and his immigration to the United States, Fred's career development from tile setter's apprentice to internationally recognized scholar and academic leader is examined. Evidence is presented to demonstrate how vocational development pathways emerge from creating, performing, and evaluating goal directed behaviors in varied contexts.

Keywords: Fred Vondracek, Living Systems Theory, Vocational behavior and development

Introduction

Fred views individuals' effective performance of work roles as a cornerstone of both individual satisfaction and societal development. The primary goal of his scholarly work for the last third of a century has been to construct an evidence based theoretical model of the developmental dynamics of individuals' creation of their patterns of vocational behavior that would be sound and useful both for individual and societal development. He took his first major steps toward that goal in the 1980s.

A key guiding assumption was that each person always functioned as an integrated biological, psychological, behavioral and social entity in a specific situation, i.e., a person-in-context unit. That meant that a sound theory of vocational development needed to be multidisciplinary and fit with more general theory and knowledge about human development. He found such a theory in a book titled *Humans as Self-Constructing Living Systems (D. Ford, 1987; 1994; 2014)* that used the integrative and rapidly growing field of *general systems theory,* which is playing an increasingly powerful role in the natural sciences, as a framework for technological and medical advances, and for understanding human development and functioning as a person-in-context unit.

In 2014 Fred finally achieved his long term goal. His co-authored book, *A Living Systems Theory of Vocational Behavior and Development* (*Vondracek, F.W., Ford, D.H., & Porfeli, E.J.*), merged all his previous work in that integrative framework. That book provides real life examples of how individuals' vocational development patterns can be understood using the living systems model, beginning with childhood experiences and continuing through development in the adult years.

This chapter uses Fred's new theory to analyze his personal lifespan development patterns. It reveals how his vocational

life and scholarly accomplishments evolved and provides an interesting way to view his work. I will present Fred's story of his development and scholarly contributions in four time periods: 1941-1960; 1960-1969; 1969-2000; and 2000-the present.

The information and events described in this chapter come from Fred, friends, my memory and things written by him and others. I met Fred in 1965 when I appointed him as a graduate assistant in our psychological services program for Pennsylvania State University students and their families, called The Division of Counseling. Over the next 50 years our relationship evolved from student to colleague, co-author and friend.

Childhood/Adolescence and Basic Education/Apprenticeship 1941-1960

The guiding goal for the first part of Fred's life and for his family was survival in the context of war raging around them. Fred and his twin brother were born in 1941 just when Germany's success in WWII was nearing its peak. His father, Paul, had been drafted in the German army in 1940, and the oldest son, Ernest, was drafted in 1944 (at age 16).

The family continued to live in their home in Sankt Augustin (near Bonn) until 1943 when the massive air attacks by the allies became so severe there that the German government evacuated his family - mother (Katharina) two sisters (Magdalene & Marliese) and the 2 year old twins (Fred & Hans) - east to Silesia, a safer part of the country. By February of 1945 that too became very dangerous because of Soviet advances from the east, and with the help of a kind neighbor, the family walked 12 miles to the nearest functioning train station to make their way to Thuringia in the central part of the country.

Their journey took them through the city of Dresden, which they left riding on top of an overcrowded train on the night before Dresden was completely destroyed by means of massive firebombing by the allies.

When they arrived in Thuringia they had no food ration cards and consequently faced the very real prospect of starvation. Fred's older sister Marliese agreed to ride by bicycle to friends who lived in the relative safety of a farm in the Bavarian Alps to inquire whether they had room for the family. To her great relief, they agreed to shelter the family. Marliese then returned by bicycle to report the good news. On the way, she was strafed by a low-flying American plane. Luckily, she received only minor injuries and went on to get her family. They went by train and walked to Bavaria where they spent the remainder of the war. Ernest, Fred's oldest brother, abandoned his anti-aircraft unit when the war was ending, and joined the family in Bavaria.

In April of 1945 the war ended and Germany lay in ruins. There was no public transportation, food, clothing or other supplies. By August, Katharina decided it was time to take her family home to Sankt Augustin so they began that long walk. There were a lot of US army trucks on the roads, so sister Marliese (who was a very attractive young woman) invented a strategy. The family would hide at the side of the road while she stood on the road hoping some GIs would offer her a ride. When they did, Katharina led her family onto the road and they talked the GIs into giving all of them a ride. When they arrived home their apartment building was still standing but their apartment had been looted & had suffered a lot of shrapnel damage.

Incredibly, on the very same day that they arrived, their father joined them. Paul had been a guard in a camp holding Russian prisoners of war in Finland. Because he treated the prisoners kindly and often helped them, they tipped him off

when the Russian army was about to liberate the camp, urging him to flee. He and his friend left their posts and were guided through a series of safe houses through Finland into territory held by the British. Captured by the British, he was soon released to go home, aided in part by the fact that the Nazis had stamped all of his papers "politically unreliable" because he refused to join the Nazi party. He and his friend were the only survivors of the German soldiers guarding the Russian prisoners of war at the camp in Finland.

The family began restoring their home and their lives together. In the 1945–1948 post war period Germans were being punished by the victors. Anything that was manufactured, mined or grown in Germany was shipped to other countries as reparations. Fred remembers that experience. "I was hungry most of the time, although my parents did their best. There simply was no food available. I remember seeing worms in the flour and bread my mother could occasionally get from the store and maggots were often present in what little meat we could get. I remember having almost nothing but turnips for weeks at a time. Harvest season for potatoes and grains was a good time. The entire village would descend on the fields once they were declared 'free' (i.e., after the farmer had completed harvesting) and start to dig for any remaining potatoes and collect any remaining grain. Hans and I made it a game to see who could find the most food. People staked claims to parts of a field and dug as fast as they could; some hit it big, others went home empty- handed. In 1948 the United States began to implement its 'Marshall Plan' which provided resources to help Germany's transition to a more normal way of life."

(How did those first 7 years of his life affect Fred's development? He experienced how the contexts in which he lived shaped his life. During the war it could determine where and

how he lived, and it could kill him. He developed confidence in his capabilities to do what was necessary even in the severest of living conditions, and didn't become fearful about tackling difficult tasks. He also learned, through the way his family shared solving their problems, the value and skill of being able to work cooperatively with other people to get things done.)

As the struggle for survival eased, life began focusing on working toward a better future. Marliese was the first to leave the family. She completed her training as a nurse, worked as a nurse briefly, and then married an American GI and moved back to the US with him where she worked as a nurse.

Hans and Fred's formal schooling started in 1948 in a bomb-damaged rural school. Each classroom had as many as 60 students. One teacher was responsible for teaching all subjects for the first four grades and another was responsible for grades five through eight. There were virtually no books or other materials. School facilities and resources improved slowly.

At that time in Germany the completion of 4th grade public schooling was a key decision point in one's education. Students could either continue their basic education to prepare for work, or their parents could enable them to transfer to the *Gymnasium* whose completion would provide a graduate automatic admissibility to any German University. Entrance to a university was impossible without that. Fred was considered one of the best students in his basic school, but his parents didn't have money to send him to the Gymnasium. Fred's father distrusted educated people whom he thought often treated lower-class people "like crap" and did not want his children to become like that. Fred was very disappointed to miss that advanced education.

(The seeds of Fred's lifelong hunger for higher education and the personal independence it could provide were thus planted during his impoverished grade school years.)

Fred found basic education to be easy and not challenging. To challenge himself he turned to sports competitions. Fred was the top athlete in his school, received the highest scores in his school district and three Presidential citations. He completed his basic education in the 8th grade. Because of Fred's physical prowess, his father decided that Fred, rather than his smaller twin brother, should follow in his footsteps and learn to be a tile-setter (the highest paid and in high demand skilled labor in Germany at the time). Thus, at age 14, Fred began his adult work career by working as an apprentice with his father.

(Treating a young adolescent as an adult has a long history. For example, in my father's generation in the US graduation from the 8th grade was the end of formal education for most people. At age 14 he became a cowboy in western Kansas and could walk into a saloon and get a drink like any adult.)

The working conditions were terrible as Fred described it. "We had no protective clothing. It was not uncommon to wear the same clothes at work for a whole week or even longer. Everything was done by hand with no power tools or equipment. The heaviest labor was assigned to the apprentice. For example, I had to unload and handle 50kg bags of cement (I only weighed 135 pounds at the time). The official work week was 48 hours but I often had to work 7 days a week. My father took what I earned to help support the family, acquire a building lot, and build a house. I did admire my father's accomplishments considering the fact that he started with absolutely nothing at the end of WWII. Nevertheless, I envied my friends who went to the Gymnasium. They did no heavy physical labor, were not dirty, cold, bored-to-death with what they were doing, enjoyed interesting classes, played tennis and dated girls. I knew I could have done as well as they did in school but had to follow the pathway my father created for me."

Fred and his brother began looking for other ways they might improve their future possibilities. They found the Berufsaufbauschule in Bonn (translated, quite literally, as 'occupational advancement school') could serve their purposes. It advanced students' capabilities beyond the 'Volksschule' (i.e., the 'people's school'). Fred explained "It would prepare me for the engineering program of a technical college. I knew I didn't want to be an engineer but I enrolled anyway, figuring that somehow I would find a way to use it to my advantage. Key subjects were mathematics, physics, German, a little English and chemistry. After work, I bicycled six miles to Bonn four nights a week for classes from 6:30pm to 9:30pm."

After three years of successful apprenticeship Fred advanced to the status of "journeyman" in his trade, enabling him to earn the same performance based wages his father earned. He turned 18 and then proposed to his father that he be allowed to go to school full-time and pay for his room and board at home with money he could earn by freelancing in his trade. His father rejected his proposal.

(By this time Fred had become a skilled adult worker in his first vocation. He learned the importance and value of careful planning and working hard to accomplish the goals to which he committed himself even when the work was not something he enjoyed. He also learned that, as in his early childhood, his life was largely being controlled by the demands and limitations of his contexts, particularly his father. He hated not being able to control his own life.)

Fred decided that if he was ever to get an advanced education and to do the kind of work he would like he would have to get away from his father's control by modifying his current context or moving to a different one. He began exploring possibilities (e.g., England; North Africa) but there were major

problems with each. He then wrote to his sister, Marliese, in the US asking if she would allow him to come for a visit and she promptly agreed.

After several months Fred earned enough money "moonlighting" after his regular job to obtain a visitor's visa, the necessary vaccinations, and a one way ticket on a passenger liner from Rotterdam to New York. Fred then told his parents of his plans. His father disagreed strongly and told Fred he couldn't leave until he finished all the work his father assigned. Fred worked virtually day and night during his last days in Germany to complete that work demand. Literally hours before his scheduled departure, he went home, packed a small suitcase, said good bye to his mother, and boarded a train to Rotterdam. A friend joined Fred for the train ride because "it wasn't right for him to leave alone".

Fred boarded the "New Amsterdam" of the Holland America Line, which was built as a luxury liner before WWII, converted to a troop carrier during the war, and refitted as a passenger liner after the war. He shared the least expensive cabin on the ship (next to the engine room) with two other men. As the ship pulled away from where he had lived for the first 19 years of his life Fred felt in control of his life for the first time. He didn't know what the future held for him but he knew it would be his own creation.

Education and Training in America: BS, MS, Ph.D., and post doc 1960-1969

Fred was filled with anticipation and excitement as he sailed toward his new home. The beauty of the Atlantic Ocean was a new, awe inspiring experience as was the major storm that

delayed their arrival in New York for two days. His imagination about the possibilities for his new life excited him, but he worried about the difficulties his limited English might create for him when he arrived in America. That concern eased when a nice German couple who were fellow passengers, and had lived several years in Canada, told him what it was like.

Fred arrived in New York on December 1, 1960. His new friends helped him find the Greyhound Bus station and buy a ticket to the small town of Welch, located in the coal fields of Southern West Virginia where his sister lived. Fred had $19 left in his pocket.

He arrived in Welch after 18 hours of experiencing New York, New Jersey, Maryland, and Virginia. His excitement grew as his taxi approached his sister's home but she was not there! Fred knew she worked full time as an operating room nurse, so he settled down to wait. When she arrived she welcomed Fred with open arms despite the fact she was already caring for a husband and 4 children between 6 and 12 year old. That evening Fred got acquainted with Marliese's family and explained that he hoped to get a job, make his way in the US, and graduate from college. She said she would provide board and room and help him get started.

(By this time Fred had committed himself to three major long term goals: support himself, graduate from college, and make his way in the US. He now had to figure out how to accomplish them.)

Marliese began introducing Fred to people who needed tile work and surprisingly soon he was profiting from his hard earned craftsmanship skills and had an income base to build on. Marliese also arranged for Fred to attend some local high school classes, primarily to help him improve his very limited English skills. He ended up making some friends and being well accepted by his peers and the community. Fred began to feel like he belonged.

One of the most pressing tasks for Fred was to seek a permanent visa. Finally, he got a green card through his sister's sponsorship. That summer he decided he was ready to pursue his dream of going to college. His sister had also longed to obtain a college degree, something she was unable to accomplish in Germany. They decided to enroll together at nearby Concord College (now Concord University). The College required a high school diploma for admission, which Fred didn't have. He decided to "bluff" his way in. He gave the admissions officer a certificate from his eight years of basic school printed in German. It worked. The admissions officer couldn't read German but decided to accept it and admitted Fred and his sister as freshmen in the fall semester of 1961. He majored in history and she in chemistry.

Marliese worked as the College night nurse to support her studies. She graduated as valedictorian of her class, became Director of Nursing at a local hospital, then a hospital administrator, and completed her career as a highly successful executive in charge of dozens of hospitals located on six continents. Fred supported himself throughout college by using his tile-setting skills to find work for weekends and semester breaks. He also received a scholarship from Concord that covered about half his tuition for the last two years. He graduated free of debt.

Fred described the experience: "I experienced those college years as nothing short of a vacation from real work. My first semester was something of a struggle because of my English limitations but I squeaked by. In my second year I took advanced English composition and was the only student to get an 'A' in the course. I was active in student government and served as chief justice of the student disciplinary court. I carefully planned my academic program to speed up my progress by taking the maximum course load (and sometimes more), and took correspondence courses in the summer when I had to work.

I earned 12 foreign language credits by examination. The Dean said I couldn't use German as a foreign language because that was my native language. So I said OK, I will use English as my foreign language. He rejected that too. After a little debate he let me use German."

Living his dream of going to college gave Fred great pleasure. But, as he approached his senior year he realized he had given little thought to how his college major might prepare him for a career. His history major would provide few possibilities. He had enjoyed his few psychology courses, and after some reading about job possibilities in psychology he concluded that this was a field with a good future. He succeeded in changing his major to psychology by taking a heavy load of psychology courses in his final year. Careful planning enabled Fred to complete his BS degree in less than three years, i.e. spring of 1964.

(Fred not only enjoyed his first experience of being in charge of his own life, but became confident of his capabilities for doing so effectively. He further strengthened his skills for using careful planning and disciplined hard work to accomplish his goals. He developed skills for effectively relating to others to help achieve his goals in contrast with struggling with his father to overcome his opposition to Fred's goals. Perhaps most importantly, he learned to think of contexts as dynamic organizations of possibilities and limitations that can be interpreted and used in different ways for different purposes. For example, when thinking about the relationship of his academic studies to his career development, he realized his history major had limited possibilities. After reading and thinking about alternate possibilities he recognized the potential value of studying psychology, and he changed his major by taking a heavy load of psychology courses in his senior year. Later in his career he learned that recognizing a new potential utility of some

existing component of his context created what was called a Contextual Affordance.)

There was never any question in Fred's mind about what he would do when he completed his Bachelors Degree. He was going to graduate school to obtain a Ph.D. A key motivation for this decision was his father always telling him not only what to do but how to do it. Fred wanted to control his own work and life. He vowed to advance to a level of expertise that would protect him from that kind of control of his work by others. An advanced education was the only way he could accomplish that goal since he wasn't wealthy. Fred chose the Pennsylvania State University for his graduate study because of its reputation in psychology and because he was offered a Public Health Service fellowship to finance his first year.

(Fred learned later that once again his context facilitated his plans because he was probably offered that fellowship because one of his Concord psychology professors was a friend of the head of Penn State's clinical psychology program to whom he privately recommended Fred. Fred carefully planned his program so he could finish his Ph.D. in four years. He became a naturalized US citizen in 1967 and was awarded his Ph.D. in 1968, less than 8 years after he arrived in the US. He realized how leaving his home to live in the US transformed his developmental pathway. Fred couldn't have achieved that goal had he stayed in Germany.)

One aspect of Fred's Ph.D. training turned out to have a huge impact on his career and life, so I will describe it in more detail. Penn State had a unique, integrated psychological services program for its students and families. The first part was created in 1949 when there were lots of ex-GIs trying to get used to being back in college after WWII. Then at Penn State if an undergraduate failed in their courses they were

automatically flunked out. A distinguished psychology professor convinced the University that most Penn State students who failed did so not because they weren't smart enough but because they had some kind of difficulties that could be corrected (e.g., family, financial, emotional, being in a major that didn't fit their talents).

A program was created so that instead of automatically dismissing such students they were referred to a Division of Intermediate Registration where specially trained counselors could help each student establish clear goals and develop the means to achieve them. This approach focused on how to facilitate each student's success by helping them construct a developmental pathway which focused on each student's capabilities rather than their limitations. It worked. About 80% of those "flunkers" recovered, returned to a regular major, and graduated.

Then that same professor argued that since we knew what kinds of things caused students to fail, why not develop a program that could prevent failures in the first place. The existing program was elaborated to do that and was renamed The Division of Counseling. Each entering freshman provided information about their interests, talents, educational history and other relevant factors. Then they and their parents (because families provide a key context for students' development) came to campus for a day to discuss all that information and how it fit with the student's plans. Students and parents first met separately with counselors so that family disagreements could be uncovered and then later they met together with a counselor to confirm or consider making changes in plans. At any time while they were at Penn State, any student who became dissatisfied with their major could enroll as a Division of Counseling student to help them develop a satisfactory plan. The rate of student difficulties dropped significantly.

I was responsible for the Division of Counseling (DOC) program and used it to help train Ph.D. students in clinical and counseling psychology by providing paid graduate assistantships as a form of pre-doctoral internship for them. Fred was selected for one of those assistantships in his second year. One key objective was to help the graduate assistants learn how to apply the theoretical knowledge about human development they were studying in their graduate courses in helping undergraduate students deal with their developmental concerns and possibilities. Each student had a full time member of the professional staff as their training consultant. In addition, there were regular staff meetings in which relevant theory and case examples and academic procedures were examined and evaluated. I appointed Hugh Urban as coordinator of these training activities because he was a brilliant theorist, diagnostician, counselor and teacher.

Hugh served as Fred's training consultant. Here are some of Fred's evaluations of that experience. "This was a wonderful experience. We were treated as competent professionals. Each of us participated as student and family counselors for the entering freshmen program. During the year each of us was assigned counseling responsibility for 30 + students who chose to register in DOC for an exploratory period. We also served as counselors for students who walked in the door any time seeking help. We had to work with all kinds of human development issues, e.g., how to select career goals and work effectively towards them; how to help students problem solve about their concerns; how to deal with problems in their friendships, family and love life; how to recover from a bad start in their major; how to break bad disruptive habits. While working there I learned a great deal about how university undergraduate education worked.

I was very lucky to have Hugh as my supervisor. I was attracted to his intellect and to his openness to ideas and to sharing his knowledge and experience. We discussed the work he and Don Ford were doing in a comparative analysis of theories of psychotherapy. He introduced me to a new theory emerging in the natural sciences and engineering called general systems theory. He also arranged for me to experience conducting the counseling experience with a group of 60 parents. He was a very skillful, theoretically based diagnostician and counselor. I loved his case examples and learned a lot from him. Here is one he presented in a staff meeting:

'A young woman came to DOC for help because she was failing. I learned she had also been struggling for some time with an enduring depressive state. Theoretically, emotional states (e.g., anger; depression; pleasure) are activated as part of some current experiences, and fade away as the activating pattern ends unless the pattern is continued (like a fly wheel slows down and stops unless one keeps giving it a push). The place to start is to look for the conditions present when the depression began and then to look for conditions that keep it going.

This young lady often became very angry about her older brother whom she felt frequently received special attention from her parents while they neglected her. One day she became so upset about that pattern she angrily yelled to herself 'I wish he was dead!' That night she received a telephone call telling her the brother had been killed in an automobile accident that day. She felt responsible. That triggered her continuous depressive state that had been going on for weeks. After several discussions we uncovered why she was unable to ease her depression. Every evening she lay on her bed with pictures of her brother, gifts and letters from him and thoughts about how terrible she had been to him. She kept her depression going

by using that ritual to punish herself, keep her guilt alive and to keep her "depression flywheel" going.

She agreed to discontinue that ritual and replace it with one that would activate positive thoughts and feelings. As the depression faded away so did her academic difficulties. We then discussed her anger and guilt about their relationship to help her gain control of those troublesome thoughts and emotions.'"

(Fred's DOC experiences, with guidance from Hugh, helped Fred understand how the psychological theories he was studying in his graduate classes related to the real life issues his counseling clients discussed with him. He learned to understand the critical role family contexts often play in a young person's personal and professional development. Because he worked with students majoring in all the colleges at Penn State, Fred learned a great deal about the nature and organization of undergraduate education and gained an in depth understanding of the diversity of vocational developmental pathways each kind of major provided students and the kinds of capabilities and interests each of them required. He was also impressed with the ways peoples' personal lives influenced their performance in their major/vocational pathway. His confidence in his professional capabilities was greatly strengthened.)

1969-2000 Building Academic/Research Programs and a Career at Penn State

After graduation in 1968 Fred took a post-doctoral internship in the Veterans Administration health care program and began looking for a job. During his internship he evaluated job offers from places as diverse as the Ridgway Mental Health Center, the University of Kentucky, Lafayette College, and the Veterans Administration, which offered him a position as director of

research at a very large psychiatric hospital. He struggled to decide which would be the best opportunity for beginning his professional career.

A great opportunity arose from a decision made by Penn State University a couple of years earlier: Penn State had decided to create a new kind of professional college called The College of Health and Human Development. I was appointed Dean to create the new college. It was assumed that the human issues that were its focus could not be understood and dealt with by single disciplines, making collaboration among disciplines necessary. Therefore, four multidisciplinary academic divisions were planned, including Biological Health, Individual and Family Studies, Community Development, and Man-Environment Relations. In addition, an Institute for Human Development was created to facilitate collaborative research. I appointed Hugh Urban to create the Division of Individual and Family Studies and he promptly offered Fred an appointment as Assistant Professor of Human Development.

Being part of that new visionary college was like being a kid in a candy store for Fred. It fit his personal goals and professional preparation beautifully. He was surrounded by creative colleagues whose primary commitment was to the *promotion of human development* rather than to elaboration of a discipline, and who were open to *collaborative research* to achieve that goal. As a professional college it focused not only on the elaboration of knowledge but also on *how to apply sound theory and methods to improving people's lives*. Since it was still being created, Fred had the opportunity to participate in the selection of its new faculty, and to help design and implement its undergraduate and graduate programs.

Perhaps most importantly the new college had a fundamental focus on the *processes* that guide construction of peoples'

lives symbolized by the word *development.* Beginning in the late 1800s the study of those processes was the domain of what was called learning theory. For two- thirds of a century the primary focus of learning theory was on how aspects of a person's contexts shaped what they learned. Those processes were called "conditioning" and "reinforcement." Many people rejected that theory because it described humans as reactive, mechanistic entities shaped by their contexts, sometimes called an outside-in view of human development. The influence of that theory peaked during the 1950s.

It has since been largely replaced by various other theories that shared the alternate assumption that people play a significant role in selecting what they learn, sometimes called inside-out theories, with labels like cognitive theory, information processing theory, and social context interaction theory. This theoretical shift was influenced by the emergence during the last half of the 20 century of three interrelated science and technology theories that have had a huge impact on human societies around the world: *general systems theory*, *information theory and cybernetics*. They provided a scientific basis for understanding humans as proactive, self-constructing entities rather than as reactive entities in their contextual interactions and they explained how complex organizations (like a person) can be self-organizing. The concept of *Human Development* clearly represented that emerging view and that is why the new college was named *Health and Human Development.*

(This developmental processes idea was a beautiful fit for the patterns of personal, educational and professional beliefs, knowledge, skills and professional experience Fred had constructed during the first 29 years of his life. Faculty colleagues who were hired to create academic and research programs in the new college illustrated how powerful an influence a label can

*have for understanding something. In the 1960s the processes of change in older people was called **aging.** The implied meaning was that getting older meant progressive decline in competence. Those colleagues rejected that meaning and demonstrated with their research and that of others that many kinds of changes in people's adult years are very positive. To symbolize that positive view they named their program the study of **life span development** (instead of aging) to link developmental processes as occurring from infancy through old age. That became part of Fred's thinking, and within two decades that positive concept and label had become widely accepted around the world and influenced how older people were thought of and treated.)*

Fred's letter of appointment in 1969 specified that he would be expected to teach a minimum of one course each term but his "initial primary responsibility" would involve heading up a task force within the Institute of Human Development to formulate and generate a research and development project focused upon the early detection of delinquency-prone patterns of young people and the development of alternative strategies for intervention and activity modification to cultivate non-delinquent developmental pathways in such groups.

Fred promptly obtained $190,000 funding from the Governor's Justice Commission and the Pennsylvania Justice Planning Board from 1971-74 for that project. That first research team of his included Fred, Hugh Urban and Bill Parsonage (a professor in the administration of justice program). Together, they developed and validated a diagnostic program for predicting the probability of a juvenile developing a delinquent pathway, created a Computer Assisted Regional Evaluation System for Juveniles using that program, and developed a Mobile Delinquency Service Center for three central Pennsylvania Probation Offices to implement it. Considering the primitive state of computer

development in 1970, it is astonishing what they accomplished. Although the program worked well and was liked by the users, its use could not be continued because computers were so expensive at that time.

During that same decade Fred collaborated with other colleague teams on various kinds of projects focused on developmental issues at different ages: e.g., television content and children's behavior; life span behavioral development and the family; non-verbal techniques for assessing frustration responses in pre-school children; enhancing field experiences for baccalaureate level careers in adult development and aging; interventions within individual and family development; and dysfunctions in development.

But in that first decade of Fred's career research was not where his heart was. "In that early stage of my career my goals and efforts were devoted first and foremost to help establish a world-class, best of its kind undergraduate program, providing leadership designed to instill a culture of interdisciplinary collaboration among the faculty, and helping to recruit and retain faculty who could thrive in such a context. In his earlier life, Fred became skillful at identifying goals to be accomplished and seeing that they were done well. Therefore, it is not surprising that the first two directors of the Division of Individual and Family Studies (IFS), Hugh Urban and Paul Baltes, used Fred as their "administrative right hand" in various leadership roles with a key emphasis on developing and implementing the new IFS undergraduate major.

Fred's Division of Counseling experiences in helping students succeed in diverse majors was invaluable to him in avoiding faulty curriculum designs and creating interesting programs. For example, each student had to spend a semester working in some human development program of their choice and in

writing a paper about how that program worked and how it might be improved. Such "work experience" opened up job possibilities for lots of students. Over several decades the IFS major (renamed the Human Development and Family Studies HDFS major) was also offered on several Penn State branch campuses and became one of the largest undergraduate majors at Penn State. When Paul Baltes left in 1978 to assume a major academic role in Germany, Fred was asked by the faculty to serve as the HDFS Director.

(As Fred approached his 40th birthday he reviewed his first 11 years as a faculty member at Penn State. He had taught one or more courses every semester and had been continually involved in some research project, usually with collaborators. He had published over a dozen papers and book chapters. Thus, his academic career was respectable but not impressive. That was because performing in various administrative roles to help create and implement the new college had dominated his time and attention.

The first phase of creating the College was now completed, and so Fred decided it was time to change the primary focus of his thoughts, time and energy to teaching and scholarly work aimed at cultivating his personal career and ideas about ways of facilitating positive developmental pathways for people. He wanted a focus that could encompass a person's development from childhood to old age. He decided that since work plays such a fundamentally important role in people's lives he would focus on vocational development. His guiding idea was to try to merge his extensive knowledge derived from his rich personal and professional experience and the competencies of creative colleagues concerning human development into an integrative and practically useful model for ***understanding a person's vocational and career development across their life span.*** *So*

after three years of serving as IFS division director he resigned and started down that new pathway.)

Several basic assumptions concerning the nature of human development had evolved from Fred's 40 years of diverse personal and professional experience and his interactions with creative colleagues' ideas about human development. The first step in his new pathway was to evaluate and elaborate those ideas.

Fred and his colleague Richard Lerner shared similar views about the nature of human development. When Rich learned of Fred's plans he suggested they collaborate in writing a chapter for a new Handbook of Developmental Psychology, *Vocational Role Development in Adolescence* (Vondracek, F. W., & Lerner, R.M., 1982). They were pleased with the results and decided to extend their collaboration in a paper for the *Journal of Vocational Behavior*. Fred initiated a practice he continued throughout his career by inviting one of his doctoral students to collaborate in writing *The Concept of Development in Vocational Theory and Intervention* (Vondracek, F. W., Lerner, R. M., & Schulenberg, J. E., 1983).

Fred then proposed to his coauthors that they put all their ideas together in the form of a new theory in a book. The result was *Career Development: A Life-Span Developmental Approach* (Vondracek, F. W., Lerner, R. M., & Schulenberg, J. E., 1986). In this book they asserted that the person-in-context is the basic dynamic unit to be understood and that this unit develops through probabilistic epigenetic processes. They emphasized that a person's behavior always occurs in some kind of context that provides the possibilities and constraints (sometimes called *affordances*), within which persons construct their activities and vocational pathways. They called this *developmental contextualism*.

With the concept of *embeddedness* they emphasized that key phenomena of human life exist at multiple levels of organization,

but because they do not operate independently of one another they operate through *dynamic interaction*. This makes possible plasticity in development and enables a person to function as *producer of their own development*. These developmental processes operate at all ages, which means that the construction of different vocational pathways can begin in childhood and occur at any age, requiring *a life span developmental approach*.

They illustrated their theory with ways developmental processes were manifest in the lives of adolescents and women, and then described ways of influencing vocational development. They also did something no other theory of vocational development had done. They described implications of their theory for the design of research to study vocational development. They concluded that, since it is a person centered theory, classical research designs that focus on analyzing groups of people would not be appropriate. They illustrated the use of cutting edge research designs for studying person development that were being created by a colleague, John Nesselroade, and others (e.g., replicated single subject research designs).

Fred was surprised by the impact of their new theory. Leaders in the field praised its uniqueness and importance. His insistence on the importance of context in vocational development was so persuasive that many others in the field began emphasizing it in their work. Consequently, Fred became an admired and influential voice in the field of vocational and career development. Fred's 1986 book had a major impact on the field of vocational and career development, and the ideas about the basic nature of human development elaborated in the book guided Fred's scholarly activities through the rest of his career. The positive reception of that book encouraged Fred to continue work toward the creation of a comprehensive and useful theory of the nature of peoples' creation of their vocational and career

pathways. I will not discuss Fred's scholarly work during that period because other colleagues of his during that period have provided chapters in this book.

I will note that Fred's work during that period culminated in his enjoying being known as a very productive and internationally recognized researcher and theoretician in his field. Scholars from other countries spent time as visitors at Penn State to work and collaborate with Fred. He has enjoyed extensive collaborations with scholars from the University of Coimbra in Portugal, he was a visiting scholar at Kansai University in Japan, and the Universities of Giessen and Jena in Germany, where he was supported by the German Academic Exchange Service (DAAD). As a youngster he had to leave Germany to get a University education elsewhere, so he chuckled with pleasure when the distinguished old German University of Jena (which would not have admitted him as a student in 1960 under any circumstances) gave him a seldom-used honor by conferring on him an honorary professorship in 1998. Fred didn't just visit universities, he collaborated in published scholarly work with colleagues at each of them.

Fred served on a number of editorial boards of scientific journals in the US and other countries, reviewed manuscripts for many journals and was an occasional reviewer for Canada Counsel and the Social Sciences and Humanities Research Counsel of Canada, the US-Israel Binational Science Foundation, German National Science Foundation, German Institute for Youth Research, and Swiss National Science Foundation.

Fred also continued to be very active in other faculty roles. Not only did he teach regularly and have graduate students, but he also served on over 20 college committees of all kinds. He was also elected to represent the faculty on Penn State's faculty senate and served on many committees there dealing with University concerns.

He also maintained his ability to test his theories in real life circumstances by using his clinical and counseling skills to serve as a consulting psychologist to several community-based counseling, psychiatric and youth development programs.

(In this period Fred fulfilled his childhood dreams. He not only obtained the higher education he sought but helped create new educational programs and helped to provide such education to young men and women. He constructed a career in which he was in control of his life, deciding what he wanted to do and how to do it. His professional context enabled him to know and collaborate with other creative scholars and to help cultivate the scholarly development of young emerging scholars.)

2000-Present: College Administrative Leadership and Continued Scholarly Activity

Beginning a new century, Fred was called on by a new Dean to again provide leadership for his College as Associate Dean for Undergraduate Programs and Outreach. Outreach was a new label for providing educational programs for the general adult population previously called Continuing Education. It was on the cusp of the creation of major new technology based programs and educational methods now called the Penn State World Campus.

Five years later that Dean left and Fred was appointed Interim Dean of the College of Health and Human Development. During his ten years of serving in the roles of associate or interim dean, research income and expenditures, undergraduate enrollments, and income from continuing education in the college were at the highest levels achieved in the history of the college. Existing and newly created physical space for the college were also at the highest level. When a new Dean was appointed, she asked

Fred to serve as Senior Associate Dean to help her effectively implement the role of Dean. Despite his heavy administrative responsibilities in a college whose scope and size exceeded those of many small universities, Fred continued to mentor graduate students and stay involved with his foreign colleagues.

Then the tide of his life changed. In 2009 Fred was diagnosed with a rare, life threatening form of blood cancer. Treatment of it had serious side effects, e.g. produced periodic uncontrolled bleeding; "killed" his immune system. To protect himself from potentially dangerous contexts from which his immune system couldn't defend him he drastically altered his life style, e.g., he reduced his involvements with others, altered his diet, and discontinued travel. He continued his involvements with his graduate students and colleagues which could be done safely with modern technologies. A treatment pattern was finally created that progressively succeeded in maintaining a steady state pattern that enabled him to live comfortably with his illness and limitations. I knew he had reached that point when he allowed himself to have a beer now and then, a "quality of life" necessity for a good German-American like Fred.

(Fred knew complete recovery from his illness would either take a long time or only reach a steady state enabling him to manage living with it. So he retired from all his formal academic and administrative roles and activities, but not from his long standing vocational pathway. Person and context changes often require changes in a person's pathways. He asked himself if he could devise a way of continuing that pathway within the limitations imposed by his illness, and he turned to a possibility he had occasionally thought about.)

For decades, Fred and I had similar scholarly goals. Fred's was to create a sound theory of vocational development. Beginning in my graduate school days I started searching for

a sound, empirically based theory to guide psychotherapy and counseling. Thus, both of us had been working to create a theoretical model of aspects of human development.

At first I focused on learning theory. After a couple of years I realized that it's mechanistic, behaviorist nature didn't fit my emerging ideas about human development. Hugh Urban (another new PhD) and I shared that goal and formulated a different search strategy. We decided to do a comparative analysis of all theories of psychotherapy then available to see if we could find any underlying theoretical similarities. There was widespread interest in emerging psychotherapies at the time, so in 1963 we published the results in a book, *Systems of Psychotherapy. It sold 40,000 copies and significantly influenced the development of that field).* There was little agreement among psychotherapies so we decided to search theoretical models in other fields and found *General Systems Theory,* which was just emerging in the natural sciences. Hugh was Fred's mentor at the time and stimulated his interest in systems theory.

Hugh had a strong interest in psychopathology, so he decided to explore using systems theory to understand psychopathology (dysfunctional human development). I focused on using it to understand psychotherapy and positive human development. I quickly realized that it provided a basis for understanding all aspects of human development and began analyzing the scientific literature about all aspects of a person, i.e. the biological, psychological, behavioral and social person, to identify the system roles each component of a person performed. After I resigned as Dean I spent the next ten years to intensively complete that analysis and using general systems theory to synthesize those findings in an integrative theory of human development published as *Humans as Self-Constructing Living Systems (D.H. Ford, 1987),* only one year after Fred published his *A Life Span*

Developmental Approach to Career Development. Five years later one of my sons used my theory to create a new theory of motivation processes: *Motivating Humans: Goals, emotions and personal agency beliefs* (M. Ford, 1992). Fred considers motivation a key factor in vocational development, so he used Martin's motivational systems theory and recommended it to colleagues who consulted him about their research.

Thus, we shared three theories that are focused on human development patterns and processes. The products of Fred's creative thought and scholarly work over a quarter of a century have been influential in identifying different kinds of developmental patterns manifest in different kinds of contexts and phases of life. But Fred considered his developmental pattern formulations limited because, although they emphasized the importance of developmental processes, they included no theoretical, empirically supported model of developmental processes that produce those patterns. Fred thought "Why not merge the three theories and create a new theory of vocational behavior development based on a sound theory of patterns of developmental processes that could guide practical applications?"

We discussed the idea and agreed that it was something we could both handle within our activity limitations (i.e., his illness and my heart problems). We promptly began working to merge his formulations of lifespan developmental contextualism with my self-constructing living systems theory, and my son Martin's motivational systems theory. Following Fred's long tradition, one of his former graduate students was invited to be a co-author.

The results were recently published as *A Living Systems Theory of Vocational Behavior and Development* (Vondracek, F.W., Ford, D.H., & Porfeli, E. J., 2014). It explains how a person's vocational development pathways emerge from creating, performing and evaluating goal directed behavior episodes. That

is the model used in writing this chapter to describe Fred's personal lifespan development.

Fred's health problems are now in a manageable steady state as illustrated by current activities. He recently drove to Florida by himself (he loves driving a good car) to visit his sister, Marliese. As I write this last paragraph he is flying to Europe to participate in the Society for Vocational Psychology meeting at the University of Coimbra in Portugal. What will Fred do next? The following excerpts from a letter he recently received from a distinguished American scholar of vocational development gives some hints of what may keep this creative scholar/professional engaged with his colleagues.

"Thank you for the copy of your new book. It is a landmark achievement that will influence and shape scholarship in vocational psychology for the next generation. It presents a grand statement of your work that will leave a lasting legacy. I read it in one sitting and that stimulated me to want to read it again more slowly. The propositional model is the gold in these pages. This is where the task lies, as you wrote we need to identify and organize the processes of self-construction. In the epilogue, you hope that your theory will serve as an organizing framework for use by future scholars. I am confident it will and I regret that I am too old to begin my own work using it as a starting point." (M. Savickas, May 25, 2014).

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II
DAYS OF FUTURE PASSED: ON THE PRESCIENT RELATIONAL DEVELOPMENTAL SYSTEMS VISION OF FRED W. VONDRACEK[1]

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Abstract

The scholarship that Fred W. Vondracek and his colleagues and students produced in the early to mid-1980s contributed in fundamental ways to framing a vision for both the process-relational paradigm and for relational developmental systems (RDS) metatheory-based models of human development derived from it. We provide an overview of RDS metatheory and review Vondracek's vision for developmental science, explaining that his use

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of a model of individual ⇔ context relations enabled depiction of how an individual's contributions to his or her context might be a source of the person's own positive, healthy development. We illustrate the usefulness of such individual ⇔ context models through a discussion of the Lerner and Lerner "Five Cs" model of positive youth development. This illustration affords the conclusion that the career contributions of Fred Vondracek enrich the ability of developmental scientists to describe, explain, and optimize the development of diverse individuals across the life span.
Keywords: relational developmental systems metatheory, individual ⇔ context relations, positive youth development, life-span development, optimization.

Introduction

In the early and mid-1980s, the case still needed to be made that human development should be conceptualized by models that emphasized mutually influential relations between individuals and contexts (Lerner, Hultsch, & Dixon, 1983). Even more, it was necessary to argue that development should not be reduced to either a biogenic, psychogenic, or sociogenic interpretation of these relations (Lerner, 1978, 2012). The challenge was to forward a model of development that avoided the conceptual pitfalls and counterfactual empirical assertions of models that derived from the Cartesian split paradigm and privileged biology, psychology, or sociology as the primary source of human development, while also acknowledging the importance of person-context fusion (Overton, 2015).

At this writing, these paradigmatic and metatheoretical issues are largely settled in developmental science (Lerner, Agans, DeSouza, & Hershberg, 2014; Overton & Lerner, 2014). As we will discuss, a process-relational paradigm has become preeminent within developmental science, and it provides a framework for a relational developmental systems (RDS) metatheory (Overton, 2015). These current conceptual foundations of developmental science theory have evolved across several decades of theoretical debates and theory-predicated interpretations of developmental data (e.g., Lerner, 2012; Lerner, et al., 2014; Overton, 2015). Fred Vondracek contributed in fundamental ways to framing the debates and research involved in this history. The scholarship that he and his colleagues and students contributed to developmental science in the early to mid-1980s provided a vision for both the process-relational paradigm and for the RDS-based models of human development derived from it.

Fred Vondracek's Vision for Developmental Science

In the context of focusing on the substantive area of vocational/career development, Fred Vondracek and his collaborators (e.g., Vondracek & Lerner, 1982; Vondracek, Lerner, & Schulenberg, 1983a, 1983b, 1986) proposed a conceptual model that offered what was, at the time, a new model for understanding all facets of development across the life span. They proposed what was then termed a developmental contextual approach to human development (e.g., Lerner, 1978), a conception that would later be understood as an instance of RDS metatheory (e.g., Lerner, 2004, 2006; Overton, 2013, 2015). Vondracek and colleagues (1986) emphasized that this

approach "recognizes the changing character of the individual's social, physical, and cultural milieus … [and argues that] development can be understood only from a relational perspective that focuses on the dynamic interaction between a changing (developing) individual in a changing context" (p. 5).

Drawing on the relational conception of human development that forms the foundation of RDS-based models Vondracek and his colleagues emphasized the mutually influential individual ⇔ context relations that constitute the basic process in such models. In turn, Vondracek and his colleagues forwarded arguments and evidence that, together, indicated that the focus on such dynamic relations between individuals and their contexts required the adoption of a *systems* view of those relations. They argued that individual ⇔ context relations were embedded in the multiple and integrated levels of organization comprising the ecology of human development (Bronfenbrenner, 1979; Schneirla, 1957) – for instance, levels that "focus primarily on the individual (e.g., molecular biology/genetics, physiology, and psychology) with those that focus primarily on the group (e.g., social psychology, sociology, and anthropology)" (Vondracek, et al., 1986, p. 6). The relation among variables from these multiple levels of organization necessitated a systems view of the individual ⇔ context relations involved in behavior and development. Vondracek, et al. went on to explain that the "ultimate result of embracing an interdisciplinary, system-theory type view of … development will be a shift from simplicity to complexity" which, in turn, will not "lend themselves to simple research designs or easy approaches to measurement" (1986, p. 6).

This argument underscores the essential link between RDS-based models and methods that would become a hallmark of developmental science three decades later (e.g., Molenaar, et

al., 2014; Overton, 2015). Vondracek, et al. offered a conceptual framework for understanding the multiple levels of organization within the ecology of human development, and the complex, systemic relations among them that would need to be a focus of theoretical and conceptual methodology required to advance the understanding of human development across the life span. As we have noted, Vondracek and his colleagues built their ideas in part on the scholarship of Urie Bronfenbrenner (e.g., 1979, 2005), whose bioecological theory of human development would also be understood in later decades to be an exemplar of RDS-based models (e.g., Lerner, 2002; Lerner, et al., 2014; Overton, 2015). As such, Vondracek and his colleagues not only pointed to the several levels involved in individual structure and function, but also paid particular attention to differentiating among the contextual levels of organization involved in human development. Vondracek, et al. (1986) emphasized that "the social (including political and economic), physical, and cultural milieu must be considered" (p. 7) in studying development. However, and emblematic of the RDS-based ideas that were being presaged, they emphasized that such a contextual focus also needs to be understood *as development* and, in particular, *relational development*. That is, human development does *not* involve a changing individual unfolding in a static context. To the contrary, the relational systems conception of development forwarded by Vondracek and his colleagues elucidated that both the individual and the context were changing and that they were changing *interdependently* across the course of life. To understand the implications for the quality and outcomes of such individual-context interdependence, Vondracek, et al. (1986) drew on the work of J. Lerner (e.g., 1983; Lerner, Baker, & Lerner, 1985) in regard to goodness-of-fit models of these relations.

Using such a model of individual ⇔ context relations, Vondracek and his colleagues were able to depict how an individual's contributions to his or her context might be a source of the person's own positive, healthy development. They argued that when there was a goodness of fit (or, in other words, a match or congruence) between an individual's specific set of physical, cognitive, affective, or behavioral attributes and the demands of the context within which he or she was developing, then positive development would be likely to occur. Therefore, differences in the course of positive human development could be associated with variation in the fit between the individual and his or her contexts. In addition, a focus on the individual and contextual attributes that were involved in such variation afforded ideas about how developmental science could be applied to individuals, contexts and, most importantly, individual ⇔ context relations to optimize human development (Baltes, Reese, & Nesselroade, 1977; Lerner, 2012). Indeed, Vondracek, et al. (1986) discussed such applications through the lens of what they termed human development interventions. They explained that such efforts must be viewed as attempts "to change something (systematically and deliberately) *that is already changing* without these special efforts – albeit not necessarily in the direction desired" (p. 156).

Accordingly, to optimize the course of human development, Vondracek, et al. (1986) explained that attempts to apply developmental science to enhance the course of human life must be predicated on an understanding of "the history, the present status, and the future goals and aspirations of the individual, as well as the past, present, and future (aspired to) contexts within which the individual has been, is, or may be functioning" In short, from this perspective, the evolving dynamic between an active individual and his or her changing contexts must be

the focus of attempts to describe, explain, and optimize human development. This intellectual vision that Fred Vondracek had for the study of human development reflects – and indeed foretold – a framework for theory, research, and application that has been realized in contemporary developmental science. In the next section of this chapter, we describe how this vision has been instantiated in the formulation of the RDS metatheory, and we offer an example of work within our laboratory illustrating its empirical usefulness.

The Relational Developmental Systems (RDS) Metatheory

From the late 1960s through the first half of the second decade of the 21st century, the study of human development evolved from a field dominated by reductionist (psychogenic or biogenic) approaches to a multidisciplinary scholarly domain. Just as Vondracek envisioned in his developmental contextual approach, the goal of this multidisciplinary scholarship is to integrate variables from biological through cultural and historical levels of organization across the life span into a synthetic, coactional system (e.g., Elder, Shanahan, & Jennings, 2015; Ford & Lerner, 1992; Gottlieb, 1998; Lerner, 2012). Prior, reductionist accounts of development that adhered to a Cartesian dualism disentangled facets of the integrated developmental system (Overton, 2015). For instance, reductionist views typically elevated the importance of such split formulations as nature versus nurture, continuity versus discontinuity, stability versus instability, and basic versus applied science (Lerner, 2002).

Such split approaches are rejected by proponents of theories derived from RDS metatheory which, in turn, are derived from a process-relational paradigm (Overton, 2015). Overton

(2015) explains that, as compared to a Cartesian worldview, the process-relational paradigm focuses on process (systematic changes in the developmental system), becoming (moving from potential to actuality; a developmental process as having a past, present, and future; Whitehead, 1929/1978), holism (the meanings of entities and events derived from the contexts in which they are embedded), relational analysis (assessment of the mutually-influential relations within the developmental system), and the use of multiple perspectives and explanatory forms (employment of ideas from multiple theory-based models of change within, and of, the developmental system). Within the process-relational paradigm, the organism is seen as inherently active, self-creating (autopoietic), self-organizing, self-regulating (agentic), nonlinear/complex, and adaptive (Overton, 2015).

In turn, within the RDS metatheory, the integration of different levels of organization frames the understanding of life-span human development (Overton, 2015). The conceptual emphasis in RDS-based theories is placed on mutually-influential relations between individuals and contexts (i.e., individual ⇔ context relations), or as Vondracek posited, the evolving dynamic relations between an active individual and his or her changing multilevel context. These relations vary across place and time (Elder, Shanahan, & Jennings, 2015); the "arrow of time," or temporality, represents history, which is the broadest level within the ecology of human development. History imbues all other levels with change. Such change may be stochastic (e.g., non-normative life or historical events; Baltes, Lindenberger, & Staudinger, 2006) or systematic, with the latter constituting a potential for plasticity across the life span.

As explained by Lerner (1984, 2002), the concept of plasticity was emphasized by developmental scientists interested in countering the idea of fixity in human development, such as fixities

purportedly imposed by genetic inheritance or neuronal "hard wiring." Accordingly, the idea of plasticity arose to denote the capacity in human development for systematic and relatively continuous changes, as compared to stochastic (random) and short-term changes. As also described by Vondracek, systematic change can arise through individual ⇔ context relations that are either ontogenetically or historically normative or from non-normative life or historical events (Baltes et al., 2006).

A recent empirical example of the importance of the distinction between plasticity in development versus developmental fixity comes from the study of epigenetic changes (e.g., Misteli, 2013). This scholarship illustrates that the genes received at conception (i.e., the genotype) are not a fixed blueprint for development. Genes are constantly getting turned on and off across the life span and most of this activity is stochastic and short-term (and of largely unknown origin; Misteli, 2013). However, epigenetic changes are enduring, systematic, and even cross-generational (Cole, 2014; Meaney, 2010, 2014; Misteli, 2013; Slavich & Cole, 2013). In short, in developmental science, we reserve the term plasticity for denoting the capacity for relatively enduring changes in the developmental system. Although Vondracek was not concerned with epigenetics at the time, it should not go unstated that he helped set a precedent here – to capitalize on the plasticity of (or to optimize) human development, one must intervene on the system or on individual ⇔ context relations as opposed to changing the individual or context independent of one another.

Indeed, theories derived from RDS metatheory focus on the processes that govern, or regulate, exchanges between (the functioning of) individuals and their contexts. Brandtstädter (1998) termed these relations "developmental regulations" and noted that, when developmental regulations involve mutually-

beneficial individual ⇔ context relations, they are adaptive. To understand what makes developmental regulations adaptive, one needs both conceptual and empirical criteria. Conceptually, developmental regulations are adaptive when, and only when, they are beneficial to the maintenance of positive, healthy functioning of the components of a bidirectional relation (e.g., both individual and context) (Brandtstädter, 1998; Lerner, 2004). Empirically, assessments of positive and/or healthy functioning must be conducted with the recognition that contexts are complex (e.g., they exist at multiple levels of organization as, for instance, denoted by Bronfenbrenner's [1979] notions of the micro-, meso-, exo-, and macro-systems within the ecology of human development). Individuals cannot necessarily act in ways that benefit all levels and all components of the context at all times and places (Elder et al., 2015).

Thus, one may need to treat adaption not as a categorical concept (as something that either exists or not) but, instead, as a multivariate concept composed of ordinal or interval dimensions (Lerner & Callina, 2014). As such, researchers studying adaptation would ask questions such as, how beneficial is the developmental regulation (the individual ⇔ context relation) for specific people or specific social institutions of the context, at specific times and in specific places (e.g., see Bornstein, 2006)? In all analyses, however, developmental regulations are the fundamental feature of human life; indeed, all life exists through bidirectional exchanges with the physical and/or social contexts (Darwin, 1859; Tobach & Schneirla, 1968). Among humans, these exchanges involve physiological systems and functions (e.g., respiration or circulation), behaviors (e.g., social affiliation and cooperation, as might be involved in protection, hunting, and scavenging; Johanson & Edey, 1981), and both organismic self-regulation (e.g., hypothalamic functioning)

and intentional self-regulation (ISR) (e.g., goal selection, resource recruitment, and executive functioning; McClelland, Geldhof, Cameron, & Wanless, 2015). The developmental course of ISR is, in effect, the developmental course of human agency (Diewald & Mayer, 2009; Mayer, 2009).

In short, and heeding Vondracek's formulation of human development as embedded within a process-relational paradigm, models derived from the RDS metatheory emphasize that all levels of organization within the ecology of human development are systemically integrated across life. As such, any variable from any level is fused with variables from all other levels. In other words, the structure and function of one variable is governed or regulated by the structure and function of other variables. Accordingly, developmental regulations are envisioned as the basic unit of analysis within human development. Moreover, because history (or temporality) imbues in individual ⇔ context relations the potential for relative plasticity in human development, developmental scientists may be optimistic that instances of these relations can be directed toward promoting positive human development among all people. More specifically, developmental scientists can contribute to promoting social justice by identifying and encouraging the provision of opportunities for all individuals to optimize their chances for positive, healthy development (Lerner & Overton, 2008). Instantiation of such promotion and optimization efforts rests on the conduct of multidisciplinary research, the use of change-sensitive methodologies, and the effective translation of research into policies and programs.

There are several models associated with RDS-based ideas, and derived from the process-relational paradigm that Vondracek elucidated, that have been used to study processes pertinent to, or explicitly about positive, healthy develop-

ment across the life span (e.g., see Lerner, Lerner, Bowers, & Geldhof, 2015, for a review of some of these models). Lerner and Lerner, and their colleagues within the Institute for Applied Research in Youth Development (IARYD) at Tufts University, have derived from RDS metatheory a positive youth development (PYD) model to frame research about thriving during adolescence (e.g., Lerner, et al., 2015). Accordingly, to illustrate the empirical usefulness of RDS-based models of human development, we discuss the Lerner and Lerner model of PYD (J. Lerner, et al., 2013; Lerner, et al., 2015) and the research testing it.

The Five Cs Model of Positive Youth Development (PYD)

As is the case with all RDS-based PYD models, the Lerner and Lerner conception is a strength-based model of development that seeks to understand and enhance the lives of diverse youth through engagement with key contexts in their ecology (e.g., families, schools, peer groups, and out-of-school time [OST] programs). Indeed, a major focus of the Lerner and Lerner PYD research has been the study of youth in OST program settings. There is considerable research assessing if and how the lives of diverse youth can be enhanced through engagement with community-based youth-development programs, especially if these programs align features of both youth and program strengths (as occurs when theoretical models, such as the person-stage-environment-fit model, are used to frame program design; Eccles, 2004).

The model of the PYD process constructed by Lerner, Lerner, and their colleagues has drawn on the individual ⇔ context RDS conception emphasized by Vondracek. This model

has been elaborated in the context of the longitudinal study of PYD conducted by Lerner, Lerner, and colleagues: the 4-H Study of PYD (e.g., Bowers, et al., 2014; Lerner, et al., 2005, 2009, 2010, 2011). Research on PYD seeks to identify the individual and ecological relations that may promote thriving and, as well, that may have a preventive effect in regard to risk/problem behaviors. Within the 4-H Study, thriving is understood as the growth of attributes that mark a flourishing, healthy young person. These characteristics are termed the "Five Cs" of PYD – competence, confidence, character, connection, and caring.

The core theory of change tested in the developmental process of PYD is that, if:

1. the strengths of youth (e.g., a young person's cognitive, emotional, and behavioral engagement with the school context, having the "virtue" of hope for the future, or possession of ISR skills such as Selection [S], Optimization [O], and Compensation [C]); can
2. be aligned with the resources for positive growth found in youth development programs, for example, the "Big Three" attributes of youth development programs (i.e., positive and sustained adult-youth relationships, skill-building activities, and youth leadership opportunities); then
3. young people's healthy development will be optimized (e.g., J. Lerner, et al., 2009, 2013; Lerner, 2004). Youth will manifest the Five Cs and demonstrate other positive attributes of behavior reflecting adaptive developmental regulations – most fundamental, a Sixth "C", youth contributions to self, family, community, and civil society.

In other words, if positive development rests on mutually-beneficial relations between youth and their ecology, then thriving youth should be positively engaged with and act to enhance their world. Further, youth should be less prone to engage in risk/problem behaviors.

Through such a theory of change, the goals of a youth development program (i.e., to enhance youth thriving) can lead to positive outcomes (e.g., the Five Cs and the 6th C of Contribution) through the assets of the program (e.g., the "Big Three"). Figure 1 presents an illustration of the Lerner and Lerner conceptualization of the PYD developmental process. As indicated in the figure, the developmental process envisioned by Lerner and Lerner to presuppose PYD involves adaptive developmental regulations, or synergies, between the strengths of youth and the developmental assets present in their contexts, for example, youth development programs marked by the "Big Three" (Lerner, 2004). These mutually beneficial individual ⇔ context relations are depicted as being associated with PYD (and the Five Cs associated with this concept) and, in turn, with the enhanced probability of youth contributions to their ecology and with lowered probabilities of risk/problem behaviors. The outcomes of these adaptive developmental regulations feed back to the individual and his or her context and thus create a basis for further adaptive developmental regulations. The figure illustrates, as well, that these adaptive developmental regulations and their positive and problematic sequelae exist within the broader ecology of human development. This ecology includes families, schools, community institutions, and culture. Historical (temporal) variation introduces change at all levels of organization within the relational developmental system.

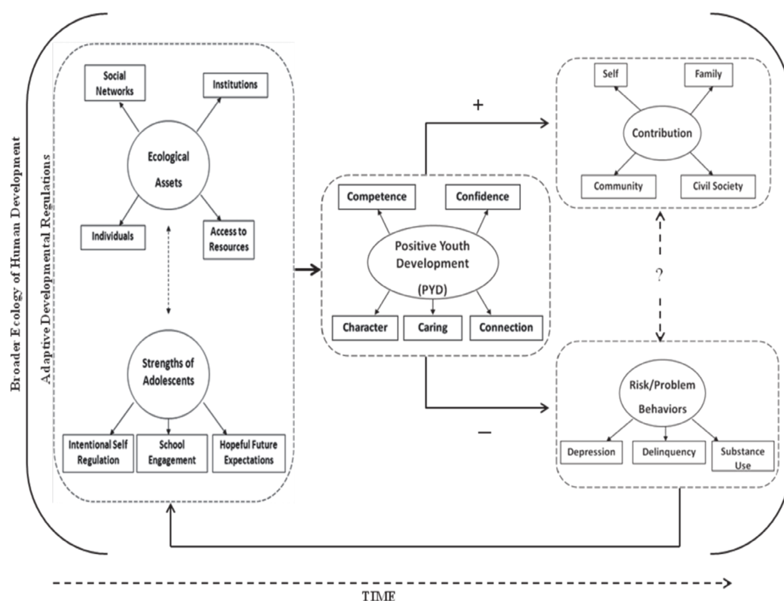

Figure 1: A relational, developmental systems model of the individual ⇔ context relations involved in the Lerner and Lerner conception of the PYD developmental process

Tests of the Lerner and Lerner PYD Model

In order to test the ideas presented in Figure 1, IARYD researchers launched the 4-H Study of PYD, henceforth referred to as the 4-H Study. This study examined approximately 7,000 youth and 3,500 of their parents from 42 states across eight data collection waves. At all eight waves, the sample varied in race, ethnicity, socioeconomic status, family structure, rural-urban location, geographic region, and program participation experiences. The research identified resources, or developmental assets, which existed in the key settings of youth, that is, families, schools, and community-based youth programs.

We term these contextual resources or ecological assets (Lerner, et al., 2015). In addition, the study assessed the individual strengths of adolescents (e.g., ISR, school engagement, and hopeful future expectations) and their patterns of participation in OST activities. OST activities included youth development programs, such as 4-H, sports, religious clubs, and performing arts organizations, among others.

The findings of the 4-H Study have been reported in more than 100 publications (see Lerner, et al., 2015, for a review). Here, we summarize some of the key findings bearing on the Lerner and Lerner model presented in Figure 1. The model in Figure 1 specifies that, when the strengths of youth are integrated with the assets of the context, such as represented by youth development programs, thriving across the adolescent years will be promoted. Vondracek's vision was to understand human development as a dynamic interplay between individuals and contexts. Using the RDS framework derived from Vondracek's theoretical propositions, this empirical work underscores the importance of individual ⇔context relations in the course of human development.

Ecological assets. One set of findings based on the model presented in Figure 1 pertains to the role of youth participation in OST activities, particularly youth development programs. Key ecological assets linked to both positive and negative developmental outcomes were identified, and grouped into four categories: (1) other individuals (e.g., parents, peers, mentors, and teachers); (2) community institutions, including youth development programs; (3) collective activity between youth and adults, including program leaders; and (4) access to the prior three types of assets. Across all contexts, ecological assets represented by other individuals were the most potent predictors of PYD (Theokas & Lerner, 2006).

Building on the work of Theokas and Lerner (2006), Urban, Lewin-Bizan, and Lerner (2009) found that dimensions of one's neighborhood context interact with youth development program involvement to predict PYD, and this differs for girls and boys. For example, youth development program involvement for adolescents living in neighborhoods with fewer ecological assets (e.g., large numbers of youth development programs, designed recreational settings, or educational resources) was related to higher levels of PYD for girls, but lower levels of PYD for boys. In line with Vondracek's conceptual propositions, these findings point to the need to consider various aspects of an individual's ecology and how they may differentially impact PYD across gender. Simply, the broader ecology of youth development programs matters in fostering the expected outcomes of a program.

Individual strengths. Other research utilizing the 4-H Study examined possible interactions between individual strengths and youth development program participation. Urban, Lewin-Bizan, and Lerner (2010) found that the strengths of youth *and* the resources of their contexts are involved in thriving. However, these results also highlight the importance of considering additional strengths, including ISR abilities, as such strengths may moderate the effect of participation in youth development programs on PYD. Moreover, results from Mueller and colleagues' (2011) research indicated that while self-regulation skills alone predicted PYD, self-regulation and youth development program participation both predicted Contribution. Gestsdottir and colleagues (2010) provide further support for the model illustrated in Figure 1. These researchers provide evidence linking the strengths of youth to indices of PYD; youth ISR, conceptualized as the individual's "contribution" to adaptive individual ⇔ context relationships, covaried positively with PYD and Contribution, and negatively with problem behaviors.

Contribution and civic engagement. Finally, emotions (e.g., hope for one's future), and the cognitive and behavioral skills necessary for the activation of ISR skills to achieve future goals, may play important roles in the development of civic engagement. For example, Schmid and Lopez (2011) found hopeful future orientation to be a stronger predictor of PYD, Contribution, risk behaviors, and depressive symptoms compared to ISR skills. In turn, Li and Lerner (2011) found that engagement in civic activities was associated with higher levels of affective school engagement (e.g., feelings of belonging to the school). Results of these studies were indicative of the development of active and engaged citizenship (AEC) during adolescence. As a result, Zaff and colleagues (2011) derived a measure of this construct from items measured within the 4-H Study. AEC was comprised of civic participation, civic duty, civic self-efficacy, and neighborhood connection. Consistent with the model presented in Figure 1, engagement with the ecological developmental assets (represented by community-based institutions and programs) was associated positively with AEC.

Summary. Findings from the 4-H study testing various aspects of the PYD model shown in Figure 1 support the idea that strengths of young people and the developmental assets in their families, schools, and communities predict thriving and, in turn, contributions to, and active and engaged citizenship within, their communities. However, tests of the model have not always aligned with expectations. For instance, the predicted inverse relation between indices of civic engagement and risk/problem behaviors was not present for participants at all ages. That is, some trajectories of high, positive civic engagement were coupled with trajectories involving increasingly higher levels of risk/problem behaviors for youth across different portions of adolescence (Lewin-Bizan et al., 2010; Phelps et al., 2007).

Therefore, the overall strength and valence of the relation represented in the model between civic engagement and risk/problem behaviors requires additional theory and research to address this inconsistency (represented by a "?" in Figure 1).

Overall, the theoretical vision for developmental science forwarded by Fred Vondracek in the early to mid-1980s involved the articulation of a relational systems approach to describing, explaining, and optimizing human development (e.g., Vondracek, et al., 1986). The ideas of individual ⇔ context relations brought to the fore in Vondracek's thinking have crystallized into contemporary RDS-models of healthy and positive human development. As illustrated by the PYD model and research we have reviewed, the empirical work evolving from the vision of Vondracek constitutes a vibrant and active feature of contemporary developmental science. This observation leads to some concluding comments.

Conclusions

As illustrated by the RDS-based model of positive youth development we have tested, the theoretical ideas forwarded more than three decades prior by Fred Vondracek and his colleagues (e.g., 1983a, 1983b, 1986) have proven their empirical usefulness. Depicting a relational and systems-oriented approach to describing, explaining, and optimizing human development, which is representative of the approach to developmental theory that Vondracek argued, will enrich the future ability of developmental scientists to understand and enhance human life.

In his characteristically modest way, Vondracek said that he hoped that the ideas he presented would be regarded "as offering an exciting body of theory, research findings, and methods,

which can make an important contribution" (Vondracek, et al., 1986, p. 13). In addition, he expressed the hope that developmental scientists would "make a serious effort to understand and deal with the full complexity of individuals trying to optimize their ... development across the life-span" (Vondracek, et al., 1986, p. 173). We believe that these hopes have been realized and, as such, developmental scientists, and the people whose lives are enhanced by their work, owe a great debt to Fred Vondracek and his career contributions.

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III
CAREER DEVELOPMENT IN CONTEXT – SOME HISTORICAL AND PERSONAL NOTES

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Abstract

In reminiscence and appreciation of two decades of friendship and collaboration with Fred W. Vondracek the present chapter sketches the debate about the impact of contextual constraints vs. personal agency on individuals' career development. It is suggested that scholars' theoretical positions with regard to these two poles are influenced by their socio-historical context as well as their own biographical experiences. In a historical flashback, the major impact of Donald E. Super's work in the 1960s and the 1970s is highlighted. He had coined the prevailing Zeitgeist in vocational psychology when Fred began his career in this academic domain. However, Super's theorizing and work did not remain unchallenged. His strong emphasis on the self and personality was questioned by Walter S. Neff, a very creative spirit who has become almost forgotten in the field. In his 1968 book, one may find precise anticipations of social change phenomena as

well as precursors of modern dynamic systems notions applied to career development. The chapter finishes with a critical reflection on new concepts such as protean and boundaryless careers.
Keywords: Career development, personality, agency, context, history, Super, Neff.

Introduction

I met Fred W. Vondracek for the first time in 1995 during a student excursion of our department to several academic places in the U.S , and it was a most pleasant, welcoming, and hospitable professor that I met. Two years later, Fred visited our department for a couple of months. We were interested in predicting young peoples' timing of consecutive steps in their career development. I had no expertise in the field of vocational psychology and was dependent on his theoretical background. Yet, from the very beginning he treated me as an equal and never tried to indoctrinate me. On the contrary, he insisted on me being the first author of our common product (Reitzle, Vondracek & Silbereisen, 1998) although he had contributed most of the substance. Over time, we got to know each other better, shared many views on psychology and the academic world in general and became friends. When I learned more about the field and could contribute a bit more substance to our discussions, it became clear that we both perceived career transitions as occurring in context. This insight was inevitable because we were mostly working on data of adolescents and young adults raised in the two different contexts of pre-unification Germany. My impression was that Fred always emphasized a bit more the new oppor-

tunities and almost unlimited options for agency of eastern young people after unification, whereas I was a bit more skeptical and stressed the market constraints which had replaced the former ideological oppression. Of course, the variety of potential pathways towards self-actualization had increased, but only in principle. There was also an increase in material insecurity and unpredictability of the future. Easterners were not socialized to cope with such a high degree of uncertainty. Consequently, context would have a crucial impact on their job-related as well as private transitions.

Context and Agency

Since the days in the Berlin Youth Longitudinal Study, I have always been skeptical towards individual agency as the primary driving force in human development, not because I believe in structural determinism, but more so because so many turns and decisions at junctions happen unconsciously, unplanned, or simply by chance. Insofar, I could subscribe to our basic doctrine of "development as action in context" when it was defined the following way: "In short, the action perspective of development is a useful fiction, a paradigm which helps to clarify and systematize basic concepts and methodologies … we do not wish to imply that action aimed at development is always conscious, deliberate, or rational (Silbereisen & Eyferth, 1986, p. 5)." Fred often quoted the ideas of Ford and Lerner (1992). They aimed at uniting person and context in their Developmental Systems Theory. This meant finding a theoretically sound compromise between apparently incompatible positions which were illustratively outlined by Ford (1994):

> "Sometimes people are seen as "pilots" of their lives – choosing the destinations toward which they will sail; choosing the means of getting there with some knowledge of the characteristics of their ship and the factors that influence it such as the force of the winds, the currents of life, and the availability of essential supplies … Another view sees people as machines or "robots" responding automatically to events which impinge on them. In this view, the winds and currents of the sea of life carry a person's ship wherever they may go. The nature of the design of the ship, the power of the currents, winds, and other forces to which it is subjected, determine its directions and movement (p. 10)."

I have never seen humans as will-less objects, neither of social structure nor of destiny. However, the numerous studies comparing easterners and westerners after unification demonstrated to me how powerfully structure can modulate human agency. For example, it has been lamented for decades in Western Germany that women with higher education have increasingly shunned motherhood and that reproduction has mainly been left to lower educational strata. After unification, this trend persisted in Western Germany. In the East, the contrary occurred: Motherhood among well-educated young females increased (Reitzle & Silbereisen, 1999). With their high qualifications, they maintained employment during the economic restructuring and thus could afford family formation. Due to the wide-spread childcare facilities inherited from the GDR, they were able to maintain their jobs and were not reliant on a male partner. Half of the women from lower educational tracks, instead, had to struggle with unemployment after unification (Reitzle & Vondracek, 2000) explaining their reluctance to family formation. The basic impression from our data that the post-unification east

had not turned into a land of plenty just waiting for everybody's agency to grasp the new opportunities, brought me closer to the mostly British literature on structural influences on life course and social exclusion (Bynner, 2001; Bynner & Parsons, 2002; Bynner, Ferri, & Shepherd, 1997; Furlong & Cartmel, 1997; Joshi & Paci, 1997; Wyn & White, 2000).

Socio-historical context and biography shape theoretical reasoning

Whether person or structure prevails in social science theory has a lot to do with the socio-historical context. In the economic growth societies of the postwar 1950s and 1960s, context consisted predominantly of opportunities despite existing social inequality. In Germany, higher education and college degrees were largely the privilege of middle and upper middle class. Working class offspring rarely made it to the highest German school track (Gymnasium) or to a university. Still, there were opportunities to thrive and to even transcend borders between social classes by virtue of ambition, aspiration, and perseverance. In the "golden age" between roughly 1960 and 1974 the macroeconomic markers pointed to seemingly unlimited growth. During this period, German unemployment rates were, with only two exceptions, below one percent. Because of the extreme demand for workforce, foreign workers from Italy, Spain, Portugal, and Turkey were convinced by government agencies to come to Germany. Starting with 500,000 foreign workers in 1962, their numbers surpassed 2.5 million in 1973. In this scenario, career development clearly depended on aspirations, goals, and work-related values. Whether it be in economic self-reliance, preference for leisure and consumption, social

rise, or personal self-actualization, the labor market offered options and pathways for each goal.

Beside the current socio-historic context of researchers, their past biographies, particularly experiences in their "impressionable years" (Alwin, 1994) during adolescence and young adulthood, inspire their theoretical ideas. Erik Erikson's biography is a case in point (see Noam, 1999). Erikson was initially influenced by the romantic tradition of adolescent "Wanderlust" that represented a youth movement with a strong emphasis on individual freedom and resistance against the prevailing Zeitgeist of technology and industrialization. After the Nazi atrocities forced him to emigrate and uprooted him, questions of "Who am I?" "What is my relationship to religion and to the great ideologies of the centuries?"became salient. These experiences combined with the fact that he was conceived out of wedlock while his mother was married with the Dane Salomonsen. His biological father remained unknown. Upon discovering her pregnancy, his mother fled to Frankfurt, Germany, where he was born as Erik Salomonsen. Then he was adopted by Theodor Homburger, his mother's new husband and took on the name Erik Homburger. After his emigration he renamed himself Erik H. Erikson. His theoretical emphasis on an autonomous intrapersonal identity complies with his long history of unstable social identities. That he repeated his first name to create his own last name completes the story.

Besides Fred's biographical cornerstones on which I will dwell in my conclusion, the prevailing academic Zeitgeist is formative for young researchers when they enter their career. As already mentioned, most often the theories and approaches correspond to the socio-historical context in which they emerge. Following this line of reasoning, I became interested in studying more deeply the arguably most influential scholar in

vocational psychology of the 1960s and 1970s, Donald E. Super., to learn how the agency vs. context debate was viewed when Fred began his academic career. The fact that Super yields nine entries in the reference list of the recently published book of Vondracek, Ford, and Porfeli (2014), speaks for his unbroken influence in this field.

The advancement of Super's life-span, life-space approach

In Super's early writings (e.g., 1953) occupational choice was the core topic. Point of departure for Super was the work of Ginzberg, Ginsburg, Axelrad and Herma (1951). The major pillars of their theory were the following propositions: Occupational choice is a process of some ten years, it can be subdivided into the three periods of fantasy choice, tentative choices at around age 11, and realistic choices starting at around 17. The process of occupational choice was thought to end in a compromise between interests, capacities, values, and opportunities. In addition, the process is irreversible because it needs considerable investments of time, money, and adjustments of the ego. Context had only begun to appear in the form of "opportunities." The emphasis, however, was on the person's developmental sequence. This referred to all persons universally. For Super (1953), this approach was too coarse. He criticized that the concept of interests was underexposed, that individual differences were not acknowledged, that persons had the capacity for a variety of successful careers, that the formative and canalizing force of role models was overlooked, that the existence of career patterns contradicted the irreversibility claim, that the complexity of person-environment interaction was underestimated, and last but not least, that there was no

account of a desirable match between work and the remaining facets of life such as family, leisure, friends etc. The critique already contained many "modern" elements with regard to humans as complex person-environment systems. Still, the self and context were treated as separate entities which must be reconciled by some process of adaptation.

In a later paper (Super, 1956), context was introduced as a type of moderator imposing different foreclosure-like choices on persons with similar aptitudes: "This kind of interaction between individual and environment might be illustrated by two boys, each with considerable fine finger dexterity, one growing up in a Swiss mountain village, the other in a middle-class city family (p. 250)." The former will become a watchmaker, of course, because his manual skill is cultivated, praised and reinforced in his watch-making family. The other boy, instead, is socialized to a more sophisticated expression of his dexterity in an artistic or scientific domain. He might be driven by his more intellectual context to becoming an engineer. Context canalizes but does not impede. In the worst case, the context may socially disapprove the initial choices and aspirations: "Thus a boy may attempt to meet his need for status by using his artistic aptitude, but, on finding that artistic success is not valued by his peers and brings ridicule instead of praise, may give up his artistic endeavors to try some other status giving activity (p.251)." There is some contextual influence on boys'(!) occupational choice through approval/disapproval from significant others. This, however, has nothing to do with structural constraints.

Some years later (Super, 1969a), the scope was extended to career development across the life-span: "A career is a sequence of occupations, jobs, and positions occupied during the course of a person' working life (p. 3)." Continuities and discontinuities

in the lives of individuals were taken into account. At this point, contextual constraints imposed by SES and family background were also considered. However, they influenced the starting points of careers only, the careers paths were optimistically upward bound in any case: “His starting point is his father's [!] socioeconomic status, he climbs up the educational ladder at a speed fixed both by his psychological and social characteristics and by the resources provided by his family environment. He enters the world of work which is determined by the rung on the educational ladder which he has reached at the time of leaving education for work. He progresses through an entry job into other jobs, which may or may not be related to each other in constituting a career field in the sense of continuous, progressive achievement (p. 3).” Super conceded that higher levels of education more likely lead to conventional and stable career patterns whereas lower levels yield a higher probability of multiple-trial and unstable patterns. In addition, Super suggested an interdisciplinary view on career development. The sociological focus would be on social allocation (e.g., parental SES), the psychological focus on personality factors (intelligence, interests) and the psychological implications of career steps, and the economic focus on pay and fringe benefits. His core focus remained on psychological factors such as “vocational maturity” which develops in a sequence of “crystallizing a vocational preference, specifying it, implementing, stabilizing in the chosen vocation, consolidating one’s status, and advancing in the occupation (Super, 1969a, p. 4).” Change of occupation, in this framework, was deemed a result of mismatch between one’s self-concept and one’s concept of the current occupation. If important attributes of the occupation are not incorporated into one’s self-concept or vice versa, a tendency towards change will occur. This is the case because the superordinate

goal of this mutual incorporation is self-actualization, and the person is the major force in achieving this goal: "the deciding individual, construing himself and his environment in his own way is a major determinant of his own career, even though he operates in a context of external determinants (p. 7)." Despite this obvious primacy of the person, Super complained in this paper about being perceived as a pure self-concept theorist by some of his peers.

In another paper of the same year (Super, 1969b) he outlined his vision of a vocational development theory in the late eighties. The major focus was again on individuals' self-concept, however, enriched by the idea of the "career tree" that was supposed to visualize the differential career decisions of young people with the same starting point (junior high school), mainly based on the weighting of their verbal vs. spatial-mechanical aptitudes: "Each group, for example the physical science students, is shown in this factor space, and those who changes plans, for example to business organizations, are shown by arrows which start the group from which they are moved and end at a point which shows where they stand on the two aptitudes. In this case, for example, the ex-physical science new-business-organization group is lower on both verbal and spatial factors than is the group which retained the major (Super, 1969b, p. 11)." Besides these talent-related traits, he wanted to get a handle on the differential effects of various types of exploration, intentional vs. fortuitous, systematic vs. random, and self- vs. other-initiated. In closing his vision, Super providently made the success of self-concept, as an overarching theory of vocational development, dependent on macro-contextual conditions: "Surely the importance of the individual as a decision-maker depends on his freedom to make decisions. Self-actualization depends on social mobility, upon the fluidity of the social class

system, upon the accessibility of educational and occupational resources to the individual (p. 13)."

Ultimately, Super (1980) elaborated the idea of career development as a sequence of choices. At each step, opportunities for choice are determined by previous steps. For example, the amount and type of schooling determines what type of occupations a person may enter. The initial type of occupation and persons' job performance determine later occupational positions open to the individual. The last full-time job is a major determinant of life-style in retirement with regard to retirement income, activities and social relationships. Prior success was seen as sufficient condition for later success. A profound education should almost always lead to a high level initial position. This position combined with excellent performance on the job should almost always lead to a promotion or to a profitable job change etc. As in earlier versions, the starting or decision points were supposed to be socially stratified according to SES and education: "They depend upon the educational achievement of the individual, for in the case of manual workers without special training the decisions are largely those of what kind of manual job to seek among a situationally restricted list and where to seek it, while for executives the decision points depend largely upon how well they have done their latest assignments and what kind of vacancies open up (or fail to open up) as a result (Super, 1980, p. 292)."

Recent decades have shown that even for highly educated persons, achievements at one point may represent necessary but no longer sufficient conditions for an upward career. Particularly, rocky transitions from education to work often become an everlasting burden on each subsequent step ("scarring effect"; Blossfeld, 1989; OECD, 1998), even for well-educated young people. The burst of the DotCom bubble in 2000 had

young top executives dropped from a luxurious work life to unemployment. A similar fate hit bankers and investment bankers in the financial crises of 2007/2008. Even without these economic shocks, the quest for a job seems to be more detached from self-concept issues today. Vocational decisions no longer aim primarily at self-actualization. Instead "Bread before Bach" as Maslow once stated (Burns, 2010) seems to be the motto for many.

Too much "self" in vocational psychology – Neff vs. Super

As early as 1970, a controversy between advocates of person and context became visible in Super's review of Neff's book (1968) "Work and human behavior." In a five-page article, Super (1970) extensively defended contemporary vocational psychology, particularly his own contribution, against putatively false allegations of being too person-laden ending with the recommendation that "The book should be read by practitioners and students for its contributions to the philosophy and methods of rehabilitation, but not as a treatise or text on work and behavior (p. 167)." Neff (1970) replied politely pointing to the difference between himself and the mainstream: "In chapter 7, I examine the chief theories of vocational behavior (Super, Ginzberg, Roe, plus mention of the work of such people as Holland and Flanagan), after making it explicit that I believe that this literature is less useful for helping us understand how people become workers than it is for providing insights into how people make occupational choices' (p. 530)."

What was the essence of chapter seven that had so upset? From today's perspective, the conceptual ideas on which Neff based his critique appear sometimes very modern, holistic,

interdisciplinary, in short, farsighted. Basically, he criticized his coevals with gradual differences for focusing too much on occupations instead of on work and its different aspects and functions in human development. Furthermore, he complained about mainstream's circling around the trinity of abilities, aptitudes, and interests as relatively static personality factors, about the neglect of contextual conditions, thereby attributing choices at each step of career development to "voluntarism and rationalism", about the neglect of emotions, spontaneous heuristics, and chance operating on individuals' career pathways, and ultimately about the disregard of social change steadily altering the contextual conditions for choices. Super was particularly faulted for placing career choice too much in the service of self-concept only, a blurry and ill-defined construct in Neff's eyes:

> "To support Super's theory, two general conditions would have to prevail in the real world. First, young people would have to enjoy almost unrestricted freedom in making occupational choices and in shifting from one sort of training to another as circumstances dictate. Second, these young people would have to operate at least as rationally as an electronic computer, in the sense that they would have to be more or less continually involved in matching whatever data they have about themselves to whatever data they have about occupations. Should either or both of these conditions fail to hold, then there is little reason to expect that there will be any generally detectable relationship between the pictures people have of themselves and the occupations they ultimately enter (Neff, 1968, p. 104f.)."

He did not deny that this scenario may apply to some individuals, but he insisted that real life is too complex to boil

major developmental outcomes down to a few personality variables even if they are allowed to interact with some features of the immediate context such as family, peers, and school:

> "… a host of factors must be considered as having some influence on occupational behavior quite apart from the self-concept. Constraints arising from socioeconomic status, the particular aspirations, biases, and predilections prevailing in individual families, barriers posed by ethnic and demographic factors, differences in the relative ease of entry into the different occupations, prevailing stereotypes concerning differential occupational prestige, the various frictions and rigidities which characterize the system of formal education, the influence of prestigious peers and adults, sheer inertia – these are only some of the variables which, more often in combination than singly, may serve to determine choice of occupation … Occupational activity is too molar as a sphere of behavior to be easily linked to a single kind of determinant … In one sense, then, Super is too much of a psychologist and not enough of a general social scientist (p. 105)."

Over and beyond his critical appraisals, Neff offered some other modern ideas, e.g., by overcoming the traditional antecedent-consequence thinking of the 1960s. The first one dealt with the idea of transaction within an inseparable person-context unit (cf. the "relational developmental metanarrative"; Overton, 1998): "We should emphasize that we are considering here only one side of what is always a two-sided transaction: between the individual and his surround. Living organisms not only live 'in' an environment; they are in a continuous state of interaction with environmental forces. Human behavior is not only a function of the kind of individual the person happens

to be, but is also a function of what is happening *to* him. In the ordinary stream of events, these two sets of conditions of behavior are intertwined (p. 119).” Another notion resembles the idea of circular causation between everyday micro-processes and (changing) higher-order structure in the dynamic systems theory (DST, e.g., Nowak, Vallacher & Zochowski, 2005; van Geert & Steenbeek, 2005; Witherington, 2011). In this vein, Neff acknowledged that self-concept and occupational choices are not separable entities. The factors and constraints he had enumerated and a person’s way of handling these factors affect not only their choices, but also their self-concept at the same time. Neff’s reasoning that at each step of career development choices imply constraints which reduce the person’s options is compatible with the DST concept of emergent attractor states (van Geert & Steenbeek, 2005). The narrowing of the scope of choice is due not only to an increasingly rigid environment, but also to the inertia of an individual’s psyche:

> “The chief determinants of the increasing restriction of freedom are the frictions and rigidities inherent in the institutional environment. Earlier decisions to take or drop a given school subject can exert a powerful influence on later educational options. Not only does the educational system itself display increasing rigidity with time, but it is psychologically easier to continue on a given course of action than to abandon it and start all over in something else. The result is a series on increasingly restricted compromises between what one wants to do and what is actually available … Thus, an individual may wind up in an occupation which is relatively incongruent with his actual personal attributes, largely because early and irrevocable choices were made – whether accidentally, impulsively, or simply mistakenly (Neff, 1968, p. 109).”

Neff's account of social change came true

Last, but not least, Neff (1968) made an argument for treating context as dynamically as the individuals acting and deciding in these contexts: "In the real world, however, conditions are *never* constant, and the real world is the locus of Super's research enterprise. Too many things are operative to permit *any* set of purely personal attributes, no matter, how construed, to bear any very close relation to the kinds of work people are actually found to perform (p. 106)."

As a matter of fact, social change with all its consequences for career development is largely unpredictable. Besides the economic shocks mentioned above, even smooth changes alter the conditions for career development. The German "educational expansion" beginning in the 1960s granted higher education to a broader spectrum of youth. This did, however, not necessarily improve their options for career choice. Until today, there has been an oversupply of youngsters with college degrees in the liberal arts sector while there is a shortage of skilled workers in manufacturing and the trades. The halfhearted introduction of the bachelor/master system in Germany has created bachelors with skill profiles for which many employers felt no need: Too highly skilled for low wages, not skilled enough for good positions. While the political emphasis in Germany has been on higher education for the last decades, the quality of the lower tiers of our stratified school system has suffered. Around 70 percent of the 20 to 34 year-olds without a school degree and more than 30 percent with a degree from the lowest school track ("Hauptschule") remain without occupational training (Anbuhl, 2012). These figures have remained constant since the mid 1990s. These youths in particular suffer from globalization with the increasing export of entire low-skill branches with their corresponding jobs to threshold

countries. The dramatically changed world of work leaves a considerable number of young people facing the question of *whether* instead of *what* with regard to work, particularly in the economically dire contexts of southern Europe. In contrast to the "golden age" outlined at the beginning, a bigger portion of the young generation is struggling at lower levels of Maslow's (1970) need hierarchy today than in the era of unquestioned economic growth and full employment. Paradoxically, this contrasts with a marked enhancement of education, technological progress and a theoretically much greater variety of options and career paths. The price for the greater variety of options seems to be the greater variety of unpredictable risks (Beck, 1992). In sum, the picture has changed from a static match between self-concept and occupation to a dynamic navigation through changing tides and unforeseen rough seas.

How the controversy ended – a balance sheet

Sometimes vision gets lost. In Thomson Reuters© Web of Science, Neff scores with 21 records, among them a commentary in Science, yields 50 citations and an h-index of 4. In contrast, Super has 94 entries, 1425 citations and an h-index of 16, aside from numerous academic honors and awards (Savickas, 1995). In recent years, Super has experienced an impressive citation revival after a dip in the curve. His tremendous productivity and the continuous extension of his approach to the role of work and careers in individuals' development across the life-span have granted him an outstanding place in vocational psychology of the 20th century.

Despite his conceptual ideas which appear ahead of the times, Neff's work, particularly his 1968 book "Work and human

behavior", never gained considerable influence in the field. Super's sending him back to his niche of "the philosophy and methods of rehabilitation" (Super, 1970, p. 167) apparently had its effect. Excellent appraisal by other colleagues did not help to spread the conceptual ideas which ordered the practical advice given in this book: "Work behavior is treated in what the writer calls a 'Transactional Approach.' This means that work behavior is a complex inter-relationship between the person and his work culture. ... The book is rich in bringing forth important historical, sociological, psychoanalytical, and psychological aspects of work ... As a final testimony to the excellence of this book, I will be ordering it for my class as soon as I complete this sentence (Perrone, 1970, p. 259f.)." Unfortunately, as professor of psychiatry and psychology in the emerging and controversial field of psychiatric rehabilitation at NYU and SUNY/Stony Brook, Neff was more of an outside observer of vocational psychology than a "member of the gang." Neither personnel selection nor career planning and vocational counseling, the main pillars of this field in these days, were his genuine topics. Last, but not least, there is another marked difference between him and Super. While the latter was an aviation psychologist with the rank of major in World War II (Savickas, 1995), Neff was head of the New York Council of the American Peace Mobilization, a communist-associated organization founded in 1940. Together with ten other teachers, he was suspended from City College of New York in April 1941 as a result of the Rapp-Coudert Committee (Joint Legislative Committee to Investigate the Educational System of the State of New York) hearings. In the same year he wrote a book with the title "Foreign Policy and Peace" (Neff, 1941) published by the New York Council of the American Peace Mobilization that does not appear in his Web of Science records.

The immortality of good ideas – the dynamic system perspective

The idea of complex interactions of person and context in the pursuit of mastering one's vocational development over one's entire life course, in short, a transactional model, has survived and is well-documented in the work of Fred Vondracek. After having issued a first cornerstone with the book "Career development: A life-span developmental approach" (Vondracek, Lerner & Schulenberg, 1986), he has recently put together the distillate of his academic work in the book "A living systems theory of vocational behavior and development" (Vondracek et al., 2014). It touches on all modern ways of thinking about development: a plea for a holistic instead of an atomic or segmental approach, an emphasis on dynamic processes instead of static variable connections, the idea of self-construction and self-regulation instead of being affected by internal and/or external forces, the idea of feedback loops and action control, and the person and his/her idiosyncratic patterning of biological, psychological, and social characteristics instead of sample-based variable networks as the primary unit of analysis. The focus on the individual may be the fruitful heritage of the experienced clinician and counselor Vondracek.

The notion of systemic functioning is based to a great part on the work of Ford whose book "Humans as self-constructing living systems" was first released in 1987. Since the 1990s, a dynamic systems perspective has increasingly infiltrated developmental science from different angles (e.g., Thelen & Smith, 1994; van Geert & Steenbeek, 2005, Witherington, 2007). Despite some conceptual differences, the core element is the structure organizing everyday micro-processes as, for example, individuals' interpreting, thinking, and action, alone

and in social interactions. Stability of systems is obtained via attractor states which, according to their number and energy levels, evoke flexible (high number, low energy) or rigid (low number, high energy) attributions and responses in everyday processes. Ultimately, the individual attractor landscape can be regarded as personality (Nowak et al., 2005). Its development through everyday interactions is usually a process of selection and focusing, in other words a reduction of theoretically countless options which exist in the beginning: "Conceptualizing personality in terms of attractor dynamics thus captures both the human proclivity for continual change and the tendency to forge and maintain personal stability in one's interaction with the environment. A person's thoughts, emotions, and behaviors may initially be generated in response to situational demands, but over time they come increasingly under the control of stable internal states (cf. Lewis, 2000). With the development of attractors, moreover, there is a restriction in intra-individual variation and the emergence of inter-individual differences (p. 354)." Attractor landscapes are rather inert, change slowly, but may also be spontaneously restructured if the system experiences serious perturbations in the course of major developmental transitions or life events.

Ideas about constraints of repertoires can also be found in Ford (1994). Talking about self-organization, he acknowledged organismic and environmental boundary conditions. With regard to the former, "the best social strategy, humanistically speaking, is to assume that there are few organismic limits on learning potentials and to seek to design environments and methods to cultivate the desired functions (p. 155)." Environmental boundaries, on the other hand, may cause individual differences in performance capabilities (e.g., scholastic aptitude tests) mistakenly attributed to a genetic origin. How the individual

can deal with an unfortunate high potential in adverse context combination, was insinuated by Ford (1994) in terms of adaptation: "Children born in a city ghetto or in rural isolation will learn to adapt their inborn potentials to their particular environments (p. 157)." This notion could be reformulated as an emergence of context-specific attractors. In the extreme case the alienated inner city young man may form an ostensibly successful street survivor habit, knowing when to hit first, smelling the police in advance, and acting aggressively in case of doubt. The rural local yokel may form a successful law and order habit, knowing how gain influence in a small community, exploiting conformity, portraying himself as the straight patriot. However, both could have become open-minded successful college graduates if raised under more conducive conditions. Thus, in line with the idea of multifinality, similar natural assets may lead to completely different developmental outcomes depending on context. In contrast to Ford's "habit formation" leading to automatized performance capabilities which can be applied efficiently and effectively without requiring primary attention, attractors do not have necessarily positive valence. They may neither be accompanied by immediately gratifying emotions, refer to intentions and desired states, nor yield positive developmental outcomes in the long run (Nowak et al., 2005). Granic and Patterson (2006) present an illustrative example for the emergence of deviant behavior by the build-up, widening, and deepening of a "deviant talk" attractor within a peer group with only restricted normative success.

Coming back to the initial framing of this chapter, namely individual agency vs. contextual constraints, one should keep in mind that attractors are built in everyday interactions with persons from one's prevailing contexts. This line of reasoning suggests that social constraints or even social exclusion with

regard to career development extend beyond factual obstacles such as material hardship, low quality schooling or the lack of promoting networks. Social constraints also include psychological factors operating in one's context such as, for example, educational aspirations of the family, the prevailing valence of education and work in the neighborhood, successful role models, explorative tendencies fostered by secure attachment, encouragement to try out, early opportunities for mastery, and the current normative climate with regard to career opportunities and the future in one's cohort and social stratum. These factors and climates operate through the filtered and weighted experience of one's everyday interactions with protagonists in one's various contexts thereby contributing to the formation and changing of structure in a developmental time metric whereas structure itself forms, filters and weights immediate experience in real-time ("circular causality", see e.g., Witherington, 2007). One formidable example of a very effective attractor that is unconsciously formed as a byproduct of social class and pedigree is Bourdieu's "habitus" (Bourdieu, 1982). Habitus evolves from concrete interactions with family and upper class peers from infancy onward forming a strong attractor of being a winner, of being in control, of being superior. This attractor is accompanied by appropriate manners, social skills, and a kind of invincible aura. Habitus is introduced into almost every social interaction in such a convincing fashion that interaction results in success and reinforcement. Insofar, habitus not only reflects the material advantage of the upper class context but is an immaterial embodiment of class-typical interaction at the same time.

By accepting the DS way of thinking that personality is not genetically determined but a structure, a landscape of attractors massively influenced by cognitive-emotional micro-processes within the person which are closely linked to interactions with

other persons, the prominent role of context is undeniable. Except for a few biologically determined assets or constraints representing “pre-wired attractors” (Nowak et al., 2005), the many “selves” in self-direction, self-organization, self-achievement, and self-regulation (Vondracek et al., 2014) are to a considerable degree embodiments of interactions with others. Under a DS perspective, the dichotomous split into person and context, into nature and nurture, and the subsequent attempt to quantify their contributions to developmental pathways, is fruitless because person and context are inseparable entities. Contexts derive their psychological meaning through individuals’ transactions only, whereas a completely context-free individual personality does not exist. This view complies with Overton’s (2007) relational organicism-contextualism – with a special emphasis on “relational”. Under this premise the uniqueness of the individual self is not the uniqueness of persons but the uniqueness of person-context systems. Even unpredictable and idiosyncratic system phenomena such as emergence are not person-borne (“person” used here in the traditional meaning as antagonist of context) but system-borne: “Emergence in a system, the coming into being of new patterns or forms as a result of interactions among the very components that comprise the system – such is the nature of self-organization, both as a phenomenon and as the metatheoretical underpinning of DSP (Witherington, 2007, p. 135).”

What do these metatheoretical considerations mean for career development? The “self” is not a superior being who masters contextual demands and opportunities in a conscious, cognition-ruled, planful and goal-oriented manner guided by feedback loops and subsequent adjustment of action and/or goals. This picture resembles more a heater control than a double pendulum or a Lorenz wheel. In contrast, the movements of living systems through space and time are often driven by

unconscious forces, are driven by emotions and former emotional experiences, rarely follow a well-elaborated master plan, do not even necessarily move in the direction of a desired state, and perform sudden and unpredictable turns that occur in periods of shaky system states. Whether there is a goal at all and whether this goal represents an energy-rich attractor, i.e. a wide and deep funnel, itself results from system activity, i.e., from person-context interactions.

Considering the role of context in dynamic systems, it can be concluded that system stability has a lot to do with context stability, for better or worse. Granic and Patterson (2006), for example, demonstrated that coercive interaction and deviance stabilize by persistent and script-evoking interaction contexts. In the positive sense, straightforward goal building and goal pursuit performed by stable systems occurs more likely in stable and predictable contexts. As already stated, contexts are multifold at different layers (Bronfenbrenner, 1979) and consist of persons in the immediate environment, a normative climate and culture, material conditions in terms of persons' financial situation, institutions, legislation etc. Even if they are not particularly conducive, a clear definition and long-term predictability of these context facets help a system's stable functioning. Nowak et al. (2005) related the stability of system functioning to the amount of "noise", i.e., the combined effect of a host of biological, cognitive, environmental, and social factors at a given moment. In low noise situations, systems will hover around their attractors irrespective of their strengths. Noise of medium size will destabilize weak attractors. The functioning of the system comes under control of strong attractors only. High levels of noise even erode strong attractors and increase the attention to situational cues: "Under such conditions, in other words, personality represents a fairly weak force in generating behavior (p. 377)." With

regard to career development, the Great Depression represented a high noise situation. People with various shades of education, work ethic, and career plans were uniformly either running for any job or desperately trying to maintain their jobs for material survival. In other words, their behavior did not mirror too many personality differences, i.e., differences in system functioning. Paradoxically, low noise situations do not produce vast individual differences in behavior either. The overall conducive context allows individuals to tune their behavior according to prevailing norms and generally desirable states. This situation resembles the era of postwar economic growth. The prevailing norms were life-long employment with the same employer, upward mobility, increasing affluence, job satisfaction, clear division of roles in work and household (see the omnipresent "he" in Super's writings), and self-fulfilment through work (for most women through maternity, household chores, and attractive appearance). Sources of variation were differential interests in various job domains, the extent of upward aspirations, and the fit between interest, aptitude and work characteristics.

It comes as no surprise that theorizing about career development then circled around these "self-concepts" and extended to context mainly with regard to the match between the person and the immediate work environment. The private context provided guidance for the formation of interests according to abilities as in the example of the Swiss watchmaker (see above). However, this example has a touch of rigid foreclosure rather than of dynamic systems. Macro-contexts, the economic and demographic situation, the labor market, social class and social exclusion played, if at all, a secondary role in the psychological study of career development. The assumption of context-independent stages and mechanisms implicitly granted these approaches the status of universally valid theories.

The current situation is probably one of medium noise levels. In industrialized countries, nobody must fear starvation or an end in the gutter. However, upward mobility combined with occupational self-actualization has no longer the normative top rank on most young people's vocational agenda. Maintaining parents' standard of living or even preventing a severe descent from their economic levels has become a major concern (Côté & Bynner, 2008). Unlike weak noise situations, the current scenario offers an ostensibly greater variety of options, but at the expense of higher risks and a loss of context predictability. Under these conditions, inert biologically "pre-wired" attractors and reactivity to immediate situational demands seem to reign system functioning. Today is neither the time of a unitary rush for survival as happens in massive crises, wars, and dearth, nor the time of a common striving for personal desirable ideals at the top rank of Maslow's need hierarchy in a socially protected and predictable environment. A return to more basic concerns is indicated by the steady decline of social capital in the U.S. (Putnam, 1999). In a similar vein, a marked decrease of participation in voluntary and community associations from 60 to 20 percent has been observed across the birth cohorts of 1946, 1958, and 1970 in the UK (Bynner, 2005). The last three decades have been marked with the label "individualization", often with the connotation of voluntary idiosyncrasy (e.g., Arnett, 2000, 2004). However, the fact behind individualization is that even persons with similar pre-wirings and resources may follow different pathways at crucial bifurcations by virtue of only minor differences in system functioning which, of course, implies influences from the distal context (e.g., social class, ethnicity, labor market, locality), transmitted by interactions with the proximal context (see also Bynner, 2005). In DS terms, our time seems to be the era of multifinality whereas the dec-

ades of seemingly infinite growth in the 1950s and 1960 may have been the high tide of equifinality: the majority of the respective cohorts could pursue a successful career whether by talent, parentage, education, diligence, perseverance, or any combination of these factors.

Boundaryless and protean careers - the new stairway to self-actualization for everybody?

Multifinality is mirrored in the contemporary vocational literature. To find the best fitting occupation is no longer the goal, but the successive build-up of occupational portfolios (Gershuny & Pahl, 1996). In order to maintain options, young people must accumulate education and preserve their human capital by life-long learning. Despite better schooling and, on average, better formal education, transitions from education to work have become diversified, rockier and have left varying portions of younger cohorts behind ("Getting nowhere", Bynner et al., 1997; "The bottom half", Lewis, Stone III, Shipley & Mazdar, 1998; "Status zero", Williamson, 1997). In countries such as Spain and Greece, more than fifty percent of young people below age 25 were unemployed in the years 2012 and 2013 (Source: Eurostat). Once the step to employment is accomplished, based not necessarily on one's occupation or training, career development has many faces. This is reflected by novel concepts such as "boundaryless careers" and "protean careers". In short, boundaryless careers are characterized by mobility between different employers (Arthur, 1994), whereas protean careers emphasize the initiative and responsibility of employees for their careers (Hall, 1976, 2004). The vignettes offered by Sullivan and Arthur (2006) to illustrate boundary-

less careers include a reduction of career aspirations in favor of family life, a career plateau of a highly qualified specialist with intended job change, and an increase in qualifications in order to quit employment for founding a home-based business. All these examples represent self-initiated and deliberate transitions. The protean career occurs mostly as a set of career-related attitudes (Baruch, 2014; Briscoe, Hall, & Frautschy DeMuth, 2006). The concept behind it has idealistic and emancipative connotations: "The protean person's own personal career choices and search for self-fulfillment are the unifying or integrative elements in his or her life (Hall, 1976, p. 201)." In other words, protean career success takes into account personal development and the ability to follow one's dreams as the most important career success factor (Hall & Chandler, 2005). In addition, it places the person's values above organizational goals (Hall, 2004). The respective measures of attitude usually come down to taking responsibility for one's career: "I am in charge of my own career," "I take responsibility for my own development," "I navigate my own career, mostly according to my plans" (Baruch, 2014), "I am in charge of my own career," "Ultimately, I depend upon myself to move my career forward" (Briscoe et al., 2006). For their validation, instruments were mainly applied to business students, managers, executives, and even former US Navy admirals. Unexpectedly, protean career orientations did not contrast with traditional work attitudes among ordinary employees in Vietnam and bus drivers in New Zealand (Baruch, 2014). High protean scores were negatively related to the intention to quit the job in the Vietnam sample and positively related to traditional career attitudes and affective organizational commitment among New Zealand bus drivers. Against this backdrop, one may question the validity of protean attitude measures across the whole

range of qualification levels, jobs, and cultures. Furthermore, there is only scarce evidence about the relation between these attitudes and real career pathways (Briscoe et al., 2006). And finally, the direction of causality is unclear.

Extending the scope to a broader spectrum of ordinary working people, the euphonic labels of "boundaryless careers" and "protean careers" can be easily misused to justify the leveling of workers' rights by disguising them as acts of liberation and means for achieving self-direction and self-actualization (cf. Ehrenreich, 2006). With regard to the emergence and popularity of these constructs over the recent decades, one may ask 'cui bono'? Was there a mass movement of workers and employees pressing employers to grant them the right to quit their jobs whenever they wanted, to work for lower wages with temp agencies, to work as contractors instead of regular employees with pension and health plans, or to hop from internship to internship instead of being regularly hired? Or do these postmodern work arrangements serve primarily employers' flexibility to adjust personnel costs to fluctuations in trade cycles and sales markets in a globalized economy? Usually, macro-economic demands precede the change in institutions, legislation, the value climate and ultimately individuals' values and attitudes (Schmidtchen, 1997). This is completely in line with the fundamental ideas of DST, embodiment, and finally Vygotsky's process of internalization (see Shotter, 1993; van Geert, 1999): Humans create mental concepts out of what they do (upward causality), and with these concepts they justify and consolidate what they do (downward causality). Axinn and Barber (1997) demonstrated impressively the precedence of doing before appraising in a longitudinal study: The longer unmarried couples cohabitated, the more critical their attitudes towards family formation became, and not vice

versa. Consequently, the widely used prefix "self" in the recent career literature may often turn out to be an ex post facto self-adjustment to constraints and self-justification rather than self-initiation and self-direction. In the recent German Shell-Study (Shell Deutschland Holding, 2015) on more than 2,500 adolescents and young adults, "a secure job" was ranked (71 percent) highest among youngsters' job-related aspirations. Despite critical viewpoints (e.g., Wahba & Bridwell, 1976) on Maslow's need hierarchy (Maslow, 1970), there can be no doubt that material and physical security needs are more basic than occupational self-actualization. For this reason, Waters, Briscoe, Hall and Wang (2014) included only persons without material hardship in their study on positive effects of protean attitudes among unemployed people because hardship would introduce "noise" into job search activities. They referred to Leana and Feldman (1995) who indeed found that "Workers who had greater responsibilities (e.g., having more children to support) seemed to feel greater pressure to get reemployed no matter the quality of the job (p. 1397)."

Although genuinely related to career development and a host of psychological variables, the concepts of protean and boundaryless careers originated from management and HRM research. In this arena, they experienced a boom parallel to the changing world of business and work in the last two decades of the 20th century and thereafter. It is also in this arena that these concepts are heavily debated and critized (e.g., Ehrenreich, 2006; Inkson, Gunz, Ganesh, & Roper, 2012; Tams & Arthur, 2010; Mayrhofer, Meyer, & Steyrer, 2007). Developmental psychology with its presumed value-free interest in the description, explanation, and optimization of human development (Baltes, Reese & Nesselroade, 1988) usually treats macro-context as a neutral backdrop that can be described, e.g. in terms of

collectivism vs. individualism, as a cultural property, but has neither political nor ideological valence. Context factors such as economic interests, economic power and legislation, political restrictions, structural constraints and social inequality, power inequality, ethnic discrimination etc. are usually delegated to sociology, political sciences, and allied disciplines. In contrast, the debate among business scholars on novel career concepts is exhilarantly frank and close to reality. Particularly the boundaryless career is critized for being a blurry albeit fashionable concept: "the term 'boundaryless' was not developed by scholars seeking an appropriate term to describe particular career phenomena, but diffused uncritically into the literature because of its currence as a conference banner and its attractiveness to organizational studies (Inkson et al., 2012, p. 326)." Further, the authors question the overemphasis on personal agency, the normalization of boundaryless careers by implicitely devaluing tradtional career pathways as stultifying, and the claimed predominance of boundaryless careers without supporting data. For the fil rouge of the present chapter, the arguments in the agency-structure debate illuminate the difference of viewpoints between vocational psychology and (some) management scholars: "In the vocational perspective the individual is the agent of his or her own career, but the organizational perspective assumes that organizations can control members' careers. A still wider perspective asserts that institutional forces, such as social class, gender, ethnicity, education and government regulation, also constrain even the most agentic career actors (Mayrhofer et al., 2007). In considering institutional influences on career, we find it impossible to ignore ideology. (Inkson et al., 2012, p. 327)." In an earlier writing Roper, Ganesh, and Inkson (2010) concluded that "boundaryless career discourse … is a manifestation of wider neoliberal discourse that emphasizes

individual rather than societal or organizational responsibility for economic and career outcomes (p. 673).” Such a framing of a scholarly debate in a wider political context is hard to find in psychology, e.g., in the voluminous research on entrepreneurship. Undeniably, boundaryless careers (“boundary crossing careers” in Inkson et al.’s terms) exist, but are restricted and mostly studied among professional, technical, and managerial groups who are able to exercise agency due to their excellent qualifications. For unskilled workers, women and minorities, boundaryless may simply mean unemployment, insecurity and anxiety (Inkson et al., 2012). In a similar vein, Tams and Arthur (2010) point to contextual constraints and boundaries for boundaryless careers and career-related agency in general such as employment settings, labor market intermediaries, industry fields, institutional resources conveyed through social networks and occupational groups, cultural expectations and ethnicity, popular sentiments, and global socio-economic trends (p. 633). Interestingly, these autors also conceptualize context as “interdependent” which moves closer to the DST ideas and contrasts with the traditional person-context split as outlined above: “An independent approach conceives contexts as an objective reality, external to the individual. Another approach is to see contexts and individual agency as mutually enacted through collaborative practices … This framing of context is particularly relevant at the micro-level, in looking at interactions among career actors … An interdependent framing of agency also acknowledges the multilayered nature of contexts spanning from the immediate context of interpersonal interactions and organizations to macroforces at the level of industries, the economy, national cultures, and society (p. 638f.).”

In sum, the person vs. context or agency vs. structure debate has a long tradition in vocational psychology and shines

through even in the early debate between Neff and Super when the field was clearly dominated by personal factors such as interests, aptitudes, and self-concept. Theory and research on vocational and career development have become increasingly interdisciplinary, now spanning departments of psychology, sociology, economics, management, and human resources. Although career development has considered context for a while, the nature of the person-context transaction is often ill-defined. Do autonomous agents cope with contextual givens or are individuals embodiments of interactions with contexts or both? The widely-used term "contextual givens" for the animate part of context is misleading. With regard to psychology the term reveals a certain naiveté. Even the macro-context is not a stage design but consists of other human actors, either in individual or organized form with diverse interests and different power. Human beings do not enter the stage like Martians and simply look how they can get along with the "givens". From their very first cry, humans are embedded and raised in a highly complex context structure of interests, power, and culture represented by other individuals and man-made organizations. These contexts with their boundaries and opportunities are not simply external forces that individuals must struggle with or adapt to. From a DST perspective, contexts find their way into individuals' personalities via accumulated day-to-day interactions and resulting experience. Although not rooted in DST, the concept of bounded agency (Shanahan & Hood, 2000) accounts for context-induced constraints on person's choices and developmental pathways. However, it was again not psychologists who questioned an exaggerated emphasis on agency. Besides structural constraints, chance (Hirschi, 2010) and unconscious decisions (Krieshok, Black, & McKay, 2009) also represent delimiters of agency as prime factors in career development.

Personal epilogue – sociohistorical context and biography shaped our reasoning

Coming back to my impression of minor differences between Fred and myself with regard to agency and structure, DST can provide a straightforward explanation as can Vygotsky's concept of internalization. Psychological researchers underlie the same processes as their subjects. Their mental concepts including their theoretical reasoning are inherent parts of their personalities which are to a high degree internalizations (embodiments) of accumulated action and interaction experiences. Hall, the inventor of the protean career, offers a felicitous example: "As I think about my ideas on the protean career (that is, a career that is self-determined, driven by personal values rather than organizational rewards, and serving the whole person, family, and "life purpose"), I realize just how much of that thinking came from what I observed and learned from my parents (Hall, 2004, p. 2)." Then he described his father's career pathway perfectly matching his concept and confessed that these internalized experiences had led him to his career choice of becoming an academic, i.e., being self-employed yet still getting a regular pay check (p. 3).

Fred's work life is a superb example of a boundary crossing and self-directed career trajectory. From his father's tiler shop in the Rhineland near Bonn to a full professor's and associate dean's position at Penn state, he crossed geographical as well as occupational borders more than once. Although his sister's previous emigration to the US may have served as a contextual facilitator, it was his own completely autonomous plan to navigate his life towards an academic career abroad from scratch, i.e., without speaking English, without having studied before, without any prior formal arrangements with regard

to work. When the self-made man Fred became a researcher (after having graduated and worked as a clinical psychologist, another boundary crossing), the theoretical arena in vocational psychology was dominated by approaches like Super's emphasising self-concept, match between self-concept, aptitude and occupation, and planning. Insofar, prevailing theories and Fred's biography were an almost perfect match, with the only exception that he may be regarded as a positive outlier on all career-related constructs starting with the prefix "self". Consequently, he was selected to the Outstanding Young Men of America in 1972.

My story differs. I graduated from high school in 1974 in the aftermath of the 1968 student rebellion, held sceptical attitudes towards state institutions, was opposed to the political viewpoints of my family, and did not really know what to study. As a half-orphan and refugee kid from the GDR, I was raised with a blend of unlimited maternal love and very limited material resources. A secure career choice seemed to be secondary school teacher. However, decreasing birth rates and ensuing spending cuts in the educational sector presented a bleak outlook. I became a psychologist, an enthusiastic clinician burning for the brand-new ideas of social psychiatry. My numerous job applications, albeit with a straight A university degree, never suceeded. When I ran out of money, a friend gave me a job ad for the "Berlin Youth Longitudinal study", I became a researcher, one-year contract first, then twelve contracts in six years, became a PhD, wanted to cross the boundary to business. The same friend gave me a job ad for a commercial opinion research institute, I was hired as senior researcher, turned down a top level offer from a competitor for family reasons, went back to the academic sphere with the mediation of my former PhD advisor Rainer Silbereisen etc.

… In essence, my career trajectory was much more coined by context and chance, regardless of unconscious decisions and heuristics I don't have access to. However, despite my more critical view of agency, I have always profited from Fred's planfulness, rigor, and perseverance as expressed in his smooth admonition: "You may want to get this done by tomorrow!"

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IV
A TOUR WITH FRED VONDRACEK TO HOTSPOTS OF OCCUPATIONAL DEVELOPMENT

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Abstract

The chapter describes the profound impact Fred Vondracek's work on contexts and dynamics of vocational development had on the "Human development in times of social change"—research group lead by Rainer K. Silbereisen in Germany over the past 30 years. We discuss the most central findings of our research group against the backdrop of Fred Vondracek's work, using examples of various interdisciplinary, large-scale research projects. For example, we discuss his influence, both in terms of his theorizing and empirical works, with regard to a) entrepreneurship research within our group invol-

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ving psychologists and economists, b) work by a large research consortium examining how individuals negotiate work, family, and civic roles in times of recent social change in Germany and Poland, a project that involved psychologists, sociologists, and economists, and c) developmental research on the German reunification as a prime example of massive and rapid social change. We acknowledge Fred Vondracek's role as an inspiring source. His creative mindset and great support for research and application in human development aim at a better world for young people struck by global social change.
Keywords: social change, career development, entrepreneurship, civic engagement, context

Introduction

If I remember correctly, I (RKS) met Fred Vondracek for the first time during a visiting professorship I spent at the Pennsylvania State University, USA, in 1987/88. During my stay I was very much impressed by a man who had beaten the odds and developed from a young person in Germany with a degree as a professional tile setter to an immigrant and later naturalized citizen in the USA, who after having crossed the ocean attended college and completed a PhD, and when I met him had already been a Department Head at this university. For the notorious inflexibility of the German educational system at that time, this was an almost unbelievable career. I learned that his scientific interests were in vocational development and met some of his colleagues and mentors, but none of this had much to do with my own professional development and research interests – at least so I thought.

Prelude

At that time I was still busy with studies on puberty on the one hand and youthful problem behavior on the other. This was due to the fact that since the early 1980s during my tenure as faculty at the Berlin University of Technology I had pursued a research program on substance use in youth. I also compared this problem behavior between German and Polish samples, and learned the lesson that one can only study such issues when they are embedded in the normative psychosocial development of young people. That I had included data on pubertal development in our survey was rather unusual at that time in Germany for a young scholar who, like most of his generation, believed in the power of the social context and the opportunities or constraints for healthy development emanating from there. The fact that I was able to compare samples from Berlin (West) and Warsaw (Poland) was in itself a message – at that time of the Cold War such collaborations between East and West were rather unusual, especially on such a sensitive topic.

I should add at this point that my own background was in lifespan developmental psychology, which I owed to people like the late Paul Baltes, with whom colleagues and I had established one of the first systematic doctoral fellowship programs in Germany on human development. Only when I was at Penn State did I learn about Fred's book on "Career Development: A Life-Span Developmental Approach" (Vondracek, Lerner, & Schulenberg, 1986).

After a most influential experience in the USA, in 1989 I had another encounter with Fred Vondracek, this time at my then academic home, the University of Giessen in Germany. Together with my colleague Eberhard Todt I had organized an

international conference. Todt was motivated to expand his contacts to international researchers on adolescence, especially on topics like interest development and values. I knew that Fred Vondracek could help with his expertise and contacts, so I remember suggesting inviting him for an extended guest visit. This experience was also relevant for the book based on the conference that in its title explicitly mentioned context – a term that became crucial in the future of our collaboration with Fred: "Adolescence in context: The interplay of family, school, peers, and work in adjustment" (Silbereisen & Todt, 1994).

The Giessen experience turned out to be very fruitful – Eberhard Todt not only had an academic interest in the development of interests in adolescence, and had authored widely received books on the topic in Germany, but was also the developer of a "Differential Interest Test," and could look back on real-life experience in career counseling based on his approach and the DIT. This was obviously a stimulating exchange because Fred Vondracek's interest in career development appeared to me also rooted in his personal experiences, and as I learned only then, he also had a background in clinical consulting, which he had done for years.

Joint Steps to New Heights

In the time before 1992, the year I moved from Giessen to the Pennsylvania State University to join the faculty of the Department of Human Development and Family Studies, I was involved in two research projects that, unknown to me then, brought my contacts with Fred Vondracek to fruition. First, in Giessen we conducted interdisciplinary research on a particular group of immigrants to Germany, ethnic Germans ("Aussiedler") from the former Soviet Union who as a diaspora group had resettled in Germany, the country their ancestors had left sometimes hundreds of years ago. This endeavor represented

a lasting experience in my scientific life because it told me that acculturation to a new context may take a long time, even when one apparently shares the same cultural roots. This is especially true when acculturation concerns traditional beliefs held among the immigrants, whereas acculturation may happen rather quickly when the pragmatics of the new everyday life are the drivers of change.

Our prime research focus was "developmental timetables" in adolescence, that is, the age at which people experience or actually pursue the transition to advanced levels of development. Examples are the timing of puberty mainly driven by biology, as already mentioned, but also the timing of new psychosocial tasks such as the first autonomous decisions in everyday life or the timing of the first romantic involvement, which reflect advances in cognitive and social development. There are also more institutionalized tasks, revealing the influence of social institutions and cultural orientations, such as the timing of beginning occupational plans during adolescence or the timing of marriage in early adulthood (Juang, Reitzle, & Silbereisen, 2000).This research in a sense never left me – we still analyze data of that project and it was also the origin of a new research endeavor that begun in 2006. The studies compared natives, diaspora migrants, and minorities between Israel and Germany (Silbereisen, Titzmann, & Shavit, 2014), in cross-sections from childhood to early adulthood.

Second, developmental timetables also played a role in another research project that started around the time of German unification. I was involved in the planning of a new representative youth study for West Germany, sponsored like earlier such studies, by the German branch of the international Shell oil company. At that time, the late Juergen Zinnecker undertook every effort so that we could expand the design to the newly accessible East Germany

(Silbereisen, Vaskovics, & Zinnecker, 1996). We were again interested in developmental timetables, and by lucky coincidence this concept already had a history in the Shell Study program. It was another opportunity to investigate radical context change and its effects on the change in the stability of developmental timetables. The particular circumstances of unification meant that the societal order of West Germany was superimposed on the East, thereby establishing a situation where people were quickly confronted with a new world concerning politics, economy, law, and social institutions in general. In contrast to immigrants they had stayed put and had not left for a new country, but many of the new challenges were similar to acculturation.

What has all this got to do with Fred Vondracek? Without any foresight, we approached topics which were characteristic of his scientific interest – occupational development. In both research lines we had compared differences between various developmental timetables between groups – young ethnic German immigrants compared to their local counterparts, adolescents compared to parents among the immigrants, and we analyzed in the same fashion young people from the West and the East of Germany, as well as adolescents and parents among those from the East. Regarding immigrant acculturation, in various publications we could show that differences in developmental timetables between our particular groups of immigrants and natives reflected differences in the traditional values concerning the socialization of young people. The timing of romantic involvement, for instance, was definitely later among the immigrants due to their more collectivist and religious backgrounds. Likewise, there was a generation gap in the sense that the adolescents were already more acculturated to Germany than the parents, which set the stage for intra-family conflicts (Schmitt-Rodermund & Silbereisen, 2009).

We observed similar trends when comparing East and West Germany at about the time of unification (Silbereisen, 2000), when the traditions distinguishing the two formerly divided regions had not yet waned. As to be expected there was no difference in pubertal timing, but regarding psychosocial timetables the differences we found reflected differences in the organization of daily life – in the East children and adolescents reported autonomy earlier concerning help in the household, which was rooted in the almost normative dual earner family model in the East and its requirements in organizing the family. Really impressive differences, however, appeared in timetables that were based on the timing provided by region-specific social institutions, such as the organization of occupational training and employment opportunities.

In the East, schools and the state were heavily involved in the selection and placement of young people for training and future work, and all this so early in school life was rather predictable in its outcomes for a career. In contrast, the individual degrees of freedom in choosing training and occupation were much higher in the West, but there were also the personal risks of failure. This difference in the opportunity structure could be seen in an equivalent difference in developmental timetables – adolescents in the East reported initial occupational plans much earlier than their counterparts in the West (Schmitt-Rodermund & Silbereisen 1999; Schmitt-Rodermund & Silbereisen, 2009). And when it came to what occupation they wanted to strive for, we also found a generational gap we had already observed among immigrants – the young were much more oriented toward the service sector than the primary production sector prevailing among their parents' occupations, thereby also revealing the emerging changes in the new Germany (Reitzle, Vondracek, & Silbereisen, 1998).

Now we had occupational development as a focus of joint activities, but the studies and analyses were conceived in a rather simple fashion. We took the reports from timetables, compared groups and contexts, and found differences between the regional contexts that in our view made sense. At this point Fred Vondracek again came to support us conceptually and also in practical terms, first during a visit at the University of Jena in the former East Germany, my new place after Penn State, and later in his role as Co-PI of a Penn State–Jena exchange program funded for about a decade by the German Academic Exchange Service (DAAD). Of note is that in appreciation of his support in rebuilding the psychology program in Jena after unification, he was appointed "Honorarprofessor" (the American equivalent Adjunct Professor does not carry well the honor implicated by the appointment). First, thanks to his thinking about the antecedents and concomitants of career development we were able to embed conceptually the information on timetables in other issues of career development, and in this way developed a better understanding of what we had gathered with our data, and also what we had overlooked. He was crucial in helping to explore the role of the context much deeper than before. One consequence, accomplished not only due to his thinking but certainly also with much encouragement on his side, was to pursue a period comparison between the already mentioned data gathered soon after unification in 1991 and a new parallel survey carried out in 1996. The first basically represented the situation still much influenced by the former East Germany but under the impression of the growing economic difficulties, while the second, five years later during the transformation process, was already characterized by the functioning of the new societal order.

What we had found as differences when comparing East and West in 1991 obviously appeared attenuated in 1996 – the

timing concerning occupational development was now about the same, a few years after unification. In our view the relevance of this result goes beyond the specific topic – we deem it proof for the view that human development is pretty much under the influence of the ecology and its change, and that depending on the power of such "social clocks", change can occur rather rapidly. We studied the role of the context further and using the example of financial self-sufficiency could show that the change in timetables was indeed in part rooted in the on average, longer school education and growing unemployment in the new Germany (Reitzle & Silbereisen, 2000). Similarly, differences in the timing of autonomy development earlier in adolescence were related to the new context.

In sum, from the late 1980s Fred Vondracek had a profound influence on the research group's orientation concerning the influence of large-scale contexts and their change due to cultural and societal transitions, first in Giessen and then in Jena. Furthermore, he instilled an interest in occupational development and work roles more generally across the life span. Since then a lot has happened and the remainder of this chapter is devoted to that. Out of a larger substantive array we have chosen two broad topics that pay tribute to his work, without claiming his responsibility for what we pursued and what we probably did wrong or not as well as he would have done it.

First, we will address our research on psychological roots and outcomes of entrepreneurship, planned and conducted against the past experiences with social change mentioned, and obviously Fred Vondracek's views played a role again. Entrepreneurship is often seen as a driver of economic development, much more so than traditional industries, and thus is especially important in the times of rapid political, social, and economic change we have been interested in. Germany

has too few entrepreneurs compared to other countries and consequently attracting young people to such career pathways is of crucial importance. Further, entrepreneurship was not encouraged in the former East of the country, and thus once again we can learn whether the change of contexts turns out to be a driver of development. In other words, possibilities for entrepreneurship are one of the benefits of German unification, and we didn't want to look only at the challenges that are so prominent in the public discourse. Second, we report about our life-span research on individual adjustment and development in the work, family, and civic domains, covering how people deal with uncertainties prevalent for many during the second decade after German unification. The situation in the mid-2000s was a mixture of still existing post-unification tensions with new challenges rooted in globalization in general and the financial crises of the Great Recession in particular. This research program is based on conceptual principles that we share with Fred Vondracek, not only the emphasis on the role of contexts, from interpersonal to societal institutions, but also the interest in differences and commonalities between stages of the life-span. The chapter closes with remarks on the social policy relevance of our research endeavors, given the many countries in the world that are currently undergoing political, social, and economic transitions and transformations.

Entrepreneurship across Time and Space

Having taken part in work on topics of adolescent development originating in the research group at the Berlin University of Technology and then transferred to the University of Giessen, mostly concerning value orientations and puberty, I (ESR)

started off into my own research work with the acculturation project on ethnic German immigrants mentioned at the outset. It must have been around that time when I first met Fred Vondracek. It speaks for itself that I do not even remember *not* to have known him; it seems that he was part of the family from those days on, and we certainly owe it to him that we jumped on an offer to apply for funds from the government to study entrepreneurship development.

It was about the same time that plans got tied up for a research semester that I spent at the Pennsylvania State University in the second half of 1997, preparing for the data collection of the entrepreneurship study. Fred's approach to vocational development in the context of parents, schools, parents' work, the community, and society as a whole, and his view of an active person making choices and exploring occupational options within that network, fitted in with the notion of "development as action in context" (Silbereisen, Eyferth, & Rudinger, 1986). This inspired my own ideas about career development, ideas that took shape in two different ways. First, back in Jena, I taught my first seminar on career-related issues, using models and research Fred had pointed out. Names, models, and research work from people like Mark Savickas, David Blustein, John Holland, Donald Super, and others had started to mean a lot to me, not only because Fred was so inspired by their approaches but also because he introduced me to some of these great theoreticians in person.

The second momentum was that I started to dig through the Shell data in order to find ways to study vocational behavior and career development in German youth. We looked into career aims and career maturity of young people in East and West by way of reanalyzing the data not originally meant for the purpose (Schmitt-Rodermund & Silbereisen, 1998;

Christmas-Best & Schmitt-Rodermund, 2001). Furthermore we compared the relationship of exploration behavior and breadth of interests in East and West German adolescents. We found that childhood exploratory behaviors were inspired by joint activities with parents in East and West alike. Exploration pursued by adolescents, however, related to the amount of childhood exploration only. Thus it seemed that parents' time frame or window of opportunity for an impact on exploratory behavior was childhood rather than adolescence, which is probably good to know when planning for interventions aiming to increase adolescent vocational exploration and help adolescents to make better occupational choices (Schmitt-Rodermund & Vondracek, 1999; Kracke & Schmitt-Rodermund, 2001).

Later the results of the studies on exploration became influential for a new program on the crystallization of entrepreneurial interests in adolescents which I started with Elke Schröder. She found that entrepreneurial activities in the classroom and games set up to shed light on one's personality can help adolescents without firsthand experience through a family model of self-employment to develop clear interests in favor of or against an entrepreneurial career later in life (Schmitt-Rodermund & Schröder, 2004) . It is not that everyone should become an entrepreneur as obviously many adolescents do not have the characteristics making an entrepreneurial career an option, but certainly those young people who have the right personalities and ideas should start their own companies (Schröder & Schmitt-Rodermund, 2006, 2007).

The parental model and parenting were candidates for factors we suspected to be important for a career decision for entrepreneurship, but certainly there were additional influences at work. Fred and I started to discuss the issue of expenditure of

effort, that is, the entire motivational background so important for entrepreneurship. The curiosity to learn something new, the willingness to do work in order to gain insights into things – these were topics which really excited him. I remember him talking about his grandson Devyn, who was a wonderful example of a kid expending effort, but I kept thinking to myself that the true example of someone expending effort was Fred Vondracek himself, who is among the most curious but also among the most stubborn people I know when it comes to getting somewhere, understanding something, working hard, and having a hell of a good time with it.

Meanwhile I had started to collect entrepreneurship-related data in samples of students and self-employed adults. We found that the expenditure of effort mediated the relationship between a parental role model of entrepreneurship and the willingness of the adolescents to follow their parents' footsteps to become self-employed one day. Young people growing up with a background of a family business, who at the same time were not curious and energetic about learning new things, were positive about one thing: That they would not be entrepreneurs by the age of 40. To us, this made perfect sense and added some more insight into the role of a parental model in the development of personal occupational choices. The entire idea that it is not the parental model as such but rather the happiness and devotion of parents with their jobs which contribute to their offspring's career interests has laid the foundation for a new research program (together with Elke Schroder), aiming at the study of family businesses and the antecedents of succession together with Elke Schröder. We were able to find support for the expectations Fred and I had discussed years earlier (Schröder, Schmitt-Rodermund, & Arnaud, 2011), in particu-

lar the willingness to join the family business being related to parental support in issues of career decision making and exploration on the one hand and adolescents' perceptions about their entrepreneurial competences on the other. Young people who were confident about their skills and at the same time had parents who supported any autonomous career decision were interested in taking over the wheel. If parents however tried to issue strong control concerning their offspring's willingness to take over the family company, the younger generation reported feeling obligated to act as heirs of their parents, yet they did not see themselves in their parents' shoes (Schröder & Schmitt-Rodermund, 2013). Given that about 90% of all companies in Germany are family owned, the issue of how to pass on one's lifetime work to the next generation is all but trivial and further research will be needed to provide parents with reliable knowledge on how to prepare (and what to avoid!) for tackling the question of succession in the family business.

With regard to the idea of expending effort, the issue of an entrepreneurial personality got me hooked for the following years. McClelland had the wonderful notion that someone with an entrepreneurial personality in a Buddhist society might as well become a Buddhist monk rather than a businessperson. Transferred to a Western context one may expect that a parental model of entrepreneurship may serve as the context which is likely to trigger entrepreneurial activity (McClelland, 1961, p. 239). Now we knew some more about characteristics of such a context within families, however personality traits, the other side of the equation, was somewhat a black box. To me, Fred served as a wonderful example of someone who follows his dreams against all odds, nevertheless I was chewing on the problem that it was not

one single trait or the addition of a few characteristics that made him and others perfect examples of entrepreneurial personalities but rather a certain "profile," a particular combination of different personality aspects.

If Fred Vondracek can be considered the father of all our undertakings to study entrepreneurship, Lea Pulkkinen with her Jyväskylä Youth Longitudinal Study may be seen as the mother. With a focus on problem behavior, some of her work was inspired by the so-called person-oriented approach (Bergman & Magnusson, 1997) and she assumed that undue personality traits in their combination and interaction among each other contribute to problems later in life. Individual unemployment, for instance, especially when paralleled by precarious economic conditions on the societal level, was shown to be a possible consequence of the interplay of early personality characteristics (impulsivity) and resulting maladaptation due to interaction with challenging contexts like school over time, a view which helped us to find a new perspective on the issue of the relationship between personality and entrepreneurial activity (Kokko, Bergman, & Pulkkinen, 2003). Rather than seeing all the different traits of, for instance, the Big Five as separate contributions to behavior and development, we more and more adopted a view on the entrepreneurial personality as a profile of these traits, characterized by a particular constellation of high and low manifestations. High extraversion, openness, and conscientiousness, but low neuroticism and agreeableness were considered as the anchor points describing an entrepreneurial personality.

Moreover, we started brooding about possible connectors and mediators of childhood and adolescent personalities to adult vocational choices and career success. Again, Fred Vondracek's ideas on vocational interests and their devel-

opment over time were highly influential, and so it comes as no surprise that we considered early entrepreneurial competencies on the one hand and entrepreneurial interests on the other, as two stepping stones leading the way to a career decision into self-employment and entrepreneurship, connecting personality and aspects of parenting with entrepreneurship much later in life.

With this model in mind, we put together a set of studies on entrepreneurship development. In a first step, we combined a number of cross-sectional data sets in order to show the expected relationships in groups of different chronological ages and stages of their career. Adolescents who expected to pursue careers in a setting of self-employment at the same time reported early entrepreneurial competences like leadership (they were speakers in their classrooms or had responsibilities in clubs) and invention (they had invented things more often than others). Moreover they were found to have higher levels of entrepreneurial interests (e.g., were interested to learn about economics or had books on economic topics on their reading list). Entrepreneurial competences and interests these girls and boys had developed in turn were related to the personality profile and to parenting experiences. Adolescents with high levels of extraversion, openness, and conscientiousness, who at the same time were low in agreeableness and neuroticism, that is, those with an entrepreneurial profile, and adolescents who reported many joint activities and decision making with their parents, more often engaged in inventions and leadership activities and reported entrepreneurial interests. Moreover, there was an interaction between parenting style and personality profile: Adolescents with an entrepreneurial personality profile seemed to profit most from joint activities and other signs of authoritative parenting, and one in two of this particular group

indicated that one day they wanted to start their own company (Schmitt-Rodermund, 2004).

We found more or less the same results for a group of adult business founders, except that in their case the actual number of years of entrepreneurial activity and their entrepreneurial success served as the dependent measure, whereas concerning information on parenting and early interests and competences, we had to rely on retrospective data. This particular characteristic of the data, with information tapping on future behavior in the case of the adolescents and the past for the adult participants in the two samples, made us seek a prospective (longitudinal) data set which would cover both adolescence and adulthood, and would entail personality and parenting information, data on interests and activities as well as biographical information on the careers of the individuals.

Thus, in a second step, we chose to apply for the use of the Terman data, an outstanding data set covering the time of individuals' lives between the 1920s and 1986, which brings about all the different information we had on our wish list. The model outlined above was repeated, and I was happy when I found the exact same relationships in place covering a time span of about 40 years and using data from different sources, that is, parents, teachers, and the target individuals, the so-called Termites.

This parallel set of findings was particularly remarkable as obviously somewhat different questions and instruments had been used reflecting concepts familiar to the researchers of the time decades earlier, but nevertheless of relevance for today's psychological thinking. Once more, an entrepreneurial personality profile and a parenting style characterized by an emphasis on joint activities predicted a higher number of inventions and more leadership activities (both standing for

entrepreneurial competences in adolescence), and entrepreneurial interests as observed by parents and teachers a year later. Interests and competences in turn related to the ultimate career goal by the end of the time in college: Young people with entrepreneurial interests and competences around the age of 13 reported career aims in economics and self-employment more often than others did. Having such a career goal in turn predicted entrepreneurial activity much later in life (Schmitt-Rodermund, 2007).

Fred Vondracek's impact can be followed throughout the entire project on entrepreneurial activity and continued when we entered a new stage with the Thuringian Founder Study and our then doctoral student Martin Obschonka, who made entrepreneurship his research topic all the way into his first position as a university professor. Whereas above I concentrated on the overall impact of Fred's thinking, the following will illuminate a series of core principles of our own work.

When I (MO) had finished my dissertation project in Rainer Silbereisen's and Eva Schmitt-Rodermund's research group in 2011 (Thuringian Founder Study), I could also look back to a type of intellectual journey and identity development process. When I started to study early developmental precursors of entrepreneurship in adulthood, I found myself being confronted with multi- and interdisciplinary literature with authors from diverse fields such as management research, economics, geography, sociology, and psychology. Although it is clear that interdisciplinary work has diverse benefits for both researchers and the world of practice, it also comes with a lot of challenges. Finding your own way as a young scientist and placing your research in a certain niche can be considerably trickier in a multidisciplinary context than in a mono-disciplinary field, at least judged by my experience. Authors from different fields

speak different "languages," journals from different fields have different method standards, and, most importantly, different fields offer different role models and "intellectual homes." Although I was very happy to draw from, and continue and extend, our earlier work on entrepreneurship, there was also the challenge that the entrepreneurship research community at that time had not yet developed a substantial interest in developmental research that draws from a life-span perspective. Although such research would have the potential to inform the world of practice (e.g., entrepreneurship education, which is nowadays a major issue on the political agenda in many countries), I was not aware of any other research team investigating a similar topic. This meant that this topic was innovative, which is of course of advantage to a young researcher, but it also meant more uncertainty, fewer academic peers doing similar things, and thus a lack of "brothers and sisters" and senior role models in this specific field of research.

Without a doubt, I owe most of my academic socialization to my doctor "father" and habilitation promoter (the second degree of academic accolades after the PhD, making one eligible for a professor position), Rainer Silbereisen. However, it is also true that at the end of my dissertation project I had come to the conclusion that substantial parts of my doctoral (and later also my postdoctoral) research and my scientific identity had to do with the work of Fred Vondracek. His work offered me a comprehensive, integrative framework that connected many otherwise loose ends. In other words, it reflected and connected many of those core topics that I found to be most relevant for the psychological examination of entrepreneurship. These were: A developmental life-span perspective, an emphasis on the early formative years in childhood and adolescence, a proper contextualization including the consideration of macro-context

and socio-historical change, a close research–practice link, and an affinity to person-oriented conceptualizations and analyses. Fred's work, maybe more than the work of others, integrated these topics, thereby keeping a strict focus on vocational development, occupational choices, and career success. The following is meant to illustrate how his topics permeated our work.

First, Fred's work on careers and vocational development has a clear reference to the life-span idea (Vondracek et al., 1986), and thus to life-span psychology (Baltes, Lindenberger, & Staudinger, 2006) and life-course sociology (Elder, 1994). This preference for a life-span perspective may also have to do with the influence of Donald Super, who was one of the very first career researchers who applied a developmental life-span perspective to the field. Super had developed a famous life-span career model (the "career rainbow") (Super, Savickas, & Super, 1996) that was based on seminal theorizing in developmental psychology such as Charlotte Bühler's work. Fred himself noted in 2001 that life-span psychology and life-course sociology on the one hand, and developmental career research that had started with Super's life-span perspective on the other, show a lot of similarities but rarely concretely refer to each other (Vondracek, 2001). Maybe this was the reason why Fred appeared to be so motivated to connect and integrate both fields in his own work. For example, he often stressed the human agency theorem of life-span psychology and life-course psychology (see also Silbereisen, Eyferth, & Rudinger, 1986), according to which individuals are producers of their own (successful) vocational development and occupational future. He further stated that "by having life-span developmental metatheory as its guiding conceptual framework, vocational psychology is well positioned to explore, investigate, and understand the antecedents, concomitants, and consequences of vocational behavior" (Vondracek, 2001, p. 253).

One concrete example where a life-span perspective has been very useful in guiding research in vocational psychology is the investigation of entrepreneurship. In fact, consistent with the earlier findings (Schmitt-Rodermund, 2004, 2007), a guiding principle of my dissertation was that entrepreneurship (e.g., successful entrepreneurial thinking and acting in the occupational career) is a developmental outcome, and that it essentially requires a life-span perspective to study entrepreneurship (e.g., which connects the early formative years in childhood and adolescence with the vocational development in adulthood). My dissertation and postdoc studies delivered further empirical evidence indicating that the entrepreneur should be understood as a developing individual, which implies that one should consider the complete developmental history. One prevailing but potentially misleading thought in the debate on the design of effective entrepreneurship education programs is that a focus on young and middle adulthood suffices. This view implies that entrepreneurship, in principle, is something that should be best thought of as a field of study in colleges and universities, or that can be best "taught" in the form of public business advice for founders. However, developmentally oriented studies on entrepreneurship strongly indicate that this view falls short in that it really needs a life-span view considering the developing individual and all developmental phases, from childhood to the late stages in the occupational career, to conceive effective educational measures (Obschonka, 2013). Sarah Kösters and I (2011) found that public business advice delivered in the founding phase of new ventures had no measurable economic effects. Those founders who had received such help and advice did not achieve better entrepreneurial success in terms of job creation and financial success than other founders. It might need earlier, longer lasting, and more comprehensive education

programs to promote entrepreneurial mindsets; programs that would implement a life-span perspective.

This leads to a second principle in Fred's work – his emphasis on the early formative years in childhood and adolescence when studying career outcomes. Although a life-span perspective already entails that one should consider childhood and adolescence, the clear statement in his work is that the early years are formative since they establish the early antecedents of later career outcomes. Fred and his research group had published a wonderful review on child vocational development (Hartung, Porfeli, & Vondracek, 2005), which reported the richness of the scientific study of early vocational development and of the pathways to occupational careers in adulthood. According to the review, numerous longitudinal studies showed occupational outcomes in adulthood (e.g., career choice and job performance) to be predictable by early characteristics (e.g., child temperament, adolescent competences) and to be linked with age-graded developmental processes (e.g., competence growth, personality development).

In our research on entrepreneurial careers, the early antecedents of entrepreneurial career outcomes such as an entrepreneurial career choice (becoming a business founder) and achieving entrepreneurial success as a founder also turned out to be very important. One example is early, age-appropriate entrepreneurial competencies in adolescence (e.g., leadership, inventing, and commercialization activities in school and leisure time). Using retrospective data from the Thuringian Founder Study, we found such (recalled) early competences to positively predict a) entrepreneurial intentions in adulthood, mediated by entrepreneurial control beliefs (Obschonka, Silbereisen, & Schmitt-Rodermund, 2010), b) entrepreneurial behavior (Obschonka, Silbereisen, & Schmitt-Rodermund, 2012), c) those

skills of business founders that are crucial for entrepreneurial success (Obschonka, Silbereisen, & Schmitt-Rodermund, 2011), d) an entrepreneurial self-identity as part of the occupational self-concept in adulthood (Obschonka, Silbereisen, Goethner, & Cantner, 2015), and e) venture creation success in the occupational career of entrepreneurs (Obschonka, Silbereisen, Schmitt-Rodermund, & Stuetzer, 2011). In an analysis that combined retrospective data from the Thuringian Founder Study with prospective data from the British Cohort Study, we and colleagues from the University of London found that early social competences in childhood and adolescence predicted central outcomes along the venture creation process (entrepreneurial intentions, behavior, and success) (Obschonka, Duckworth, Silbereisen, & Schoon, 2012). Another example of early developmental precursors is mild rule-breaking behavior in adolescence as a valid predictor of entrepreneurship in the occupational career (Obschonka, Andersson, Silbereisen, & Sverke, 2013).

Third, Fred's work often stressed the role of the context and context systems that range from proximal developmental contexts (e.g., parents, peer groups) to distal developmental contexts (e.g., the macro-cultural context). His work has demonstrated that a developmental-contextual perspective is necessary to understand why individuals choose certain jobs and careers and why some are more successful than others in a certain job and in the career as a whole. Fred, without a doubt, played a major role in championing the contextual view, which is also illustrated in his research on social change (Vondracek, Ferreira, & Santos, 2010) – the historical change in macro-context structure and how this macro-level change then affects vocational development at the individual level.

In my dissertation project, I found further support for our hypothesis that the parental context in the form of authoritative

parenting and early entrepreneurial role models is important for the development of an entrepreneurial mindset because it stimulates early competence growth regarding basic entrepreneurial skills, such as leadership, inventions, and commercialization activities (Obschonka, Silbereisen, & Schmitt-Rodermund, 2011). By drawing from a social change perspective that examines the everyday manifestations of macro-level changes such as globalization and technological development, we, and a Polish colleague, found indications that entrepreneurs, when compared to employees, enjoy more the positive side of today's social change (e.g., more perceived new opportunities for learning in their daily work) and less the negative side (less strongly perceived increase in uncertainties regarding career planning) (Obschonka, Silbereisen, & Wasilewski, 2012).

Fourth, Fred's work also highlighted the research–practice link where "science informs practice and practice, in turn, informs science" (Vondracek, 2001, p. 254). Research on careers, as an applied field, has a close connection with the world of practice, for example to the field of career counseling and guidance. Research can provide empirically validated theories of a basic or applied nature that practitioners can then try to employ in the real world for intervention. Likewise, practitioners and their real-world issues can inform the research field of vocational developments (e.g., by suggesting new research topics or by urging research to question and develop established theories and models in the light of new historical and economic developments). This research–practice link is also crucial in entrepreneurship research. For example, developmentally oriented research can inform early education programs (e.g., enterprising courses in schools) about the usefulness and designs of such education measures (e.g., what kind of early competences should be promoted).

Fifth and finally, since research on vocational development, just like research in psychology in general, deals essentially with the individual, as embedded in various contexts, it might make sense to consider person-oriented concepts and research methods that are better able to capture the individual as a whole than variable-oriented concepts and methods do. In fact, Fred urged career researchers to consider person-oriented methods that prefer looking at intra-individual patterns and processes instead of the purely statistical relationships of variables in a given sample. These statistical relationships (e.g., effects in a standard multiple regression) might not always reflect intra-individual patterns and processes and can thus be somewhat misleading when one is interested in the individual (Vondracek & Porfeli, 2002).

Such a person-oriented view also played its role in my entrepreneurship research. For example it inspired me to assess the person's entrepreneurial success by taking a career perspective that considers not only one target business the individual had founded but all entrepreneurial activities over the career. Another example is our research on the entrepreneurial personality profile, which is based on Eva Schmitt-Rodermund's studies showing an intra-individual Big Five trait profile (high in extraversion, conscientiousness, and openness, and low in neuroticism and agreeableness) to be particularly predictive of entrepreneurial outcomes. This profile attempts to capture the entrepreneurial personality as a whole instead of studying single traits and their relationships in given samples. In my research I found this profile to predict entrepreneurial outcomes in a more valid and consistent way than the single Big Five dimensions when studied separately. Using large personality datasets we, together with colleagues from the USA, also found the regional prevalence of such an entrepreneurial Big Five profile in the

US, the UK, and Germany to correspond to the regional entrepreneurship rates within these three countries. Those regions within the US, the UK, and Germany with a higher averaged score in the local population's entrepreneurial Big Five profiles also had higher entrepreneurship rates (Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, & Potter, 2013).

Whereas the entrepreneurship research was mainly based on samples and studies designed for that purpose, the following demonstrates how the general purpose survey on transformation in Germany during post-unification times was made to speak to topics on occupation and careers. Again, Fred Vondracek's priorities in research played a formative role.

Individuals Negotiating Work, Family, and Civic Roles in Times of Social Change

In the mid-2000s, we launched a new endeavor within an interdisciplinary research consortium (SFB 580) that put the differential exposure of individuals (not just entire cohorts like in the previous research) to current social change and how they cope with into the foreground. Specifically, drawing on prior examples from the life-course research on perceived economic strain (Conger & Elder, 1994), we developed assessments of the individually perceived uncertainties concerning one's work and family lives (Tomasik & Silbereisen, 2009). The items describing uncertainties were formulated such that the possible roots of these experiences in the societal conditions were addressed as background, meaning the still virulent strains of unification, overlaid with globalization and the beginning worldwide financial crisis. By addressing subjective perceptions of social change and in addition individual ways of coping with social

change, we drew together the individual-agency and structural perspectives on the life-course development and adaptation, an approach also espoused by Fred (Vondracek & Porfeli, 2002). How this was carried out we demonstrate by the following examples from our research.

With regard to the work domain in particular, our construct of work-related demands of social change (Tomasik & Silbereisen, 2009), which we sometimes label as perceived occupational uncertainty (e.g., Pavlova & Silbereisen, 2014), was a response to a call also (but not only) made by Fred (Vondracek, 2001; Vondracek, Ferreira, & Santos, 2010) for developmental scientists to consider drastic changes in the modern work life, such as growing job insecurity, risks of underemployment, and a need for lifelong learning, that have profound implications for individual careers. In our survey, which drew on large samples from East and West Germany around the mid-2000s, perceived occupational uncertainty obviously functioned as a stressor because there was an association with lower subjective well-being over time (Tomasik & Silbereisen, 2012). As an instance of the pivotal role of context in individual development (Vondracek et al.,1986), we found that perceived occupational uncertainty, as well as perceived uncertainty in the family domain, was unequally distributed across socioeconomic strata and political regions within Germany (Pinquart, Silbereisen, & Körner, 2009; Tomasik & Silbereisen, 2009). Moreover, associations of uncertainties with subjective well-being varied in a meaningful way depending on the regional contexts' economic vitality. For instance, somewhat paradoxically occupational uncertainty seemingly affected well-being less if the unemployment rate in the district where people lived was higher (Pinquart et al., 2009). In economics, such moderation is known as a "social norm" effect (Clark, Knabe, & Rätsel, 2010).

Further, our past research addressing the 1990s had not looked at how people actually dealt with the new challenges. We only had results on psychosocial outcomes for groups of individuals living either in the West or in the East of Germany. In the new project, we adapted measures of goal engagement and goal disengagement from Jutta Heckhausen et al.'s life-span theory of control (Heckhausen, Wrosch, & Schulz, 2010) to assess coping with the demands of social change in the work and family domains. In the spirit of both developmental-contextual (Vondracek et al., 1986) and life-span (Heckhausen et al., 2010) approaches to individual (vocational) development, and concurring with stress and coping research (Folkman & Moskowitz, 2004), we discovered that the association between perceived uncertainties and lower subjective well-being could be attenuated by opportunity-adequate engagement (Grümer, Silbereisen, & Heckhausen, 2013; Körner, Reitzle, & Silbereisen, 2012). That is, if the circumstances allow for individual control of one's actions, then to pursue a resolution of work-related or family demands by active engagement is worthwhile. Otherwise goal disengagement (i.e., distancing from unattainable goals, perhaps to pursue more promising courses of action) is more appropriate (Körner et al., 2012; Pinquart et al., 2009; Tomasik & Silbereisen, 2012; Tomasik, Silbereisen, & Heckhausen, 2010). However, in a more recent study, we found that goal engagement was the only predictor of objective career outcomes, such as preventing job loss, job finding, and positive income change, also given unfavorable labor market conditions (Körner, Lechner, Pavlova, & Silbereisen, 2015). Thus, while goal disengagement might protect subjective well-being under unfavorable circumstances, only active engagement with work-related issues seemed to contribute to objective career success.

Another priority that Fred, along with others, has often urged developmental and vocational researchers to follow is considering multiple roles and life domains simultaneously, in relation to one another, instead of focusing on only one, such as paid work (Vondracek & Porfeli, 2002). In line with this requirement, in our research, we considered demands in the work and family (and also other) domains in parallel. We found that, although such demands had negative effects on subjective well-being across domains, certain ways of coping were sometimes more effective or, on the contrary, more maladaptive in one domain (e.g., work) than in another (e.g., family; Grümer et al., 2013; Tomasik et al., 2010).

Furthermore, we recently extended our attention to unpaid, voluntary work in the form of civic engagement, which is undertaken for community and societal benefit, most often under the auspices of voluntary organizations. Our interest in civic engagement was explained by its being a major non-work domain, which is public (in contrast to family) and of high relevance to societal cohesion. The topic of social change assumed a new dimension here, because civic engagement is a way for individuals to produce social change. This line of research was taken up and eventually led by our then postdoc Maria Pavlova, a Russian migrant to Germany who, beyond her academic accolades gained in her homeland, also accomplished an habilitation within the research group.

In one representative study on this topic (Pavlova & Silbereisen, 2014), we addressed the relationship between growing occupational uncertainty in Germany during the mid-2000s (the first sample) and early 2010s (the second sample) and individuals' willingness to engage in volunteer work. We questioned the widespread belief that difficulties experienced in the paid work domain deflect individuals from other pursuits,

especially from voluntary civic activities (Rotolo & Wilson, 2003). The point is, we argued, that volunteering experience, similarly to more widespread German internships, may sometimes benefit one's career, in particular among labor market entrants, who lack actual work experience. Skills and contacts acquired through volunteering may smooth the transition into the labor market; indeed, many studies have shown that volunteering in young adulthood predicts job finding and later occupational achievement (e.g., Ruiter & De Graaf, 2009; Wilson & Musick, 2003). To take individual agency into account, we proposed that those young individuals who employed active engagement coping when facing perceived occupational uncertainty would be more likely to volunteer. Indeed, this was what we found in two independent samples (Pavlova & Silbereisen, 2014).

However, this was only half of the story. For older workers, we expected to find the opposite pattern, that is, that disengagement coping with perceived occupational uncertainty would be linked to volunteering (Pavlova & Silbereisen, 2014). Why? For older German workers who are faced with occupational uncertainty (e.g., if they perceive a risk of losing their job and have few opportunities to find another permanent position as they are close to the retirement age), the best way to proceed may be to disengage from work-related goals and to seek alternative pursuits (Heckhausen et al., 2010). Volunteering is exactly the kind of activity that may substitute for paid work at an older age as it has a socially recognized value, is usually undertaken in formal settings (e.g., a voluntary organization), involves social interaction, and brings tangible results (Pavlova & Silbereisen, 2012). Indeed, we found that goal disengagement in coping with occupational uncertainty prospectively predicted starting volunteer work in older workers, whereas in young labor market entrants, goal disengagement had the opposite (i.e., negative)

effects on starting volunteer work (Pavlova & Silbereisen, 2014). Although our age comparisons were cross-sectional, they nicely illustrate that individuals experience distinct concerns and transitions at different stages of their work careers (Savickas, 1997; Vondracek & Porfeli, 2002) and that individual agency (cf. career adaptability; Super et al., 1996) takes on different forms depending on the life or career stage.

In another recent study (Pavlova, Körner, & Silbereisen, 2015), we applied the principles of developmental contextualism and the life-span approach (Baltes et al., 2006; Vondracek et al., 1986) to study the correlates of civic engagement. Specifically, we were interested in the roles of multiple contexts of adult development (i.e., family, friends, and community) for civic engagement at different stages of the life span. Accordingly, we compared the effects of interest across four age groups ranging from 18 to 75 years of age. Social-contextual predictors were general support from family and friends and various indicators of positive community functioning. The main lessons learned from this study are that, first, different developmental contexts may have quite different implications for adult civic engagement, from positive (community) to negative (family support), and second, there are both age similarities and age differences in these relationships.

Concluding Remarks

A particular pleasure in writing this chapter should be mentioned. Apart from the senior author, it was accomplished by three younger scientists each of whom already had made a career by working in a tradition of concepts and contacts that started more than two decades ago. This is testimony to an

intergenerational linkage of ideas that hopefully help to make the world a better place.

The common denominator of the concepts and research examples presented in this chapter follows an old trace in the work of the research group, with way stations at a number of universities (now using the official names): Technische Universität Berlin, Justus-Liebig-Universität Giessen, The Pennsylvania State University, and Friedrich-Schiller-Universität Jena. Berlin had a special focus on human development in the life-span fashion, Giessen was strong in research on adolescence as was Penn State, and Jena was home to the biggest special research program (SFB 580, funded by the German National Science Foundation) on Germany in its new statehood after the end of the Cold War and its lasting transformation after unification.

We were lucky enough to be able to choose research topics that reflected personal interests and societal needs. That career development, broadly speaking, played a crucial role in the research agenda was not the result of a plan, but occurred due to a particular constellation of motives and opportunities. The interest in how young people deal with age-typical developmental tasks gained a particular flavor by the challenges on the societal level – unexpected waves of immigration to a country that was not prepared for this meeting of cultures, and the radical transition of the political system as a consequence of the disruptions within the former Soviet Bloc. Both types of changes in contexts were a hotbed of possible changes in human development. More specifically, both phenomena presented us with a unique opportunity to find out about the contextual malleability of psychosocial development under special circumstances that shake up the usual constellation of person and context.

We were prepared for such research endeavors by a long-lasting interest in other contextual conditions, such as economic

hardship and its consequences in countries differing in the political background (Silbereisen, Walper, & Albrecht, 1990). Related to that we had organized a conference and edited a book on "Development as Action in Context" (Silbereisen et al., 1986). However, it needed an initial spark to bring it all together under the rubric of individuals' participation in the world of work, a case in point for a developmental domain that has been challenged by "rapidly accelerating rate of change and diversity of both individual and social dynamics" (Vondracek et al., 2010, p. 126). The result of such changes worldwide are the threat to job security and career advancement as many had enjoyed in the past, and this for the better part is due to the change or even disappearance of social structures that used to channel individuals into clearly defined occupational pathways (paraphrasing Vondracek et al., 2010). Fred has been the pilot (in the old understanding of an experienced person guiding the way through uncharted waters) for quite some time in this research, by lending credence to our search for social institutions that reshape development by their own change due to political, social, and economic change. Our general case in point was migration and societal transformation, and our particular example was change of a system of education and training and the new uncertainties in the domains of work and family. We found a rather specific and easily traceable effect of such changes.

The exchange with Fred Vondracek took place in a particular historical period. The late 1980s to today (2015) was a time of rapid political, social, and economic change, starting with the demise of the "state socialism" led by the former Soviet Union, followed in the early 2000s by intensified challenges of globalization during the transformation period in the new countries of the former Soviet Bloc, and subse-

quently superimposed by the Great Recession beginning in 2008 and the sovereign debt crisis (Reinhart & Rogoff, 2013), particularly in Southern European countries, with interest rates for government bonds increasing by up to almost 30%. As we know today those years were especially problematic for young people, as indicated by exploding unemployment rates, reaching almost 50% in some regions. Although Germany was better off than most countries, there was also a lot of friction (Statista, 2015).

All this meant that career development became an issue of highest priority, and in particular the "continental welfare regime" with its support against challenges of social change (Arts & Gelissen, 2002) and the dual vocational training system (Euler, 2013) received a lot of new interest in Europe. This was so because the German youth unemployment rates were among the lowest during the entire period in all regions.

Of course there is always the question of how long effects of social change last over periods of the life span. For Germany meanwhile some longitudinal studies exist that document the development of young people in former East Germany, starting several years before unification at the age of 14 in 1987 and running until age 40 in 2013/14 (Berth, Förster, Brähler & Stöbel-Richter, 2007). What is important for the current argument of the importance of the historical/social context is the fact that even 25 years after the fall of the Berlin Wall, about one in four believe that they were losers of unification. Furthermore, the time people guessed it would take until East and West grew together somewhat surprisingly increased over all those years, and stands now at 25 years. Indeed, it is like a migration experience affecting more than one generation. Moreover, the political beliefs these people showed when they were young in East Germany before unification still distin-

guishes them in middle adulthood. In other words, this is a case of "the past is not dead, it's not even past." Interestingly, we ourselves had access to parts of that dataset and investigated different trajectories of adolescent substance use after unification (Wiesner, Weichold, & Silbereisen, 2007; Wiesner, Weichold, & Silbereisen, 2008). Consequently our research on behavior and development after unification is using the East/West distinction of the country as an important developmental context, following Vondracek's plea for contextualization of research not only on career development.

Fred Vondracek was an inspiring source not so much because of his particular scientific interests, but because of his creative mindset and great support for research and application aimed at a better world for young people. He has been a translator and mediator between cultures and scientific communities because he knew from his own experience of countries where in the case of economic trouble, seniority counts in maintaining a job, such as in the USA, as well as countries that provide particular shields to (also) sponsor youth, like Germany.

In closing, we should hasten to add that we did not follow Fred's own thinking about the complexities of the motivational processes involved, although we also relied on goal-directed action as a major propellant of development in context, but we were more interested in the effects of contextual change than in the intricacies of the individuals' inner workings. The price is that with our approach we cannot offer finely tuned concepts of how to enable individuals to optimize their development in spite of threatening challenges of uncertainty about the future. But probably this is work still to come. At a minimum, we know that a crucial capability in dealing with social change is identifying opportunities and contexts and based on that, exercising full engagement to resolve challenges.

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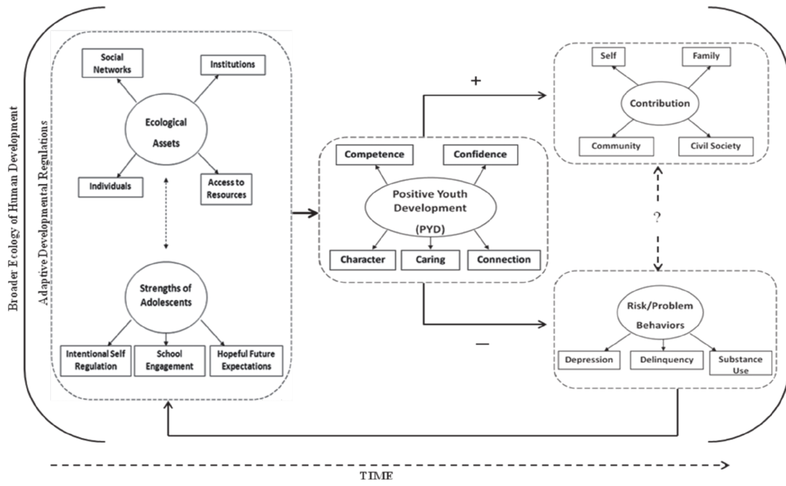

Figure 1. A relational, developmental systems model of the individual ← → context relations involved in the Lerner and Lerner conception of the PYD developmental process.

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V

LIFE DESIGN AND CAREER CONSTRUCTION IN CHILDREN

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Abstract

Fred Vondracek was one of the first scholars to highlight since at the beginning of 21st century that vocational psychology should consider social and work context changes to help people to cope with the future times (Vondracek, Ferreira, & dos Santos, 2010). In relation to this, and taking into account the rapid changes in the currently labor market, Fred Vondracek highlights the important roles of some positive resources, such as career adaptability, positive career orientation, proactive career behaviors (Hirschi, Lee, Porfeli, & Vondracek, 2013).

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In this chapter, celebrating Fred Vondracek as a scholar who has greatly contributed to the development of our discipline and on the base of his reflections, theoretical assumptions of Life Design, and Psychology Youth Development approach, we consider some relevant resources to cope with difficult times that we are going through, such as hope, optimism, future orientation, resilience, occupational knowledge, and career adaptability. For each of those constructs research studies underscoring their role in personal and professional development in childhood, preadolescence, and adolescence, are presented. Then, as Fred Vondracek claimed, we highlighted the importance of involving people in vocational guidance projects, as soon as possible in order to prepare adults to cope with the today complex reality. The chapter also reports some important assessment tools useful to analyze strengths and improve training activity to promote positive resources such as hope, optimism, future orientation, resilience, occupational knowledge, and career adaptability.

Keywords: hope, optimism, future orientation, resilience, occupational knowledge, career adaptability.

Introduction

This chapter is part of a volume that honors Fred Vondracek's work and achievements. The aim of this contribution is to highlight the affinities and similarities that we have shared and still share with him. The strong beliefs connecting us with Fred Vondracek regard the attention paid to current socio-economic

changes, the context, developmental age, and the processes that support an adaptive career development.

As is well known, we are experiencing a time of such great and rapid changes that it is difficult to have full awareness of them and adapt the pace of our own existence accordingly. To deal with the personal and social 'transitions' associated with them, people need to use sophisticated coping strategies to safeguard their work and future prospective, as well as their wellbeing and quality of life (Nota, Soresi, Ferrari, & Ginevra, 2014). Fred Vondracek was one of the first scholars to highlight, at the beginning of 21st century, that vocational psychology should consider social and work context changes. In 2000, Vondracek and Hartung organized a symposium at the American Psychological Association Convention in Washington, D.C., emphasizing the need for new models, research paradigms, research methods, and methods of intervention, to help people to cope with the future times (Vondracek, Ferreira, & Santos, 2010; Vondracek & Hartung, 2002).

As regards the context, vocational psychology has always paid attention to the individual and the need for individuals to consider their life environments. Over time, an evolution of thinking has resulted in greater attention being paid to the fact that the context characterizes professional development and, consequently, that it must be seen not only as a "ground of exploration", but as a set of conditions that can characterize the career construction of individuals. We strongly believe that it is unavoidable to envisage the involvement of so many allies that can allow the creation of wide and fruitful collaborations and help career counselors to support hope, optimism, solidarity, and to favor changes and improvements useful to innovation and to make the most of the collective

intelligence of mankind, thus encouraging its development (Nota et al., 2014; Savickas et al., 2009). Since 1986, Fred Vondracek, in the developmental-contextual theory, emphasized the role of context, defined as family, culture, and socioeconomic system (Vondracek, Lerner, & Schulenberg, 1986), assuming the existence of bi-directional influences between the child, growing up within the proximal context of the family, and the child's extra-familial network, including school, peers, and part-time work experiences. More recently, he highlighted that the dynamic person-context interactions shape human development and stated that the contexts can modify the circumstances surrounding the developing person (Vondracek et al., 2010; Vondracek & Porfeli, 2002, 2008).

Lastly, as concerns the third point of affinity, we are well aware that in our field research has very often focused on the transition from adolescence to adulthood, while developmental age and preadolescence have received much less attention. However, we can no longer think that this can still be done today. The children of the 21st century live in a society characterized by rapid economic and technological changes, the so-called 'knowledge society', or 'information society' because of the substantial production and distribution of information (Masten & Obradović, 2006). Thanks to technology, people can access and consult unlimited information and creatively produce innovative products (Thomas & Sheth, 2011). It seems clear that in the actual social context competencies that differ considerably from the skills and knowledge demanded in the previous century are needed and should be developed as soon as possible (Savickas et al., 2009). All of that has already been highlighted as relevant by Fred Vondracek via his view that career development must be part of an effort to foster optimal human functioning. According to him, the

goal of our field should be to enhance the strengths in any given individual with the resources for positive development present in the individual's contexts (Vondracek et al., 2010). In relation to this, and taking into account the changes in the labor market, Fred Vondracek highlights some positive resources, such as career adaptability, positive career orientation, proactive career behaviors (Hirschi, Lee, Porfeli, & Vondracek, 2013; Hirschi & Vondracek, 2009; Skorikov & Vondracek, 2007), and claims that these skills and attitudes should be developed as soon as possible, from childhood, which is a crucial period for career development, in order to prepare adults to cope with a complex reality (Hartung, Porfeli, & Vondracek, 2008). Based on that, we think that we and Fred Vondracek speak with a single voice on the issues mentioned above. And this can only echo the deeply shared underlying belief that, given such premises, career counseling must be at the service of the less privileged individuals of a population (Nota et al., 2014; Vondracek et al., 2010). With this chapter, we not only wish to celebrate Fred Vondracek as a scholar who has greatly contributed to the development of our discipline and to whom we owe so much, but, based on what we mentioned above, we would also like to address some issues dear to our hearts and propose some examples of actions that can be implemented in line with the principles and theoretical beliefs just described.

What drives us, and we know that Fred Vondracek will agree with us given that his work has always been open to different voices, is the wish to continue to foster the wave of modernization sweeping our field in order to give impulse to new forces and new energies and to facilitate a social transformation that profits from the changes underway to improve social and human conditions.

Resources for Life Design and career construction

Current actual conditions may stimulate a negative vision about the future that is related to uneasiness, discomfort and confusion, and to a reduced propensity to think about multiple options, progress, and improvements in living conditions. Therefore, in 2006, at the beginning of the economic crisis that now is enveloping the Western world, an international group of scholars started to develop what is now known as the Life Design approach, aimed at providing answers to the crisis. After three years of work, they published the shared 'Manifesto' of the Life Design approach (Savickas et al., 2009). The Life Design approach states that career problems are only "a slice of the pie" of individual life, and that people need to understand how to handle postmodern life. It should specify skills and knowledge for the analysis of non-linear causalities, ecological settings, multiple subjective contexts, and complex dynamics. Moreover, it emphasizes the need to support people to become experts in co-construction and life design processes, to anticipate and deal with career transitions, and to consider hope for a foreseeable future, useful to individuals' future planning and behavior, and career adaptability, that is a modern world workers' essential resource to manage frequent career and life transitions (Nota et al., 2014; Savickas et al., 2009).

To create a sound foundation for all of this, it is necessary to involve children, as soon as possible, to promote their development of positive life trajectories. Moreover, this is in line with developments in the last decade to shift attention from a focus on deficits and problems during childhood and adolescence to increased valuing of positive aspects in the course of development. In fact, the new emphasis is on 'positive youth development' (PYD) (Lerner, von Eye, Lerner, & Lewin-Bizan,

2009). This is an approach that aims to overcome the negative view associated with the transition from childhood to adolescence, with the latter often conceptualized as absence or decrease of difficulties (Bowers, Li, Kiely, Brittian, Lerner, & Lerner, 2010). Also Hartung, Porfeli, and Vondracek (2005) claimed that promoting positive development could increase the probability of reducing "the likelihood of delinquent and deviant behaviors, including alcohol and drug abuse" (p. 411). We like Vondracek et al. (2010)'s reference to systems theory proposed by Overton (2010), that state that the greater the integration between the individual's strengths and the resources of the context, the greater the positive development observed, the setting of goals, the optimal use of resources and strategies to achieve them, and the changes made to actions already started to pursue them if barriers are encountered or if strategies turn out to be inefficacious.

In line with that, over the last few years we have paid attention to some aspects that can be advantageous for the construction of positive pathways, such as hope, optimism, future orientation, resilience, occupational knowledge and career adaptability[2].

Positive development: The role of hope and optimism.

Hope and optimism emerge in childhood and persist into the adult years (Masten & Tellegen, 2012), and may be considered

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[2] We are happy and proud to be able to say that we have collaborated with Fred Vondracek on the issue of adaptability within the Career Adaptability International Collaborative. The Collaborative was established in 2008 and involved scholars from about twenty different nations with the aim of studying this dimension.

as antecedents of career and self-construction and prerequisites of career adaptability.

Hope is a motivational process based on three components: goals, pathways, and agency goal-directed thinking (Snyder, 2002). Research highlighted that hope is related to health and career outcomes in the course of development. Specifically, in childhood, preadolescence, and adolescence it is related to higher levels of life satisfaction, personal adaptation, adaptive achievement and less behavior problems and depressive symptoms (Kenny, Walsh-Blair, Blustein, Bempechat, & Seltzer, 2010; Schmid, Phelps, Kiely, Napolitano, Boyd, & Lerner, 2011). Regarding social development, hope is related to higher relational goals and more positive feelings about one's friendships, facilitating their stability over time (Stephanou, 2011). Lastly, during adolescence hope is related to school achievement and school life adaptation, higher levels of academic self-efficacy, mastery goal orientation, vocational identity, and satisfaction for educational plans (Diemer & Blustein, 2007; Kenny et al., 2010).

Optimism represents a stable predisposition to "believe that good rather than bad things will happen" (Scheier & Carver, 1985, p. 219). During the course of development, it is negatively associated with depression, anxiety, non-adaptive behaviors, risk of suicide, and positively correlated with physical health and life satisfaction (Malinauskas & Vaicekauskas, 2013; Reivich, Gillham, Chaplin, & Seligman, 2013). Similar to hope, optimism plays a relevant role in the quality of interpersonal relationships: it is associated with more positive relationships, higher social acceptance, and lower levels of loneliness and isolation (Oberle, Schonert-Reichl, & Thomson, 2010). Lastly, regarding career development, Patton, Bartrum, and Creed (2004) showed that, in a group of high school students, optimism predicted career goals, career planning and career exploration.

As regards our studies involving 340 4th- and 5th-grade students, we used two instruments that we developed to assess children's optimism and hope: *What Will Happen to Me?* and *My Hope*. Using these instruments, Ginevra, Carraro, and Zicari (2014) found that hope and optimism predicted social skills, life satisfaction and a positive self-perception. Moreover, they observed that hope and optimism correlated with resilience. In preadolescence, involving 692 middle school students, Santilli, Ginevra, Sgaramella, Nota, Ferrari and Soresi (2015) showed that hope and optimism correlated with life satisfaction, resilience, future orientation, and career adaptability. Lastly, involving adolescents, Wilkins, Santilli, Ferrari, Nota, Tracey, & Soresi (2014) found that hope and optimism predicted indirectly, through four career adaptability resources, distinct satisfaction domains (school experiences, autonomous decision-making, classmate relations, family relations, praise received, help availability, and current life conditions).

Considering hope and optimism toward the future (see the questionnaire *Visions About Future;* Ginevra, Sgaramella, Ferrari, Nota, Santilli, & Soresi, 2014), and based on Bryant and Cvengros' study (2004), which considered hope and optimism as dual indicators of a single global dimension reflecting future orientation in preadolescents and adolescents, Ginevra et al. (2014) found, through second-order confirmatory analyses, that orientation toward hope, optimism and pessimism are related but distinct constructs and can be considered as indicators of a single global dimension reflecting a positive orientation toward the future[3]. Santilli, Marcionetti, Rochat, Rossier, and Nota (2017), considering this global dimension as mediator, showed that

[3] Orientation toward pessimism negatively saturated with the second-order factor.

positive orientation toward the future in Italian preadolescents partially mediated and in Swiss preadolescents fully mediated the relationship between career adaptability and life satisfaction.

Positive development: The role of resilience and future orientation.

Resilience and future orientation are two additional positive psychology constructs that play a crucial role in promoting more adaptive career development in current times (Masten, & Tellegen, 2012).

Resilience concerns the ability of individuals to resist or quickly recover strengths and energy and to set themselves in motion while challenges are threatening stability, vitality and development (Masten & Obradović, 2006). It is a protective factor to cope with risks, also related to future uncertainty and challenges of the 'risk society' in which we live. From childhood to adolescence, resilience is related to positive developmental outcomes and avoidance of maladaptive outcomes, and life satisfaction (Masten & Tellegen, 2012). It is also related to coping and problem-solving skills, ability of asking for support, and better social relationships (Donald & Clacherty, 2005). During preadolescence and adolescence, it correlates with higher school achievement, vocational identity, and career commitment (Diemer & Blustein, 2007). Santilli et al. (2015), studying Italian preadolescents, showed that resilience positively correlated with future orientation, life satisfaction and career adaptability.

Future orientation refers to thoughts, ideas and feelings individuals have about their future (Stoddard, Zimmerman, & Bauermeister, 2011). Future orientation skills develop throughout adolescence, starting from 11 -12 years old, even

if Grisso et al. (2003) found that younger adolescents (11- to 13-year-olds) were significantly less likely to recognize the long-term consequences of various decisions than 16 years old and older adolescents and tended to accept more frequently an immediate rather than a delayed but more valuable reward. During preadolescence and adolescence, future orientation is a protective factor against impulsive and unhealthy behaviors, because it increases the ability to foresee negative consequences of certain actions and behaviors (Luyckx, Lens, Smits, & Goossens, 2010). As regards educational and work outcomes, future-oriented adolescents, both in academic achievements and in their careers, tend to be more successful than present-oriented individuals (Simons, Vansteenkiste, Lens, & Lacante, 2004). Moreover, propensity to look to the future is positively correlated with career maturity, operationalized in terms of career planning and exploration (Janeiro & Marques, 2010). In the Italian context, Ferrari, Nota, and Soresi (2010), involving middle school students, highlighted that preadolescents with higher levels of future orientation were more greatly involved in the decisional process and more committed in school.

Positive development: The role of occupational knowledge.

Besides emphasizing the variables described above, Hartung et al. (2005) underline the importance of promoting in childhood occupational knowledge, which is associated with greater personal identity, career adaptability, and connectedness to the social and interpersonal world. Occupational knowledge regards the amount of knowledge that individuals think they have about a list of jobs (perception of occupational knowledge) and the amount of knowledge that they really have

about jobs (actual occupational knowledge; Ferrari, Ginevra, Santilli, Nota, Sgaramella, & Soresi, 2015; Rohlfing, Nota, Ferrari, Soresi, & Tracey, 2012).

Although research studies on occupational knowledge in the course of development are not extensive (Rohlfing et al., 2012; Schmitt-Wilson & Welsh, 2012) and conducted in a fragmented way (Schultheiss, 2005), the few studies conducted on this topic highlighted that knowledge about occupations and about self-in-occupations develops by age 10 or 11 and tends to improve with age (Hartung et al., 2005). It must be said, however, that the literature provides conflicting data on development trends: on one hand, Watson and McMahon (2005) found an age improvement in knowledge related to work aspects and job characteristics, while on the other hand, Schmitt-Wilson and Welsh (2012) did not find grade differences in occupational knowledge in children from 4th to 7th grade. Also, Rolfing et al. (2012) found that elementary and middle school students' perception of knowledge of occupations did not differ across third through sixth grades.

Other studies highlighted that occupational knowledge is influenced by experience and that children tend to be more accurate in describing and assessing jobs they have already experienced (Howard & Walsh, 2010). Furthermore, occupational knowledge is related to occupational preferences and stereotyped jobs; specifically, boys have more knowledge about realistic and investigative jobs and girls have more knowledge about social jobs (Miller & Hayward, 2006). In an Italian study of elementary and middle school students, Ferrari et al. (2015) confirmed the role of experience on both perception of occupational knowledge and actual occupational knowledge on Holland's categories. Specifically, higher levels of actual occupational knowledge and perception of occupational knowledge

were observed for social category (e.g., nurse and teacher), probably related to a higher exposure to these occupations, but also with comments shared at school, for instance on what teachers' work consists of, on reasons underlying his/her actions. Lower levels of actual occupational knowledge and perception of occupational knowledge were instead observed for conventional category (e.g., accountant and secretary), about which children have very limited experience. Moreover, the authors did not observe an increase in actual occupational knowledge with increasing age, suggesting that probably the progression of occupational knowledge is very slow. Conversely, with increasing age girls show higher scores in their perception of occupational knowledge for artistic categories, including an increase in the attention for the world of show biz and fashion in which girls invest more as they get older. Lastly, the authors found also a relationship between occupational knowledge and career exploration. The latter, defined as an action implemented for gathering appropriate knowledge both about self (e.g. interests and values) and about the world of education and work (e.g. education, training courses and occupations), predicted actual occupational knowledge rather than perception of occupational knowledge. Specifically, the more students were involved in exploration activities, the more their actual knowledge tended to improve.

Positive development: The role of career adaptability.

As suggested by Hirschi and Vondracek (2009), career adaptability plays a crucial role in favoring recursive and dynamic professional self-construction which takes into account the characteristics of today's labor market.

Career adaptability is the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by the changes in work and work conditions (Savickas, 2013). Hartung (2015) and Hartung et al. (2008) stated that antecedents of career adaptability begin during childhood (e.g., autonomy, self-esteem, and future time orientation) and develop during preadolescence and adolescence, contributing to creating a more meaningful professional construction across the lifespan (Nota et al., 2014; Savickas, 2013). Studying preadolescents, Hirschi (2009) found that career adaptability predicted sense of growth power and life satisfaction, and in another study he showed that career adaptability was the best predictor of realism and stability of the aspirations (Hirschi, 2010).

Regarding studies of career adaptability in adolescence, Porfeli and Savickas (2012), involving a group of 460 10th and 11th grade U.S. students, observed that career adaptability was strongly correlated with vocational identity and, specifically, with in-depth career exploration and identification with career commitments. In turn, Pouyaud, Vignoli, Dosnon, and Lallemand (2012) found, in French adolescents, that career adaptability, and in particular concern, correlated significantly with motivation in educational environments; it also negatively correlated with general anxiety and the fear of failing in one's academic-professional path.

In the Italian context, Di Maggio, Ginevra, Nota, Ferrari, and Soresi (2015), besides confirming the factorial structure of the Career Adapt-Abilities Scale (Savickas & Porfeli, 2012) in middle school students, showed that higher levels of career adaptability correlated with higher levels of hope, optimism, and life satisfaction, and lower levels of pessimism. Among high-school students, Soresi, Nota, and Ferrari (2012), observed that

adolescents with higher levels of career adaptability showed lower perceived internal and external career barriers, a broader range of career interests, and higher quality of life than adolescents with lower levels of career adaptability. Moreover, we are interested in investigating, in a group of high school students, the relationship between career adaptability and vocational identity, operationalized in the VISA questionnaire developed by Porfeli, Lee, Vondracek, and Weigold (2011) as career exploration, commitment, and reconsideration dimensions.

It is exciting to be able to say that vocational psychology is currently focusing on positive aspects and resources that can be useful in promoting beneficial developmental pathways, starting with children. Fred Vondracek's appeals have been heeded and we can now witness greater enthusiasm in the realization of research studies, in setting up new tools, and in channeling attention also toward these aspects. We believe that it is now time to make further efforts, on the one hand on designing interventions and, on the other, on trying to include these different aspects into professional development models in a more complete and articulate way.

Analyzing and enhancing strengths: suggestions for counselors' actions

Considering the points examined, it seems clear that we need to give attention to positive aspects of growth and development and to implement interventions as early as possible (Hartung et al., 2005, 2008; Savickas et al, 2009). We think that children, preadolescents and adolescents should be involved in career interventions, cyclically and repetitively over time, aimed at stimulating an analysis of the strengths, above described,

relevant for their career construction. These activities should include the assessment of these characteristics and stimulate specific reflections and changes.

Assessment instruments to analyze strengths.

To assess hope from childhood to adolescence, it is possible to use, for example, the Young Children's Hope Scale (YCHS) developed by McDermott, Hastings, Gariglietti, and Callahan (1997) for children aged 5 to 7 years, and the Children's Hope Scale developed by Snyder et al. (1997) for those aged 8 to 16 years. In the Italian context, to assess hope in 4th and 5th grade students, Ginevra, Carraro, et al. (2014) developed the self-report 'My Hope'. It consists of 6 items (e.g. "I think about how to get things that are important for me") on a 6-point scale ranging from 1 (*never*) to 6 (*very often*). The validity and reliability analyses showed good results, with a Cronbach's alpha of .77. For middle and high school students 'Visions about Future' was developed (Ginevra, Sgaramella, et al., 2014). The version for middle school students comprises 16 items on a 5-point Likert scale (1 = *not strong*; 5 = *strongest*), and assesses orientation toward hope (7 items, e.g. "In the future I will be involved in very important projects"), orientation toward optimism (4 items, e.g. "Even in the face of difficulties, I think I will remain an optimist"), and orientation toward pessimism (5 items, e.g. "It is useless to hope in the future: I will not be able to do what I have in mind"). The confirmative factor analysis carried out supported a second-order structure, regarding a general sense of positive orientation toward the future. Additionally, good levels of internal consistency were found (ranging from .76 to .91). The version for high school students consists of 22 items

and has a similar structure to the version for middle school students, with equally good psychometric properties.

Just as for hope, there are several self-reports in the international literature to measure children's, preadolescents', and adolescents' optimism. We offer the following examples: the Optimism-Pessimism Test Instrument (Stipek, Lamb, & Zigler, 1981) for children aged 6 to 12 years; the Youth Life Orientation Test (Ey et al., 2005) for children 7 to 16 years, and the Life Orientation Test (Scheier & Carver, 1985) for children as young as 8-years-old. In the Italian context, Ginevra, Carraro, et al. (2014) developed the 6-item self-report scale What Will Happen to Me?, which measures on a 5-point scale (1 = *I never think so*; 5 = *I always think so*), the tendency to expect more positive than negative events. An example item is "I think more good things will happen to me than bad". The validity and reliability analyses conducted by the authors showed good results, with a Cronbach's alpha of .91.

Several quantitative instruments may be used to assess resilience from childhood to adolescence, such as the Strengths and Difficulties Questionnaire (Goodman, 2001) for children aged 3 to 16 years old, the Child and Youth Resilience Measure-28 (Liebenberg, Ungar, & Van de Vijver, 2012) for individuals ranging in age from 9 to 23 years. Regarding resilience about the future, Ginevra, Carraro, et al. (2014) developed the scale About Future, for 4th and 5th grade students. It consists of 7 items (e.g. "When something bad happens to me, I try to do something to solve the situation") with responses on a 5-point scale ranging from 1 (*I never think so*) to 5 (*I always think so*). The analyses carried out showed good psychometric requisites, with a Cronbach's alpha of .82.

As regards self-report instruments to assess preadolescents' and adolescents' positive future orientation, we note the

Adolescent Time Perspective Inventory developed by Mello and Worrell (2007). Focusing on future orientation and career resilience in the Italian context, Santilli et al. (2015) developed for middle and high school students the questionnaire Design My Future (see Table 1 for the version for middle school students). The version for middle school students consists of 21 items on a 5-point Likert scale (1 = *I never think so*; 5 = *I always think so*), and measures propensity to future orientation (13 items, e.g., "Looking ahead and thinking about what will happen in the future makes me feel full of energy") and propensity to resilience (8 items, e.g., "I think I'm able to challenge the difficult situations that may arise in the future for me"). The explorative and confirmative factor analyses carried out confirmed a two-factor correlated structure and good reliability (.88 for future orientation and .79 for resilience). The version for high school students, consisting of 25 items, has a similar structure to the version for middle school students, with equally good psychometric properties.

Table 1. *Design My Future – Version for middle school students*

DESIGN MY FUTURE

– Version for middle school students

Santilli, S., Ginevra, M. C., Sgaramella, T. M., Nota, L., Ferrari, L., & Soresi, S. (2015)

Instructions

Listed below is a set of statements which refer to things you could think or do. Please read them one at a time and while choosing an answer remember that:
1 stands for "it describes me very slightly"
2 stands for "it describes me slightly"
3 stands for "it describes me somewhat"
4 stands for "it describes me fairly well"
5 stands for "it describes me very well"

	1	2	3	4	5
1. I often think about when I will grow up.	❑	❑	❑	❑	❑
2. I like to daydream about what my future holds for me.	❑	❑	❑	❑	❑
3. Looking ahead and thinking about what will happen in the future makes me feel full of energy.	❑	❑	❑	❑	❑
4. I consider myself a strong person.	❑	❑	❑	❑	❑
5. Even if I am under pressure, I can concentrate and think lucidly.	❑	❑	❑	❑	❑
6. I like to think about where I will be in a few years.	❑	❑	❑	❑	❑
7. I think that my future will depend on how much I will do actively.	❑	❑	❑	❑	❑
8. I am committed to the maximum.	❑	❑	❑	❑	❑
9. Building a positive future for me is something that I think of often.	❑	❑	❑	❑	❑
10. The idea of being able in the future to realize my dreams, passionate me right now.	❑	❑	❑	❑	❑
11. I always commit to achieve what is important to me.	❑	❑	❑	❑	❑
12. About my future I have many ideas and hopes.	❑	❑	❑	❑	❑

13. I think I'm a strong person.	❑	❑	❑	❑	❑
14. I like to think about what I can do to have a good future.	❑	❑	❑	❑	❑
15. I believe to achieve my goals.	❑	❑	❑	❑	❑
16. I consider myself able to deal with anything that might happen.	❑	❑	❑	❑	❑
17. I think I'm a person who does not get discouraged easily.	❑	❑	❑	❑	❑
18. Imagining my future makes me feel optimistic.	❑	❑	❑	❑	❑
19. When I think about my future I pay attention to the type of person I'd like to be.	❑	❑	❑	❑	❑
20. I think I'm able to challenge the difficult situations that may arise in the future for me.	❑	❑	❑	❑	❑
21. I often think about how I wish things to be in the future.	❑	❑	❑	❑	❑

Regarding occupational knowledge, several self-reports and structured interviews have been published to assess children's, preadolescents' or adolescents' perception of or actual knowledge of occupations and the world of work. Among these, we note the Revised Career Awareness Survey (McMahon & Watson, 2001), and the Job Knowledge Survey (Loesch, Rucker, & Shub, 1978). In the Italian context, Ferrari et al. (2015) developed the Occupational Knowledge Interview to assess children's perception of occupational knowledge and actual occupational knowledge. It consists of 12 cards, each depicting one occupation, 2 for every Holland's category: Realistic (airplane pilot, fireman), Investigative (pharmacist, veterinarian), Artistic (actor/actress, journalist), Social (nurse, school teacher), Enterprising (shop assistant, taxi driver) and Conventional (accountant, secretary). The interview consists of two sections: the first probes perception of knowledge in 12 occupations, using a 4-point Likert scale (1 = *I do not know*; 4 = *I know very well*); the second investigates actual

occupational knowledge, asking participants to list any action, task or activity that is carried out by workers in the 12 occupations listed above. The percentage of agreement reached by two raters that codified the participants' answers for each occupation was 95%.

Lastly, to assess preadolescents' and adolescents' career adaptability, the 24-items self-report Career Adapt-Abilities Scale (Savickas & Porfeli, 2012) was developed by the research group Career Adaptability Research Team, coordinated by Mark Savickas. The instrument used in different countries with adolescents and adults has appropriate measurement equivalence, with six items for each subtest (concern, control, curiosity, and confidence), which in turn combine to become a global indicator of career adaptability (see the special issue by Leong & Walsh, 2012). Recently, Di Maggio et al. (2015) validated the instrument in Italian preadolescents, and found good psychometric requisites, with good levels of internal consistency (ranging from .69 to .90). Moreover, the authors confirmed the hierarchical factor structure similarity to the CAAS-Italy Form for adolescents (Soresi et al., 2012) and to the CAAS-International form 2.0 (Savickas & Porfeli, 2012).

Working to support strengths.

The analysis of strengths may allow one to elaborate, for each child, preadolescent or adolescent, a personalized report, which describes the variables considered and the scores obtained in these dimensions. The occasion when the report is given could be an opportunity to encourage children to reflect on the resources for their career construction and to identify their strengths.

Small group sessions or individual educational activities can be designed, with ad-hoc materials such as online stories, videos, or illustrative examples, to present the resources considered and provide specific suggestions to promote them. In this respect, regarding hope and optimism, the laboratory "Nuggets of optimism and hope to school" (Ginevra, Carraro, et al., 2014), developed by the Larios laboratory and the international research group IHRT, could be implemented. The workshop lasts three hours and discusses the definition of optimism and the typical aspects of the optimistic person. By using specific examples from school and extra-school settings the children are trained to recognize optimistic thoughts and distinguish them from negative ones, thus highlighting the importance of some strategies and ways of thinking and doing which are optimistic for their growth and future. Then the workshop presents the children with the definition of hope and the characteristics of the hopeful person and with exercises to facilitate goal setting and the production of hopeful and optimistic ideas to pursue those goals. The workshop ends with the analysis of a peer's story to single out her optimistic thoughts and the strategies she used to achieve her goals. In order to verify the efficacy of this laboratory, 71 elementary and middle school students were involved. Each participant, at pre- and post-test, was asked to complete the following sentences: "The optimistic person is ...", and "The hopeful person is...". At the end of the laboratory, the participants expressed a clear understanding of the discussed topics and presented more precise characteristics of optimism and hope then pre-test.

As regards resilience and future orientation, it may be useful to stimulate preadolescents and adolescents to start writing the "Book of Their Life" (Niles & Harris-Bowlsbey, 2005), beginning from significant past events. They could be supported to focus on

the important consequences of those events in increasing their strengths, and in thinking back to their difficult past events, to identify the internal and external resources that allowed them to successfully deal with them. Moreover, they could be invited to ‘project into the future’ and write the chapter of the future, picturing themselves in five and ten years’ time.

As regards knowledge of occupations and the world of work, we wish to mention a three-hour workshop “A leap into the world of work” (Ginevra, Carraro, et al., 2014), which encourages participants to consider the definition of work, its characteristics, and the rights and duties of workers. Participants are then stimulated to analyze occupations by describing actions, tools, places, people, knowledge, and skills required. In order to verify the efficacy of the laboratory, at pre- and post-test, participants were first asked the definition of work (“Work is ...”) at pre-test. At post-test, participants offered more complex, articulated definitions of work, and with more positive aspects (e.g., work allow to obtain economic benefits and to satisfy personal, psychological and social needs).

Structured activities of involvement.

In order to act even more incisively, and also to implement prevention activities and avoid the onset of vulnerability (Vondracek et al., 2010), several trainings could be implemented to promote hope, optimism, future orientation, resilience, occupational knowledge, and career adaptability.

Regarding hope and optimism, we want to note the preventive program developed by Firpo (2001), aimed at promoting elementary school students’ optimistic attributional style, and the program proposed by McDermott and Hastings (2000), in

which school children (grades 1–6) were read stories of high-hope children, and classroom discussions addressed how these children might incorporate hope into their own lives. Moreover, we recognize the social–ecological program "Building Hope for the Future", developed by Marques, Lopez, and Pais-Ribeiro (2011), that includes hope-based sessions with high school students as well as direct work with their parents and teachers.

In the promotion of resilience and future orientation, the PATHS curriculum could be used (Greenberg, 2006) to reduce impulsive behaviors and to facilitate future time orientation and consequential thinking before taking action. Moreover, we want to recognize the intervention developed by Marko and Savickas (1998) to increase high school and college students' positive future orientation. Lastly, for the Italian context, Ferrari, Nota, and Soresi (2012) developed and verified effectiveness of a structured 10-unit didactic intervention to foster adolescents' future orientation and career decidedness. The program "Hopes and expectations for the future" aims to increase ability to project into the future and build one's own career project with greater competence and awareness.

To improve occupational knowledge, career interventions generally aim to promote career exploration. Among these interventions, we want to take note of the program proposed by Beale (2000) that, through movies, graphic activities, group readings and group discussions, promotes the exploration of specific working environments. Also the program by Fouad (2001), through guided tours, and discussions with workers, aims at enhancing occupational knowledge and career exploration. In the Italian context, Nota, Ginevra, and Santilli (2015) devised a ten-unit program for elementary and middle school students called "Journey into the world of professions and work". It encourages children to stimulate reflection on what work is

and how professions can be explored in order to learn about them and to analyze their various aspects. Emphasis is placed on positive, open, and hopeful attitudes to work; concentration is focused on change, on the importance of innovation and creativity, and on the advantages of integration at the workplace. It was observed that at the end of this intervention, students of the experimental group showed higher levels of optimism and hope, future orientation, information, career exploration and curiosity, and more extensive occupational knowledge than a control group that did not participate in the training.

Concerning specific programs developed and validated to promote career adaptability, we want to recoignize Koen, Klehe, and Van Vianen's (2012) training, although its effectiveness has been verified only with college students, and Nota et al.'s (2015) training, made up of 7 didactic units (3 hours each) for high school students. This latter intervention aims at promoting a positive, optimistic and hopeful attitude about the future, mental open-mindedness, creativity, career exploration, ability to identify career goals and self-efficacy beliefs to pursue one's goals.

Lastly, as an example of an intervention that uses new technologies and provides career activities for large groups of students at low cost, we present an online career program, based on the Life Design approach (Nota, Santilli, & Soresi, 2016). It is a six-hour online intervention, developed to support middle school students to reflect on some relevant resources of their professional planning. The program is carried out in three meetings (steps), and each step begins with a 15-minute video in which the first two authors propose specific reflections on variables that the students will later be asked to reflect on. Specifically, the first video (first step) focuses on the importance of looking toward the future, to take responsibility for their future; the second video (second step) highlights the

importance of investing in education and training, considering that we live in what is called the 'knowledge society'; the third video (third step) focuses on the advantages associated with having multiple goals and also multiple ways to focus on personal goals. After the presentation of the video in the first and second meeting, the participants are administered online questionnaires that invite them to rate themselves on those same variables. Then, at the end of the second meeting, they receive a personalized report representing the strengths they recognize in themselves. In the third meeting, after the video, the students are encouraged to write down two goals in line with their strengths and their wishes, also in other areas of their life (love relationships, leisure activities, contribution to society) where they could make the most of their strengths. The analyses carried out by the authors to verify the effectiveness of the program showed that, at post-test, middle school students that participated in this online-program had higher levels of career adaptability and life satisfaction than control group. Moreover, regarding their wishes about the future, they endorsed more key aspects of the Life Design approach, such as self-determination and attention to choice processes, description of work activities rather than a specific job, indication of dreams/expectations/goals about their future, strengths, life satisfaction, relationships and training investment.

Conclusions

Starting from Fred Vondracek's reflections, and based on theoretical assumptions of the Life Design and PYD approaches, in this chapter we have considered some relevant resources to cope with difficult times that we are going through, such

as hope, optimism, future orientation, resilience, occupational knowledge, and career adaptability. For each of those constructs we have presented research studies underscoring their role in personal and professional development in childhood, preadolescence, and adolescence. Then, as Fred Vondracek himself maintains, we have again stated the importance of involving children, adolescents, and preadolescents in early vocational guidance projects. We have also focused on some important assessment tools useful for analyzing strengths and on some interventions that may be implemented to promote the development of the positive resources described above.

Although we can certainly say that a great deal has been done in that regard, we would like to conclude this chapter by focusing attention again on another area closely connected with young people's professional life, where much remains to be done: parent involvement. If we care about positive pathways, we cannot ignore family members, as Fred Vondracek said as far back as the 1980s (Schulenberg et al., 1984). We believe this point to be crucial and we strongly wish to join Fred Vondracek in stating again the importance of the family setting in young people's professional development and of involving parents in vocational guidance projects. We think that the present and the future of individuals affect not only them deeply, but they also deeply influence their contexts and their relationships, the most important of which are located in their families. We like to think with Vondreacek et al. (2010) that the issue of planning the future of children, of adolescents, and of young people is never exclusively individual and private, but relational and public. Therefore, we think that when vocational guidance services arrange for initiatives to support career choice and professional planning, they should also arrange for workshops and projects specifically for 'parents and family members' to

help them make available to their children's future the resources and strengths that they certainly have or that should in any case be boosted and activated by such initiatives.

We believe that research in our field should insist on that and work in order to set up and validate projects that will allow parents to experience a fruitful and articulate involvement in constructing multiple positive occupational pathways for their children, while at the same time getting satisfaction and improved quality of life. In concluding this work we would like to recall this sentence by Fred Vondracek, who already anticipated: "a focus on family processes related to parental employment, parent-child relationships, socialization practices, and perhaps to family interaction patterns is a fruitful domain within which to explain vocational outcomes and to identify processes" (Schulenberg et al., 1984, p. 139).

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Methods and Applications

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VI
APPLYING PERSON-ORIENTED METHODS IN RESEARCH ON VOCATIONAL BEHAVIOR AND DEVELOPMENT

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Abstract

Developmental theories have evolved toward emphasizing the totality of the organism, multiple levels of contexts, and dynamic interactions between the person and the environment and career development theories are no exceptions. Vondracek and his colleagues have introduced a developmental-contextual and systems-based framework of understanding vocational behavior and development and have also argued for the use of methodologies that align with such theoretical perspectives. However, research in vocational behavior and development is still dominated by variable-oriented approaches. Many studies rely on theories and methodologies that are variable-oriented: their focus is on relations between variables, interindividual differences, and are mostly based on aggregate-level analyses. In this chapter, six key principles of a person-oriented approach are discussed

along with a few examples that correspond with each principle. Researchers are encouraged to apply and integrate a person-oriented approach in their research to enhance our understanding of vocational behavior and development.

Keywords: person-oriented approach, variable-oriented approach, career development.

Introduction

Developmental theories have evolved toward emphasizing the totality of the organism, multiple levels of contexts, and dynamic interactions between the person and the environment (Bronfenbrenner, 1986; Magnusson & Cairns, 1996; Gottlieb, 1996; Lerner, 2006). Career development theories are no exception (e.g., Vondracek, Lerner, & Schulenberg, 1986; Lent, Brown, & Hackett, 2002; Savickas, 2002). In particular, Vondracek and his colleagues have introduced a developmental-contextual and systems-based framework for understanding vocational behavior and development and have also argued for the use of methodologies that align with such theoretical perspectives (Vondracek et al., 1986; Vondracek, Ford, & Porfeli, 2014; Vondracek & Porfeli, 2002). Despite their contentions, research in vocational behavior and development is still dominated by variable-oriented approaches. Many studies rely on theories and methodologies that are variable-oriented: their focus is on relationships between variables, interindividual differences, and are mostly based on aggregate-level analyses. There tends to be an implicit assumption that research findings from variable-oriented approaches can be applied to all individu-

als. However, a group of scholars have criticized such a view and have argued that in order to understand individual-level functioning, a person-oriented approach is required (Bergman, Magnusson, & El-Khouri, 2003; von Eye & Bogat, 2006).

Person-oriented approaches, in contrast with variable-oriented approaches, are in line with the developmental-contextual framework for understanding vocational behavior in several ways. The person-oriented approach and the developmental-contextual perspective both share the idea that person-in-context is the unit of analysis (Bergman et al, 2003; Vondracek et al., 1986). The core interest of person-oriented approaches is to understand a person as a whole and how person-context interaction unfolds the pathways of development (i.e., holistic-interactionistic perspective). Thus, theoretically and methodologically, the focus is on a person living in a specific context. Relatedly, both the person-oriented approach and developmental-contextual framework of vocational behavior contend that dynamic interactions between subsystems of a person (e.g., endocrine system, nervous system) as well as interactions with systems outside of a person (e.g., family system, school system) are important processes of development. Thus, researchers conducting a study using a person-oriented approach are likely to be interested in testing interactions between factors to understand an optimized pattern of human functioning, which is likely to differ across individuals. Furthermore, both perspectives agree that individuals are unique to some extent but there are individuals who are more similar to each other than different, yielding different groups of individuals showing similar functioning patterns or developmental pathways. Thus, both approaches are interested in understanding idiosyncrasy but also emphasize identifying lawful developmental processes among individuals.

Coupled with advancements in developmental methodologies, the use of person-oriented methods in vocational development research has also received growing attention but still falls behind those using variable-oriented methods. On a related note, Sterba and Bauer (2010) discussed six key principles that are central to a person-oriented approach (see also von Eye & Bogat, 2006). These principles provide a nice guideline for researchers to think about what aspects of human development can be answered with various person-oriented methods. Indeed, vocational behavior and development research can benefit from these guidelines. This chapter introduces a few research studies in the realm of vocational behavior and development to demonstrate how each empirical study addresses a key principle of the person-oriented approach. The primary purpose of this chapter is to encourage researchers to adopt various person-oriented methodologies in addressing their research questions guided through a developmental-contextual framework of vocational behavior and development.

Individual Specificity

The first person-oriented principle that Sterba and Bauer (2010) discussed is individual specificity. This principle relates to the theory that human functioning is, at least in part, unique to the individual (von Eye & Bergman, 2003; Vondracek et al., 2014). Scholars implicitly agree on the aspect of individual specificity, but the concept has been rarely tested in empirical studies, particularly within the field of vocational behavior and development.

One good example that shows individual specificity is a study by Schulenberg, Nesselroade, and Vondracek (1988) that

examined the within- and between-person variability of work values. Schulenberg and his colleagues took a sample of seven individuals and measured their work values on a daily basis for 100 consecutive days and applied a P-technique factor analysis to the data. Previously in the career development literature, work values were known to be relatively stable across time, but the authors questioned this and tried to explore the extent to which work values vary by short-term time intervals (i.e., day-to-day). Moreover, they were also interested in the between-person variability in terms of the factor structure that each individual yielded. They found that there was sufficient variability in terms of work values within a person. In addition, they reported that there were great similarities across participants with regard to work value dimensions as well as some differences. Three factors (i.e., stimulation, esthetic-management, and work conditions) were generally found in all participants, whereas other factors were rather idiosyncratic. The findings suggest that part of the work value structure is unique to individuals.

There were certain benefits of using a P-technique factor analysis to investigate individual-specific work value systems. Obviously, such an approach investigates a factor structure that fits well to a certain person. The widely used R-technique factor analysis sums up individual scores for each indicator and tests the model based upon the covariance matrix of the indicators. The basic assumption of aggregating is that the individuals in the sample are relatively homogeneous, and often aggregation misrepresents variability within individuals (Bergman et al., 2003; von Eye & Bergman, 2003). The factor structure found using R-technique may not actually apply to one single participant in the study. For example, Borkenau and Ostendorf (1998) compared the R-technique analysis results to the P-technique findings and found discrepancies between the

well-known Big Five personality structure and the P-structures. Substantial commonality may be found across individuals in terms of factor structure, but the uniqueness of a person's system should be tested using P-technique factor analysis. Although it may seem like a P-factor analysis can only test individual specificity, between-person variability and constancy can also be tested in two ways: either by comparing the factor model for each person at a conceptual level, or by statistically restricting parameters to remain equivalent for the two persons and interpret the change of the fit indices.

Potentially, there are numerous research questions in vocational development research that can be answered related to individual specificity. For example, is there individual uniqueness in the process of vocational decision-making? Is the typology of vocational interests applicable to all individuals—in other words, are there any individual-specific interest areas that are not shared with others or that are not shown among particular individuals? Do people develop their own way of regulating work stress? Given that the majority of vocational behavior and development research has relied on approaches that take the assumption that individuals are homogeneous, there are many research studies that can be designed to identify individual specificities. Humans function as systems, and the undergoing processes within a human system can have a certain uniqueness despite commonalities between systems.

Complex Interactions

Complex interactions reflect the dynamic interactions among various levels of systems. Human development is a process of complicated interactions among multiple levels within the

system (e.g., cell, tissues, blood) as well as outside the organism (e.g., familial, societal, and cultural contexts) (Lerner, 2006; Vondracek et al., 1986; Bronfenbrenner & Morris, 2006; Gottlieb, 1996). Vocational behavior and development is contingent upon contextual affordances (e.g., job availability) and is also connected with other domains of life (e.g., family), such that it is critical to understand the interactions between the person and multiple layers of contexts.

One interesting study by Gustafson and Magnusson (1991) demonstrated the advantage of using a person-oriented method to grasp complex interactions. The main purpose of their study was to investigate how person-environment interactions influence women's future careers. They used a longitudinal design in which they collected data when women were in early adolescence (ages 13 and 16) and in early adulthood (age 26). Information regarding intelligence, achievement, self-perceived ability, and school adaptation were collected from girls at age 13 and again at age 16. Cluster analysis was used to identify various patterns of early indicators, and exact test of single cell frequencies (EXACON, now called by the more familiar term configural frequency analysis) was used to explore whether members of one subgroup from one category is over- or under-represented in a subgroup in another category. (see Gustafson and Magnusson, 1991, for detail descriptions of each subgroups).

One particular question concerned the relationship between family background and girls' ability and adaptation during school years. Previous studies suggested that parents' education level and socioeconomic status were positively associated with their children's career aspirations or achievement (Hyde, 2007; Rojewski, 2007). However, Gustafson and Magnusson (1991) found that among the low SES girls three distinct groups

were identified, which they labeled *upwardly mobiles, pushers* (parents evaluated daughter's capability low but expressed moderately high aspirations regarding daughter's education), and *status quos* (parents had low aspirations regarding daughter's education). Parents of girls in the upwardly mobile subgroup exhibited relatively low income and low parent education levels but showed high aspirations for their daughters, and their evaluation of their daughters' capability was relatively high. In addition, this subgroup was overrepresented in the high-ability/high-adapted achieving subgroup, which differs from previous studies arguing a negative relationship between low SES and achievement. The authors contended that this finding would not have been captured if a linear relationship was assumed, a common assumption that is made in most regression-based models. It was possible to detect this overlap between the low SES group and the well-adapted girls because the methods allowed for exploration of the combination of multiple indicators.

Another study by Reitzle and Vondracek (2000) took advantage of configural frequency analysis (CFA) as well, in order to examine work and family lifestyle patterns among adults from West and East Germany in 1991 and 1996. The researchers were essentially interested in understanding the person-context interaction—how individuals unfold their lives in terms of work and family in the context of social change in West and East Germany after unification. They applied CFA to detect complex interaction patterns of timing of job entry, marital status, gender, region, and historical time. They found that in 1991, a time right after unification, men from West Germany were likely to become financially independent and remain single. Women from both East and West Germany were more likely than expected to become financially independent

and be married (i.e., a conventional combination of work and family). However, there were atypical patterns, too: In 1991, it was not typical for men from West Germany to be married and gaining late financial independence, which reflects the gender role expectation in West Germany that time. Furthermore, it was atypical for women in East and West Germany to live single despite early financial independence. After 5 years, the typical and atypical patterns slightly changed. In 1996, in both East and West Germany, it was atypical for men to have married and have not gained financial independence. Additionally, in both East and West Germany it was typical for women to have been married and have gained financial independence. It was only in East Germany that men who were single and had not gained financial independence were a typical pattern, reflecting that it must have become more challenging for men to find a partner if they have not yet been able to support themselves, especially since the change in social norms after unification.

CFA was useful for investigating these questions for a couple of reasons. First, CFA is particularly useful when many indicators are involved, which likely yields small cell sizes. For example, if five dichotomous variables were included in the analysis there would be 32 cells (i.e., 2 x 2 x 2 x 2 x 2) in total, and with 200 individuals in the sample each cell would have an average of six to seven counts. CFA has few requirements in terms of sample size in contrast to many other quantitative analyses (Stemmler, 2010). If one used regression analysis and used five indicators as predictors in the model with an equal sample size, it would be almost impossible to find a five-way interaction effect. Therefore, CFA is appropriate, especially on occasions in which the researcher is interested in seeking complex interactions. Second, a more pragmatic reason is that many population-level datasets include a number of discrete variables. CFA tests the configuration of in-

dicators, which means that the indicators should be categorical. This characteristic of the method has been criticized because it undermines the meaning of continuous variables (see von Eye & Bergman, 2003, for a brief discussion on the issue of categorizing). However, if discrete variables are the only option one has (especially when the researcher has little control over the initial research design in the data collection phase), CFA could be a feasible option for analyzing data in search of complex interactions. CFA can be particularly useful to conduct studies focusing on cross-national comparisons using national level data sets. As Reitzle and Vondracek (2000) noted, studies that take into account "complex connections between person attributes; macrocontexts; social change; and multiple, interrelated outcomes (p. 463)" are still limited in vocational development research. Methods like CFA can be useful in addressing research questions that focus on higher order interactions between multiple levels and subsystems, which is a crucial part of the process of vocational development.

Interindividual Differences and Intraindividual Change

When we investigate individual change over time, it is also of interest to examine whether the individual change differs across people. Because people function differently, the direction of change is not always the same for everyone.

This principle can be applied to understanding the level of career satisfaction among working women. A study with middle-aged women has shown that women who fell short of their aspirations by a large degree reported poorer psychological well-being (measured by purpose of life and depression) than women who reached their aspirations or fell short only by a small degree (Carr, 1997). However, the study design did not

allow for exploring the trajectories of psychological well-being over time. The researchers used data with three measurement points that were almost 18 years apart. If the data were collected at a shorter interval (e.g., yearly) and with more frequent measurement points, it could have been feasible to plot the trajectories of psychological well-being pertinent to one's work. This would have allowed the researchers to examine individual well-being trajectories and personal or contextual characteristics associated with varying shapes of trajectories. This type of question can be tackled by applying a two-level multilevel model (Hoffman, 2015). In such cases, the Level 1 model specifies across-time variability. Women's career satisfaction will be modeled in function of time. In equation terms, time would be the independent variable and career satisfaction would be the dependent variable. The Level 2 model estimates between-person variability. In Level 2, the researcher can specify the initial stage (i.e., intercept) to differ across individuals and the rate of change (i.e., slope) as well (also known as random effects). Covariates, such as income level or type of job (e.g., managerial/professional versus clerical/technical), may also be included at this level to test any possible interactions. Once random effects are taken into account, whether there is variability around the intercept and the slope, as well as how distant an individual is from the estimated mean slope and intercept can be known. Individual change patterns can then be created using those distances to identify more or less similar trajectories.

A recent study on career exploration showed a slightly different usage of multilevel modeling by disentangling interindividual differences from intraindividual variability. Lee, Porfeli, and Hirschi (2016) examined motivational precursors that were associated with in-depth and in-breadth career exploration. They applied a multilevel modeling technique that could easily differentiate the

variance due to interindividual differences and intraindividual variability (Hoffman, 2015). It is likely that individuals who are more strongly motivated to work *than others* actively explore themselves and careers. However, because humans are living systems that function through various processes (Vondracek et al., 2014), it is also likely that individuals' motivational level would vary from time to time. Thus, the researchers also took into account the assumption that individuals can be more or less motivated *than their usual* motivational level. By applying this method to three-wave longitudinal data, the authors found that those who exhibited higher personal agency beliefs (i.e., the degree to which one believes that one can successfully attain a vocational goal) *than others* were likely to explore careers in-breadth and in-depth, and that those who exhibited higher personal agency beliefs *than their usual level* were also likely to explore careers in-breadth and in-depth at any given time.

Methods such as multilevel modeling (MLM) or repeated measures ANOVA can be useful in examining interindividual differences in intraindividual change. MLM can be useful when there is missing data or when measurement intervals are not equal (Hoffman, 2015). This method takes advantage of all available data to identify the best change patterns across different individuals. Researchers can apply MLM in answering questions that relate to examining interindividual differences as well as interindividual change or variability.

Pattern Summary

Individuals develop in a lawful way and it can be generally summarized in a certain number of patterns (von Eye & Bergman, 2003; von Eye & Bogat, 2006).

Some researchers have proposed that a new career orientation is emerging and the idea of a traditional career orientation is declining (e.g., Hall, 2004). In other words, people are less concerned about progression within the hierarchical system and are more amenable to moving around within and across organizations. Gerber, Wittekind, Grote, and Staffelbach (2009) investigated the prevalence of career orientations of Swiss adults to see if such an argument was empirically valid. Using latent class analysis (LCA), they found four types of career orientations: *independent* (being positive about frequent changes of organizations), *traditional/loyalty* (high concern for job security), *traditional/promotion* (strong desire for hierarchical progress), and *disengaged* (disengaged from work and being concerned about work-life balance). Unlike the argument that traditional career orientation is declining, almost two-thirds of the individuals in the sample were characterized as expressing a traditional career orientation. Indeed, there was a small group of adults exhibiting the new type of career orientation (i.e., independent), but such an orientation was not widespread in the given sample; rather it was only a subgroup of the sample showing a new concept of career orientation, indicating that there are different patterns of managing careers among individuals.

LCA can be a useful analytical method when one is exploring specific typologies of human behavior. Conceptually, LCA is similar to cluster analysis in that they both classify individuals into certain types, but a distinctive character of LCA is that it includes the measurement model (Collins & Lanza, 2010). Moreover, as in factor analysis, once an exploratory latent class model is established a confirmatory model can be tested with a different sample, as was done by Gerber et al. (2009). Furthermore, the results yield item-response probabilities for class membership rather than an absolute classification to a certain latent class.

Model selection typically is based on various fit indices (e.g., G^2, the likelihood-ratio difference test, information criteria) under the consideration of parsimony and model interpretability (Collins & Lanza, 2010); that is, one would prefer a model that is simple enough that it does not reduce the practicality of typologies, but we also want to have a comprehensive model that tries to explain the largest possible number of human behavioral types. According to von Eye and Bergman (2003), LCA is a method that combines person-oriented and variable-centered features. The method is person-oriented because it systematically creates groups of individuals who exhibit similarities, but it is variable-centered because it uses aggregate-level parameters estimated at the population (or subgroups) level. Thus, LCA may not be able to capture individual specificity, but it can be applied to occasions when one is describing patterns of behavior.

Using a slightly different methodology, one study examined different patterns of women's employment trajectories during early parenthood. Hynes and Clarkberg (2005) combined sequence analysis and cluster analysis in their study. Sequence analysis was used to define a string of discrete events (e.g., working full-time versus working part-time), and then cluster analysis was used to find a finite number of subgroups that exhibit similar sequences of life/career activities. Hynes and Clarkberg (2005) reported a six-group description of *continuously employed*, *continuously out*, *hiatus at birth*, *exit at birth*, *declining employment*, and *low intermittent employment*. As can be expected, there was no pattern showing peak employment during childbirth or a pattern showing increased work engagement after childbirth. Childbirth was a time when women reduced work time, or it was an opportunity for them to exit the labor market either discretely or gradually. Otherwise, women were rather continuously in or out of the labor market. The combination of these methods allowed the research-

ers to identify typical patterns in women's life/career trajectories, which helped us understand the developmental pathways that are frequently observed among women transitioning into parenthood.

Holism

The holistic view of human development implies the complex interactions among the involved factors in human functioning (Bergman et al, 2003). The holistic perspective aligns well with the developmental-contextual perspective of vocational behavior and development in that they both regard the "person-in-context" as the unit of analysis (Vondracek et al., 1986). Individuals function as integrated and coherent open systems that continuously interact with the proximal and distal contexts (Bergman et al., 2003). Any biological, mental, and behavioral aspect that is involved in a person's functioning in a given context only derives its meaning through the interactions among those factors or the person-in-context functioning patterns.

There were relatively few studies examining the holism principle in vocational behavior and development research. One study conducted in an educational context, however, depicts a good example. A research study by Musher-Eizenman, Nesselroade, and Schmitz (2002) that focused on perceived control and academic performance used dynamic factor analysis to identify relationships between variables within individuals. They took a small sample of children (n = 29) and gave them performance tests on more than 25 occasions. They then divided the sample into two groups, namely high- and low-achieving, to contrast the different dynamic relationships among the variables. The variables included in the dynamic factor model were control beliefs, perceived task ease, and performance. What they

found was quite interesting. Among the low-scoring children, there were no cross-lagged or autoregressive relationships found among the variables. There was only a concurrent association found between control beliefs and perceived task ease within one occasion. However, among the high-scoring children, autoregressive relationships for control beliefs and perceived task ease were significant. There was also a two-lagged relationship for performance predicting control beliefs. The findings imply that multiple variables may interact differently depending on the person. Musher-Eizenman et al. (2002) collected multivariate data from many people, but dynamic factor modeling can indeed be applied to multivariate data from a single individual.

A potential realm of research where testing the holism principle would be useful is the role of emotion in work motivation. Emotion has been understudied in career development research (Kidd, 1998), although emotion obviously contributes to motivation (Ford, 1992). How positive and negative emotions interact in facilitating or inhibiting work motivation can be investigated. The biggest reason that dynamic factor analysis can be advantageous for examining the holism principle is that it allows for testing of interactive relationships among multiple variables. By collecting information on multiple occasions, an intraindividual covariance matrix can be obtained to fit a factor model. The concurrent and cross-lagged relationships among variables are modeled. Through this process, the complex interactions among involved variables can be identified, with either a single subject or multiple subjects (Molenaar, 2010). Another advantage of dynamic factor analysis is that it can be conducted without an a priori hypothesis (Sterba & Bauer, 2010). In other words, the method can be used solely for exploratory purposes. Researchers may benefit from theories in generating research questions but do not have to be constrained by postulating specific directions of the interactions.

Pattern Parsimony

Theoretically speaking, every single person is different so there should be an infinite number of developmental processes that can be identified (von Eye & Bergman, 2003; von Eye & Bogat, 2006). However, some people show similar patterns of functioning to others, which can sometimes be grouped into a fewer number of patterns (i.e., yielding "patterns of patterns"). Particular functioning patterns are observed more (or less) frequently than expected. For example, if one were to use multiple indicators to classify people into distinct groups, theoretically any number of combinations can exist, but in reality some combinations seldom or never exist at all (Bergman & Magnusson, 1997), yielding a countable number of patterns.

Again, let us consider the study of Reitzle and Vondracek (2000). As described earlier, one of their aims was to identify patterns of career entry, family formation, and gender in times of social change after unification in Germany. There were patterns observed less frequently than expected. For example, in 1991, men from West Germany were unlikely to be married while delaying financial independence. Meanwhile, it was very unlikely for women from both East and West Germany to have gained financial independence and remain single. These patterns that were observed less frequently than expected indicate that if West German men were to be married that they were expected to earn income for the family. Similarly, women may have been more likely to follow the social norm to get married and form a family, given that fewer than expected self-supporting single women were observed. These so-called "antitypes" are configurations or patterns that are observed less frequently than expected, yielding parsimonious patterns of patterns.

One of the advantages of using CFA to find patterns is that it not only yields "types," but also "antitypes" or "anticlasses."

Bergman et al. (2003) discussed the concept of "white spots," which are developmental patterns that never or rarely exist. By identifying types and antitypes, it is possible to get a parsimonious picture of various vocational developmental pathways.

Closing Comments

Career development is an area that can particularly benefit from person-oriented approaches (Vondracek & Porfeli, 2002). Several reasons support this claim. First, a person-oriented approach better reflects human behavior. As noted previously, interindividual correlation-based analyses assume that people are homogenous and that relationships between variables are linear. However, most phenomena in nature are often described in terms of nonlinear, dynamic, and complex processes (Bergman et al., 2003; Vondracek et al. 1986). Moreover, only under very restricted conditions are interindividual differences interpreted as intraindividual change (Molenaar, 2004). The holistic-interactionistic perspective is much more comprehensive in understanding human functioning, not to mention vocational behavior and development. Thus, the methodologies should match the theory.

Second, person-oriented methods can complement research findings using variable-oriented methods (Bergman et al., 2003). What we have learned from studies that are primarily regression-based only provides us with part of the big picture. For example, studies report a gender wage gap in many occupational fields (Hegewisch et al., 2010), but these gender differences are based on aggregate-level comparisons. It is possible that some women earn more than men even within the same occupational fields because there are differences in personal resources, such as level of skills, and in contextual affordances, such as the

employer's willingness to pay the employee well. Therefore, what we have learned from past studies may not accurately represent an individual's situation. Person-oriented methods can help generate subgroups and patterns that demonstrate heterogeneity among individuals as well as test individual specificity to understand the optimal functioning of the person-in-context.

In addition, person-oriented methods allow us to examine dynamic processes within the organism, while variable-oriented methods are limited in their ability to do so. For example, when using large samples no evidence was found for managerial women opting out of the labor market (Percheski, 2008; Cabrera, 2007). However, there are women who do quit working, either temporarily or for good. With this in mind, some researchers have tried to understand the processes involved in managerial and professional women's decision-making about opting out of the workforce using qualitative methods (e.g., Blair-Loy, 2003; Stone, 2007; Lovejoy & Stone, 2012). They found that the reasons female professionals quit working are a complex function of organizational culture, manager's support, spouse's earnings, the value of childcare, and the stress of working in a highly demanding job. Person-oriented methods can alternatively test such processes quantitatively and analyze whether the findings confirm or reject the findings of previous qualitative studies.

Third, using a person-oriented method for research has crucial implications for intervention efforts. Whether the intervention is a targeted program (e.g., career counseling) or a universal program (e.g., career program embedded in school curricula) (Offord, 2000), using a person-oriented approach will help researchers study the planning, implementation, dissemination, and effectiveness of the intervention. For example, Gustafson and Magnusson (1991) found that girls who exhibit patterns of low school adaptation and low ability may require different

strategies to modify their developmental outcomes than do those who report low school adaption but demonstrate high ability. A career counselor may be better able to help a high school student decide upon a career if complex interactions between the person and the context are well understood. Because developmental science is interested not only in describing and explaining, but also in modifying and optimizing human development (Baltes, Reese, & Nesselroade, 1988), the alignment of theory and method should also connect through intervention endeavors.

To summarize, the study of vocational behavior and development should embrace the person-oriented perspective to enhance our understanding of human behavior. This is not to say that the variable-oriented approach should be neglected, rather researchers should find a way to integrate the two perspectives to conduct research aimed at getting a clearer idea of how people navigate through and manage their work lives.

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VII
DIMENSIONALITY OF CAREER INDECISION: METHODOLOGICAL PERSPECTIVES

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Abstract

The dimensionality of career indecision has been the subject of theorizing and empirical research for more than seventy years. Many studies, however, have methodological shortcomings that preclude the necessary distinction between career indecision and career indecisiveness. One possible solution to the problem would be to employ recent methodological advances to identify latent trait and latent state dimensions in items designed to examine career indecision and indecisiveness. More definitive findings regarding the career indecisiveness--indecision distinction will require what Vondracek and his colleagues suggested more than thirty years ago: longitudinal research designs using state of the art analytical methods.

Keywords: career indecision, career indecisiveness, longitudinal research designs.

Introduction

Over the past 70 years a large body of research has been accumulated on the multidimensionality of career indecision. Disparate findings have fueled ongoing discussions among researchers and practitioners in the fields of vocational/career counseling and career development. Although the most common contents of constructed scales for career indecision are consistent with vocational/career counseling observations by pioneers in this field, there are some remaining issues regarding the distinction between career indecision and career indecisiveness. In this chapter, inspired by the writings of E. G. Williamson (1939), I will review selected scales developed for measuring career indecision. In order to shed new light upon the relationships between career indecision and career indecisiveness, current methodologies designed to examine the trait-state distinction in human development are introduced.

Diagnostic approach for vocational problems

Williamson (1939) defined the four key problems of vocational choice as *uncertain vocational choice*, *no vocational choice, discrepancy between interests and aptitudes,* and *unwise vocational choice*. He also discussed the role of vocational indecision in causing vocational choice uncertainty and in the failure to make a vocational choice. For example, he said "The causes of vocational choice uncertainty are many, usually consisting of fear and lack of aptitude, fear of displeasing parents and friends, and fear of failure in chosen occupations" (p.414), and "many students are unable to decide definitely even though there are several occupations which appeal to them" (pp.431-432). Bordin

(1946) reconsidered these problems with reference to the psychodynamic position of vocational counseling and proposed the new diagnostic categories for the classification of vocational problems as *self-conflict, lack of information, dependence, choice anxiety*, and *no problem* (see also Byrne, 1958; Pepinsky, 1948, and Robinson, 1950, 1963). More than two decades after his original classification, Bordin (1968) reclassified these problems into *dependence, lack of information, self-conflict, choice anxiety*, and *lack of assurance* (Bordin & Kopplin, 1973).

Criticizing the unreliability of approaches such as Bordin's, Crites (1969) proposed that vocational problems should be conceptualized as problems of adjustment, problems of indecision, and problems of unrealism. He further proposed an integrated system of classification criteria for career choice problems based on the trait-factor approach (see also Crites, 1981). After reviewing various classifications of vocational/career choice problems, Rounds and Tinsley (1984) raised concerns that "the heuristic value of the classification system may be compromised by tautology" (p.154). Spokane (1991) also pointed out that such problem diagnoses "while intellectually rich, have not led to research and evaluation, since the link between the categories and existing diagnostic measures and possible interventions is not clear" (p.77).

Typological approaches for studying career indecision

Career counseling for students might start with the question "what is your career choice?" Based on their answers to this, they would be classified into two groups; a decided group and an undecided group. After investigating the characteristics of decided versus undecided students, Williamson (1939) concluded that there were no differences in academic aptitude and so-

cio-economic status, findings that were also reported by others (e.g., Baird, 1968, 1969; Slaney, 1980). Decided and undecided students differed, however, on scales specifically constructed to measure career indecision (Slaney, 1980).

The most important one of such scales for measuring career indecision in vocational/career counseling and research has been the Career Decision Scale (CDS: Osipow, Carney, & Barak, 1976). Osipow and his colleagues developed the CDS "to standardize the identification of sources of career indecision to serve as a diagnostic aid in using a series of structured interventions" (Osipow, 1991, p.232).

Two different directions of research were inspired by the CDS. One was designed to create a typology of career indecision based on the tradition of diagnostic categories for vocational problems in career counseling. Accordingly, Savickas and Jarjoura (1991) used cluster analysis procedures to identify career indecision types using the items of the CDS. Other cluster analytic studies of career decision status were conducted with various psychological scales related to indecision and to decision making. For example, Larson, Heppner, Ham, and Dugan (1988) reported four clusters such as *planless avoider, informed indecisives, confident but uninformed*, and *uninformed* in response to the CDS, the CPI (Career Planning Inventory), the PSI (Problem Solving Inventory: Heppner & Petersen, 1982), and the Consistency and Differentiation of the VPI (Vocational Preference Inventory: Holland, 1978). Wanberg and Muchinsky (1992) reported also four clusters such as *confident decided individuals*, *concerned decided individuals*, *indifferent undecided individuals*, and *anxious undecided individuals* using the CDS, the Career Decision Profile (CDQ: Jones, 1989), the MVS (My Vocational Situation: Holland, Daiger, & Power, 1980), and personality measures including state and trait anxiety. Based on theoretical considerations, Gati, Krausz,

and Osipow (1996) proposed a typology of ten career decision making difficulties and developed the Career Decision-Making Difficulties Questionnaire (CDDQ).

Traditionally, researchers in the field of counseling often classify clients into various types depending on their diagnostic purposes. Although cluster analysis is suitable for identifying groups of observed variables under investigation, groups discovered by this method vary with the calculation methods that are used (e.g., distance among variables; algorithms used to calculate clusters; variables included for calculation). Moreover, the advantage of calculating for the best cluster for the focus group of a given study might be one of the disadvantages in cross-group studies. In other words, cluster analysis is not suitable for establishing or confirming the invariance of measurement among culturally or developmentally different groups. Researchers using this method should pay heed to the cautionary statements made by Spokane (1991).

Factor analytic approaches for studying career indecision

Another approach to studying career indecision inspired by the CDS is the exploratory research on the dimensionality of career indecision using factor analysis. Factor analysis was developed to find the latent dimensions of constructs such as intelligence, personality, interest, and so on. Confirmatory factor analysis has been the prevalent method that has been employed to establish factorial invariance of the factor structure of a given psychological variable (Vandenberg & Lance, 2000).

The four factors originally reported by Osipow et al. (1976) stimulated further exploratory factor analytic studies. Comparing findings from seven such studies with their own results, Shimizu,

Vondracek, Schulenberg, & Hostetler (1988) reported that they were similar to their four factors of the CDS on oblique common factor space even though they were different in some cases regarding the numbers of factors. These four factors identified by Shimizu et al., (*diffusion, support, approach-approach,* and *external barriers*) were confirmed to possess factorial invariance by means of structural equation modeling (Schulenberg, Shimizu, Vondracek, & Hostetler, 1988). Factor analytic studies of the CDS were carried out not only on the original (English language) version but also on translated versions in a number of different languages. A selection of those findings is summarized in Table 1. Interestingly, the multidimensional factors of the CDS extracted from the sixteen items of this scale are quite similar to the classified problems of the diagnostic approach (c.f., Bordin, 1968).

Table 1. Factor analytic studies of the CDS (Osipow, Carney, & Barak, 1978)

Scale	Authors	Dimensions	Method	Related Research
Career Decision Scale (CDS)	Osipow, Carney, & Barak (1978)	Two, Three or Four	EFA	cf. Table 1 of Shimizu et al., (1988)
		Four (Diffusion, Support, Approach-Approach and External Barriers)	EFA and MGCFA	Shinizu et al, (1988) and Schulenberg et al., (1988)
		Four (Lack of Information about Self and Careers, Uncertainty about Appropriateness or Degree of Fit Between Self and Career, Multiple Interests, and Specific Barriers to a Previous Choice)	EFA	Fuqua, Newman, & Seaworth (1988)
		Three (Identity Diffusion, Positive Choice Conflict and Tentative Decision)	MGCFA	Feldt (2013)
Greek version of the CDS		Four (Absence of Structure, Need for Career Guidance, Diffusion of Interests, and Personal Conflicts	EFA	Argyropoulou, Sidiropoulou-Dimakakou, & Besevegis (2007)
Spanish version of the CDS		Four (Lack of Structure, Lack of Support, Approach-Approach, and Perceived Barriers)	EFA	Corkin, Arbona, Coleman, & Ramirez (2008)

Note: EFA-Exploratory Factor Analysis; MGCFA-Multi-Group Confirmatory Factor Analysis

Although the MVS (Holland, et al.,1980) has also been used to diagnose clients having difficulties in career decision-making using three scales (vocational identity, occupational information, and career barriers), the CDS was developed intending to assess career indecision directly using items collected in career counseling practice (Osipow, 1999). The relatively large number of studies conducted to explore the dimensionality of career indecision is very likely a consequence of the controversy surrounding the number of factors of the CDS (Shimizu, Vondracek, & Schulenberg, 1994). Most of the more recently developed scales of career indecision include some subscales corresponding to dimensions extracted from various factor analytic studies (Table 2).

Kelly and Lee (2002) used joint factor analysis to search for communality among some of the different measures. Specifically, they examined the relationships among the CDS (16 items), CDDQ (44 items), and CFI (21 items), and reported the following eight factors: Lack of Information (CDDQ), Need for Information (CFI), Trait Indecision (CFI), Disagreement with Others (CDDQ), Identity Diffusion (CDS), Choice Anxiety (CFI), Positive Choice Conflict (CDS), and Tentative Decision (CDS). Investigating the same measures, Nauta (2012) utilized confirmatory factor analysis with parceled variables and reported five factors: Lack of Information (CDDQ), Need for Information (CFI), Trait Indecision (CFI), Disagreement with Others (CDDQ), and Choice Anxiety (CFI). Among the CDS, CDDQ, and CFI, it appeared that there was no communality on latent variables of career indecision. In conducting a search for the structure of a construct via exploratory factor analysis among such different instruments, it is important that the number of factors is decided appropriately. If the number of factors is too large, the specific factors that are extracted may simply reflect the differences of item statements or response categories among the measures. On the other hand,

when the number of factors is too small, such factors might then be considered as representing a kind of general factor.

Table 2. Scales of career indecision and scale construction method

Scale	Items	Authors	Dimensions	Method	Related Research
Career Decision Profile (CDP)	24	Jones (1989)		EFA	
Career Factors Inventory (CFI)	21	Chartrand, Robbins, Morrill, & Boggs (1990)	Career Choice Anxiety, Generalized Indecisiveness, Need for Information, Need for Knowledge	CFA	
			Second Order Factors: Personal-Emotional (Career Choice Anxiety, General Indecisiveness); Informational (Need for Information and Need for Knowledge)	CFA	Dickinson & Tokar (2004)
			Career Choice Anxiety, Generalized Indecisiveness, Need for Information and Need for Knowledge	CFA	Simon & Tovar (2004)
Career Decision-Making Difficulties Questionnaire (CDDQ)	44	Gati, Krausz, & Osipow (1996)	Lack of Readiness (Lack of Motivation, Indecisiveness, and Dysfunctional Myths); Lack of Information (Process, Self, Occupation, and Ways of Obtaining Additional Information); Inconsistent Information (Unreliable Information, Internal Conflicts, External Conflicts	Cluster Analysis	
Career Thoughts Inventory (CTI)	48	Sampson et al., (1996)	Decision-Making Confusion, Commitment Anxiety, External Conflict	PCA	Sampson et al., (1998)
Career Indecision Scale (CIS)	22	Germeijs & DeBoeck (2003)	Indecision	PCA	
Emotional and Personality Career Difficulties Scale (EPCDS)	50	Saka, Gati, & Kelly (2008)	Pessimistic Views, Self-Concept, and Identity	CFA, Cluster Analysis	
Career Indecision Profile (CIP)	65	Brown et al., (2012)	Neuroticism/Negative Affectivity, Choice Commitment Anxiety, Lack of Readiness, Interpersonal Conflic	EFA, CFA MGCFA	Hacker et al., (2013) Adams et al., (2003)
Japanese Career Decision Inventory (JCDI)	42	Shimizu & Hanai (2007)	Choice Anxiety, Indecision, Conflict, Moratorium, Seeking Counsel, Evasion, Sense of "Barrier"	EFA	Shimizu & Hanai (2008)

Note: The CDS is not represented on this Table (see Shimizu et al., 1988 and Table 1); Note: EFA-Exploratory Factor Analysis; CFA-Confirmatory Factor Analysis; MGCFA-Multi-Group Confirmatory Factor Analysis

Appling a meta-analytic approach to 28 correlation matrices published in the research field of career related behavior, Brown and Rector (2008) reported a comprehensive four factor model of career indecision: Neuroticism/Negative Affectivity, Choice/Commitment Anxiety, Lack of Readiness, and Interpersonal Conflict. Based on these findings, Brown et al. (2012) developed the CPI, consisting of 167 items, to measure their four factors. Subsequently, Hacker, Carr, Abrams, and Brown (2013) developed the short version of the CPI with 65 items and confirmed the four factor structure.

One important difference among the above scales is whether they included a measure of career indecisiveness. After reviewing the scales, it appears that they can be classified into two types: (1) chiefly constructed to measure the career indecision component (e.g., Osipow, 1999; Sampson et al., 1999; Shimizu & Hanai, 2007), and (2) intentionally constructed to separately assess the career indecisiveness component (e.g., Chartrand et al., 1990; Frost & Shows, 1993; Gati et al., 1996; Van Matre & Cooper, 1984; Santos, Ferreira, & Gonçalves, 2014).

Differentiating between indecision and indecisiveness: Selected validity studies

As reviewed above, there are already many multidimensional career indecision scales with adequate psychometric properties, which have been constructed appropriately by exploratory or confirmatory factor analysis. However, most of the results in this field were obtained with cross-sectional data, and mostly from traditional correlational analyses.

The study of career indecision has been a long and unique process, at least with regard to the following three observations:

(1) The measurement of career indecision has been focused on phenomena observed in career counseling situations and not on constructs as investigated in personality psychology; (2) Measurement has been designed to capture change as a consequence of career intervention, as it is desirable that career indecision will change during the counseling process. Nevertheless, a measure that is supposed to produce different results depending on some intervention may not be considered reliable in the context of traditional measurement; (3) Career indecision and career indecisiveness have co-existed. Career indecision is considered to be a state-like concept that may change at different occasions following career intervention, but indecisiveness is considered to be a stable and trait-like phenomenon related to personality (e.g., Osipow, 1999).

A unique contribution to the differentiation of indecision and indecisiveness was made by Crites (1969). Based on Goodstein's (1965) groundbreaking theoretical distinction between indecision and indecisiveness, Crites (1969, p. 601) proposed to use an experimental design with pre-test and post-test of the same measurement to operationally define these constructs. His influential idea has been instrumental in the formulation of longitudinal research on the distinction between career indecision and career indecisiveness with trait and state variables.

Some researchers have treated the two concepts of career indecision and career indecisiveness as independent/orthogonal dimensions (e, g., Van Matre & Cooper, 1984). Unfortunately, however, there are no statistically concrete differences in psychometric results of repeated measures of scales of these concepts, but rather there are some notable similarities between them. For examples on the CDS, Fuqua, Newman, and Seaworth (1988) discussed the substantial correlations between career indecision and trait anxiety, a relationship that had been predicted by Goodstein's (1965)

conceptualization of indecision/indecisiveness. Saunders, Peterson, Sampson, and Reardon (2000) reported that the CDS correlated with state anxiety (.27) and with trait anxiety (.29). Mojgan, Kadir, and Soheil (2011) reported also that the CDS correlated with state anxiety (.62) and with trait anxiety (.33). Meanwhile, the stability of the CDS has been reported as being very high (e.g., Creed, Patton, & Prideaux, 2006; Nauta, 2012). Guay, Ratelle, Senécal, Larose, and Deschênes (2006) reported that the stabilities of the total scores of the CDS were .54 - .38 on three-year longitudinal data of college students and these scores were correlated with autonomy (-.33 - -.42) and self-efficacy (-.51 - -.59).

Discussing both cognitive and affective aspects of career indecision, Saunders et al. (2000) reported that the CTI also correlated with state anxiety (.36), and with trait anxiety (.42). Di Fabio, Palazzeschi, Asulin-Peretz, and Gati (2013) reported the correlation between the CDDQ and indecisiveness (Frost & Shows, 1993) was .51 and they discussed subtle differences in the correlations of career indecision and career indecisiveness with emotional stability and extraversion. Although the results obtained with the various scales reviewed above are consistent with generally accepted definitions of career indecision and career indecisiveness, it may still be a bit difficult to operationally discriminate between career indecision and career indecisiveness (Nauta, 2012).

It appears that subtle differences between career indecision and career indecisiveness persist because studies of the two constructs are often based only on data collected for cross-sectional research designs, and also because items of scales to measure these constructs contain both state-like and trait-like aspects. To overcome these limitations, traditional psychometric methodology for scale construction and validity studies should be innovated for the unique concepts of career indecision and career indecisiveness.

Trait-State distinction approach for career indecision and indecisiveness

There is an argument that career indecisiveness is different from career indecision in the decision making process (Osipow, 1999). As mentioned above, from this perspective the scales for career indecisiveness should be intentionally constructed independently from any career indecision scale (or subscales). According to another argument, career indecisiveness is regarded as chronic career indecision (Crites, 1969; Fuqua & Hartman, 1983; Hartman, Fuqua, & Hartman, 1983). Longitudinal methodologies for research design and data analysis are needed to investigate the substantive features of indecisiveness from this perspective. For example, Vondracek, Hostetler, Schulenberg, and Shimizu (1990) reported that using repeated measures analysis of variance for three waves of data collection at an interval of one year resulted in significantly different change patterns for the multiple subscales of career indecision with regard to measurement properties. They compared the results of the repeated measures analysis of variance for the total score of the CDS and for the four subscales of the CDS, and suggested that the "diffusion" factor might be useful in differentiating career indecisiveness from career indecision.

Adapting the latent state-trait analysis (Steyer, Schmitt, & Eid, 1999), Jaensch, Hirschi, and Freund (2015) defined three first-order state factors of career indecision and a second-order factor of career indecisiveness for three waves of longitudinal data. Although they also discussed the trait-like nature of career indecisiveness with reference to considerations by Hartman, Fuqua, and Hartman (1983) and Osipow (1999), these state-like factors and trait-like factors were correlated with each other and with self-evaluation and occupational self-efficacy. Jaensch

et al. (2015) did not decompose the variance of state-like and trait-like, but built the indecisiveness factor on the indecision factors at corresponding measurement occasions.

Nesselroade (1988) discussed such problems in the context of human development as trait-state distinction. He proposed that observed variables can have both, a latent variance of trait and a latent variance of state (also see, Hertzog & Nesselroade, 1987). Traditionally, it is assumed that items load chiefly on one common factor and that such simple structure is desirable for scale construction. Nesselroade's proposal is that an item as an observed variable loads on two latent factors; one is the trait factor, the other is the state factor. Geiser, Keller, Lochart, Eid, Cole, and Koch (2015) described such a trait-state distinction model. In this model, multistate factors were defined at each occasion of longitudinally repeated observations and singletrait factors were defined as a common latent factor. The developmental trajectory of trait was defined for singletrait through application of latent curve modeling (McArdle & Nesselroade, 2014). In the context of exploratory factor analysis, it is also noted that bifactor rotation is suitable for containing two kinds of factors (general factor and trait factors) in a single item (Jennrich & Bentler, 2011).

Thirty years ago, Vondracek, Lerner, and Schulenberg (1986) laid out a forward-looking methodological agenda for career development research. In particular, they emphasized the importance of longitudinal analysis for studying career related behavior. In the present century we have witnessed tremendous methodological and conceptual progress in longitudinal data analysis with structural equation modeling (McArdle & Nesselroade, 2014). Nevertheless, the accumulation of additional longitudinal design research, using state-of-the-art methods, is required for more definitive studies of the career indecisiveness-indecision distinction.

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VIII
THE CONTRIBUTION OF THE LIFE-SPAN DEVELOPMENTAL APPROACH TO THE STUDY OF YOUNG ADULT'S IDENTITY CONSTRUCTION

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Abstract

The concepts of micro-, meso- and macro- system and of (notably dyadic) interactions are central in the Vondracek's approach to career development. These concepts combined with those of fields and habitus (Bourdieu, 1979), of "modes of relating to self" (Foucault, 1984) and of social representations (Moscovici, 1988) permit to describe the construction's processes of the flexible identities that are required in liquid modernity. In the first part of this chapter, we examine these sociological based approaches to show that social interactions allow the sharing of the social world with the individual and manifest the individual agency and his/her abilities of be a social actor as well. Social interactions contribute fully to the evolving shape of

the individual-context relationships and to identity construction. These psychosocial and social theories represent distinct perspectives that are increasingly compatible with one another and with approaches enlightening career development processes. In a second part of the chapter, we seek to underline that such concepts' combination could also serve as a basis for self designing interventions. Indeed on the basis of these different approaches, the making oneself model (Guichard, 2009) can be seen as a theoretical framework for counseling dialogues for young people which permits them to develop a self reflection on their main social interactions and activities in their daily life. This approach will be presented and discussed in its ability to increase new perspectives for their future life. The third part of this chapter intends notably to give some illustrations showing the importance of mesosystem transitions in these processes. Several examples concerning young adults in different kind of situations of training in a French context (apprentices, vocational high school pupils, doctoral students) will be proposed to enlighten the role of counseling situations to empower young adults identity construction.

Keywords: mesosystem, field, habitus, modes of relating to self, transition, self-identity.

Introduction

With the "*life-span developmental approach to career development*", Fred W. Vondracek and his colleagues Richard M. Lerner and John E. Schulenberg (1983, 1986) have deeply renewed the

research in this particular field. Their approach has given rise in France to numerous developments we intend to describe in this chapter. In the first part we will discuss how the combination of Bronfenbrenner's (1979, 2005) and Baltes' (1983; Baltes et al., 1980) conceptual models, made by Vondracek and his colleagues, via a number of concepts adapted from other models and analyses, has progressively led to understanding the subjective identity as a dynamic system of subjective identity forms. In the second and the third parts we set out some types of interventions related to career guidance support (based on this model), which are meant to assist persons in directing either their professional and training pathways, or more generally, their life. In these sections the intervention methodologies are described and illustrated by short case studies. Thus, this chapter stresses that the theoretical integrated model proposed by Vondracek and his colleagues (Vondracek, Ford, & Porfeli, 2014) contributes to the provision of new prospects for youth vocational guidance. The approach of the "subjective identity forms system" unveils the systemic nature of the construction of meaning processes, which occur during counseling dialogues, and is also at the basis of a variety of interventions for life and career designing.

1. From "A life-span developmental approach to career development" to the concept of a "dynamic system of subjective identity forms"

Vondracek (2001) and Vondracek, Lerner, & Schulenberg, (1983, 1986) conceived their approach to the intention-forming and decision-making processes through the combination of Bronfebrenner's model of *human development ecology* (1979) and Baltes' concepts of *life-span developmental psychology*

(1983). Vondracek et al. especially retained Bronfenbrenner‘s idea that human development happens in an environment that is constituted by a set of intertwined contexts, combined to each other. In order to analyze this environment, Bronfenbrenner distinguishes four context levels:

- The micro-system where the individual acts, interacts and enters into dialogue with others.
- The meso-system that describes the interrelations between these micro-systems.
- The exo-system which represents the manifestation of the influence produced on the individual by certain micro-systems to which he/she is linked through other individuals who interact with them, while he/she is not directly involved in such micro-systems;
- The macro-system that integrates all the subordinated systems as part of a set forming the culture and the ethos of a given society.

Bronfenbrenner’s model does not explain the genesis of behaviors, representations, and beliefs by reference to conditioning. In this respect, his thinking is close to Paul Baltes’s *life-span developmental psychology* which is based on a set of fundamental proposals, which emphasize development occurs across one’s entire life, that it is multidirectional and multidimensional, that it follows growth and decline tendencies, with manifestations of plasticity. In this way, the influences produced by the different contexts on the individuals result from the different forms of actions which are processed in these contexts, and from emotions, identifications, and representations developed, in particular, through actions undertaken jointly, and particularly during dyadic interactions.

These analyses of life-long career development have been combined with other approaches in order to provide a solid theoretical basis for interventions for life and career designing. Thus, Bourdieu's theories (1979, Bourdieu and Wacquant, 1992) have led to an emphasis on the eminently social character of individual development. According to Bourdieu, a society (i.e. Bronfenbrenner's macro-system) is a social cosmos that combines different social fields, each of them having its own logic and its normative conception of value. Consequently, the interactions that develop in certain micro-systems are generally not independent from the laws of the social field in which they are situated. For instance, French youth is educated in a schooling system – a schooling field – where the prevailing conception of the law of value is to consider that being a good student is to obtain strong academic credentials in the "abstract disciplines", particularly in the scientific ones. This characteristic has obviously played an important role in the activities, the interactions and the strategies displayed by the different stakeholders (pupils, teachers, etc.) in the micro-system which is formed by a certain class in a certain educational institution. The operating socialization in these different fields leads the individual to the construction of a certain – lasting but not unchanging – *habitus*, which is his/her personal way of assimilating his/her various learnings and the representations he/she has forged during the different contexts of interaction. Consequently, we understand that individuals build up their individualities according to their own interpretations of the ongoing particular laws of value that are situated in the different micro- and meso-systems within which they interact. For instance, it means that young people who attend school in France at the end of the 20th century and the beginning of the 21th can both accept the law of value which applies

to it and behave in accordance with the "logic of excellence" [= competing with oneself and with other students to be the best at school in view of entering the most valued universities] described by Dumora (1990), or reject this law with an alternative anti-school speech, arguing that one cannot learn anything useful in this place and in this way (Willis, 1977).

If Bourdieu's theories can complete Vondracek et al.'s pattern towards a more accurate description of the socialization consequences in the social systems which are based on certain norms, Malrieu's approaches (2003) and Curie's (2000) emphasize in a different manner the psycho-social individual processes which take part in the construction of this socialized subjectivity. These authors underline the major role of certain systems which in our societies are involved in the construction of this socialized subjectivity. They mainly focus on the activities in these systems, the logic of action every individual works out in each of them according to the purposes he/she aims at, the relations between these different systems and the transactions operated by these individuals between all these different logics of action in order to elaborate a reviewable model of life which embodies the main perspective every individual gives to his/her existence at any given moment. Malrieu has described the concept of personalization as a *"subjective construction of the agents which organize the representations, the vision of the ideal-self, and the connections of this self with the other people, all of them through some experience which initiates him and gets him accustomed by any way to the institutions and to a world of works"* (Baubion-Broye, 2005, p. 164). This concept describes the particular process of construction and transformation running in this model of life. This personalization includes interactions with other people and a double phenomenon of identification and "identization".

As for the latest Foucault's works (1984), they help us to further develop Malrieu's and Curie's analysis by showing the importance of the reflexivity processes in the construction of individual subjectivities. Foucault explains that the individual subject is fundamentally a form which is not always, nor everywhere, the same with itself. Fundamentally speaking, the individual subject consists of different "modes of relationships to himself and to his experiences." It is precisely these "modes of the individual's relationship to the self" that endow the subjective identity with certain substantial, more or less lasting, identities which are derived from these "modes of relationship to the self." Individual subjects are consequently plural: they refer by different manners to themselves, they speak through different voices (Gergen, 1991), they can take different "I-positions" (Hermans & Kempen, 1993), etc. Foucault points out that this subject is at the same time subjugated to and endowed with autonomy. It is subjugated by the forms of political power prevailing in a certain society and particularly by the "governmentality" techniques applied in this society. Those techniques compel individuals to develop certain modes of relationships to themselves and to their experiences in order to elaborate, among other things, different "file selves" (Harré, 1984, p.70), as for example a résumé, which has to comply with the institution which rules the field: the "file-master", as Harré named it. However, this subject is at the same time capable of governing himself by the definition of his/her own norms of life and the development of a personal aesthetics of existence, which should consist in a certain state of perfection he/she is willing to achieve according to the resources needed (particularly the techniques of the self) to enter into this self-transformation process.

The synthesis of these analyses (combined with some references to certain concepts of cognitive psychology, in particular

those related to the phenomena of memorization and actualization of information related to the self and to the action scripts) has eventually led to describe the subjective identity as a "dynamic system of subjective identity forms" (Guichard, 2004, 2005, 2009). The subjective identity is thus considered both as plural (made out of subjective identity forms), as well as unified (forming a system), and in constant (dynamic) evolution. A subjective identity form (SIF) is both a set of manners of being, acting, interacting and entering into dialogue in a certain context, as well as a certain vision of oneself, of the others, and the meaningful objects of this context. For example, when a young man says "as far as I'm concerned in high school, I'm mostly interested in my friends", he starts to describe his SIF of high school student. Some SIFs are related to current situations, others to past situations and others to expected situations in the future. In the organization of the system formed by these SIFs, certain ones hold a major place for they correspond to a sphere of life or activity where the individual expects to achieve something which matters for him/her (for instance in his/her professional career). The organization of this SIF system is transformed firstly because of the phenomena which impact this individual's life, who is socialized in different social contexts of his/her society (maturation, learning, ageing, accidents, meeting, etc.), and secondly because of the ways this individual relates him/herself to these phenomena which impact the course of his/her life: the way he/she perceives them, interprets them, symbolizes them, etc.

Two kinds of forms of reflexivity can be distinguished in order to describe the interpretations by individuals of the phenomena which impact the course of their life. One of them is called the "dual reflexivity" and leads these individuals to relate to themselves from the perspective of the perfection they want to achieve (Erikson, 1980; Lacan, 1977; Foucault, 1984). The second one can

be described as “ternary or trinitarian reflexivity” since it takes the form of a dialogue within the individual or between people during which “I say to you”, “you answer me”, and “I and you refer to he or she” (Colapietro, 1989; Jacques, 1991): this trinitarian reflexivity enables people to relate to these very phenomena and to combine them in order to produce new perspectives out of them, which would give sense and a renewed direction to their life. Both of these forms of reflexivity are particularly activated during the career and life designing interventions, three of which are presented in the following paragraphs with different observations made during their implementation.

2. Three constructivist interventions in guidance

The previous analyses suggest making a difference between two important categories of career and life designing interventions (Guichard, 2015): on one hand, education and career guidance interventions, and on the other hand, life-designing ones.

Guidance interventions (either they take the form of interviews or educational activities) provide support for people’s thinking in order to help them elaborate a flexible conception of the self which would suit to the employability conditions of nowadays and enable them to take the required decisions to enter the labor market and to be in control of their career: during these career and education counseling interventions, their reflexivity is guided by the academic and professional norms of today’s selectivity entrance. From a different point of view, life-designing interventions aim at providing clients with assistance in the definition of the norms which give sense to their life, that is to say the definition of both the fundamental prospects for their future and the efficient ways to achieve these

expectations. As suggests Jacques's theory of *primum relationis* (1991), the dialogic form seems to be an essential part of these last interventions: the dialogue between the counselor and the client indeed institutes new effective "I – you" and "I – you to he or she" relations which enable the individual to depart from the beaten tracks of his/her daily and usual prospects and thus give him/her the possibility to define new ones.

Obviously in the daily practical experience of the career counselors, the interventions are not as different as the previous dichotomy might lead one to think: both kinds of purposes are always pursued in accordance to the moment of the intervention, even though certain types of interventions are mainly focused on the life designing processes (like it is in the first two types of interventions described below), or alternatively on career guidance, like in the guidance workshops which conclude this chapter.

2.1.1. The interviews for constructivist counseling or dialogues for life-designing

Interviews for constructivist counseling, or dialogues for life-designing, represent a first example of tools which offer the possibility to discover meaningful life contexts for young adults who want to think about their professional prospects. This type of intervention is based on interviews which reveal how contexts appear in speeches. These contexts are expressed with words that relate to them through speech. We will expose two case studies to exemplify how the system of subjective identity form is transformed throughout the interviews, which are performed within the framework of constructivist counseling or dialogues for life-designing interventions.

2.1.2. The principles of constructivist dialogues

This form of interview is mainly (but not merely) intended for teenagers and emerging adults (Guichard, 2008). These young people, who often need to rapidly make a decision about their future, generally express stereotyped and inaccurate training and study intentions related to the professional and employment opportunities. This kind of interview is therefore designed to help them realize what their best interests are, understand the role of contexts in which they interact, and clarify the direction they want to give to their life. The constructivist interview represents a supportive context for reflection activity. In it the counselor begins with the young individual's request as he expresses it, and continues throughout three or four interviews in which the counselor offers support so as to enable the individual to express the most essential questions for him/her. This process involves the exploration of central and secondary life contexts of the young individual, contexts which allow the expression of subjective identity forms (Guichard, 2009). This interview method aims at helping them (Guichard, 2009) basically to elicit some expected SIF (notably, occupational ones), the actualization of which they wish to be committed to.

This type of intervention is structured in three parts and involves three to five interviews:

- Building the working alliance
- The client's analysis and reflection
- The synthesis of the reflection on the project and the conclusion of the collaboration

We briefly summarize the different stages:

As we have mentioned, the first part is about building the working alliance, which is a fundamental stage designed to ensure that the intervention takes place in an atmosphere of mutual trust, and that the principles for the work ahead could be defined. During the constructivist intervention, it could be useful to remind the client that she/he is the one who has to lead the process of reflection and that the counselor does not give answers but only provides support so that she/he can elaborate her/his reflection further. It is essential that the client will seek actively information about training courses or professional activities so that the work can be completed.

The second stage is the core of the intervention. The counselor should bring the client to realize what the most important fields of her/his current life are, these fields being micro-contexts in which the individual is directly involved. It can be expected that a teenager would mention the sphere of family or school, but she/he will even more likely evoke those related to sporting or leisure activities practiced with friends. Some of them will also possibly mention the sphere of civic commitment, religion or jobs (for the older ones). The interview is conducted in a semi-directive or non-directive approach. Some contexts of the client's past life could also be called up if they happen to have played an important role in her/his life and in the construction of her/his professional aspirations. Young people who have, for instance, played for many years a musical instrument and then stopped could mention it with regret or simply reject this experience. This part of the interview is thus about bringing the clients to define the important spheres of their lives, the past ones and the current ones. This process brings them to mention important activities, either they love them or reject them. It enables them to set up a map of the different spheres of their life. Throughout the interview, the counselor needs to focus on

bringing the clients to think about each of their involvements and the links they establish between all these involvements in the main contexts. As a second step, the counselor leads the clients to evoke their expectations related to the different spheres of their lives: how do they see themselves in a given context? What types of relationships do they want to build? What types of activities are they planning to develop? The clients will have to take steps and seek information in order to answer these questions. The counselor plays an important role in the process because she/he can encourage them to undertake the design of subjective identity forms (SIF) which could empower them to become more emancipated towards their past experiences and their social environment. This perspective generally leads to the reorganization of the subjective identity forms system: some SIFs could acquire a central role, while the importance of others could decrease; new SIFs could be designed as well, some of them in accordance with self-expectations that could open up new avenues worth exploring for personal and/or professional guidance. This intervention is concluded by reviewing all that has been accomplished and by bringing up practical avenues for action.

Two case studies from such interviews with two 20 year-old women are presented below. They underline how the words in speeches are organized to express the main contexts in the individual's life (Cohen-Scali & Pouyaud, 2014). In this analysis, certain words appear to be prototypical words in a given important context of life, and their combination with others reveals a set of semantically meaningful mental worlds. The two young women have consulted a counselor who led similar constructivist dialogues throughout four meetings spread over four months. These young women agreed to let their interviews be recorded and used for the purpose of scientific research. Therefore, the

interviews were entirely transcribed, and then processed with textual-data analysis software.

2.1.2 Identification of semantically meaningful mental worlds produced on the occasion of dialogues for life designing

The first case corresponds to the situation of Marie. Marie is a 20 year-old women. She met the counselor because she felt lost, "dropped-out" and did not know what to do. She graduated in arts, but she vacillated between carrying on in this specialty and changing it. Many ideas passed through her head and everything was quite confusing for her. She needed clarification. Her family was working in the agricultural field (vineyard) for generations. She could take over this activity, but she was very ambivalent towards this project. The relationship she had with her mother, who managed this activity, was both positive and negative. Although she appreciated the work of the vine, she wanted to prove to her mother that she could get to do something in her life on her own. This desire for emancipation was expressed by her interests in the arts, creativity, and main dimensions associated, for her, with aesthetics and beauty. The counselor tried with her in the first interview to clarify these different elements. The first interview of Marie was analyzed with IRAMUTEQ[4] textual data processing software. The software was used to perform an analysis of similarity on the discourse produced during the interview. This analysis illustrates, through the identification of used semantic worlds, the appearance of subjective identity forms in

[4] It is possible de download the software from http://www.iramuteq.org/

the discourse. The software is free of copyright. It is based on the co-occurrence analysis of the most frequently used words in the data grouped into clusters. In this example, the similarities tree presented below (Figure 1) reveals the links between the central action scripts, relationships, and objects mobilized in the discourse. Semantic worlds appear, and the main nodes of meaning emerge from the data set, which we interpret in terms of Marie's system of subjective identity forms corresponding to her current life at the time of the first interview.

Figure 1: The semantic worlds that appear in Marie's first interview:

This chart allows one to identify how the main constituents of subjective identity forms are expressed in: Share scripts, relationships with others, the relationships to self and objects. The most

used significant words are those represented in bigger fonts in the chart. Seven words form the backbone of Marie's discourse: *Penser*/to think, *Voir*/to see, *Diplôme*/Diploma, *Aimer*/to love, *Plaire*/to please, *Aller*/to go, *Esthétique*/Aesthetics, are central to different semantic spaces. Self- relationships are expressed around the word "*aimer*/to love" (love the contact with animals, people, enjoy helping others), and around the word "*Vie*/-Life" that appears at the co-occurrence with "*Famille*/Family", "*Expérience*/Experience", "*Enfant*/Child". These two nodes can be interpreted as "These are the main characteristics that define me. This is how I define myself". "The only person emerging from the global discourse is Marie's mother, associated with "*Travailler*/Working", "*Chercher*/to look for", "Côté/side" and "*Esthétique*/Aesthetics" which refers to Marie's ambivalence regarding the role of her mother in her professional future, torn between her taste for aesthetics and working on the family farm. Relationships to objects/things refer in the case of Marie to the vocational objects: "*diplômes*/diplomas, "*Esthétique/*aesthetics", "*soin*/care", "*corps*/body", linked to the verb "*plaire*/to please". Finally, action scripts are expressed in the verbs: "*Voir*/-to see", "*Aller*/to go" which can be understood as exploration of the environment in response to her doubts. The emerging subjective identity form in this interview is therefore based on the expression of interest in terms of resources, and the need to think, see and engage in change, while emphasizing the doubt and ambivalence of her projects.

2.1.3 Evolution in the position of lexical semantic worlds over the constructivist dialogues

The presentation of Emilie's case aims to illustrate how the identification and processing of the subjective identity forms

system occurs during various interviews that take place in the constructivist dialogues for life designing described above. These dialogues allow, on the one hand, the different life contexts of the person to be described, including the objects, relations, and important characters and how they are related to one another. On the other hand, they promote the emergence of processes of thinking and learning about oneself and how to use dialogue situations to think about one's future, as this illustration shows.

Emilie got four interviews in 4 months. She got good grades until the age of 15. Then, when she entered high school, her school results suddenly tumbled. She decided to pursue vocational studies and she was primarily engaged in the personal assistance sector. But she realized that she did not like this sector and she finally chose to reorient in the field of hairdressing and obtained her professional degree. She worked as an apprentice in a salon when she met the counselor. She is not satisfied with this activity, and said "this is not a job for me, I do not see myself as a hairdresser!"

In this interview, Alceste software was used to analyze the discourse by ranking of word appearance/co-occurrence grouped in clusters based on a top-down hierarchical analysis. As in Marie's case, the software was used here in an exploratory perspective to describe the text data and group them into categories. The program generated an empirical classification of text units linked to the co-occurrences model classified in units, which we interpreted as "the semantically meaningful mental worlds" reflected in the data, and indicators of the content of Emilie's Subjective Identity Forms. Then, an analysis of the evolution of these forms in four interviews allowed us to understand the dynamic aspect of her Subjective Identity Forms System. The purpose here is therefore not to make

a scientific demonstration but to illustrate how the SIF and this type of intervention can be analyzed through indicators and methodologies.

Three associations of words appeared at the first interview. These combinations of words can be interpreted by reference to the transcript of the interview and to the context in which they appear in the discourse.

- In the first group, key words were*: School*, *Diploma, Competition, Necessity, to Catch up, Reality*. These words together characterize a past subjective identity form which can be summarized as "Emilie as a bad student." To perform this interpretation, it was important to identify the contexts of utterance of these words in the discourse. It was observed that the discourse expresses Emilie's past academic difficulties and her low educational level.
- In the second set, the key words were: *Question, Person*. This referred to Emilie's questions about herself, about her life that she described as unsatisfactory. This cluster showed a meta-reflexive moment in the interview.
- In the third group, the key words were: *Things, to Do, to Make, to Succeed*, *Trust*. Emilie expressed her lack of self-confidence in many everyday activities. It was time for reflection and distancing herself from the above mentioned biographical elements.

During this first session, we observed the emergence of Emilie's system of Subjective Identity Forms and her engagement in a reflexive process.

With the second interview, four word associations were identified in the textual analysis:

- In the first group, words such as *English, Level, England, to Imagine, Education, Future*, appeared. This combination of words was interpreted as reflecting the emergence of an Anticipated Subjective Identity Form which might be summarized as "Emilie in England."
- In the second set, the key words were *Context, Life, Style, Family, to Come back, to Compare*. This was a part of the interview referring to her family who was identified as both a resource, a support, but also as a barrier to the realization of her projects. It referred to a current Subjective Identity Form "Emilie as a family member."
- In the third group, several words came together: *Brother, Sister, to Establish, Relations, Twin, to Explain*. Then, Emilie recalled her difficult relationship with her twin brother, who appeared to her as an obstacle to her development. This combination of words referred to a current Subjective Identity Form: "Emilie as a sister."
- In the fourth group were the words: *to Dance, Piano, Soccer, to Support, Action, Pleasure*. A new Anticipated Identity Form was expressed because these words referred to how she saw herself in the future, "Emilie as a classical pianist and dancer," that is to say, someone who has leisure "bourgeois" or is "distinguished" (if we refer to Bourdieu's work, 1979).

Thus, the second interview allowed for the emergence of two anticipated Subjective Identity Forms (ASIF). Following this second stage, Emilie begun to consider her future in a new light.

With the third interview, three sets of textual units appeared:

- In the first group, the following words were associated: to *Talk, to Say, to Explain*. The interview was then cen-

tered on the importance of seizing dialogue opportunities with others, whether friends, mother, or counselor. These expressions referred to the realization that dialogue was a support, a resource for use in case of problems and probably promoted the development of skills for life designing. This was a time of the interview which referred to the meta-reflexive processes.

- In the second set the words: to *Think, Thing, Friends, Together* were associated. Emilie discussed the role of the social network in which she did not consider herself as sufficiently involved. These findings emphasized the emergence of a reflective moment in this third interview.
- The third group included the words to *Think, Mother, Dependency, to Stay*. She saw her mother as an obstacle to her development because she did not want her to change her profession. These were words that showed again the existence of reflective processes.

The third interview showed the evolution of Emilie's ability to engage in reflection. It became more autonomous; it acquired ways of questioning, i.e., reflective skills. She was able to identify the obstacles to her professional and personal development.

The fourth interview was a summary of the different elements identified over the course of the dialogues. Key activities necessary to achieve the aspects of herself that Emilie wanted to develop were defined.

Life designing dialogues helped to identify several processes involved in self-construction:

- Anticipated Subjective Identity Forms emerged from the second dialogue, when the identity system began to evolve.

- The reflective times appeared as long monologues allowing the person to revisit her memories in the light of new perceptions.
- Times of meta-reflection appeared, linked to the progressive acquisition of a method to think about what she wanted for herself, including the use of dialogues.

These dialogues therefore allowed her to identify how different embedded life contexts contributed to certain self-perceptions at a given time and also to make a change in these representations by facilitating reflection on the relationships within these contexts.

2.2 The Activity System Inventory (ASI)

The Activity System Inventory (Le Blanc, 1993) is a structured method to help clients construct their lives. It is based on the theoretical approach of the "activity system model" (Curie & Hajjar, 1987; Curie, Hajjar et al, 1990; Curie & Dupuy, 1994), which includes the fundamental propositions of Malrieu on development and active socialization (Malrieu & Malrieu, 1973; Malrieu, 2003). The Activity System Inventory focuses specifically on the individuals' assets of investments in their life contexts and the links of exchange and resource created between microsystems, this with a view to adapting to conflict experiences with the environment. In this sense, this inventory is a way of outlining the meso-systemic transactions of clients, from which the counselors can co-construct with them personal life designing strategies, that is to say, transformation strategies of themselves and their contexts of life in a reciprocal adjustment perspective. For Malrieu, individuals are not only built

during a passive acculturation to contexts in which they live, but also through an active process, a creative role in which they make choices and they rebuild these contexts in order to fit them with their characteristics (values, activities, etc.).

The model assumes a division of individual activities into four "areas of life": family, occupational, personal and social environment. These areas or micro-systems are integrated relatively autonomously within a broader system, which correspond to the meso-system.

The personalization process (which includes adaptability and empowerment) is partly related to the possibility for individuals to build relationships (resources and/or constraints) between activities within a particular area of life or between domains. By doing this, individuals construct meanings about their actions and life commitments which are more or less efficient from the point of view of self-realization. This systemic meaning construction through actions, in interaction with contexts, is close to the notion of system of Subjective Identity Forms.

There are two concepts that are used for describing the regulation performed at the micro- and meso-system levels. The first concept is that of "action model." It describes the control of each independent sub-domain. Action model is mainly used to associate, in an area of life, goals and means of action for achieving these goals. The second concept is the "life model", which accounts for the overall regulation of the activity system. The life model is fundamental to understanding the personalization processes. Its function is to map patterns of action of each subsystem. It allows for the objectivation of inconsistencies and contradictions between the areas, and to prioritize them according to values and life commitments. The four life domains (subsystem or microsystem) are where the goals, actions and means are taking place; the activity system

(mesosystem, SFIS) is more about the regulation processes for personalization. The relation between the action models and the life model requires understanding of the goals of the action, then the means used and finally the sense of action. It is in the back and forth between the action and the sense of action where the dynamic personalization and self-construction is rooted, in the sense that both levels allow both an adjustment to the daily contexts and self-development in the life course. Specifically, the Activity System Inventory is an ensemble of interviews, which consists of several successive card-sorting exercises, in which the individual is required to classify "goals-activities". These "goals-activities" both refer to goals and means used in every area of life. The requested ranking (in terms of valuation, collection of resources or constraints) is a task that involves the individual in reviewing his/her action models and life model. This protocol, which exists in several versions for different audiences *ISA-Adultes (ASI-Adults)* (Curie et al., 1990), *ISA-Jeunes (ASI-Young people)* (Le Blanc, 1993), *ISA-Adultes en formation (ASI-Adults in continuing education)* (Dupuy, 1998), *ISA-Adultes travailleurs à temps partiel (ASI-adults part-time workers)* (Rosa, 2000), *ISA-Jeunes étudiants* (*ASI-Young highly skilled)* (Le Blanc, Dupuy & Rossi, 2000), *ISA cadre (ASI-Business Executives)* (Guibert, 2005), and *ISA-Informatisé (ASI-computerized)* (Pouyaud, 2014) allows the clients and counselors co-construction of a representation of the clients' activity system as adaptive resources.

The following example illustrates the use of this approach in the context of a counseling intervention. Ludivine was a 23 year-old woman. She lived with her mother and was looking for a job for two and a half years after failing the high-school leaving certificate. She came once to see a counselor with the idea of resuming her training, perhaps in the hotel trade.

Shortly after this interview, she found a job at McDonald's, but she continued to see the counselor regularly. A regular support relationship developed. After two years at McDonald's, she wanted to leave her job to resume studies. She was hired as a cashier and continues to seek an employer for resuming her training. That was when she settled in with her friend. The counselor proposed to her various supports as collective career education modules which would strengthen her studies project. But despite her motivation, Ludivine's studies project did not progress. The counselor felt that new obstacles regularly appeared in her life that made the development process difficult (to take care of a puppy, to receive friends, to take care of her mother...). When her search became more concrete (Internship offers, replies to offers ...) she always found a reason not to go through. Eventually she even came to doubt her project and wondered if she should not return to work at McDonald's. Faced with these self-doubts in a changing context that impaired Ludivine's agency in her living space, the counselor suggested using a computerized version of the ASI (Pouyaud, 2014), the objective of which was presented as follows: to elicit how she saw herself in life, including the resources and obstacles that she considered as involved in her different spheres of life. Here is how the counselor described the contribution of the ASI during this counseling intervention; *"Working in this way has enabled us to have exchanges around the concept of family. The situation she experienced as a child (painful separation, an invasive mother who encouraged little), her place among her siblings, anxieties about managing her everyday life (in particular budget) ... and thus I learned that she was anxious to take care of her health for fear of hearing bad news, that the social dimension was the most important right now, she wanted to be accepted and recognized by her friends, even if she did*

not share their values … The possibilities to support her were thus multiplied. Ludivine acted as if the social field were most important for her, as if working for her were a means, a first step towards the fulfillment of her future life, but not necessarily a priority. Although she was very motivated during the talks, she became aware of the stakes and obstacles. We approached again the field of health and so she could express herself on the difficulties she encountered with her doctor. We worked on the possibility to pass a comprehensive health check (which showed dysfunction of the thyroid). Two weeks later, the girl had made an appointment with the psychologist of the local mission to work on different obstacles. After three months, Ludivine got her driving license, found an internship to complete the project and to enroll in the course of "accounting assistant".

These counselor's remarks show how the ASI facilitated the overhauling of Ludivine's action models in each of the important areas for her. But beyond micro-contexts, it was the joint inquiry with the counselor about the meaning and coordination of areas of life that made them an engine of development. The meaning constructed by Ludivine among the various activities was the counselor's resource to promote her ability to change her environment.

2.3 Identifying Occupational Activities and Personal Plans: An updated workshop method (IOAPP)

If the above example focuses on the link between micro- and meso- system, individuals are nevertheless located, more broadly, in exo- and macro-systems. One challenge is how to take into account the representational system (described for example in terms of system operations or the SIFS) and its embeddedness

in a broader cultural and social context. The IOAPP (Guichard, 2008b) is a career education workshop intended for groups of teenagers or young adults. Unlike the two procedures described above, this workshop aims to fundamentally guide the clients' thinking toward their employability and their future career transitions by taking into account the social context and specificities of the life course. It uses the participants' collective work to question and develop the major determinants of career- and life-construction, mainly gender stereotypes and prestige. One particularity of this career workshop is to start from the activities, which play a role in the career and life construction processes, and to question them collectively as personal and social representations. Thus, the IOAPP approach aims to help participants think about their future, both systematically and ecologically, by an exploration of the interdependency links between, on the one hand, the individual and dual actions (at the micro- and meso-systemic levels) and, on the other hand, the social and historical environment (notably at the exo- and macro-systemic levels) where these actions are performed. Early versions of this method have been proposed in the 80s (Guichard, 1987, 1988, 1991) and then renewed in 2008 to adapt to the new challenges of career and current socio-economic conditions (Guichard, 2008a).

The starting point of this method is an observation concerning the conditions for the development of future intentions among young people, particularly influenced by their stereotypes, and their social and educational positions. The overall idea is to implement diverse collective situations to enrich and diversify the clients' representations of their occupational and personal futures. For this purpose, the workshop provides cognitive tasks in the course of which participants have to collectively confront their "simplistic" representations of them-

selves, of schools, of careers, and of the factors that determine the careers and life course. Current, past, and future intended activities of each person are at the heart of the development process and serve as a support for the exercises, whose main objectives are summarized as follows:

- "Identifying activities that the participants would like to pursue in their future career (and/or, where applicable, in their personal life).
- Reviewing their current situation in relation to the activities (interactions and interlocutions) which are theirs (in particular their self-efficacy beliefs and their various self-concepts).
- Getting more involved in particular activities, as well as in new activities and new contexts, to develop new skills, new self-efficacy beliefs and new dimensions of self-concepts related to the future activities that tempt them today"(Guichard, 2008a, p. 8).

Exercises are designed to help participants make connections between their personal, educational or extracurricular competencies and possible professional activities, build more articulated visions of careers, identify various elements that facilitate the transition to work, and discover ways to construct skills other than academic learning. Given the social importance of academic success in career advancement, representations enrichment aims also to help students (especially those failing at school) consider school experience as a form of training among others (without denying its role). The correlates of such enrichment can be an increase in self-esteem and development of different self-efficacy beliefs (Guichard, 1992; Guichard & Dosnon, 2000).

The workshop proposes specifically to alternate small group exercises, in which exchanges are favored by a coach on specific topics, and "introspection" sequences of individual reflections, allowing for the incorporation of the team-work contributions in the individual's personal experience of life. The groups' sequences are based on a pre-built deck of cards, and individual sequences on grid questionnaires.

Two group exercises are the backbone of the method: the first one involves the use of a deck of cards based on interviews of professionals. 41 professionals were interviewed and described their occupations in terms of the concrete activities they carried out each day. Each of these activities was listed on a card. Groups of 3 or 4 participants are formed. Each group is given a deck of cards combining the activities described by three of these professionals. The task is similar to the one involved in the card game "Happy families": each group has to find, by grouping cards, the number and the names of the occupations represented. Because some activities are common to multiple occupations, and young people often have simple representations of the occupations, this classification task is difficult and raises discussions within the group. Most groups find more than the three "hidden" occupations in the game. When the coach has revealed the actual number and names of all the involved occupations, then it is time to reopen talks collectively by confronting the simplified representations, the imagined details and surprises raised by the activities forming the considered occupations.

A second important time in the workshops, after working on professional activities, is an exploration of the "activities contributing to a career." The process is pretty much the same as the previous one, as it also involves classifying a deck of cards. To build these cards, the same 41 professionals were asked about the main events, encounters, qualifications, experiences,

etc., which contributed to their vocational and personal life stories. Each of these stories was cut to allocate the elements on separate cards. In the second exercise, the same groups of participants work with the set-point to rebuild the life paths of the professionals of whom they discovered previously the current career activities. They must also determine the age and sex of the likely professional. Again, the task involves their stereotypes and simplified knowledge of the careers' determinants: stereotypes about male and female occupations, about jobs where one must make a lot of studies, about fairly straight careers. It also involves a progressive awareness of the role of continuing education, of luck and of unexpected encounters, etc. All of these elements are themes that the coach can reopen, confront and discuss collectively afterwards.

The personal reflection time is arranged and guided to allow a dialectic self-activity-context likely to support a change and a commitment to action. Again, it is the reflection on the individual's movements between the different context levels that is the basis of development and guidance.

Conclusion

For more than 30 years, Vondracek and his colleagues (Vondracek, Lerner, & Schulenberg, 1983, 1986) proposed a life span developmental approach to career development, an original perspective to take into account the dynamic relationships between the subsystems involved in the lives of individuals. These subsystems forming the life systems influence each other because they are in continuous interaction. Recently, Vondracek, Ford and Porfeli (2014), noted that people develop, in the different contexts in which they are inserted, a variety of complex activities that

evolve during their lives. The implementation of new behaviors appears as a central process in building a career or a direction for the future. In this context, the career counselor supports self-exploration, activities and new behaviors. This systemic approach confirms major works of psychology and sociology that have been developed in France and that have sought to bring to light the place of life contexts in the transformation of individuals. In the field of career counseling, the model of Subjective Forms Identity System (Guichard, 2009) revisits some aspects of these approaches by integrating them into a new conception of identity seen as a dynamic set. In this concept, as in that of Vondracek, the process of building professional intentions is not done at a time and once and for all. Rather, this process is continuous and takes place during shared activities, leisure, work and training. For Guichard, counseling dialogues have a crucial role in the construction of the personal and vocational self-concepts of young people by facilitating the construction of self-expectations in certain situations and possibly generating new behaviors. The variety of methodologies and observations and illustrations discussed in this chapter emphasize the value of this model to better understand the identity transformations as well as to develop useful interventions for the counselors.

Thus, these different models illuminate, in a complementary manner, the psychological processes involved in career construction behaviors. They help to highlight the identity issues that young adults in Western societies of the 21st century need to cope with.

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IX
MOTIVATING DISCOURAGED YOUTH IN TIMES OF SOCIAL CHANGE

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Abstract

This chapter presents the rationale and initial planning of a program designed to promote optimal human functioning in discouraged youth attending the 9th grade in a public school in Portugal. Such program can be of utmost relevance as students have to make important educational decisions in the transition from the 9th to the 10th grade. The underlying approach is based on the "Thriving with Social Purpose" (TSP) framework that was developed by M. E. Ford and Smith, inspired on Donald Ford's Living System Framework, which is a holistic and integrative meta-model of behavior and person-in-context functioning.

Keywords: Motivational-systemic model, optimal human functioning, vocational decision-making intervention.

Introduction

The welcome current focus on an inclusive career counseling (cf. Blustein, 2001, 2006) has served to enhance the desire of career counselors to serve not only middle-class individuals who have a wide variety of options for optimizing their careers, but also to attend to those who are less fortunate and thus socially excluded by virtue of who they are, where they are, or some combination thereof. Thus, a behavioral-political perspective for vocational psychology is needed (Santos & Ferreira, 1998; Santos, Ferreira, & Chaves, 2001). This "who-where-combination" focus could be the behavioral matrix of Bronfenbrenner's model (1979) applied to vocational designing, or in other words, the narrative-developmental-person-in-context approach in a phenomenological fashion, which McAdams (1993) proposed occurs trough the interaction between characters and psychosocial stages in the making of personal stories. If one accepts the notion that the large majority of the socially excluded are, in principle, capable of functioning as well as others who are socially included, as part of a negotiation process between client-counselor-social contexts (Vähämöttönen, 1998), it makes sense to address the problem from all vantage points, including (but by no means limited to) a focus on positive development through enhancing individual competence and achievement (Ferreira, Reitzle, Lee, Freitas, Santos, Alcoforado, & Vondracek, 2015; Vondracek, 1995, 2001; Vondracek & Lerner, 1982; Vondracek, Lerner, & Schulenberg,1986; Vondracek, Ferreira, & Santos, 2010; Vondracek & Porfeli, 2008; Vondracek, Ford, & Porfeli, 2014). We could thus envision a broad empowerment strategy leading to "occupational citizenship" (Santos & Ferreira, 2011), consistent with Hansen's (1997) strength-based approach using appreciative inquiry.

A developmental-systemic view of vocational behavior and career development

The purpose of this paper is to present a program designed to promote optimal human functioning in discouraged youth attending the 9th grade in a public school in Portugal. Such program can be of utmost relevance as students have to make important educational decisions in the transition from the 9th to the 10th grade. In many respects, the Adlerian concepts of "courage" and "social interest" (Overholser, 2010), formulated decades ago, addressed worries similar to those faced by today's youth in their life planning! To effectively address these concerns, a possible approach is the "Thriving with Social Purpose" (TSP) framework that was developed by M. E. Ford and Smith (2007). Based on the inspiring paradigm of Donald Ford's Living System Framework (1987), which is a holistic and integrative meta-model of behavior and person-in-context functioning, we could conclude that a teleological model is needed in vocational designing. From genes to memes (Dawkins, 1976), from nature to nurture, from culture to political structures, a true adaptive scheme of reasoning and intervention in vocational psychology is needed for the future. Beyond rationalistic methods we need emotion - driven postures; evolutionary psychology found a social-anthropological basis for this assertion (Martin & Bateson, 1999; Buss, 2004), and in the neurosciences it is represented by the balance between limbic and cortical systems (Nelson & Luciana, 2001): a decision is a compromise between cognitive and motivational-emotional variables; as Yalom (1980) states, it is an existential challenge. Otherwise, problems will arise when these dichotomies are not integrated (McGilchrist, 2009). To decide is to implement a dream, and a dream in the gestalt sense is the dreamer (Perls,

Hefferline, & Goodman, 1976); so, we could also envisage the decision as the decider!

In accordance with the previous reflections, the conceptual foundation of TSP is represented by Motivational Systems Theory (MST), first presented by M. E. Ford in 1992 and applied to adolescent vocational development by Vondracek and Kawasaki (1995). The basic idea in MST is that there are three sets of psychological processes that make up the concept of motivation: *personal goals*; *personal agency beliefs* (made up of *capability beliefs* and *context beliefs)*; and *emotions*. These processes work together in cognitive-emotional patterns designed to help people imagine future possibilities and decide whether to pursue or try to avoid those imagined futures. It should be recognized however, that "effective functioning" or "optimal functioning" also requires knowledge and skills, a responsive environment (i.e., a nurturing culture), and supportive biological functioning (M. E. Ford & Smith, 2007, p. 156). Accordingly, we could use the metaphor that we are a "tool-box" of instrumental bio-psycho-social devices operating in a nurturing system and teleologically driven by personal goals and beliefs, energized by motivational-emotional functional structures.

The basic idea behind Ford and Smith's concept of optimal functioning is that it can be promoted by enhancing or reconfiguring the person-in-context system in such a way as to transform motivational patterns (Figure 1) that are developmentally limiting and effective for only a limited range of goals and contexts into motivational patterns that generatively fuel exploration and competence development, and are thus effective for a much broader range of goals and contexts (M. E. Ford & Smith, 2007, p. 160). Optimal human functioning can be promoted in multiple ways, including facilitating gains in knowledge and skills and making meaningful improvements in

the available opportunities and resources. However, the most efficient and powerful pathway to optimal human functioning, according to M. E. Ford (1992), is through the *integrated amplification* of personal goals, emotions, and personal agency beliefs. From the cell level to consciousness, we know today that a simple relational or dialectical approach to development of life is not enough to explain and promote growth. Finally, and as just another example, chaos theory applied to psychology suggests that behavior is a complex process of co-construction, where different systems potentiate each other in a spiral of life development (Robertson & Combs, 1995). In sum, we are talking about "behavioral enrichment", in this case, vocational enrichment!

It is our intention to enhance capability and context beliefs through school, family, and community engagement of discouraged youth, using action-reflexion-action processes and techniques, within a person-context framework; these processes and techniques are closely related to neurolinguistic programming (NLP) (Bandler & Grinder, 1981), in which on a "here-and-now" basis, grounded on subjective experiences, a cognitive-emotional reframing is attempted. The theoretical foundations and the preliminary design of the program will be presented. In accordance with the previous assumptions, it is our vision that a person as a system when acting, and subsequently reflecting over the actions is, in Varela's sense (Froese & Di Paolo, 2011), transitioning to a 2nd level of action that will be the next personal system, which will then prompt to the next cycle. In other words, we need to construct situations of triggering here-and-now vocational behaviors, thoughts and emotions, and merge them into developmental contexts of de-constructing-re-constructing-amplification-enrichment situations (school, family, society, etc.), that at last will produce changes in the personal systems.

Thus, this process will lead at a first level to the construction of affective heuristics, and secondly to decisional algorithms, i.e., paths to career decision-making and problem solving among the "clients" to whom this program is directed.

By the cognitive reframing of career goals (development and clarifying) and the mindful coping with the related emotions (investment in positive affects) it is possible to construct career self-efficacy beliefs nested in secure-basis contextual systems.

Context Beliefs ("Expectations about your opportunities")		Strong	Moderate or Variable	Negative
	Positive	R Robust pattern	E Encouraged Pattern	F Fragile Patern
	Moderate	T Tenacious Patern	C Cautious Patern	I Insecure Patern
	Negative	A1/A2 Antagonistic or Accepting Patern	D Discouraged Pattern	H Hopeless Pattern

Capability Beliefs ("Expectations about your abilities")

FIGURE 1: Taxonomy of personal agency beliefs patterns (Adapted from Ford & Smith, 1997, p. 159)

Preliminary description of a vocational designing program

In order to accomplish these conceptual intentions in pragmatic terms, we are developing a program that will be synthetically presented next, in the following outline:

Rationale

Represented by Figure 1, briefly, the rationale of the program is structured as a flow of psychosocial processes and behavioral outcomes, which will be the conceptual basis of the activities/tasks of the intervention program. The model pretends to constitute a meta-framework within psychosocial processes of transitions.

From left to right ("past to future"), first we consider that at the first moment of intervention we have to consider each subject within his/her contextual-developmental history inputs (which must be assessed by the counselor as a primary hermeneutical context). The person's history is the key to his or her Implicit Self (IS), which is organized by three parts, and particularly their reciprocal interactions: Personal Goals (PG), Personal Agency Beliefs (B) and Emotions (E) (Ford's model), operating at the conscious/symbolic (CS) level and/or the unconscious/imaginary (UCS) level, to different degrees (above or down the line). Emotions relating to PG and B are represented as moving ahead, as its functional etymology shows us: e-motion (moving forward), contrasting with the structural characteristics of PG and B. At IS, we consider also L (latent variables, e.g., interests, spirituality, attachment, information processing…), as a "deepening point" that must be considered in other approaches/situations. Inside each part of IS, as in other parts of the diagram, a 2nd order "molecule" (2nd) is present (cf. further explanation).

The emotional dynamics (E) (cf. below in the description of the program), central to IS, create Motivational Patterns (MP) (cf. Vondracek, Ferreira, & Santos, 2010) which carry the throughputs from IS to the Explicit Self (ES), which is in its turn the sum of the outputs from the Decisional Algorithms

(DA) (cf. below in the description of the program), as symbolic representations of mind/behavior. This process of connection is modulated by the affective heuristics (AH) (cf. below in the description of the program), which "mirrors" IS to DA, mediated by all the possible loops of feedback and forward, but directly energized by MP, as the anchor point of the flow, from inputs to outputs (throughputs) (cf. Weiner, 1992).

PG, B, L, E, MP, AH, DA are embedded in a 1st order complex system, PsychoSocial Reality system (PSR), which is a dynamic gestalt of the interaction of each of the previous parts, and filled with their connections, and the spread of the outputs from DA, summed with other systems (family, school, community…).

PSR is on its side encapsulated in a 2nd Order Reality system (2ndOR), constituted by the constructionist reframing of PSR that occurs "every second" in a spiral loop between the two, following "autopoetic" laws (cf. Mingers, 1994). This spiral has cognitive and emotional components, and 2ndOR projects "nano" psychological components/"molecules" (2nd) in each of the parts of the psychological-behavioral scheme, modulating its structure and function every time changes occur; these components act as holograms in a fractal process (cf. Gleick, 1987).

In what concerns the Counselor (C), he/she acts as a "helping character", in a NLP fashion , catalyzing the transformational dynamics played between PSR and 2ndOR systems, in a true psychotherapeutic work, intentionally focused in the *amplification* of the MP (by means of "manipulating" IS and ES), the core/central dimension of the *encouragement* of youngsters (and other individuals).

Finally, the scheme arrives at a V point: opening to "Virtual reality", i.e., the possible "editings" which, in a narrative way (Sarbin, 1986), could result in revisions of this representation and subsequent enactions made by individuals/counselors.

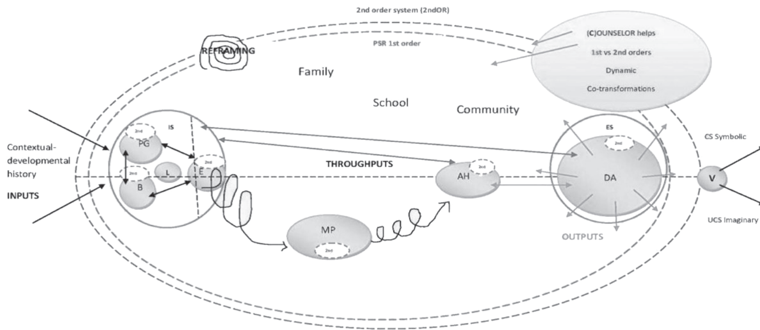

FIGURE 2: Motivational-systemic model of psychosocial activation and decision-making

Program

Global rationale: a "cascade" of activities from the inner self to behavioral expression of decision making outcomes.

Indoor group sessions with the counselor.

Outdoor activities with family, peers and community (registered in a portfolio).

Role of the counselor: mediator in the Vygotskyan sense, using group dynamics to stimulate behaviors in the indoor sessions, and having as transactional material "vocational cardsorts" (explained ahead), in a 4 step process:

1. Presentation of the activity/metaphor of each session, and 1st processing from the adolescent of the tasks outputs.
2. Processing of the adolescents' outputby the counselor (feedback), having as background the conceptual context for each session.
3. Reprocessing from the adolescents (2nd order moment), within different follow-up tasks.

4. Consolidation of the activities by outdoor tasks registered in the portfolio.

<u>Indoor sessions (90 min.)</u>

1. Start-up and pre-test (assessment using a psychological battery)
2. The Implicit Self/Personal Goals:

Rationale: Ford's Assessment of Personal Goals (APG)

Activity: "The Aladdin lamp"

Task procedures: stimulate vocational "wishes" written in cards; feed-back from counselor; reprocessing of wishes after group discussion written in cards that should be showed to the group as pins.

Counselor behavior: present the metaphor of the activity; hermeneutic posture, feed-back.

Goals: develop and clarify meaningful career goals (personal and social), from wish to pragmatics; at least, it is expected that adolescents will strengthen their self-concepts (Super, 1988).

Portfolio activities: collect and register evaluations of the pins from family and peers.

3. The Implicit Self/Beliefs (in detail ahead):

Rationale: Ford's Personal Agency Beliefs (PAB; cf. Figure 2)

Activity: "Back to the Future"

Task procedures: stimulate vocational self-efficacy beliefs written in cards; feed-back from counselor; reprocessing of personal agency beliefs after group discussion written in cards that should be showed to the group as pins.

Counselor behavior: present the metaphor of the activity, hermeneutic posture, feedback.

Goals: to work self-efficacy and context-efficacy beliefs (cf. Lent & Hackett, 1987).

Portfolio activities: replicate and register the activity with peers.

4. Integrating Emotions I (using Tomkins, 1984 model as a possible conceptual framework):

Rationale: using a two axis valence – arousal paradigm adolescents are challenged to point out the main emotions related to the future.

Activity: "The Beauty and the Beast"

Task procedures: after being exposed to the adopted emotions model, point out in two axis cards (valence vs. arousal) each of the emotions related to his/her future.

Counselor behavior: present the metaphor of the activity, hermeneutic posture, feedback.

Goals: mindful coping with the emotions aroused by the planning of the vocational future, and the systems where people will be embedded.

Portfolio activities: collect images illustrative of their emotions, and stamp "smiley's (SAM's) on it.

5. Motivational patterns (using Vondracek, Ferreira, & Santos, 2010 model):

Rationale: using a puzzle the adolescents are confronted with the complexity of being motivated regarding their futures.

Activity: "Puzzle"

Task procedures: after being exposed to the adopted motivational model, organize a face-reverse "puzzle", where each

piece has on the face a motivational pattern, and in the reverse adolescents should write how each applies to him/herself.

Counselor behavior: present the metaphor of the activity, hermeneutic posture, feedback.

Goals: stimulate self-consciousness of the complexity of motivational patterns, and identity/career styles, directed to the construction of a wise and energized vocational gestalt (Marco, Hartung, Newman, & Parr, 2003).

Portfolio activities: identify and register in the community (media, heroes, others...) persons who match the different motivational patterns.

6/7. Integrating Emotions II/Affective heuristics (using Kahneman, Slovic, & Tversky, 1982 model as a possible conceptual framework):

Rationale: in these two sessions' activity, adolescents begin the first moment of integration of the previous activities around the balance of cognitive and emotional processes.

Activity: "Salt & Pepper"

Task procedures: after being exposed to the adopted decisional model, participants are given 4 window-cards (reasoning, sensing, feeling and imagery) where they have to state in each their thoughts about the future, using the different "channels" of mind (cf. Gallegos, 1992). At the end, they have to choose the window that is most likely to be considered as the basis for his/her decision.

Counselor behavior: present the metaphor of the activity, hermeneutic posture, feed-back.

Goals: identify and activate the positive emotions involved in the decision-making processes - from biases to true thoughts.

Portfolio activities: experiment in everyday life activities to use the different decisional heuristics and register the behavioral consequences.

8/9/10. The Explicit Self/Decisional algorithms (Kasabov, 2002):

Rationale: in these three sessions' activity, adolescents have to "symbolize" in a logical discourse their goals, beliefs, motivations, emotions, thoughts… regarding their personal/social future. They have to act as "mathematicians"!

Activity: "E=mc2"

Task procedures: after being exposed to the session metaphor, participants begin to write down formulas of how they would represent the "laws" that will command their future lives. At the end of the two first sessions, the cards with the formulas are distributed randomly to each of the participants, who have to "criticize" in their portfolios the produced work, and give feedback in the next session.

Counselor behavior: present the metaphor of the activity, hermeneutic posture, feedback.

Goals: produce oral and written career statements, inspired by the logic of algorithms applied to vocational psychology (Gati & Amir, 2010). A metaphorical "if-then" integration of all activities of the program is expected to result as a phenomenological equation applied to the vocational decision-making process, within a developmental-contextual TSP perspective.

Portfolio activities: see task procedures.

11. Termination and post-test.

Example of an indoor activity:

The Implicit Self/Beliefs

Rationale: Ford's Personal Agency Beliefs (PAB; cf. Figure 1)

Activity: "Back to the Future"

Task procedures: 1) the student is in a first moment invited to talk about his/her expectations regarding the future, and then 2) write on a card a synthesis of it (1st message). 3) The counselor analyses the cards and offers one card to the students of the A to T set of patterns (see above) in function of the content of the 1st message (systemic vocational enrichment). 4) After, each student is invited again to speak, now trying to reframe what was written in his/her first card, after having reflected on the content of the counselor's card. Finally, the students should write a 2nd message in a new card/pin, about the same topic (at the end students have 3 cards).

Counselor behavior: hermeneutic posture, feedback.

Goals: to work self-efficacy and context-efficacy beliefs (cf. Lent & Hackett, 1987).

Portfolio activities: this activity has an outdoor follow-up task to be reported in the individual portfolio of reflexions/actions. Using the Altruism therapeutic factor (Yalom, 1995), the youngsters have to target peers who voluntarily will cooperate in the replication of the activity done by each adolescent of the group, now acting as a "counselor"; this "mirroring" activity will consolidate the indoor activity, and it is expected to stimulate the social consciousness of the "brotherhood" of vocational problems, and the need to contextualize all of our activities as a way to seed helping/developmental scenarios.

Conclusion

This vocational enrichment program has as title in Portuguese language: "NÓS", that is simultaneously, WE and KNOTS, in the Borromean/Lacanian sense of the ties that link the Real, the Symbolic and the Imaginary in the making of our identities (Lacan, 1977). It represents the language metaphor of the person in context reciprocal evolution as a 2nd order reality.

It is expected that the goals of enhancing capability and context beliefs, within the larger intentions of this program, will be attained as a path to motivate discouraged youth along their personal and social road of development.

But to confirm it, there is a need of establishing evaluation procedures of the efficacy of this program. First, we plan a pre-post test single subject design evaluation, directed to the exploration of latent growth curves (McArdle & Nesselroade, 2003). Secondly, we will implement an experimental design (Spokane, Meir & Catalano, 2000) to test session by session changes in vocational behaviors, using 3 groups: experimental, control, and placebo.

Finally, considering the metaphorical weight of this program (close to NLP), the language of interrelatedness will be effective only by virtue of systemic reasoning (Olds, 1992).

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Outlook

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X

CAREER DEVELOPMENT – FROM LINEAR PREDICTION TO UNDERSTANDING DYNAMIC SYSTEMS

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Abstract

The final chapter tries to integrate the various contributions to this volume and to relate these to Fred W. Vondracek's ideas. Based on the essence of this volume and Fred's pioneering work, a preview to promising future directions in career development research is outlined. A major focus lies on key concepts of dynamic systems theory such as attractor states, circular causation, synchronization, equifinality and multifinality. These concepts are briefly explained and projected on major topics of career development. In this context, the basic units of observation are individuals' day-to-day interactions which shape so-called attractor states, i.e., individuals'

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habitual ways of thinking, feeling, deciding and acting, in short their personalities which, in turn, influence the modalities of their daily interactions (circular causation). Within this framework, it becomes evident that concepts such as Bourdieu's "habitus" or Fleck's "thought collective" may become operative as psychological delimiters of individuals' cognitive and behavioral repertoires. To broaden the scope and opportunities for optimal development of any, even underprivileged, persons, means to help them transcend the borders of their objective and internalized boundaries. These boundaries are illustrated by vast cross-national differences in upward educational mobility across generations, and data on the reproduction of business elites.

Keywords: Career development, Dynamic Systems Theory, attractor states, synchronization, habitus.

The nine chapters of this volume witness Fred Vondracek's impact on the field of vocational psychology and counseling in various ways over roughly five decades. He appears throughout the contributions in varying roles as provider of conceptual ideas, as collaborator, as acknowledged colleague, and last but not least, as mentor. Versatility seems to be Fred's key theme as reflected by his professional trajectory from handcraftsman to clinical practitioner, researcher, university teacher, and department manager. Versatility is a close relative of complexity, and foe to simple, monocausal, linear thinking. It may be the multifold facets of his own biography that coined Fred's way of thinking about career development in terms of persons being individual dynamic systems acting in complex person-context relationships, thereby creating various individ-

ual, and sometimes even unique, developmental trajectories. This way of thinking contrasts with static personality factors (e.g., Big Five) and/or contextual givens (e.g., parenting) and their simple combinations predicting particular outcomes in a linear and law-like fashion.

Inspired by Fred's conceptual notions on person, context, and living systems and the contributions to this volume, we would like to pick up the general principles of dynamic systems as outlined by authors such as Witherington (2011), van Geert and Steenbeek (2005), Fogel (2011), and, last but not least, Ford (1987) and will try to project them to the field of vocational psychology and career development. Development in general consists of a multitude of non-linear and non-stationary processes (Molenaar, 2004) at different levels between which circular causality exists (Witherington, 2007, 2011). From their very first cry, individuals are involved, act and change, in day-to-day interactions. Recently deceased John Shotter always emphasized the developmental primacy of unconscious and spontaneous (inter-)action before reasoning and planning emerges. In his last book "Speaking, actually: Towards a new "fluid" common-sense understanding of relational becomings" (2016), he describes this early "becoming":

"If we return to that basic orienting quote of Vygotsky's (1986): '... that awareness and deliberate control appear only during a very advanced stage in the development of a mental function, after it has been used and practiced unconsciously and spontaneously... [that] to subject a function to intellectual and volitional control, we must first possess it' (p. 168), we might find it useful to accept that, at first, we exhibit our possession of a particular mental function only in our everyday, spontaneously responsive, practical activities, when involved in activities with the others around us. And what we can first learn from

those around us, is to recognize and move around in relation to 'things' and to the other people around as *they do* in *their* everyday practices – for such practical recognitions cannot be taught us at this stage by them trying to teach us propositions or by offering us facts formulated linguistically (p. 63f.)."

These interactions represent the lower level of development with events, interactions and state changes occurring on a short time scale. From the viewpoint of dynamic systems, it is these everyday interactions and related experiences, as well their concomitant emotional states, which steadily form specific ways of interpreting and labeling experiences, shape typical emotional reactions, and establish behavioral predispositions. In other words, day-to-day experiences and interactions form a higher level structure of so-called attractor states, i.e., the individual likelihood to perceive, feel, and act in a particular fashion in comparable situations and settings. The process of this formation is one of upward or bottom-up causation (Nowak, Vallacher & Zochowski, 2005; Witherington, 2007). The individual landscape of these attractor states in essence constitutes personality (see Nowak et al., 2005). Attractors can be visualized as funnels of varying diameter and depth. The wider an attractor, the wider the range of situations in which it will be effective. The deeper an attractor, the more determining it will be with regard to perception, emotion, and acting in a particular situation. In short, personality conceptualized as attractor landscape influences the modalities and quality of everyday interactions via downward or top-down causality, however, in a probabilistic, not deterministic manner. If one, for example, has a tendency to interpret novelty as a potential threat instead of opportunity, accompanied by fear instead of curious excitement, with tension release being achieved by avoidance instead of exploration, one's everyday interactions and

decisions will more likely be marked by caution and defense. Development within this framework can be characterized by alterations at this higher structural level, i.e., by the flattening (deepening), narrowing (widening) or even disappearance of existing attractor funnels and the emergence of alternative attractors. This again occurs via upward or bottom-up causality on a larger time scale, usually based on longer sequences of day-to-day experiences with gradual changes over the respective situations, thus following the motto 'constant dripping wears away the stone'. Alternatively, a distinct severe life event may alter major parts of the attractor landscape. Either way, upward causality forming and altering the higher order personality structure is neither quantitative nor linear. It is qualitative because the redesign of holistic landscapes rather than changes of singular numerical parameters is at stake. It is non-linear because the 'constant dripping' does not cause gradual changes of structure at a constant rate, but rather functions like the meltdown of an ice riff from which entire icebergs suddenly break away after a certain period of gradual melting.

Of course, the modalities of individuals' day-to-day interactions are influenced by their genetic dispositions, particularly in early development. Still, dispositions by no means determine the formation and characteristics of one's personality structure or attractor landscape. In the beginning of our lives, variability within the person, i.e. our potential behavioral repertoire, is larger than inter-individual differences. With growing age, our repertoire gets more and more channelized and restricted by the formation of attractor states which make some potential behaviors more and some others less likely (Nowak et al.. 2005). This may even extend to synaptic pruning of cognitive and emotional regulation capacities as a consequence of underuse. In the course of this individual specialization, differences

between persons increase. However, these 'personality differences' are neither genetic destiny, nor static, nor the result of simple person x context interactions in a statistical sense as reflected by interaction effects in a regression equation. This type of interaction usually occurs between two or more static concepts or measures, i.e., some person indicator interacts with a quantitative or somehow quantified context feature in predicting a particular developmental outcome. These models belong to the broader class of static macro-approaches (Lichtwarck-Aschoff, van Geert, Bosma & Kunnen, 2008), because they are silent about the low-level micro-processes generating the measures used, and ignore the non-stationary character of measures (state fluctuations) and parameters of association between the model variables (for an example of non-stationary micro-processes see Molenaar, Sinclair, Rovine, Ram, & Corneal, 2009). The crucial difference of a dynamic systems perspective on person x context interaction is that person, i.e., personality structure is predictor (by virtue of top-down causation) and outcome (by virtue of bottom-up causation) at the same time, however on different time scales. Another conceptual difference exists with regard to context. In most cases, context consists of persons with whom we interact. Of course, there are also relatively static contextual givens such as the physical environment we live in, the legal framework, social stratification etc. However, in our everyday lives we often encounter even macro-contextual features and social institutions in the form of interactions with concrete persons, i.e., other dynamic living systems functioning exactly as we do. Belonging to a certain social class, for example, is not only a matter of static facts such as income, assets, and living quarter, but also means to a high degree selection of our interaction partners, neighbors, relatives, and mates and

the modalities of interactions with them. How they gain influence on our and we on their development over time is a matter of synchronization of interaction partners (Nowak et al., 2005). The authors illustrated the process of synchronization with the help of iterative computer simulations. The key variables in the model were the similarity of partners‘ internal states, and the degree of mutual influence (coupling) derived from the intensity of communication that might be related to partners' emotional bonds, assigned significance, frequency of encounters, etc. To achieve a high degree of synchronization, only little coupling is necessary if the partners are rather similar. Conversely, dissimilarity needs high levels of coupling to maintain synchronization. If coupling remains very low in this case, the two systems evolve rather independently, whereas relatively low coupling results in complex forms of synchronization with alternating sequences of convergence and divergence. Even moderate values of coupling instead seem to stabilize one another's behavior more than without any coupling. Nowak et al. assume that internal states reflect the attractor landscape basically engraved during childhood. Hence, their modifications emerging from the synchronization scenario capture "essential features of personality development (p. 366)." In short, this model illustrates how personality may be formed by a multitude of bilateral and multilateral interactions.

Given that even childhood "internal states" as manifestations of emergent personalities underlie synchronization processes, the great importance of the immediate and intermediate contexts, micro-system and meso-system in Bronfenbrenner's (1981) terms, for personality development including vocational choices and career development becomes evident. Social and educational classes thereby operate as homogenizers of a person's social contacts. How class-induced similarity mutually coins

the perceptual and behavioral style of class members, thereby potentially limiting their behavioral repertoires (for the better or worse) and fortifying the borders between classes, is perfectly demonstrated by Bourdieu's concept of habitus (Bourdieu, 1982). Cohen-Scali, Pouyaud and Guichard (this volume) integrated this line of reasoning into their approach, and explicitly point to the importance of rules, norms, and interpretational templates guiding social interactions within a particular milieu or niche for individual development. Habitus is a way of thinking, interpreting the world, and acting that emerges from infancy onward and later consolidates from social interactions within a particular niche. Even if this niche or social category has disappeared or was exited by an individual, its influence survives as an introject further influencing a person's ways of thinking and acting. Insofar, habitus is a crucial stabilizer of social stratification. Again, this line of reasoning converges with Shotter's (2016) notion that 'cultural objects' or 'works' must be understood from within the living contexts from which they have emerged, thereby recurring onto Fleck's (1979) concept of the 'thought collective':

"Thus what we miss in thinking of ourselves as having 'our own thoughts', and of being able to think what no others before us have ever thought, is the fact that, as Fleck (1979) points out: 'What actually thinks within a person is not the individual himself but his social community. The source of his thinking is not within himself but is to be found in his social environment and in the very social atmosphere he 'breathes'. His mind is structured, and necessarily so, under the influence of this ever-present social environment and he *cannot think in any other way*' (p. 47) – or better: people find it *very difficult* to think in any other way, and to have those around them find it very difficult to think in any other way, and to have those

around them find what they have to say as a result of their new thinking intelligible (p. 70)."

This concept is so general that it applies to the creation and perseverance of knowledge in scientific circles, holds for fashion and religious groups, and can be easily extended to social strata and their ways of thinking of and dealing with occupational development, too. Nota et al. (this volume) touch on this topic when they claim that career counseling must focus on the less privileged individuals of a population. In a similar vein, Ferreira and Santos (this volume) in their chapter demand a behavioral-political perspective for vocational psychology. These pleas deserve attention because borders between social strata are not insurmountable, of course. Turning to the quote above, upward mobility may occur rather frequently among the offspring of lower classes or education if the social atmosphere there is conducive, if the 'thought collective' has educational and economic advancement as a core ingredient, as, for example, in the case of Asian immigrants to the U.S. In contrast, it is tougher to escape from a social atmosphere of lethargy, hopelessness and long-term dependence on a social welfare life-style. First, far more intellectual capacity and effort is required to think contrary to this type of 'thought collective' once it has been firmly established over generations in a particular region or neighborhood. Second, individual thriving may even be negatively sanctioned in such a context. In sum, social class, family background, neighborhood etc. may render some educational and occupational trajectories more and some others less likely.

At the cross-national level, the permeability of social strata and the related potential for upward mobility differs considerably. Recent comparisons by the OECD (2016) demonstrated vast differences across countries with regard to the intergenerational mobility in education: The rate of tertiary education among 25- to

44-year-olds with parents' educational attainment ranking below upper secondary exceeds 40 percent in Canada, Korea, and New Zealand, followed by Finland (39%), Denmark (30%), Australia and Norway (29%), Ireland and Japan (28%), France (25%), and Sweden (24%). Rates equal to or below 10 percent were recorded in Germany (10%), Austria (9%), Italy and the U.S. (8%), the Slovak Republic (5%), and the Czech Republic (3%). With regard to career trajectories, educational attainment is but one ingredient, more a necessary than a sufficient condition for particular career pathways. Studying political, administrative, and business elites in different European countries after World War II, the German sociologist Hartmann (2007) found that the distribution of class background of CEOs of the 100 biggest German companies has remained rather constant from 1970 to 1995, and 2005. Roughly 15 percent came from a working class or lower middle class background, between thirty and forty percent from the upper middle class (bourgeoisie), and between forty-five to more than fifty percent (in 2005) from the upper class. When eliminating educational differences by focusing on persons with a doctoral degree only and controlling for age, duration of studies etc., the likelihood of being a managing board member in one of the 400 biggest German companies is 70 percent higher with a bourgeois pedigree, and even 150 percent higher with an upper class background as compared to lower middle or working class descent. A similar picture can be found in Austria and the Netherlands, whereas the recruitment of business elites differs in Scandinavian countries with a markedly higher rate of the top managers originating from the broader middle classes. For the former countries, Hartmann (2007) regards habitus as a crucial selection principle. The habitus of upper class members is early acquired sovereignty, the expression of behavioral security and superiority in every situation in contrast to the arduously

rehearsed manners of social climbers. The elites in charge of recruitment look for similarity because they expect a common esprit de corps as a key ingredient for success. Hartmann attributes the more egalitarian and meritocratic recruitment of business elites in Scandinavia to the fact that a higher rate of big companies is, at least partly, state-owned (e.g. Statoil, Norsk Hydro, Nordea Bank, TeliaSonera, Vattenfall, SAS etc.) or run as cooperatives (Coop Norden, Arla Foods, Danish Crown).

Of course, this excursion into the topic of elite positions does not represent the entire spectrum of education, work, and careers. However, it may serve as an illustrative example of structural, cultural, and historically developed conditions that may differ vastly across countries, thereby differentially affecting career opportunities, decisions, and pathways of their citizens. If personality development including occupational and career development is not perceived as a merely psychological phenomenon with some genetic dispositions interacting with some static context factors in order to yield a particular developmental outcome, but is understood as a nonlinear dynamic process of change resulting from interactions at various system levels, the macro-system gains as much importance as the more immediate micro- and meso-system. Ordered from top to bottom, economic welfare and growth, the direction of technological change, the educational system and the permeability of the social structure, gender equality, and cultural peculiarities belong equally to a theory of occupational development as do personality structure, educational level, and the modalities of day-to-day interactions with significant others. Evidently, this is an interdisciplinary endeavor inviting participation of economists, sociologists, anthropologists, social workers, counselors, and academic as well as clinical psychologists - the latter to grasp the dynamics of social inter-

actions and their bottom-up effects on personality structure, particularly in childhood and adolescence.

All contributions to this volume offer highly valuable conceptual, empirical, and practical insights for the further study of vocational development, all of them with their individual focus, of course. Conceptual and methodological inspirations supplied by Ford (as exemplified by Fred's biography this time), Lerner et al., Lee, and Shimizu, a host of impressive research findings as presented by Obschonka et al. and Nota et al., and innovative and creative ideas for fruitful applications as outlined by Cohen-Scali et al. and Ferreira and Santos. All together, the contributions demonstrate that we have achieved a secure base for further exploration.

The shift in perspective from linear equations to interactions of dynamic systems at various levels, the inclusion of political, economic, and cultural factors, and a further transformation of 'vocational psychology' into a multidisciplinary career development theory and research is an exciting challenge for the future. Most of the journey presumably lies ahead – as usual in science. Fred Vondracek has not only helped to arrange the whole trip but has been a major pathfinder always pointing into the most promising direction.

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