WHEN TWO PEOPLE DO THE SAME THING, IT'S NOT THE SAME THING: CONSISTENCIES AND DIFFERENCES IN CONTENT ANALYSIS OF THERAPY DIARIES

Irena Loudová[1], Kateřina Strnadová[2], Silvie Urbanová[2]

Abstract

One of the frequent objections to qualitative approaches and the use of qualitative methods for research is the subjectivity of the evaluation – it is entirely up to the analyst to choose which sections to analyse, what codes to use, what themes to generate as significant and pass them on for further analysis or interpretation. This study, which is part of the broader DAQUAo project (psycholinguistic analysis of therapeutic diaries), is concerned with content analysis as a fundamental and usually the first step in most qualitative approaches. The aim of this study is to verify the agreement of assessors by statistically comparing codes obtained by the content analysis method in the open coding phase, performed by two independent analysts on identical texts. Stimulus material: therapy journals, N=179 unique text entries, total 22,046 words. Results: Analytical K identified 32 codes, analyst L identified 70 codes. Codes that were close in content were referred to assessor agreement analysis (paired t-test). There was an agreement for two codes (movement-travel, emotion-good mood). Most of the differences were due to different levels of generality – there were mostly hyper- and hyponymy relationships between the analyst's codes K and L (the superordinate category K corresponded to several specific categories of L) or adjacent categories (two specific instances of one superordinate category). Approximately one-third of the codes were unique and could not be easily compared. Conclusion: coding text through content analysis requires careful training, a clear definition of the level of generality required in the first stage of coding, and last but not least, a formulated research question. These three conditions can ensure higher inter-assessor agreement and de facto better reliability of the method as such.

Keywords

Content analysis, therapeutic diaries, inter-assessor agreement

[1] Department of Pedagogy and Psychology, Faculty of Education, University of Hradec Králové
[2] Institute of Primary, Pre-primary and Special Education, Faculty of Education, University of Hradec Králové

INTRODUCTION

Addiction to addictive substances, especially alcohol, is a serious problem in society that affects millions of people worldwide (Detels et al., 2021). This socio-pathological phenomenon has serious consequences for the physical, psychological and social health of individuals and the wider society. Addiction treatment is a demanding long-term and thus expensive process that requires a comprehensive approach and individual care (Dekkers et al., 2021).

One of the methods that is traditional in the Czech Republic and is becoming an increasingly important part of treatment is writing therapeutic diaries (Miovský et al., 2015). Therapeutic diaries serve as a vehicle for expressing and processing these issues and deepening self-understanding. Diaries are valuable material not only for the author himself, but also for the caring staff. Analysis of these diaries allows to identify patterns of behavior, emotional fluctuations, negative thought processes, stressful situations, coping with problems, social interactions, general internal dialogue of patients in treatment and last but not least, my potential to reveal triggers of alcohol consumption and also strengthens awareness of the risks and reasons that they can reverse the therapeutic process and, for example, increase the risk of relapse (Hymer, 1991; MacKrill, 2007; Thiele, Laireiter and Baumann, 2002). Diary analysis is thus an important tool for therapists and care staff, which allows them, among other things, to create individually tailored treatment strategies and to focus on specific areas that are key for each individual. In this way, analysis of therapeutic diaries can play a key role in the success of treatment and in providing ongoing support for alcoholics to achieve and maintain self-sufficiency and a life free of alcohol dependence.

Analysing diary texts is a challenging and subjective process that requires expert knowledge and the ability to understand the context and content of the records.

In the new millennium, there is a growing interest in qualitative research in the social sciences, the goal of which is not exact precision of measurement but depth of understanding. Nevertheless, analyses conducted under the banner of qualitative approaches often work with countable signs. One popular method of analysis in qualitative research is thematic analysis. Its aim is to uncover themes that are relevant to the individuals being studied or the problem being addressed and to analyse these themes.

Themes are analysed based on qualitative indicators (what it is about), quantitative indicators (how often they occur in the text) and relational indicators (analysis of context). The critical moment is precisely the choice of quotations and their encoding (coding). That is a subjective step that requires a feeling for language, knowledge of and feeling for the subject matter, openness (not being subject to one's own projections, being able to enclose them), etc. Criticism of qualitative methods is often directed at this point. It is virtually impossible to verify the objectivity of code assignment. Some procedures can help to gain at least partial insight into the "hard" properties of qualitative assessment. That is where our study aims.

Objective of the Study

The study aims to look at the content analysis in the coding phase (assigning codes to sections of text) through the lens of "hard data" and to measure the agreement between two independent assessors. The research question is: What is the judges' agreement on the assigned codes? Specifically: we measured (1) how the two independent analysts agree on the choice of codes (how many of the same codes/themes they extract from the analysed texts) and (2) how the independent analysts agree on the codes for the same text sections (to what extent they assign semantically similar/related themes to the same text sections).
For the planned analyses based on the coding of the diaries of alcohol-dependent persons in treatment, lay assessors from among students were deliberately selected. There were several motivations for this choice: in practice, untrained people normally comment on the diaries (the staff who read the diaries and give feedback are not trained) and therefore the codes revealed to laymen can correspond to the intuitive insight of the staff; lay people bring a diverse perspective unencumbered by training; laymen better represent the general reader; lay people can more easily avoid the use of expert language and better penetrate the natural categories in the text; the use of laypersons can serve to prevent bias (professionals may have assumptions based on expertise, while laypersons may be more open to different interpretations); increased motivation (internal – students are more willing to try new methods, external motivation – they participated in research for a small stipend); pedagogical contribution (the topic of addiction and the topic of qualitative analysis is part of the curriculum, the results can be projected into teaching, the involvement of students can provide direct experience with the analysis) and, last but not least, the real-world application is definitely important (as already mentioned, in praxis they read diaries and untrained actors of the treatment process react to them). The results may contribute to the discussion of the reliability of content, and hence thematic, analysis (validity is not the subject of this study). Secondarily, it serves as a pilot for the process of coding and theme generation for the analysis of thematic trajectories of treatment diaries addressed in the DAQUAo project.

METHOD

Research design: a quantitative, comparative study (the outputs of two sets of codes assigned to the same texts are compared).

Material analysed and analysis procedure

Authentic textual records of therapeutic diaries of substance abusers were chosen as the stimulus material. Clients in residential treatment were asked to provide the diaries and to provide a copy at the end of treatment. Anonymized transcriptions of the diaries were made. These transcripts (containing no personal or identifying information of clients)

were divided into individual daily entries. As our department did not agree to purchase high quality specialized software for the thematic analyses performed, we used MS Excel, which is also available to the collaborating analysts. Each single record was entered into one cell in the first column.

The analysts were trained in the thematic analysis process. They practiced the content analysis procedure, the process of coding based on the syntactic-semantic approach, and the coding procedure on several practice texts.

The stimulus material for the actual research consisted of two complete diaries from residential treatment for addiction, one diary of 89 daily entries in which a total of 10,393 words were written and the other diary of 90 daily entries in which a total of 11,653 words were written, i.e., a total of 179 unique diary entries of 22,046 words entered the analysis. The research texts were analysed separately and independently by the analysts. The analysts read the entries repeatedly. The units of analysis were words, phrases, sentences, or exceptionally longer sections – always at the analyst's discretion. If a separate theme emerged, they created a new column for it, coded it, and recorded in the appropriate column the number of times the theme appeared (coded) in the daily record. Analysts were asked not to limit themselves in creating themes by content (themes did not have to be related to addiction treatment, no research question was asked) or number (they could create as many codes as emerged). It is important to note that the other steps of the analysis (content, thematic) are not addressed in this paper (grouping codes into higher order themes, finding connections between themes, analysing in relation to the therapeutic process, etc.).

The two resulting lists of themes (codes) were then submitted to statistical analysis to assess the agreement of the assessors in coding the text.

Analysts

The analysis was conducted independently by two female students of the same age (21 years). Analyst K is a student of Czech language and literature, while analyst L is a student of Special Education. Both are lay assessors (they had no experience with qualitative research or the method of thematic analysis before the research).

Data processing procedure

Each analyst provided an excel file with her codes and the number of occurrences for each record. This was followed by a joint meeting where they explained the meanings they attributed to their chosen themes (codes). Next, they looked for matches (if they generated the same theme) and intersections (if the themes were similar in meaning, if one theme was a subset of another theme, etc.). Pairs of analogous codes were generated. These pairs were subjected to statistical analysis – a non-parametric paired t-test was calculated for each pair of matching or intersecting themes.

RESULTS

The analysts obtained different numbers of codes: analyst K obtained a total of 32 codes, analyst L obtained a total of 70 codes. Inquiry with the analysts and the coding process revealed that Analyst L did not want to abandon content in her choice of codes and chose themes that also made sense to her in relation to the content and goal of keeping the diaries (promoting addiction treatment). Analyst K took a different approach to code development, preferring to search for semantically close units.

Linking codes into comparable pairs was more challenging than originally anticipated. Each analyst viewed the content from a different perspective and at a different level of generality. That already proves to be a significant difference and an important result of this study.

We conducted the pairing expertly (both analysts, the research supervisor and the psychologist were present). For better orientation, we provided the codes with numbers. First, we assigned numbers to the codes of analyst K, who had fewer codes. We then went through Analyst L's themes and tried to match/sub-match them to Analyst K's themes, so that pairs were created. According to the pair, we assigned numbers to Analyst L's codes and subjected the pairs with the same numbers to a paired t-test. See the tables below for the results.

Note: we excluded codes with very low incidence from the statistical treatment. For example, the code L21_politics, interesting in content but minimal in frequency (5 occurrences, reactions to political events the client heard about on TV).

Agreements

Of all the pairs created, only two showed agreements in the assessment, i.e. no conclusive difference was measured.

Tab. 1 Inter-assessors' agreement: paired t-test (N=179 records)

Measure 1	Measure 2	W	z	p
K10_related to movement	L10_ movement, sport, travel	6,187.5	-1.562	0.118
K31_emotions	L31_good mood, joy	5,959.0	0.411	0.682

That was **category 10** (p=0.118): both analysts agreed that they selected statements that described a movement for this code. Analyst K relied heavily on the use of verbs describing **bodily movement** (e.g., "go", "run") to label the quotations; Analyst L described that she created the category for utterances representing **expressions of active time spending**, as opposed to passive time spending (e.g., "I went for a run", "we went for a hike today", "I went into town to buy a present", "I warmed up with gritted teeth, but I gave it a go").

The second agreement was found for **category 31** (p=0.682): both analysts included quotations related to **emotions**. Analyst K conceptualized the category broadly and included all quotations in which words describing **emotional experience** appeared. According to her, she relied mainly on nouns and adjectives ('bored', 'fidget', 'pleasant'), while analyst L assigned each of the emotions a separate category. The categories anger, anxiety, and sadness showed statistically significant differences, while the category good mood showed statistical agreement. That is why we can conclude that either analyst K noticed mainly positive emotions and positive experiences or that positive emotions were more frequent in the analysed texts compared to negative ones. The numbers argue for the latter: in all 179 entries, the analysts identified the quotation with the theme of anxiety 14 times, anger 6 times, sadness 10 times, and joy 149 times. It is worth mentioning the information from the inquiry with the female analysts, who agreed that the quotes often showed ambivalent emotions, which led analyst K to decide to combine them into one category and not distinguish them. An example of that is the sentence from record 14: "It was the most beautiful time for me, but also a lot of worries".

Differing Levels of Generality

On closer analysis of the differences, we found that some of the **differences were due to different levels of generality of the codes.**

Tab. 2 Inter-assessors' disagreements – hypernyms: paired t-test (N=179 records)

Measure 1	Measure 2	W	z	p
KK07_deviation from presence	L07_future	4,658.0	-2.592	0.01
	L07_past	758.5	-10.171	<.001
K13_associated with the senses	L13_ Listening, music, radio	5,516.0	5.615	<.001
	L13_ Sensing, observing something	4,985.0	4.828	<.001
K16_work-related	L16_ energy, motivation for activities	654.0	-10.457	<.001
	L16_ money	7,659.5	6.302	<.001
	L16_ awards, rewards, points, fairness	7,118.0	8.601	<.001
	L16_work, employment	3,823.5	-4.458	<.001
K23_close relationships	L23_family, family members	6,885.5	8.007	<.001
	L23_friends	7,076.0	9.297	<.001
K25_body-related	L25_ health, fitness	10,405.0	5.602	<.001
	L25_illness, decline in fitness	12,242.0	10.827	<.001
	L25_ addictive substances	12,602.0	10.734	<.001
	L25_wellness, well-being, relaxation	12,622.0	10.769	<.001
K30_enjoyment, entertainment	L30_leisure	12,750.0	8.951	<.001
	L30_ lifestyle	6,369.0	-2.096	0.036
	L30_negation, denial, rejection	10,783.0	5.113	<.001
	L30_ wanting, desires, wishes	14,003.0	10.936	<.001
K31_emotions	L31_ anger, rage	7,193.0	9.331	<.001
	L31_ anxiety	7,316.0	9.107	<.001
	L31_sadness	7,075.	9.295	<.001

When we looked at the codes from this point of view, we found general tendencies: **analyst K** tended to produce codes representing rather **hypernymic categories** (generalizing, superordinate), while **analyst L** provided **codes corresponding to hyponymic ones** (the term hyponymy refers to subordinate words, for example, apples are hyponymy, fruit is a hypernym). The category K31 emotional experience, described above, includes all quotations containing feelings and emotions, while analyst L distinguished the categories L31 anger, anxiety, sadness and joy.

We observed the same phenomenon in several other categories.

Code K 7 represented hypernyms: **changes in temporal perspective**, and two separate hyponymic codes, L 7 **focus on the past** and **focus on the future**, fell under it.

Code K 13 represented hypernyms: a **sensory experience**, under which fell two separate hyponymic codes L 13 focuses on **auditory stimuli**, usually associated with relaxation, and rest (listening, music, radio) and **focus on visual perception**, usually associated with the ability to concentrate on the present moment and one's surroundings (perception, observation).

Code K 16 represented hypernyms: entries **related to work and money**, and four separate hyponymic codes L 16 fell under it: **energy and motivation for activities** (often associated with the expressions "I feel like it", "I'm eager" or "I have to", "I should", or when the text oozes vigor, e.g. "L16 money (usually quotations describing a visit to a 'mall', in one case a quotation in which the client describes the joy of having his son buy a holiday for the whole family), **extrinsic appreciation** (often associated with a scoring system, e.g. an interesting reflection from the ninth day of treatment 'There was a voluntary job in the afternoon – cleaning the gym, you need to collect points. I unthinkingly did not follow my colleague's advice and did not write the third paper, that only occurred to me later. However, unless something unforeseen happens, it should be enough, but I prefer to be safe, I don't like to do something on the edge," or "After the morning warm-up, I felt very bad because I left the radio on in the room and I got a black point not only from me but also from my colleague.') and L16 **work and employment** (mostly quotes about work duties in treatment, often just listing work activities, such as 'Friday day went as planned, warm-up, raids. The afternoon was a voluntary job cleaning the gym, need to collect points", less often quotes relating to past or future employment, e.g. the therapeutically valuable realization that "alcohol doesn't pay at work").

Code K 23 represented hypernyms: **close relationships**, and under it fell two separate hyponymic codes, L 23 **family and family members** (which included all mentions of family members, both in reflections and in descriptions of actual encounters during hospital visits or discharges) and L23 friends (which included thoughts about past friends and current friendly relationships with co-patients).

Code K 25 represented hypernyms: associated with **the body**, under which fell three separate hyponymic codes L 25 **health and fitness** (which included all mentions of health and health-promoting activities), L 25 **illness and decline in fitness** (which included all health complaints and illnesses as well as mentions of decline in fitness) and L 25 **wellness, well-being and relaxation**.

Code K 30 represented hypernyms: **experience, fun,** under it fell three separate hyponymic codes L 30 **leisure** (included all mentions of leisure activities during the stay in the hospital, quite rare in the previous life), L30 **lifestyle** (included quotations from which the client's lifestyle is obvious, e.g. 'I was delighted when my son Martin told me that the children had paid for a pension in the mountains for Christmas' or 'We discussed over coffee how life in Germany was going. A month ago they moved into a bigger flat, they want a newer car...") and L 30 **wants, desires, wishes** (describing one's wishes, e.g. therapeutically hopeful reflection: "I have about three plans for when I leave here, I don't want to go back, there are many pitfalls and I want to avoid that, I want to start all over again, there are possibilities. The crisis plan is a very interesting thing, I will work on it and gradually add to it").
Code K 31 represented hypernyms: **emotion**, it included four separate hyponymic codes L 31 **anger, rage**, L31 **sadness**, L31 **anxiety**, and L31 **good mood, joy**. We considered excluding the codes for negative emotion because it occurred only 6 to 14 times in the entire sample, an absolutely marginal incidence. However, these are valuable categories for further research work. The content is obvious from the title; we will show some examples. Anger: for example, "I'm sick of copying songs and passwords on the community". Sadness: for example, "Absurdum, not starting anything new, resignation – the organism's time-tested defensive reaction, lethargy. Somehow I'll finish it". Anxiety: for example, "Psycho-group – feeling hopeless when one cannot argue". We have already described joy above, it showed a correspondence.

Other Disagreements

We also tried to link some other codes and calculate the agreement of the assessors. Codes that are closer in content to each other could be the pairs shown in the table. They all show conclusive differences.

Tab. 3 Inter-assessors' disagreement – small overlap: paired t-test (N=179 records)

Measure 1	Measure 2	W	z	p
K08_ associated with place	L08_environment	13.5	-11.485	<.001
K20_ community, therapeutic groups	L20_attitudes towards other patients	765.5	-9.237	<.001
K22_ relationships among people	L22_morality and moral dilemmas	8,670.5	9.212	<.001
K26_news	L26_ communication	8,881.5	3.309	<.001
K27_education	L27_interests and hobbies	6,879.5	6.775	<.001
K29_cultural and religious	L29_overlapping themes	2,784	6.194	<.001

From the analysts' citations and inquiries, we infer the following possible reasons for the differences.

Codes **K related to place** and **L to environment** (both address some relationship to the environment in which the respondent lives, the arrangement of the place), the difference is mainly due to the different perception of the actual activity related to the place – analyst K classified cleaning to the code of work, analyst L also to the arrangement of the environment.

Codes **K community and therapeutic groups and L attitudes towards other patients**. The difference stems from the different focus of the code: the K analyst marked all quotes where community or therapy group appeared that included even a simple scheduling location, descriptive information that it took place, etc., whereas the L analyst focused on relational events that most often occurred during community or therapy sessions (but often outside of them) and was reflected in the diary by the patient.

We linked the codes **K relationships between people and L morality and moral dilemmas** based on the observation that the moral background is often the topic of relationship quotes (e.g. "Big community – the voting was a bit boring, here's your candidate, so vote for him at least for the second time, a bit Kafkaesque. Interesting process."), but many of K's quotes contain simple descriptions of relationships without dilemmas ("Daughter will surely be happy, even if she lives all the way in. She often had to be ashamed of me and then mourned it. Son - cold relationship for some time, hello.

Otherwise, the environment is cool, the nurses are friendly and helpful, thanks a lot for that!"), that may explain the difference.
The difference in the **K news** and **L communication** codes stems from the different focus: K news recorded all new information both from television and from people, the client was always the recipient of the information, while the L code indicated all quotations where communication was in both directions, i.e. even if the client communicated the information, for example sending a letter.
The difference in the codes **K education** and **L interests and hobbies** is obvious. Rather, the concordance calculation confirmed that education is definitely not the most common interest or hobby of the clients.
The divergence in codes **K cultural and religious** and **L self-transcendent themes** appeared initially promising (perhaps because both clients reflected on Christmas in the diaries), but the figures again confirmed that there were few common elements; analyst L sought to identify personal self-transcendent circumstances of the entries (for example, including reflections on offspring, their future relationships, and reflections on films and books) in addition to general cultural matters.
If we try to summarize, then the common elements of some of the considered and unconfirmed pairs of codes and the reason for the differences in coding are: the relationship of superiority and inferiority, or different degrees of generalization (often addressing only one part of the whole possible spectrum), or two different groups from the same superordinate group of phenomena (thus logically having little content overlap). The low incidence of some codes (codes 8, 26, 27, 29 < 50) may have contributed to the result.

DISCUSSION AND CONCLUSION

The study focused on one sub-element of the whole (usually multi-stage) process of qualitative analysis of the therapeutic diaries of alcohol-addicted clients, namely the element of content analysis, also known as open coding. Nearly two hundred diary entries were referred to two trained analysts with a basic instruction: identify all sections (words, phrases, sentences, paragraphs) in the text that you consider important and code them, and for each daily entry indicate how many times the code occurs in it. The unit of coding (word, phrase, sentence, paragraph), and the extent and number of codes were strictly at the discretion of the analysts.
It was found that two independently working analysts arrived at very different code counts, the difference being more than double (32:70). The difference was due to the general setting of the analysts: one analyst had difficulty detaching herself from the fact that she was analysing therapeutic diaries and reported that she unconsciously considered the story and circumstances of the text being analysed when choosing quotations and making codes, while the other analyst managed to detach herself from the purpose of the text being analysed much more easily. It is difficult to judge what is good. In the classic content analysis process, the relationship to the topic can influence the analytical process, contaminating the analysis with its implicit ideas (Cohen, Manion and Morrison, 2017).

Therefore, some methods approach the capping at the very beginning of the research (before entering the field, for data, etc.) (Aydin, 2022). On the other hand, the absence of a relationship to the topic can cause a disconnection from the core of the problem, leading to an impersonal, perhaps even machine-like analysis that can lose the elements of the problem-oriented human layer of analysis (Kracauer, 2022). Thus, it seems optimal to use the elements of capping, reflection on the relationship to the topic, and collaboration, cooperation on the analysis (that it is not done in isolation by one researcher alone, but involves multiple researchers) (Vaismoradi et al., 2016).

Analyst K admitted that she was guided a lot by her linguistic sense when marking quotations and choosing codes, perceiving the semantic relatedness of textual units. This was often evident when describing categories (e.g., code L10 movement relied heavily on the use of verbs describing bodily movement such as "go" or "run", or code L16 energy and motivation for activities was often associated with the expressions "to have a taste", "with a taste" or "I must", "I should"). In some cases, even a retrospective assessment of the coding process showed that it was guided primarily by the morphosyntactic elements of the text and only secondarily by the content (e.g., code L07 past was often assigned almost mechanically if the past tense occurred and the content was not related to the immediate past, code L07 future ditto). This approach offers a research question for some further study – what would be the match between this approach implemented by a human parser and a machine learning approach, e.g. Pennebaker's LIWC (MacKrill et al., 2021)?

Statistical assessment of the agreement showed that there was an agreement for "only" two codes (movement-travel, emotion-good mood). Most of the differences were due to different degrees of generality – there were mostly hyper- and hyponymy relations between the codes of analysts K and L (the superordinate category K corresponded to several specific categories of L) or they were two adjacent categories (two specific cases of one superordinate category). Approximately one-third of the codes were unique and could not be easily compared. These outcomes re in agreement with the studies of Lindren (Lindgren, Lundman and Graneheim, 2020) and van Zyl (van Zyl et al., 2021).

In conclusion we can say that coding text through content analysis requires careful training, a clear definition of the level of generality required in the first stage of coding, and last but not least, a formulated research question. These three conditions can ensure higher inter-assessor agreement and de facto better reliability of the method as such. The intent of the study was deliberately formulated in its simplest form (see Occam's Razor), the aim being to assess elementary consensus on the "encoding" of the text. The limitations of the study certainly include the fact that the specific research project is a student project, therefore two lay assessors acted as analysts, not experienced professionals in the field of qualitative science. The analytic task was completely isolated from the link to the deeper research objectives (understanding the content, linking the content to the therapeutic process, predicting treatment success from the text, etc.) that are the focus of the DAQUAo team's studies (Perez-Castillo et al., 2018). Although the study takes the form of classic quantitative comparative research, the findings cannot be generalized.

Acknowledgement

This paper was supported by the Specific Research of the Faculty of Education, the University of Hradec Králové 2022, No: 3/II_22, entitled: From words to topics and back: thematic analysis of written texts. Thanks to Jana Marie Havigerová for consulting on the methodological aspects of the research and Jiří Haviger for statistical data processing.

References

AYDIN, S. Cross-validated adaboost classification of emotion regulation strategies identified by spectral coherence in resting-state. *Neuroinformatics*. 2022, vol. 20, no. 3, p. 627–639. ISSN 1539-2791.

COHEN, L., MANION, L. and MORRISON, K. Coding and content analysis. In: *Research methods in education*. London: Routledge, 2017. ISBN 978-1-138-20986-2.

DEKKERS, A. et al. Exploring essential components of addiction recovery: a qualitative study across assisted and unassisted recovery pathways. *Drugs* [online]. 2021, vol. 28, no. 5, p. 486–495. ISSN 1465-3370. DOI: 10.1080/09687637.2021.1943315.

DETELS, R. et al. (eds.). *Oxford Textbook of Global Public Health*. Oxford: Oxford University Press, 2021. ISBN 978-0-19-881680-5.

HYMER, S. The Diary as Therapy: The Diary as Adjunct to Therapy. *Psychotherapy in private practice*. 1991, vol. 9, no. 4, p. 13–30. ISSN 0731-7158.

KRACAUER, S. 18 The Challenge of Qualitative Content Analysis. In: *Selected Writings on Media, Propaganda, and Political Communication*. New York: Columbia University Press, 2022, p. 322–332. ISBN 978-0-231-55566-1.

LINDGREN, B. M., LUNDMAN, B. and GRANEHEIM, U. H. Abstraction and interpretation during the qualitative content analysis process. *International journal of nursing studies.* 2020, vol. 108. ISSN 0020-7489.

MACKRILL, K. et al. What makes an idea worth spreading? Language markers of popularity in TED talks by academics and other speakers. *Journal of the Association for Information Science and Technology*. 2021, vol. 72, no. 8, p. 1028–1038. ISSN 2330-1635.

MACKRILL, T. Using a cross-contextual qualitative diary design to explore client experiences of psychotherapy. *Counselling and Psychotherapy Research* [online]. 2007, vol. 7, no. 4, p. 233–239. ISSN 1746-1405. DOI: 10.1080/14733140701722455.

MIOVSKÝ, M. et al. Academic education in addictology (addiction science) in the Czech Republic: Analysis of the (pre-1989) historical origins. *Nordisk Alkohol- & Narkotikatidskrift: NAT* [online]. 2015, vol. 32, no. 5, p. 527–538. ISSN 1458-6126. DOI: 10.1515/nsad-2015-0050.

PEREZ-CASTILLO, R. et al. DAQUA-MASS: An ISO 8000-61 based data quality management methodology for sensor data. *Sensors*. 2018, vol. 18, no. 9. ISSN 1424-8220.

THIELE, C., LAIREITER, A.-R. and BAUMANN, U. Diaries in clinical psychology and psychotherapy: a selective review. *Clinical Psychology & Psychotherapy* [online]. 2002, vol. 9, no. 1, p. 1–37. ISSN 1099-0879. DOI: 10.1002/cpp.302.

VAISMORADI, M. et al. Theme development in qualitative content analysis and thematic analysis. *Journals of Nursing Education and Practice*. 2016, vol. 6, no. 5. ISSN 1925-4040.

VAN ZYL, C. et al. Unravelling 'low-resource settings': a systematic scoping review with qualitative content analysis. *BMJ global health*. 2021, vol. 6, no. 6. ISSN 2059-7908.

Contact

Mgr. Irena Loudová, Ph.D.
Faculty of Education, University of Hradec Králové
Department of Pedagogy and Psychology
Rokitanského 62, 500 03 Hradec Králové, Czech Republic
irena.loudova@uhk.cz

Mgr. Kateřina Strnadová
Faculty of Education, University of Hradec Králové
Institute of Primary, Pre-primary and Special Education
Rokitanského 62, 500 03 Hradec Králové, Czech Republic
katerina.strnadova@uhk.cz

Mgr. Silvie Urbanová
Faculty of Education, University of Hradec Králové
Institute of Primary, Pre-primary and Special Education
Rokitanského 62, 500 03 Hradec Králové, Czech Republic
silvie.urbanova@uhk.cz