

“They preach water and drink wine.”

or

The Unbearable Lightness of Rational Decision-Making Models in Career Counselling.

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Jean-Jacques Ruppert and Bernd-Joachim Ertelt

Applied Vocational Psychology and Policy Research Unit

In 2003 a certain Thorkild Grosboel, a Danish Lutheran priest caused great controversy when he stated that he no longer believed in God. Joachim and I have a lot of sympathy with Mr Grosboel because we frequently feel as disillusioned about guidance as Mr Grosboel obviously does about God. The most immediate problem facing his boss, the bishop, as well as his parishioners however was that he wanted to hang on to his job, as we do to ours, too. We should however emphasize that our loss of faith is not in guidance itself but in the ways it has been preached and practised for the last fifty years or so.

I, myself, am part of that allegedly unfortunate generation that never had the benefit of guidance and I actually had never set foot into a guidance service until I started working in one. So I belong to a proud generation of survivors, who were driven round, though never to school, in cars that were not equipped with seatbelts and on more than one occasion on my walk to school, I was drenched in rain but, surprising as it may seem, I did not dissolve. I had to undergo all kinds of awful experiences that would horrify today's children or should I say above all their parents, who all too often seem to have completely forgotten what their own childhoods were like. And when I hear people my age – I am 50 - talk about how and when they decided this and that, I always feel like a fool, because I would have to admit that, rather than constantly taking apparently crucial

“decisions”, I have stumbled through life, I have regularly fallen and hurt myself more or less badly, but that each time and over and over again, I have managed, with a necessary amount of luck which I hope I will never run out of, to lift myself off the ground, get up and go on – and am still doing so today. So I have actually been applying to my life those “simple” heuristic strategies that are best described as “muddling through”.

Good guidance needs good theory and it is impossible to overemphasise the importance of good theory: a clear conceptual framework can help us to make sense of human behaviour, sometimes to influence it and occasionally even allows us to predict it. There can indeed be nothing more practical than a good theory, as in order to engage with the real world in an effective manner you need clearly defined conceptual tools that allow you to do so systematically. Without good theory a guidance counsellor is like a blind chicken pecking about randomly and even if it sometimes actually finds a grain, this is not through any merit of its own but through sheer luck.

Guidance counsellors have however not been blind as a number of theories have allowed them to base their practises upon such as those of Krumboltz, J. D. (1979); Super, D. (1990) or Holland, J. L. (1997). Most of these concepts though have one thing in common i.e. they are largely based on a normative-prescriptive rational decision-making model that is increasingly alien to real-world settings and therefore fails to provide the career counsellor and the client with the conceptual tools they need in today’s world.

Indeed, the majority of theoretical concepts, professional guidelines and practical instructions, require counsellors as well as counselees to proceed as rationally as possible in vocational decision-making situations. In these theoretical models that are implicitly or explicitly based on a normative-prescriptive approach, the decision-maker will only be able to reach the best possible decision if he or she lets him- or herself be guided by reason. In such an “ideal“ decision-situation, the decision-maker not only has all the information available on all the possible alternatives as well as even on those factors that are beyond his or her control, but he or she also has the ultimate luxury of endless time and, of course, unlimited cognitive abilities. And to top it all, psychological and social factors, including motivation, are rarely and/or barely considered.

In a review of the relevant literature Gary Klein (2002) lists the “ideal” conditions which are supposed to optimise the ensuing decision-making process:

1. the goals must be well defined, in quantitative terms;

2. the decision-maker's values must be stable;
3. the situation must be stable;
4. the task is restricted to the selection between options;
5. the number of alternatives generated must be exhaustive;
6. the optimal choice can be selected without disproportional time and effort;
7. the options must be thoroughly compared to each other;
8. the decision-maker must use a compensatory strategy;
9. the probability estimates must be coherent and accurate;
10. the scenarios used to predict failures must be exhaustive and realistic;
11. the evaluation of each scenario must be exhaustive.

However, as we all know, in practice vocational decisions can only be dealt with in a very limited way within such boundaries, not least because such an approach largely ignores emotional factors. A counsellor needs to take into account not only the limited cognitive abilities of the counselees, but also and above all their emotions as well as consider the context in which they have to take such far-reaching decisions as choosing a career.

And this is precisely where the descriptive approach comes into play i.e. if the normative-prescriptive approaches focus on how people should take decisions, a descriptive approach concentrates on how people actually do take decisions in the real world.

Such a descriptive approach implies the use of so-called "simple" heuristics i.e., generalisations and "rules of thumb" which people use whenever they make decisions within a limited time-frame, with limited knowledge and limited cognitive processing abilities. Fundamental to descriptive decision-making theories is their starting point of a "bounded rationality" i.e. contrary to normative-prescriptive decision-making theories, descriptive decision-making theories do take into account people's cognitive as well as social limitations.

The true success of these "simple" heuristics lies firstly in the fact that they are "fast and frugal" i.e. they "employ limited time, knowledge and computation" (Gigerenzer, G. and Todd, P., 1999) and secondly in their adaptability to real world settings, i.e. their so-called „ecological rationality“.

Contrary to the rational models that largely ignore emotional considerations, decision-making under "bounded rationality" assumes an intensive interaction between cognition and emotion.

Barbara Mellers et al., (2002) differentiate between background emotions, task related emotions and anticipated emotions.

1. **background emotions** influence the perception of certain stimuli as well as the search strategies for information and alternatives themselves. For example, positive emotions such as joy and pride can restrict the search for alternatives whereas negative emotions such as fear and anger, may incite people to look for a way out/escape routes.
2. **task related emotions** in the sense of conflicts can arise when a given alternative differs insufficiently from others and does not justify choosing it. Furthermore, when faced with important decisions under time pressure, people frequently display emotion-based behaviours such as avoidance, panic or hyperactivity.
3. as regards the influence of **anticipated emotions** on decision-making the picture is not as clear-cut. In anticipation of negative emotions the decision-maker might indeed only consider a very limited number of options, and even avoid the appropriate alternative.

The avoidance of anticipated disadvantages can however not constitute the only emotional basis for decision-making. Many people will let themselves be guided by what they believe is going to procure them joy and pleasure in the short-term, and in doing so, consciously push long-term negative consequences to the back of their minds. "Simple", emotion-based heuristics can therefore be both adaptive and maladaptive, depending on context and consequences.

In a study of decision-making processes in vocational choice, Berndt-Michael Hellberg (2005) differentiates between three central motivational emotions:

1. a feeling of “feeling like it/not feeling like it“, of “enthusiasm/lack of enthusiasm”, of “keenness/disinclination”, of “willingness/unwillingness” that comes about when an individual imagines the “significance”/the meaning of a given profession and its work environment with respect to his or her aspiration for ideally optimal satisfaction.
2. a feeling of inner resistance which arises from those imagined aspects that refer to possible negative consequences of the profession considered. These feelings do not however refer to the professional activity itself but rather to the motivational circumstances related to the pursuance/the carrying out of that profession.
3. and finally the “good feeling/bad feeling” emotion which refers to whether an individual can imagine himself to be able to meet the specific requirements of the profession and to cope with the demands for professional performance.

A recent study by Oliver Wegmann (2005) investigated how individuals went about their career choices. The following table shows some of those strategies used by the individuals in that study. Despite the fact that there is no complete theory of “bounded rationality”, G. Gigerenzer and R. Selten (2002) nevertheless specify three classes of processes:

1. simple search rules - rules for seeking alternatives and/or their criteria;
2. simple stopping rules - rules for deciding when to stop looking for alternatives;
3. simple decision rules - rules for choosing an alternative.

SEARCH, STOPPING and DECISION RULES OF SOME HEURISTICS

strategies	1. search rule	2. stopping rule	3. decision rule
optimisation <i>rational strategy</i>	no search rule as complete knowledge of all the possible alternatives and criteria is assumed	no stopping rule	ideally decision in favour of the alternative whose computed criteria obtain the highest value
incrementalism <i>“simple” heuristic</i>	search for alternatives that deviate only a little from the point of departure	search is stopped as soon as an alternative represents an improvement on the point of departure	decision in favour of the alternative that deviates only a little from the point of departure but represents nevertheless an improvement (chosen alternative becomes new point of departure)
satisficing <i>“simple” heuristic</i>	random search for alternatives	search is stopped as soon as an alternative meets the satisficing threshold (aspiration level)	decision in favour of the first alternative that meets the satisficing threshold (aspiration level)
minimalist <i>“simple” heuristic</i>	random search (minimum of information available) for a relevant criterion that differentiates between alternatives	search is stopped as soon as a criterion is found that differentiates between alternatives	decision in favour of the “known” alternative; if neither or both alternatives are “known”, decision in favour of the alternative with the highest cue validity on the chosen criterion
take the best <i>“simple” heuristic</i>	“ordered” search (more information available) for a criterion with the highest decision potential	search is stopped as soon as a criterion is found that discriminates between alternatives	decision in favour of the alternative with the highest cue validity on the chosen criterion

With the help of open narrative interviews Wegmann (2005) examined the decision-making processes underlying the career choices of five individuals, four men and one woman, aged between 29 and 42.

The results revealed that the most simple decision strategies i.e. the so-called “simple” heuristics and above all incrementalism were used most frequently. Indeed, only on one occasion did one of the interviewees tend towards optimisation, a rational decision-making strategy.

It is also interesting to note that none of the interviewees used the same heuristic all the time but three or four different ones without however there being a specific rule governing the change in strategies.

So, what tentative conclusions can we draw from this study on the implementation of “simple” heuristics:

First, we must develop new concepts for guidance, and this obviously includes the issue of the training of guidance counsellors, in order to move away from the currently still predominant prescriptive models that are increasingly impracticable in the real world.

Changes in information management seem most pressing. We must indeed aim at increasing the “counsellability” of our clients by encouraging them to reflect on themselves and enabling them to better select and prioritise information.

In information management we have to reduce the currently still predominant supply-oriented systems in favour of **demand-oriented systems**:

1. On one hand, supply-oriented systems still are characterised by a focus on structures and materials that have been preselected and filtered by experts. One could be argue that such systems are organised according to “the gatherer and the hunter” principle. Typical supply-oriented self-styled “expert” systems can be found in vocational information centres, prescriptively organised vocational guidance institutions and vocational data banks.
2. On the other hand, **demand-oriented systems** must adapt to the habits of the counselees and their preferred methods of interaction with various media. It is the counselees’ “internal capabilities“ i.e. skills, motivations, involvement, learning abilities, familiarity with different media, and above all, their problem-solving capabilities which shape the structure and operation of the system.

Demand-oriented information systems will ideally allow the user:

1. to define his/her needs first;
2. to select information sources that lead to specific results;
3. to obtain advice on how to use the information sources for the user's own needs;
4. to understand when personal assistance by a vocational counsellor is necessary, and
5. to "only" use those links that provide "effective" help in solving his/her problem.

As regards guidance by career counsellors, above all in educational settings, it is vital to make a thorough analysis of the counsees and their needs. Such a preliminary examination has to take into account the interests and the existing knowledge of e.g. students, and above all, try to find out where they "stand" in their individual decision-making processes. At the same time the counsees must be able to differentiate between the roles of the teacher and the guidance counsellor because whereas the teacher delivers the same standardised curriculum to the whole of his or her class, the counsellor takes part in the problem-solving and decision-making processes of an individual.

Hence individual counselling must focus upon the client's decision logics and demands for real world information. In this situation, the counsellor should accept his role of an expert capable of delivering adequate, representative and individualised information in accordance with the demands of the counselee.

Such an approach should go beyond an objective general need and take into account the existing information deficits of the individual counselee as well as his or her cognitive abilities (Ertelt, B.-J. and Schultz, W.E., 2002).

We should also urgently try to put into place something that is cruelly missing in guidance these days i.e. the follow-up of individuals after their decisions. This would also enable us to implement a desperately needed new approach to guidance for adults. In this field we have a lot of catching up to do in both theory and practice.

Future research must therefore concentrate on how and when decision criteria and strategies change over time in order to determine what kind of information and which counselling techniques are most suited for specific so-called key moments such as leaving school.

Wegmann's study revealed that despite the fact that such key moments are fixed in time and thus both foreseeable and unavoidable, individuals were often not prepared for them. Instead they were influenced by external factors such as family influences and their decisions were above all characterised by uncertainty.

Joachim and I are currently working on a research project aiming to follow on from Wegmann's study which will investigate various so-called key moments. As well as using retrospective interviews, we will also ask subjects to imagine future scenarios in order to study the use of "simple" heuristics in imagined future career choices and life perspectives.

In conclusion we are convinced that once we are able to determine which "simple" heuristics people use at a any given point in education, training or professional life, we will be able to deliver better guidance and release people from the fear of making a "wrong" decision.

What we call "muddling through" is actually more than just making haphazard choices, it can in fact be considered a way of life. A descriptive heuristics-based approach will allow counselees to see their vocational decisions as part of a life-long, on-going process, as a series of positive steps towards appropriate career opportunities rather than feeling that professional doors are closing at each so-called key-moment. In such a framework, each new situation represents new challenges, new opportunities and, of course, ..., new decisions, new choices.

Thank you for your attention.

References:

Ertelt, B.-J. and Schulz, W.E. (2002):

Handbuch Beratungskompetenz. Rosenberger Fachverlag: Leonberg, Deutschland.

Gigerenzer G. and Selten R. (Eds.) (2002):

Bounded rationality: The Adaptive Toolbox. First MIT paperback edition. The MIT Press: Cambridge, Massachusetts, USA; London, England.

Gigerenzer G., Todd P. and the ABC Research Group (Eds.) (1999):

Simple Heuristics That Make Us Smart. Oxford University Press, Inc.: New York, NY, USA.

Hellberg B.-M. (2005):

Entscheidungsfindung bei der Berufswahlprozessmodell der Emotionen und Kognitionen. Deutscher Universitätsverlag: Wiesbaden, Deutschland

Holland J.L. (1997):

Making vocational choices: A theory of vocational personalities and work environments (3rd ed.)

Psychological Assessment Resources: Odessa, FL, USA.

Klein G. (2002):

The Fiction of Optimization (p 109). In G. Gigerenzer & R. Selten (Eds.) Bounded rationality: The Adaptive Toolbox. First MIT paperback edition. The MIT Press: Cambridge, Massachusetts, USA; London, England.

Krumboltz J.D. (1979):

A social learning theory of career choice. In A. Mitchell, G.B. Jones, & J.D. Krumboltz (Eds.), Social learning theory and career decision making (pp. 19-49):. Carroll Press: Cranston, RI, USA.

Mellers B. et al. (2002):

Group Report: Effects of Emotions and Social Processes on Bounded Rationality (p 267). In G. Gigerenzer & R. Selten (Eds.) Bounded rationality: The Adaptive Toolbox. First MIT paperback edition. The MIT Press: Cambridge, Massachusetts, USA; London, England.

Super D. (1990):

A life-span, life-space approach to career development. In D. Brown & L. Brooks (Eds.), Career choice and development: Applying contemporary theories to practice (2nd ed.). Jossey-Bass: San Francisco, CA, USA.

Wegmann O. (2005):

Individuelle Entscheidungsstrategien in der beruflichen Laufbahn im Vergleich zu Modellvorstellungen in der beruflichen Laufbahnberatung. Diplom-Arbeit: Universität Mannheim, Deutschland