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Research Reports

Vignette Research on Messy and Confusing Problems in Primary Mental Healthcare

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Abstract

The average primary care psychologist feels an ever-widening gap between objective, measurable reality as described and the complex and dynamic reality they experience. To obtain a better understanding of this complex dynamic reality, we conducted an exploratory mixed-method study of primary care psychologists. We asked our participants to write vignettes about messy and confusing problems in the complex context of mental healthcare. We then examined the data in portions, exposed the patterns in the data, and subsequently analysed all in conjunction. The 113 vignettes showed experiences of psychologists dealing not only with the patient, but also with the family of the patient and/or employers, working together with other healthcare professionals, struggling with dilemmas and having mixed feelings. However, using the Cynafin Framework, 36% of the vignettes were still rated as simple. Was it because those vignettes contained fewer words ($p = .006$)? Or because it is difficult to grasp complexity when cause and effect are intertwined with emotions, norms and values? In the discussion, we suggest examining a complex dynamic system in terms of both the consistency of its various elements and the dynamics of the system. We also discuss how to optimize the system's adaptive self-organizing ability and how to challenge ourselves to invent negative feedback loops that can keep the complex system in equilibrium.

Keywords: complexity theory, vignette study, primary care psychology, complexity, mixed-method study

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The complex daily reality of healthcare that psychologists experience is influenced by numerous factors. Every day, care professionals evaluate and assess available information and its relevance to their actions. During their training, they learn to classify this complex reality into uniform categories, for example as symptoms of a mental disorder. Factors that do not fit a disorder are mostly ignored. Increasingly, both students and care professionals are trained to follow protocols aimed at output rather than at handling complex and dynamic situations (Derksen, 2015).

The psychological literature seldom includes any mention of chaos. Research only includes factors that are measurable according to a rigid order and a well-defined method. Then results are guaranteed and hypotheses can nearly always be confirmed (Fanelli, 2009; Fanelli, 2012). Science hardly addresses the fact that observation, as a method, is in itself a psychological process leading to changes in the mental patterns studied (Derksen, 2015). Government policy and descriptions of good care formulated by care financiers also have little

room for complexity and chaos. To them, care can be objectified, rules can be applied to the care system and the results of care can be measured. When science, the government and healthcare training programmes consistently focus on reducing the experienced complexity, care professionals are encouraged to do the same. But then, what are we to do with messy and confusing problems in the complex and sometimes even chaotic context of mental healthcare?

The average care professional feels an ever-widening gap between objective, measurable reality as described and the complex and dynamic reality they experience. Every day, care professionals face messy and confusing situations for which there are no disease-oriented guidelines, where the rules of the care system are not enough to hold on to, where care results cannot be assessed with routine outcome measurement tools and where 'good care' is open to many interpretations. To obtain a better understanding of this complex dynamic reality, we conducted an exploratory mixed-method study of 23 primary care psychologists. Our research question was 'what patterns can be analysed from vignettes describing messy and confusing problems in the complex context of mental healthcare?' To prepare for the study, we conducted a literature study on the gap between objective, measurable reality as described and the complex and dynamic reality psychologists experienced.

Messy and Confusing Problems

The gap between objective and measurable reality and reality experienced as complex and dynamic is a familiar phenomenon. The German philosopher Jürgen Habermas described the distinction between the world as a political and economic system, on the one hand, and the world people live in on the other (Habermas, 1968). The French philosopher Bruno Latour showed that even in the world of objective and measurable reality, complex social problems play an important role (Latour, 1987). Much has also been written about coping with this gap and the competences required to do so.

Michael Polanyi made a significant contribution to the discourse on tacit knowledge. Tacit knowledge can be defined as knowledge and skills which professionals are less aware of having but which nevertheless direct their actions, transcend the generally available scientific knowledge and are necessary in day-to-day practice (Polanyi, 2009). Aaron Antonovsky added the concepts of 'sense of coherence' and 'self efficacy' to this discourse. Sense of coherence can be defined as the ability to connect the comprehensible and the incomprehensible (Antonovsky & Sagy, 1986). The concept of self efficacy can be defined as the ability to act meaningfully in the world around you (Ibid).

The American philosopher Donald Schön describes objective and measurable reality and reality experienced as complex and dynamic in terms of 'high hard ground' and 'swampy lowlands'. "On the high ground, manageable problems lend themselves to solution through the use of research-based theory and technique." (Schön, 1995, p. 27). He contrasts this with the swampy lowlands, the unruly day-to-day reality. "In the swampy lowlands, problems are messy and confusing and incapable of technical solution" (Ibid).

On the high ground, all mental symptoms that patients exhibit either fit or do not fit the DSM (American Psychiatric Association, 2013) criteria for mental disorder. On the high ground, it is assumed that a scientifically unverified method cannot (yet) be effective and successful. The same is true for quality of care, where the *argumentum ad ignorantiam* fallacy applies: you must prove that your work is of high quality; otherwise, it is of

insufficient quality. How different are the swampy lowlands, the day-to-day reality of psychologists, in primary care and elsewhere. The swampy lowlands contain far more than just mental symptoms and diagnosed disorders but also, for example, obstinate patients with complicated personal circumstances and colleagues who have a very different view of good care. There, social and societal problems play roles in the consulting room and even professionals can be led by their emotions. At issue are equivalent but conflicting values that have no easy answers....

Vignette Study

The Context

To obtain a better understanding of the complex dynamic reality of psychologists, we conducted an exploratory mixed-method study. With our study, we attempt to 'translate' the swampy lowlands in terms of the high hard ground. Our goal is to include the swampy lowlands in the scientific debate on mental healthcare. The first obstacle we must overcome is the question of how to 'capture' these swampy lowlands in a scientific article.

We started by asking Dutch primary care psychologists to write vignettes, which would make the swampy lowlands apparent. In 2011, 29 experienced primary care psychologists followed an eight-day course entitled *De wetenschap van de eerstelijnspsychologie* [The science of primary care psychology]. This course covered the scientific foundation and societal context of primary care psychology, the normative professionalization of primary care psychologists, the complexity of the work of primary care psychologists, and various research fields of primary care psychology. The course day covering the normative professionalization (Kunnehan, 2005) of primary care psychologists focussed on professional and personal accounts of messy and confusing problems in daily practice. The course day on the complexity of the work focussed on the dynamics in daily practice and the fundamentals of complexity sciences. The participants shared experiences, discussed moral dilemmas and obtained a better understanding of the normative nature of their professional conduct. The homework assignment was to write three to five descriptive vignettes of messy and confusing problems in their work. Of the 29 participants, 23 completed the assignment, writing in total 113 vignettes.

Sample Vignette

The client is a young man (31), married, father of two young children and employed by a medium-sized accounting firm. His work is of a very high standard. He has been on sick leave for ten weeks now, with symptoms of fatigue, frequent headaches, hand tremors and a general sense of being unable to meet the quantitative demands placed on him. The occupational health physician has 'ordered' him to resume work for three days, two hours a day. The client states that he can hardly cope with this. During our sessions, the client's lack of confidence and fear of failure clearly come to the fore. Other issues that must be addressed are his difficulty with establishing boundaries and standing up for himself.

After three weeks, his superior tells him that he must start working five days a week, two hours a day. When the client says he is not ready, his superior consults the occupational physician and then tells the client that the doctor agrees that he is ready to work more hours and that's the end of it. On his next appointment with the occupational physician, the client tries to explain that he really is unable to work more hours yet. The doctor says that he feels the client is not giving him good enough arguments and sees no reason to change the new workload, and that if 'the psychologist' disagrees, he should phone

him. The client phones the psychologist and asks him to contact the doctor to explain why he cannot work more hours yet. The psychologist promises to do so. However, after this conversation he begins to doubt whether that is the right thing to do.

This vignette was written by one of the participants of the vignette study.

Research Design

For the theoretical background, the researchers were guided by various theories. Firstly, an interest in complexity sciences. Complexity science fits well with the unruly day-to-day reality of primary care psychologists (Smit, 2015). There is no formal definition of complexity sciences but this emerging approach to research can be seen as a collection of theories and conceptual tools (Benham-Hutchins & Clancy, 2010; Paley & Gail, 2011). It can be described as the scientific study of complex systems, in which many parts interact. This vignette study is a part of a larger study on the complexity of mental health care.

Secondly, the researchers used the mixed methods in social inquiry approach outlined by Greene (Greene, 2007). "Mixed methods social inquiry involves a plurality of philosophical paradigms, theoretical assumptions, methodological traditions, data gathering and analysis techniques, and personalized understanding and value commitments [...]" (Greene, 2007, p. 13). It "aspires to understand complex phenomena by intentionally including multiple ways of knowing and valuing and by respectfully engaging with differences, both those presented by other inquirers' mental models and those located in the social world" (Greene, 2007, p. 17).

Finally, we applied the qualitative research aids provided by Braun and Clarke (Braun & Clarke, 2013; Braun, Clarke, & Terry, 2015). Following Braun and Clarke we included three kinds of question used in qualitative research. The first concerned our research question: 'What patterns can be analysed from vignettes describing messy and confusing problems in the complex context of mental healthcare?' The second was for the participants, the authors of the vignettes. They were asked to describe three to five instances of messy and confusing problems they experienced as complex. This question was posed in the context of the eight-day course 'The science of primary care psychology' described above. The third question dealt with how we worked with our data. They varied according to the portions of the vignette and will be further explained below.

The vignettes were written according to the following structure. Participants described the *context*, the setting in which the situation occurred. They described the *situation*, the 'core' of the vignette (see example above). They included the *emotions* involved in the situation – which could be what the psychologists themselves, the clients and/or other parties felt – and the norms and values that played roles in the situation. These topics were selected with the participants at the end of the course days on normative professionalization and the complexity of the work. Our research design took a semantic approach to all data used (data corpus, Braun, Clarke, & Terry, 2015). It was decided to analyse the situation descriptions with the Cynefin Framework because of Snowden's embeddedness in the complexity sciences (Snowden & Boone, 2007). Then the emotions mentioned in the vignettes, the persons involved, and the values were all categorized. Finally, the vignettes were checked for the presence of terminology related to professional conduct.

Two researchers conducted the study. They began by reading all the vignettes several times. Coding and assessment of all aspects of the vignette was initiated jointly and then allocated to the either one of the researchers. Researcher A first examined the situations, the people involved and the terms related to professional disease-oriented guidelines. Researcher B encoded the emotions and values. Both researchers

kept written notes and discussed these afterwards. Dubious cases were discussed extensively in order to arrive at a joint decision. Researcher B sample-checked the measurements and coding of A researcher and vice versa. Again, any differences in judgement were discussed in order to reach consensus. The final analysis was done by the principal investigator (researcher A) and discussed with researcher B and the authors of the vignettes.

Context

This portion of the vignette described whether the situation concerned a primary care practice, often supplemented by the city or regional location of the practice. In some cases, the context was indicated by whom the patient was referred to and how long the patient was in treatment. We did not analyse these data in further detail.

Situation Sketch

The researchers wanted to investigate whether patterns can be analysed in the descriptions of 'messy and confusing problems in the complex context of mental healthcare'. The Cynefin Framework van Snowden (Snowden & Boone, 2007) was used in this process. The Cynefin Framework is a sense-making model that fits the exploration of the data. It can help one to see things from new viewpoints, to assimilate complex concepts, and to address real-world problems and opportunities (idem). As a sense-making model it helps one characterize what kind of situation it is. The Cynefin Framework sorts situations into five contexts, defined by the nature of the relationship between cause and effect. These are: simple, complicated, complex and chaotic systems. In a *simple or obvious situation*, cause and effect relationships are predictable and repeatable. In a *complicated situation* there is a relation between cause and effect, but this relation is not self-evident. It requires more expertise to see the relations between cause and effect. When a situation is *complex*, cause and effect are only knowable in hindsight and the outcome is emergent and unpredictable. In chaotic situations the relationship between cause and effect is impossible to determine; there are no manageable patterns to define. In the middle of the Cynefin Framework there is also the unknown situation called *disorder*. In these situations it is not yet known if the situation is complicated and in need of more expertise or if the situation is, for instance, complex.

The review of the situation sketches was based on the following questions:

- *Are cause and effect both clear?* If the answer is yes, then we conclude it is a simple situation.
- *Is it possible to know what causes this situation and to predict the likely effect with more information?* If the answer is yes, then we conclude it is a complicated situation.
- *Are there many causes and effects interacting with each other that make the situation emergent?* If the answer is yes, then we conclude it is a complex situation.
- *Are there no manageable patterns to define?* If the answer is yes, then we conclude it is a chaotic situation.

While assessing the situation sketches, the researchers kept notes to stay aware of their own experiences and interpretations and to guard against potential 'inattentional blindness' (Simons & Chabris, 1999). This pitfall was offset as much as possible by rereading the questions (as described above) after analysing each batch of five situation sketches, as well as rereading tips about the pitfalls of qualitative research.

Emotions

The question related to the described emotions was ‘which basic emotions (as described by Ekman) are mentioned in the vignettes?’ The basic emotions described in the primary care psychologists’ vignettes were coded as follows: joy, grief, anxiety, anger, surprise and aversion (Ekman, 1994). All other emotions that could not be coded as one of these six were assigned to two categories: the first group held emotions with a positive connotation (“I couldn’t agree more”) and the second held emotions with a negative connotation (“I felt I was flogging a dead horse”). Finally, there was a small rest category of ‘other emotions’, for example “I have mixed feelings about this”. All instances of these emotions were tallied.

Parties Involved

The question related to the parties involved was ‘which and how many parties are mentioned?’ All parties implicitly or explicitly involved in the situation were coded. An example of an ‘implicit party’ in a vignette is a general practitioner who plays a recognizable part in the situation but is not explicitly identified as the referring doctor. The parties and numbers of people involved were recorded for each vignette.

Norms and Values

Our research on the norms and values was directed by the question ‘which norms and values are mentioned and how often?’ The vignette allowed the psychologists to record relevant norms and values. We define the concept of values as ‘opinions of what is desirable; motives and ideas that are regarded as worthy of pursuit’. We define the concept of norms as ‘concrete guidelines for action; the link between general values and concrete behaviour’. Most participants described one or more norms and values in each of their vignettes. However, the cases contained more norms and values than explicitly described by the participants. The researchers coded these and included them in the overall analysis.

Terminology Relating to Professional Conduct

We looked at the vignettes and scanned them for terminology often used in descriptions of the professional conduct of primary care psychologists. This includes such terms as ‘making a diagnosis’ (diagnosis), ‘working in accordance with guidelines’ (guidelines), ‘methodology’ (method), ‘treatment’ (treatment) and words such as ‘disorder’, ‘depression’ and finally terminology indicating the ‘outcome of care’ (effect, result).

Research Findings

Situation Sketch

The participants described 113 vignettes of messy and confusing problems they experienced as complex. The researchers investigated whether this perceived complexity could be objectified. Here objectified means wanting to do justice to the object of study, to allow the object of study to speak for itself and not let it get distorted (Maso & Smaling, 1998). During the assessment the researchers took the texts of the situation sketch literally (semantic approach, Braun & Clarke). Thereupon the sketches were evaluated according to the Cynefin Framework as simple, complicated, complex or chaotic situations.

It was not easy for the researchers to ignore their own experiences, knowledge and judgement while reading and reviewing the sketches. Effectively they had to fight against the Dutch proverb *Een goed verstaander heeft maar een half woord nodig* (lit. trans. ‘An understanding person needs only half a word’ meaning: ‘A careful

listener doesn't have to ask twice'). It took a lot of effort and concentration to assess the literal text, to remain aware of their own experience and keep feeling that this research work was valuable. Both researchers felt a strong palpable relationship between what they were reviewing and the idea they were involved in forging valuable progress. When they had to review literal wording and limit their personal interpretation to the minimum, then they felt less involved. When their commitment was reduced, the idea they were doing valuable research also diminished greatly.

Assessing the sketches triggered an association that defined the situations described as a static snapshot of a dynamic whole. During the analytical process the question of whether more information (measured as more words) would increase the likelihood that the situation could be assessed as complex or chaotic became relevant.

In assessing the four categories, the following became apparent in general. As expected, a *simple* vignette more or less described the cause and effect of the case. *Complicated* vignettes often contained multiple storylines (cause – effect) that all influenced one another but the effects were either described or predictable. *Complex* vignettes also contained several storylines but here the relation to the effects were hard to guess or were largely unknown. *Chaotic* vignettes described situations with unexpected twists and turns and the relationship with the effects was insufficiently clear.

Of the 113 vignettes (= 100%) 41 vignettes (36%) were rated simple with a recognizable relationship between cause and effect. For example:

Because the practice has partnered with two health centres in a large city suburb, the number of referrals and thus registrations has increased rapidly in a short time, causing waiting times of six weeks or longer. The workload is increasing despite clients' complaining about the long wait. The 'background' is another factor in that the health insurers' contracts require that the waiting time be limited.

39 vignettes (35%) were rated complicated. For example:

Client (39) is living together, has an intellectual disability. She was neglected in her youth; parents divorced, father deceased and mother an alcoholic who does not want to see her daughter with her boyfriend. Client has siblings, but none of them wants to be in touch with her. Mother-in-law takes care of her. Treatment is focussed on achieving more independence. Although mother-in-law and therapist have doubts about the effect of treatment, the client is keen to continue.

Of the 113 vignettes, 18 vignettes (16%) were rated complex and 15 (13%) chaotic.

Example of a complex situation:

Client (48) works at a municipal waste station. He was the only child of older parents. Both depressed. Mother admitted to psychiatric hospital, committed suicide. Father died young. Raised by grandparents. Did not have a normal childhood. He was taught that nothing he did ever mattered. Has been taking Seroxat (antidepressant) for years. Is thus scared he will lose his truck driving licence on re-examination. At an advanced age he married a woman from a very problematic family with lots of mental disability in the family. She is the only 'normal' one, and trained for a job in home care. This woman adopted a child with mental disability whose biological father has not recognized paternity. The

son (16) has many behavioural problems and is in special education. Partners disagree strongly on how to deal with him. As the controversy the child knows well how to drive the parents apart.

The reason for the request for help is that the woman thinks her husband should seek help, or she will put an end to their relationship. The client feels that nothing he does will ever be good enough for his wife and he suffer from her aloofness. ELP approach: clarify what is happening, consider what causes the disagreement, what happens then, how to deal with it, how partners interact with one another and how things could turn out.

Furthermore, normalizing the client's behaviour. The partner is invited to relationship therapy. Both have indicated what bothers them. They would like to see each other and learn how they could help one another. Wife keeps husband at an emotional distance, without indicating how he could/should get closer (sets unclear terms).

Meanwhile, the wife goes her own way. Client feels powerless, says he cannot get through his partner. "She's got a wall around herself and won't let anybody in"; "She's hard as nails, very black and white". She says that he must change, but doesn't say in what way or how. Client functions adequately and satisfactorily at work.

Example of a chaotic situation:

Woman (23), care worker; a first-line [primary care] psychological examination led to a referral to second-line [mental health care] on the basis of personality problems. Client was on sickness benefit. To bridge the long waiting time for second-line mental health care, the client was seen in our practice. Client appeared to have only basic health insurance which proved inadequate to cover the 'bridging time'. I soon learned that the client had a one-year employment contract which would expire in three months. The employer made implicitly it known that the contract would not be extended. The employer further informed me that while the client had been regarded as a good worker, her current status as 'unstable' entailed too much risk for the employer. During the waiting period, the client's problems stacked up and she needed frequent support. Her [voluntary/family] carers were not prepared to provide this.

We then examined if there was a difference between the number of words and the ratings of simple, complicated, complex and chaotic (see [Table 1](#)). The 113 vignettes contained a total of 17,674 words, an average of 156.4 words per vignette. The situation sketches rated simple had on average 107.21 words (total word count 4396, total vignettes 41). The situation sketches rated complicated had on average 167.85 words (total word count 6546, total vignettes 39). The situation sketches rated complex had on average 203.67 words (total word count 3666, total vignettes 18). The situation sketches rated chaotic had on average 204.4 words (total word count 3066, total vignettes 15). This means that simple situations averaged fewer words than complicated situations and in turn complicated situations averaged fewer words than complex situations. The average difference between complex and chaotic situations was minimal, 203.67 and 204.4, respectively.

Table 1
Word Count

Category	Total vignettes	Total words per vignette	Average words per vignette
Simple	41	4,396	107.21
Complicated	39	6,546	167.85
Complex	18	3,666	203.67
Chaotic	15	3,066	204.40
Total	113	17,674	156.40

We conducted a General Linear Model Univariate analysis to examine if there was a difference in word count among the four assessment categories. The scores were derived independently of each other. Normal distribution was somewhat skewed due to the relatively limited number of participants. The categories in the population had equal variances. The ratio between the largest and smallest standard deviation is a factor of 3; the smallest standard deviation is 48.782 and the largest is 104.101. There is a strong effect on the average number of words between the four vignette categories ($F(3,109) = 9.357$, $p < .001$). This effect is strong ($\eta^2 = .205$).

A Bonferroni post hoc test was performed to determine which categories differed statistically on word count. This showed that simple differed from complex, chaotic and complicated. Simple averaged 60.63 fewer words than complicated ($p = .006$), 96.45 fewer words than complex ($p < .001$) and 97.18 fewer words than chaotic ($p = .001$). The remaining three categories did not differ significantly from each other in terms of word count.

Emotions

It soon became clear that the situations described in the vignettes are fraught with emotion. In total, 314 instances of emotion could be coded, on average 2,78 per vignette. Anger (in 83 of the 113 vignettes) was most frequent, followed by Joy (37 instances), Grief (36 instances), Anxiety (16 instances), Surprise (9 instances) and Aversion (2 instances). The emotions that could not be assigned easily to the basic emotions were coded as emotions with either a negative connotation or a positive connotation. Of these (123), 92 had a negative connotation and 31 a positive connotation. Finally, the rest category of emotions with a more or less neutral connotation was mentioned 8 times.

Parties Involved

All vignettes involved a primary care psychologist (100%). A client was mentioned in 89.4% of the vignettes. The client's family was directly or indirectly involved in 46.9% of the situations. Their degree of involvement varied from being present at one or more of the sessions to being an important factor in the client's problems. The primary care psychologists had most often contact with the GP (28 times). Specialists and welfare organizations were involved 24 times, followed by the occupational physician or client's employer (18 times). The health insurer was involved in 15 vignettes. Colleagues of the psychologists were involved 14 times. The government (varying from our legal system, social services and public authorities) was mentioned 11 times. In 6 vignettes other parties were mentioned such like regional cooperation's. On average the psychologists had to deal with 1,5 other persons (or organizations) at least.

Norms and Values

The values described by the primary care psychologists were listed in a Top Ten. Several instances of values could be included. If a value (e.g. honesty) was mentioned four times in a vignette, it counted as one. The Top Ten values are: professionalism (35 instances), honesty (24), commitment (20), transparency (17), openness (16), responsibility (10), respect (9), sincerity (9), good care (8), justice (7) and respecting boundaries (7). In total 372 values were mentioned.

In 72 vignettes norms were described, in total 132 unique norms. 48 Norms could be placed in more than one category. The following categories were made: treatment by the primary care psychologist (40 norms), the professionalism of the primary care psychologist (29), the therapeutic relationship (24), general decency (21), good care (if explicitly mentioned, 15), norms relating to other parties involved such as other care professionals (not immediate colleagues) and insurers (14), client behaviour (10), the primary care psychologist and society (10), collaboration within the practice and/or with colleagues (8), client interests (5) and, finally, professional interests (4).

Terminology Relating to Professional Conduct

We investigated the extent to which concepts relating to professional conduct were described in the vignettes. This concerns words and phrases such as making the diagnosis (diagnosis), working in accordance with guidelines (guidelines), methodical (method), treatment (treatment) and words such as 'disorder' and 'depression' and finally terminology indicating the results of care (effect, result).

The word 'guidelines' was used in two of the 113 vignettes. The word 'effect' was used in five of the 113 vignettes and the word 'result' six times. Ten vignettes mentioned mental disorders. Symptoms of anxiety in the client were mentioned in 27 vignettes and words relating to depression (depressed feelings, symptoms and/or antidepressants) appeared in 34 vignettes. Personality problems were mentioned 12 times. 'Method' (covering method and methodical) appeared once. The word 'treatment' was present in 82 of the 113 vignettes.

Conclusions

Our research question was 'What patterns can be analysed from vignettes describing messy and confusing problems in the complex context of mental healthcare?' The objective was to obtain a better understanding of the complex dynamic reality of primary care psychologists in mental healthcare. We tried to bridge the gap between objective, measurable reality as described and the complex and dynamic reality psychologists experience. The situation sketches were investigated with the aid of the Cynefin Framework because this tool facilitates making the complex rating (in addition to the simple, complicated and chaotic ratings). The Cynefin Framework also reflects the interest of researchers in complexity sciences.

Data analysis revealed the following patterns. All vignettes described situations experienced as complex. However, the researchers rated 36% of the vignettes as simple. This suggests that using a model fitting in complexity sciences (Cynefin Framework) does not guarantee showing the *experienced* complexity.

In addition, it could be established that the probability of a situation being assessed as complicated, complex or chaotic rose in proportion with more words being used to describe the situation. The vignettes were filled with emotion, with 'anger' appearing most often. The values 'professionalism' and 'honesty' and norms concerned

treatment by the psychologist were mentioned most often. Besides the patient [client] and his/her family, the psychologists had to deal with on average 1.5 other persons (or organizations) at least. The vignettes hardly mentioned disease-oriented guidelines, but the words ‘treatment’, ‘anxiety’ and ‘depression’ were common.

Beforehand, the participants and researchers agreed on the following components of the vignettes: context, situation, emotions and norms and values. These components were first examined separately, obviously with the aim of analysing them together in the end. The researchers’ experience in particular gave direction to this relationship. Accordingly, the researchers perceived the situation sketches as ‘mere’ snapshots of a broader and more dynamic entity, comparable to a scene from a film. They noticed that the descriptions of emotions and values also contained a lot of additional information that could explain the perceived complexity.

An example of a vignette experienced as complex but rated simple is as follows:

Client (32), two children, from Curacao. Problems with autonomy. She is doing an internship at a nursery as part of a municipal rehabilitation project. The municipality has offered to reimburse consults not covered by her health insurance. Client calls off her appointment on the day itself: she has problems with her menstruation. I am allowed to send in the invoice [for her session], but I mustn't tell the municipality that that she did not turn up.

We could answer yes to the question ‘are both cause and effect clear?’ Cause: client cancels appointment late. Effect: she must pay for the session. Cause: client is in a reintegration programme, has hardly any income so the municipality pays her bill. Result: Client asks the psychologist not to tell the municipality that she did not attend.

When we read the emotions associated with this situation sketch:

Irritation that she has put me in a difficult position. I will not lie, but I also know that the consultation is too expensive for her to pay herself.

And then, when we look at the values (and norms) described by this participant – honesty (you're honest) and goodwill (psychologist must show consideration for the patient) – the ethical dilemma for the psychologist becomes apparent: “I want to be honest and I want to show leniency.” Dealing with ethical dilemmas demands multiple skills of the psychologist and when multiple stakeholders are involved, there is often talk of an incongruence of interests (Koocher & Keith-Spiegel, 2008).

All vignettes were fraught with emotions, which could contribute to the perceived complexity. In another vignette (also rated simple), for example, a participant describes the following:

I feel indignation and anger: How dare she be so demanding. I also feel used and manipulated. I wonder how motivated she is to be treated and if I can still be her therapist. In any case, I no longer want to be her therapist.

Besides the situation itself and the number of words (that can be) used to describe it, the associated emotions, potentially conflicting values and the involvement of several affected parties can explain why psychologists to consider messy and confusing problems in mental health care to be complex.

The high hard ground is concerned with ‘manageable problems’, where solutions are found ‘through the use of research-based theory and techniques’. Emotions, potentially conflicting norms and values, the involvement of

multiple parties and especially the consistency of these cases all stand more in the background of the high hard ground. These constituents have been reduced from the disease-oriented guidelines. The personal story of the patient is often reduced to 'required information', symptoms consistent with a mental disorder. Meanwhile, the swampy lowlands (unruly day-to-day practice) are filled with emotions, norms and values. Treatment of a patient with for instance a depression, involves also dealing with the family of the patient or dealing with employers, working together with other healthcare professionals, struggling with dilemmas and having mixed feelings. These factors can explain why psychologists experience the swampy lowlands as complex.

Discussion

In this research we studied the complexity psychologists experience while working in primary care. *Experienced complexity* is positioned in Schön's swampy lowlands and Snowden's Cynefin Framework was applied in order to grasp and ultimately distil some of its patterns. The aim was to obtain a better understanding of this complex dynamic reality. Although the vignettes themselves are all about treating patients, complexity is experienced most often in relation to the treatment context. This context includes the patient's relatives, the collaborative partners such as GPs and occupational health doctors, and health insurers, as well as fellow psychologists and psychiatrists. Playing a role in the background are social issues – such as the question of what is good care and who decides that – as well as potentially conflicting emotions, and norms and values. Covering both the theory and practice of mental illness treatment, this system is inextricably connected to the laws and regulations of the health care system, the emotions of the psychologists involved and the personal context of the patient.

This study deals with professional behaviour in a complex, dynamic system. It challenges us to develop another way of thinking.

We need a kind of thinking that reconnects that which is disjointed and compartmentalized, that respects diversity as it recognizes unity, and that tries to discern interdependencies. We need a radical thinking (which gets to the root of problems), a multidimensional thinking, and an organizational or systemic thinking. (Morin, 2008, p. vii)

Some examples. A complex dynamic system could be examined in terms of the *consistency* of its various elements and the *dynamics* of the system. But also in terms how to optimize the system's adaptive self-organizing ability. In the process, it would be good to apply not only traditional scientific theorems – such as the principle of universal determinism, the principle of reduction and principle of disjunction – but also the dialogic principle, the principle of organizational recursion and the holographic principle as used in complexity sciences (Morin, 2008, 2014).

Another challenge is to think in terms of causal feedback loops which can be either positive or negative. A positive loop will amplify an effect whereas a negative loop will inhibit or dampen an effect (Gershenson & Heylighen, 2005; Heylighen, 2001). The researchers' experience provides an example of both positive and negative loops in this study. The researchers felt attracted to the subject of 'swampy lowlands in the practice of psychology' (cause). That motivated them to undertake this study. Their commitment was reinforced by the emotions of the respondents, thus reinforcing the cause and resulting in a positive loop. However, while they were examining the data the researchers consciously adopted an objective stance, creating a distance

(scientific method) that reduced their emotional involvement, which thus resulted in a negative loop or equilibrium. Their personal involvement returned when the data analysis was complete and distance was no longer necessary. Our next challenge is to explore what it takes to bring the psychologist's experience of complexity into a state of balance (equilibrium) without reducing or separating it into disparate elements.

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Competing Interests

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