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Identification of Themes for Personal Recovery from Anxiety Disorders (GAS, PTSD and PD): A Qualitative Meta-analysis of Patients' Perspectives

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Abstract in English

Introduction: As clinical recovery from certain mental disorders is sometimes not possible, it is of importance to shift the focus to a more holistic view of personal recovery. In order to find out which themes were found in literature that patients themselves find important in the process of their own recovery, this study was a meta-analysis of qualitative studies. Specifically, the focus lay on patients with Generalized Anxiety Disorder (GAD), Panic Disorder (PD) and/or Post-Traumatic Stress Disorder (PTSD). **Methods**: Literature was reviewed in four different databases: PsychInfo, Web of Science, Medline (PubMed) and Google Scholar. Several selection criteria were applied, as only including qualitative articles about personal recovery and at least one of the included disorders (GAD, PTSD, PD). After that thorough selection process, ten qualitative studies were included in this study. Afterwards, the themes and sub-themes from those studies were extracted and sorted into different categories of a certain theoretical model - the CHIME model. Each letter of the CHIME model stands for one theme: Connectedness, Hope and Optimism, Identity, Meaning in Life and Empowerment. **Results**: The theme that was mentioned most frequently was Empowerment, followed by Connectedness, Hope and Optimism, Identity and Meaning in Life. Additionally, two further themes were included: Practical/Organizational Support and Hindering Factors. **Discussion**: The main findings are in line with most studies on the CHIME model. Interesting is, that Empowerment was the most frequently mentioned theme, as was its sub-theme "personal responsibility". Furthermore, it is remarkable that the relation to the therapist was of importance to the patients included in this study, in comparison with other literature. This finding might indicate that the process of personal recovery is linked to the specific disorder the patient is suffering from, which is an indication for further research in this field.

Abstract in Nederlands

Introductie: Klinisch herstel is bij sommige mentale stoornissen niet mogelijk, waardoor het belangrijk is om naar de meer holistische aanpak van persoonlijk herstel te kijken. Om dus thema's te vinden die in literatuur worden gevonden die voor de patiënten in hun persoonlijk herstel van belang zijn, was een meta-analyse van kwalitatieve studies gebruikt. De focus van deze these lag op patiënten met Gegeneraliseerde Angststoornis, Paniek Stoornis en Post-Traumatische Stress Stoornis. **Methodes**: Literatuur werd gezocht in vier databases: PsychInfo, Web of Science, Medline (PubMed) and Google Scholar. Meerdere inclusiecriteria werden toegepast, zoals het inbetrekken van kwalitatieve artikelen die over persoonlijk herstel gaan en over ten minste één van de inbetrokken stoornissen (GAD, PTSD, PD). Tien kwalitatieve studies worden in deze studie inbetrokken, nadat ze door het selectie proces zijn gelopen. Daarna werden de thema's en sub-thema's van de geanalyseerde studies geëxtraheerd en in verschillende categorieën van een theoretisch model geordend – het CHIME model. CHIME staat voor Connectedness, Hope and Optimism, Identity, Meaning in Life en Empowerment. **Resultaten**: Het thema wat het meeste door patiënten werd genoemd was Empowerment, gevolgd van Hope and Optimism, Identity en Meaning in Life. Nog twee aanvullende thema's werden toegevoegd: Practical/Organizational support en Hindering Factors. **Discussie**: Het grootste deel van de resultaten kwam overeen met de meeste studies over het CHIME model. Van interesse was bijvoorbeeld dat het thema Empowerment het meest werd genoemd, zoals het sub-thema "personal responsibility". Verder was interessant dat voor de patiënten in deze studie de relatie met de therapeut van bijzondere betekenis was, in vergelijking met andere literatuur. Deze bevinding kan erop wijzen dat het proces van personal recovery aan de specifieke stoornis van de patiënt gekoppeld is – wat aanleiding is voor verder onderzoek in dit gebied.

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1. Introduction

This thesis is a meta-analysis, concerned with themes or criteria, which are important to patients with Generalized Anxiety Disorder, Post-Traumatic Stress Disorder or Panic Disorder. While several years ago patients still had a passive role in their process of recovery, nowadays they are increasingly involved and more active. This in turn increases the importance of the patients' opinion and perspective – which makes patients' perspective about their own recovery the focus of this thesis. As this field of research is relatively new and not subject to much research before, this meta-analysis takes different theoretical models into account. The aim is to summarize themes that emerged from qualitative literature, specifically about anxiety disorders – as that did not happen until now.

1.1 Experiencing Anxiety

Pathological anxiety is a common phenomenon in human history, even dating back to Hippocrates observing anxiety in his patients (Bandelow & Michaelis, 2015). Anxiety is a basic emotion that evolved as useful adaptive function guaranteeing survival: when facing a dangerous situation and anxiety is experienced, the physiological arousal rises, for example visible in an increase in heart rate, sweating and hyperventilation (Nesse & Marks, 1994). Either fight or flight is initiated by providing energy for that physiological reaction, in order to ensure survival. However, survival is only more likely when the defense mechanism is "appropriate to the degree and type of threat", which is not the case in pathological anxiety, where the defense mechanisms are imbalanced (Nesse & Marks, 1994, p.253). According to Nesse and Marks (1994) both too little and too much anxiety can be harming, but mostly patients' reason for seeking help is increased instead of decreased anxiety. Anxiety is specifically labelled as pathological if the person experiencing anxiety is reacting in an exaggerated or unrealistic way, as it is for example frequently seen in panic attacks. This state is furthermore limiting the individual in everyday functioning, both at work and in social life (Kessler et al., 2006).

However, there is not one anxiety disorder (AD) - it can be divided into several distinct disorders. One of the most acknowledged divisions suggests that there is generalized anxiety disorder (GAD), specific phobias of for example heights or blood/injury, agoraphobia, social phobia, post-traumatic stress disorder (PTSD), obsessive-compulsive disorder and panic disorder (PD) (see for example Nesse & Marks, 1994; Costello, Egger, & Angold, 2005). In

this thesis, the focus lies on GAD, PTSD and PD – which are interestingly comorbid frequently (Chantarujikapong et al., 2001). Chantarujikapong et al. (2001) suggest, that this co-occurrence might be due to similar genetic and environmental contributions that play a role in GAD, PTSD and PD at the same time. GAD, PTSD and PD often take a chronic course and are thus reoccurring, with lifetime prevalence of respectively 6.9% for GAD, 4.7% for PD, and 2.1% for PTSD (see Wittchen, 2002; Kessler et al., 2006; Somers, Goldner, Waraich, & Hsu, 2006). A further common feature is that patients who are diagnosed with PD, PTSD or GAD more frequently contact health services in order to get treatment compared to for example patients with specific phobias (Bandelow & Michaelis, 2015).

While in general no cultural differences can be found in ADs, gender differences are noticeable. ADs are more common in women: PTSD for example is twice as common in women as in men, with the highest prevalence during midlife (Yehuda et al., 2015). GAD is the most frequent AD and is characterized by symptoms as excessive worrying, tension and anxiety, leading to decreased function in social and work life (Wittchen, 2002). PD is characterized by repeatedly experiencing uncued panic attacks, which are not elicited by substance use (Kessler et al., 2006). PTSD can arise as a result of exposure to a traumatic event like a physical attack, an accident, combat, sexual assault and so forth, and is characterized by flashbacks or nightmares (Yehuda et al., 2015). Other symptoms are increased sensitivity to cues, which remind the person of the trauma, sleeping problems and emotional withdrawal (Yehuda et al., 2015).

While all three disorders are characterized by different symptoms, all pose a threat to the quality of life of the person suffering from one of the disorders – what is true for nearly all mental disorders. Examples are poor sleep due to worrying, nightmares and hyperarousal, which can in turn result in poor concentration and the decrease of work productivity, along with the avoidance of fear-eliciting stimuli which often leads to further limitation in everyday life, subsequently followed by social isolation (Yehuda et al., 2015; Rodriguez, Bruce, Pagano, & Keller, 2004). Besides the impact on the individual, ADs also hold problems for the general society – for example through the high health care costs they evoke (Bandelow & Michaelis, 2015). Furthermore ADs are often comorbid, frequently with depression – leading to further health-related absenteeism from work, decreased productivity at work and increased utilization of health care (Bandelow & Michaelis, 2015).

1.2 Treatment of ADs

There are several treatments for ADs offered currently, for example medication and/or psychological therapies, as cognitive behavioural therapy (CBT) (see for example Hofmann & Smits, 2008; Otto, Smits, & Reese, 2005). However, ADs are often not recognized or not treated, as many patients are not seeking help - a common phenomenon also in several other mental disorders (Schomerus & Angermeyer, 2008; Mojitabai, Olfson, & Mechanic, 2002). Furthermore, when looking closely at the course of mental disorders, the question arises what recovery in this process looks like and whether it can be achieved at all. Sometimes, patients with GAD, PTSD and PD even not fully recover from a clinical point of view (see for example Bruce et al., 2005; Rodriguez, Bruce, Pagano, & Keller, 2004). The question which arises then, is how to live with chronicity and reoccurring phases of anxiety.

In general, suffering from a chronic mental disorder is comparable to coping and living with chronic pain and illness: it is a highly demanding and challenging process (Dezutter, Dewitte, Thauvoye, & Vanhooren, 2017). On a personal level, those affected can face problems at work possibly resulting in work loss, social problems (for example with the partner), depressive symptoms, decreased leisure activity, social isolation and sometimes even suicidal intentions (see for example Breivik, Collett, Ventafridda, Cohen, & Gallacher, 2006; Stenager, Christiansen, Handberg, & Jensen, 2014; Meenan, Yelin, Nevitt, & Epstein, 1981; Kessler et al., 2006). Frequently the limitations that the illness, disorder or pain creates make adaptations of goals or simple daily activities necessary, and most of all require meaningful coping strategies (Dezutter et al., 2017). As meaningful coping is necessary in the process of recovery from a mental disorder, the definition of meaningful coping by Dezutter et al. (2017) is given: coping is meaningful when the own anticipated goals are adapted to the actual situation, so that the achievement is more realistic and still can create satisfaction.

1.3 Recovery and theoretical considerations

In order to cope with chronicity, personal versus clinical recovery comes into play. While clinical recovery involves the reduction of mental disorders or symptoms of it, thus measuring the degree of the present disorder, personal recovery suggests that it is not that simple to entitle a patient as recovered if he or she no longer suffers from a specific mental disorder. As for some patients with GAD, PTSD and PD clinical recovery is not achievable, personal recovery comes

into focus. Two main models which are concerned with personal recovery are elaborated on in the following: the Two Continua model and the CHIME model.

According to the Two Continua model, the absence of a mental disorder is and should only be the minimal desired outcome of recovery (Westerhof & Keyes, 2010). Recovery should however also include positive mental health, a related but yet different construct, which is defined to be 'more' than just the absence of illness (Westerhof & Keyes, 2010). While one continuum thus indicates the absence or presence of a mental disorder (psychopathology), the other one indicates the absence or presence of mental health (mental wellbeing). Positive mental health is composed of emotional (satisfaction with own life and feelings of happiness), psychological (self-realization and growth) and social wellbeing (feeling a part of society and contributing to it). A person is thus mentally healthy if all three aspects of wellbeing are balanced, and can flourish and grow if high levels of emotional, psychological and social wellbeing are present (Westerhof & Keyes, 2010).

Yielding support for the Two Continua model is the finding that experiencing less mental illness is not equal to or results in increased positive mental health (Westerhof & Keyes, 2010). Furthermore, persons experiencing low mental health can function as badly as persons who suffer from a mental disorder – put differently, persons with a mental disorder can nevertheless experience high wellbeing (Westerhof & Keyes, 2010). Interestingly, studies indicate that positive mental health results in heightened adaptive functioning and personal recovery and functions as a buffer against mental disorders (Trompetter, de Kleine, & Bohlmeijer, 2017).

The CHIME model is another recent model, which is more detailed than the Two Continua Model – it focusses on themes that are important to patients in the process of their own recovery. According to the CHIME model, the process of personal recovery is about the capacity to live a "satisfying, hopeful and contributing life" despite the limitations of his or her illness (Anthony, 1993, p. 527). This model was developed by means of a systematic review and narrative synthesis of studies about personal recovery (see Leamy, Bird, Le Boutillier, Williams, & Slade, 2011). The CHIME model includes the following aspects: Connectedness, Hope and Optimism, Identity, Meaning and Purpose, and Empowerment (Shanks et al., 2013; see also Leamy, et al, 2011). It is a model that focuses on the patients' perspective on recovery, and was thus studied mostly qualitatively in order to deduce criteria for recovery (see for example Brijnath, 2015). Brijnath (2015) furthermore suggests, that the CHIME model should

not be reduced to only working for criteria that are valid for the individual person, but also take the individual's socioeconomic environment into account. For each component of the CHIME model, sub-components were identified: so do relationships play a role for Connectedness, while for Hope and Optimism about the future positive thinking is important. Most research on the model has taken place among white populations and among disorders as bipolar or schizophrenia (Brijnath, 2015). Still, the outcomes of an applied CHIME model are promising (Slade et al., 2012).

1.4 Patients' perspective

Taking the above mentioned elaborations into account, studying wellbeing in groups with chronic pain or illness and in people suffering from an AD in general is thus way more subjective and complex than when defining it in clinical terms. Considering the patients' perspective is of crucial importance to support the patients appropriately and increase emotional, psychological and social wellbeing – despite the amount of disorder that somebody experiences. Furthermore, the patients' perspective is of importance as nowadays the patients manage their own healthcare more independently, by for example looking up health related information online (McMullan, 2006). By this, they gain an increasingly active role which also influences the relationship with the healthcare professional (McMullan, 2006). With increasing frequency patients for example want to be part of the decision-making process regarding their own health and aim at collaboration and partnership with the expert (McMullan, 2006; Jørgensen, & Rendtorff, 2017).

The fact that patients more frequently raise their voices and concerns, also increases the value of their opinion for general healthcare. Specifically, it is of importance to find out how patients define recovery and what exactly they expect from it. As only in qualitative studies themes for recovery are outlined from a patient's perspective, only qualitative studies are taken into account for this thesis. Until now, there are qualitative studies about the subjective influence of for example CBT on the recovery from AD, but many simply define recovery as the absence of symptoms of an AD (see for example Warwick et al., 2017). While these studies mostly focus on the effectiveness of CBT, research is still sparse about the patients' perspective on recovery in ADs. One study which is referred to several times in this thesis, was conducted by Leamy et al. (2011). It is a systematic review on personal recovery in general mental disorders, not with a focus on specific disorders. In the discussion it is referred to this study

again, in order to compare the results from this study with the results of Leamy et al. (2011) - as the results might possibly differ between general mental disorders and ADs.

While thus some studies indeed focused on recovery from a patient's perspective, the combination of GAD, PTSD and PD has not been subject to qualitative research focusing on recovery yet. Furthermore, as the movement of personal recovery is relatively new, no meta-analyses have been conducted on those disorders by now – thus the timing for conducting a meta-analysis in order to have a summary of the findings of the conducted studies is appropriate. It is also interesting to summarize themes regarding the CHIME model, and to possibly infer similarities or differences to previous meta-analyses.

1.5 Focus of this study

This specific study is thus conducted to find out themes which are of importance to patients with GAD, PTSDD or PD regarding to their own recovery. Therefore, literature is included about those three disorders when being comorbid, but also apart to compare them later on. Through this, health-care professionals could benefit if they gained more insight into what patients expect from their own recovery by adapting treatment and support strategies accordingly, to meet the patients' goals for recovery. Furthermore, preventive interventions could be planned to increase resilience against psychopathology.

From the aforesaid introduction and argumentation the following aim of this study arises: the identification of themes for personal recovery from ADs (GAS, PTSD and PD) by means of a qualitative meta-analysis of patients' perspectives.

2. Method

2.1 Search strategy and selection of studies

In order to conduct a meta-analysis, articles need to be selected at first. The literature was collected from four databases: PsychInfo, Web of Science, Medline (PubMed) and Google Scholar. Google Scholar is included despite its shortcomings, as it is one of the "largest cited reference enhanced multidisciplinary databases" (Jacsó, 2008, p.1), and thus allows a broad view across the field of study. The search was conducted in March 2018. For the first three databases the search terms "(Recovery **OR** Recovered) **AND** (Anxiety Disorder **OR** Post Traumatic Stress Disorder **OR** PTSD **OR** Panic Disorder) **AND** (Qualitative **OR** patient* perspective)" were applied. The function of the character "*" is that the ending of the word is not important for in- or exclusion - thus could for example the words "patient", "patient's" or "patients'" be included in the results. As Google Scholar does not work with Boolean Operators, the keywords were adjusted for each disorder: "recover (generalized anxiety disorder) qualitative", "recover (panic disorder) qualitative" and "recover (post-traumatic stress disorder) qualitative". For Google Scholar there were thus three separate searches conducted. The number of results obtained from the databases were very different: 130 for PsychInfo, 146 for Web of Science, 25 for Medline (PubMed) and for Google Scholar 10,500 for GAD, 11,700 for PD and 21,400 for PTSD.

2.1.1 Selection process.

For the selection process several in- and exclusion criteria were considered. Firstly, all articles in English language were included that were published in the last five years. The time limit of five years was chosen, as recovery (and specifically personal recovery) is a rather new construct and as the results in this thesis should be most recent and contemporary. Specifically, it was chosen for the exact time limit of five years since in 2013 a certain systematic review was published by Shanks et al., which can be seen as starting point for measuring personal recovery.

Limiting the results to those criteria yielded a new total for each database: 57 for PsychInfo, 95 for Web of Science, seven for Medline (PubMed) and for Google Scholar 4430 for GAD, 4130 for PD and 15,600 for PTSD. Secondly, all articles were sorted according to relevance, with the most relevant displayed first. Then, for each database, the first three pages

of results (per page ten articles displayed) were included. It was chosen for the page number of three, as by briefly scanning the titles of the results it was found that the fit of the results deviated further from the intended literature with every page. For example, on the first page of results in the Web of Science six studies were possibly fitting, on page two three studies and on page three only one. As the articles were sorted after relevance first, it is assumed that the most relevant articles are displayed first and on the fourth page even less than one article would be possibly found for analysis. Therefore, it was decided to only analyze the first three pages in more detail. Furthermore, the inclusion of all articles would have exceeded the scope of this thesis. For Google Scholar the search strategy was different – for each distinct disorder one page of results was included (also yielding a total inclusion of 30 articles from that database). For this step, it is relied on the algorithms of the databases for sorting the results after relevance. There are different algorithms used in the databases, Google Scholar for example uses PageRank. This is an algorithm sorting the results according to assumed importance, relying on depicting the importance by analyzing the number of times the source is linked or quoted by other literature (Griffiths, Steyvers & Firl, 2007). This can reflect the quality of the results, as literature of good quality is most likely more often cited – thus it is relied on the algorithms of the databases. After that selection process, 97 studies were included.

The first step of the following selection was to remove all duplicates from the list of selected studies. With this, 12 studies were removed. Afterwards, further articles were removed by screening of the title. Selection criteria were set up, and the excluded articles fit into the category of either "not about recovery" or "about other disorders" - articles that fit in both categories were not counted twice. 25 articles not covering the topic of recovery were removed, and 22 as they were about other disorders. Examples of other disorders are Obsessive-Compulsive Disorder (1), Psychosis (2), Body Dysmorphic Disorder (1), Depression (1), Eating Disorders (6), and others (12). In total, 47 articles were removed after the screening of the title – leaving 38 unique articles for further analysis.

The next step was the screening of the abstract. Selection criteria are for example the methods that were used in the specific study. The articles were included if they used qualitative measures at least partly, and if it was about the selected disorders in connection to recovery. Therefore, also studies using both qualitative and quantitative measures were included for further analysis. After the screening, 23 studies in total were excluded: 12 due to not being focused on recovery, one due to its purely quantitative nature, three due to not being about GAD, PTSD or PD and one because it focused on the clinicians' instead of the patients'

perspective and one due to its narrow focus on children with PTSD and the parental support, as it was not possible to infer general themes for recovery. Furthermore, five articles were excluded due to their format: three excluded studies were books and two were dissertations/theses. The focus of this study should however be on articles, as they are peer reviewed most of the time, and as the books each exceeded 220 pages and thus the scope of this thesis. However, not all included articles are peer reviewed. After the exclusion of the 23 articles by screening of the abstracts, 15 articles are left for detailed reading. The selection process can be reread in figure 1.

When reading the full articles, the same inclusion criteria were applied as previously. When reading the 15 articles and applying those inclusion criteria, six articles had to be excluded: two had to be excluded because the full text was not accessible in any of the previously used databases. Three further articles were excluded, because they did not sufficiently include qualitative measures – which could not be detected when reading the abstract. 'Not sufficiently including qualitative measures' in this case means that in the study no qualitative measures were used at all. Still, the three articles were displayed in the databases as the words "qualitative" or "qualitative sources" were mentioned in its text. One other article was excluded as it was a theoretical proposal of a model for PTSD, not focused on participants or their experiences.

As after the selection process only nine articles were left for usage in this study, the literature lists of the selected articles were searched for possible other articles that might have been overlooked. By this, the relevance and appropriateness of the search and selection strategy was double-checked. The titles in the reference lists of the selected articles were screened for suitability regarding disorder, focus on recovery and a qualitative nature. In the studies by Ajdukovic et al. (2013), Ferrajão and Aragão (2016), Lang et al. (2017) and Maley et al. (2016) possibly relevant literature was found – one for each source. After applying the same inclusion criteria as before and reading the full text, three of the four articles were excluded as they did not put their focus on recovery from the patients' perspective. As the one remaining article fulfilled the inclusion criteria, it was included in this thesis. Therefore, the total number of included studies has risen to ten.

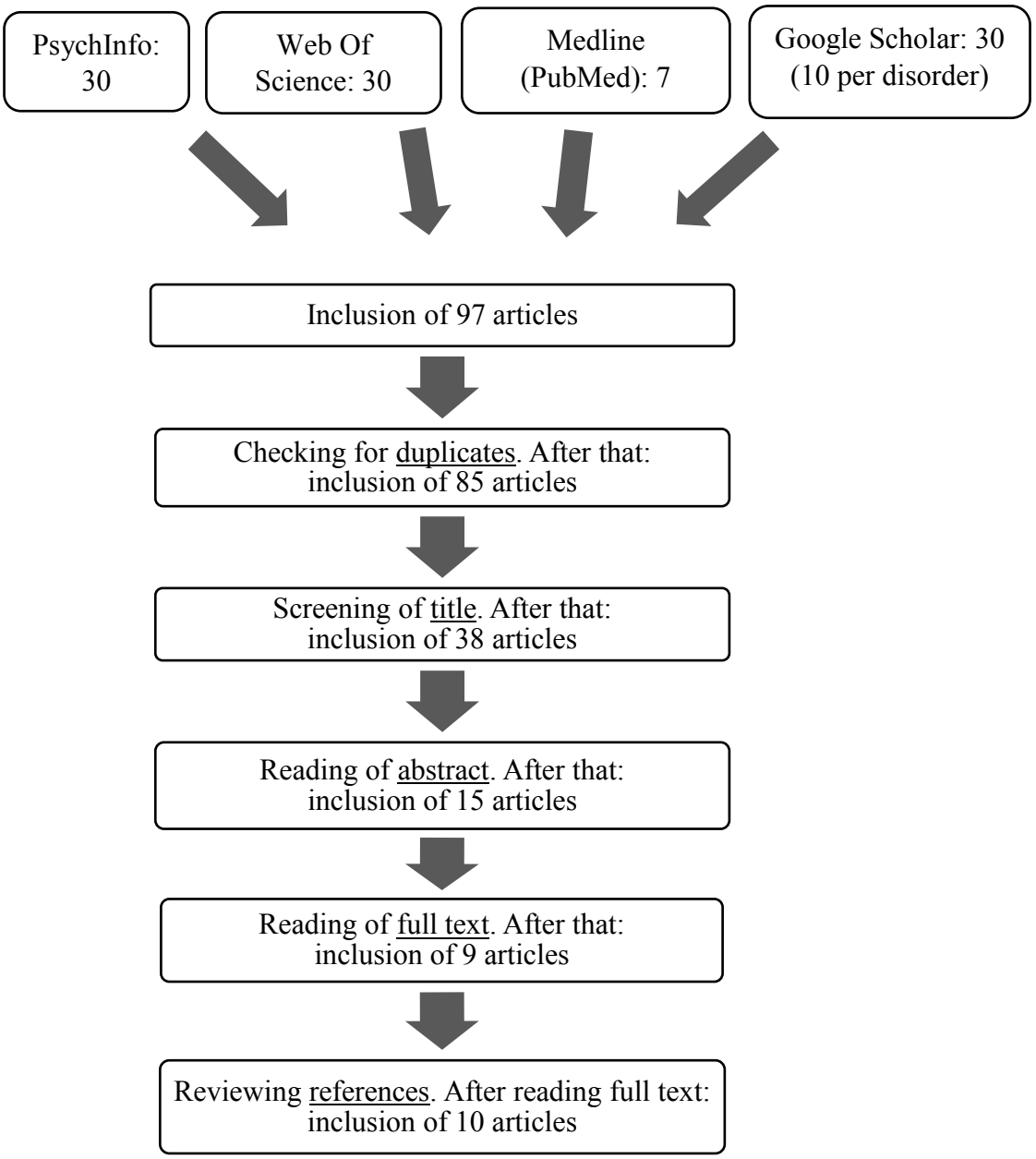

Figure 1. Flow Chart of the selection process of the articles.

2.2 Procedure and analysis

2.2.1 Analysis of themes for recovery.

Firstly**,** the themes for recovery were deduced from each thesis, along with the information of how many people mentioned them. Themes were included when they focused on recovery, as stated by participants. Thus, individuals were included who were in the process of recovery or are already recovered. General themes, as topics that were most frequently talked about (for

example the cause of the trauma in PTSD patients in the study by Ferrajão and Aragão, 2016), were not included if they did not focus on recovery. It is furthermore important to mention, that all themes related to recovery were included here – thus themes which hindered or benefitted recovery. More detailed information about this is given at a later point in the result section.

If the authors of an article did not calculate the total number of occurrences of one sub-theme, this was conducted for this thesis whenever it was possible. Ferrajão and Aragão (2016), for example, did not document how many participants stated the sub-theme "personal resources", but how many participants mentioned the criteria of "personal resources". For example, it was stated that 31 participants mentioned one criteria of "personal resources" and 14 mentioned another criterion of "personal resources", 31 and 14 are added up and divided through the number of criteria for this category (thus two). Therefore, an average of 23 persons mentioned the sub-theme "personal resources".

Afterwards, the found themes and sub-themes for recovery were assigned to the themes and sub-themes of the CHIME model in a deductive process, in order to classify them and rate the calculated frequency and intensity effect sizes in a greater context. At this point the CHIME model is chosen over the Two Continua model, as it consists of more detailed categories – which might be helpful for grouping the themes and sub-themes. According to Leamy et al. (2011) a table with the themes and sub-themes was set up and the recovery themes that came up in the articles were sorted into the categories if possible (see Appendix A). Each theme was sorted only to one of the components, thus there was no double assigning. For cases in which the theme or sub-theme did not match any category, individual decisions were made on how to proceed. This is furthermore elaborated on in the following, and picked up again in the discussion.

2.2.2 Interpretation of results.

When sorting the themes and sub-themes into the categories of the CHIME model, it was noticeable that some sub-themes were not mentioned in any article and that others came up more frequently. Additionally, the fit or appropriateness of some components' titles in relation to the themes from the selected articles is questionable - leading to a change of formulation for some components. This was the case for the sub-theme "hope-inspiring relationships", which was interpreted as "helpful relation to the therapist". The previous formulation namely beheld

the difficulty of telling some themes apart from a general social supporting relationship, which is more than difficult without access to the qualitative data from each study. “Rebuilding or redefining a positive sense of identity” was interpreted as “Rebuilding or redefining (the perception of) the own identity”, as sometimes the participants’ perception of the change in identity was unknown – so it remained unclear whether the participants perceived it as positive or not. In order to avoid a false ascription, the interpretation of this sub-theme thus differs in this thesis. Furthermore, two themes were added in order to include all sub-themes which were mentioned: “Hindering themes” for recovery and “Others”. Noticeable was also that some sub-themes were applicable to different components of the CHIME model – in the discussion this point is further elaborated on. In general, when subscription of a sub-theme to a category of the CHIME model was difficult, the criteria according to Leamy, et al. (2011) were taken into account. If that did not help sufficiently for categorization, even sub-criteria were considered. For an example of the layers of a theme see figure 2. The theme itself is depicted in dark grey, the sub-themes in medium grey and the criteria in light grey. For the figures of the other themes see Appendix B. Sub-criteria are only present in the theme Empowerment, but are not displayed in the figure as they were of no use for the thesis.

Furthermore, for the interpretation of results the intensity and frequency effect sizes were calculated, enabling the emerging themes to be sorted in frequency of occurrence – fostering an increased and broadened understanding of the topic (Onwuegbuzie, 2003). While frequency effect sizes were calculated for themes and sub-themes, intensity-effect sizes were only calculated for sub-themes. The frequency effect size indicates how often (sub-) themes for recovery were mentioned across the included studies – for this, the number of studies containing the same findings were divided by the total number of studies. This number was then multiplied by 100, to gain a percentage. The intensity effect size gives a percentage of how fundamental the sub-themes are in comparison to each other – not in comparison between studies, as it is the case for frequency effect size. For this, the number of findings of a sub-theme produced in all studies was divided by all findings of sub-themes in all studies - again multiplied by 100.

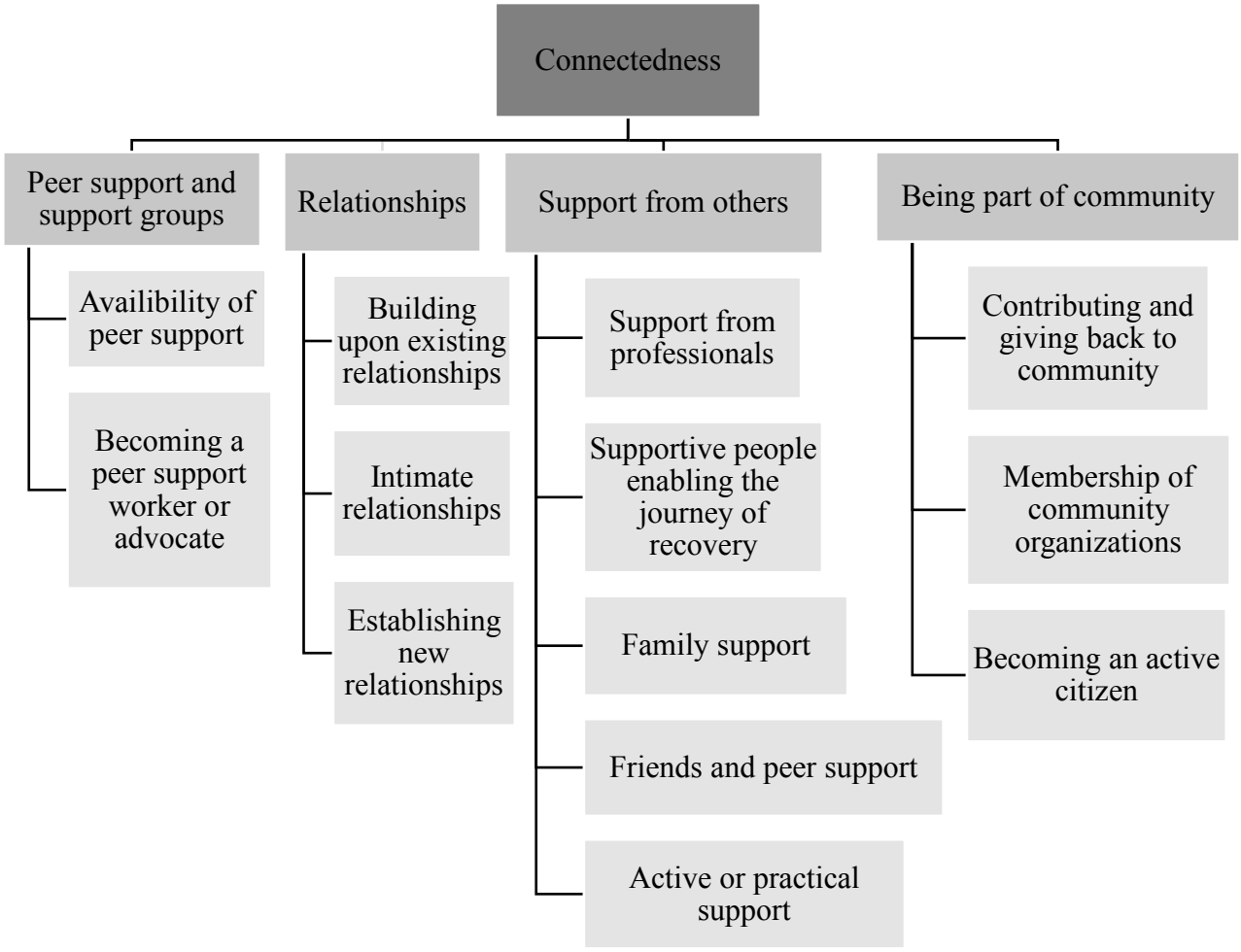

Figure 2. The sub-themes (medium grey) and criteria (light grey) of the theme Connectedness (dark grey).

3. Results

3.1 Descriptives

The ten included articles encompassed 315 participants in total, who covered all three previously chosen disorders: GAD, PTSD and PD. However, six of the ten studies included the disorder PTSD, while only two included GAD and three included PD. For a detailed overview of the characteristics of all selected articles, see table 1. 64,4% of the participants included in this study were male and 35,5% were female, while the age ranged from 14 to 72. Due to a lack of information from some studies it was not possible to calculate a mean age. Of all 315 included participants, 80 were recovered and 95 were not. For the other 140 participants the degree of recovery is unknown. The countries in which the studies were conducted varied greatly, from various countries in Europe to America. While for some studies the country was not mentioned, the predominant country of conduction was the USA.

The data collection of the included studies was for every case at least partly qualitative. In 90% of the studies qualitative interviews were used for data collection, while in the remaining study qualitative focus groups were conducted for that purpose. Accordingly, the data analysis centered for every study around qualitative analysis – though different approaches were used. Grounded theory analysis and qualitative (exploratory) content analysis encompassing coding procedures are examples. For a detailed overview of the characteristics of the ten included studies see table 1 below.

Table 1

Summary of the characteristics of the included studies

Nr. of study	Study focus	Country	n	Diagnosis	Recovery state	Data collection	Data analysis	Ethical approval
1	Recovery from PTSD	Bosnia and Herzegovina, Croatia, Serbia, Italy, Germany, UK	43	PTSD	Recovered (n=26), Un-recovered (n=17)	In-depth, qualitative, semi-structured interviews	Transcription and coding, qualitative analyses: eg. thematic analysis	Yes
2	Helpful factors for recovery in GAD	Unknown	2	GAD	Recovered	Semi-structured interviews	Qualitative analyses: grounded theory analysis (ATLAS.ti)	Unknown
3	Factors for recovery from PTSD	Portugal	60	PTSD	Recovered (n=30), unrecovered (n=30)	Semi-structured interviews	Thematic and Categorical Analysis	Yes

4	Evaluation of recovery techniques from PTSD	Conducted in Sweden, with refugees from Middle East (Afghans and Syrians)	46	PTSD	Recovered (n=10), unrecovered (n= 36)	Qualitative Interviews along with quantitative measures	Content Analysis for determining themes, quantitative analyses as t-tests, regression analyses	Yes
5	Meditation for recovery from PTSD	USA, Spain	31	PTSD (and comorbid PD (n=5))	Unknown	Qualitative semi-structured interviews, quantitative measures for clinical outcomes	Quantitative: ANOVA, effect sizes; Qualitative: exploratory content analysis	Yes
6	Resilience in context of recovery	USA	43	PTSD and Critical Illness in general	Unknown	Mixed: qualitative open-ended interviews; standardized tests	Quantitative: correlations, t-tests, chi square tests and so forth, Qualitative: thematic analysis	Unknown

7	Helpful aspects in recovery with EFT (Emotion-focused therapy) from GAD	Unknown	13	GAD, comorbid with PD and depression	Recovered (n=9), unrecovered (n=4)	Quantitative test batteries and qualitative semi-structured interviews	Quantitative statistics; Qualitative: thematic analysis with clustering	Yes
8	Quality of Life in PTSD	USA	12	PTSD	Unknown	Qualitative semi-structured focus groups	Qualitative content analysis, open coding (ATLAS.ti)	Unknown
9	Strategies for recovery in Anxiety Disorders	Canada	50	AD, De-pression, Bipolar Disorder	Both groups present, numbers unknown	Semi-structured interviews, quantitative scales	Inductive, qualitative thematic analysis	Yes
10	Factors for remission in PD	Sweden	only PDs included (n=15)	PD (n=15)	Recovered (n=3), partially recovered (n=4), not recovered (n=8)	Quantitative measures, Qualitative in-depth interviews	Qualitative content analysis	Yes

3.2 Themes for recovery from PTSD, GAD and PD

The themes and sub-themes that were found are summarized in table 2, along with the calculated frequency and intensity effect sizes. As mentioned before, the themes and sub-themes from the articles are grouped into the categories of the CHIME model, as set up by Leamy, et al. (2011). The categories are made up in the following: firstly, there are the main categories which make up the letters of CHIME: Connectedness, Hope and Optimism about the Future, Identity, Meaning in Life and Empowerment. For each main category several sub-categories were found (see Leamy et al., 2011; see figure 2 and Appendix B). In this thesis, the sub-themes are only mentioned in table 2 if the sub-themes from the articles reflected that certain sub-category. Therefore, when comparing table 2 to all categories that were set up by Leamy et al. (2011), some sub-categories are missing here as they have not been mentioned by any participant from the articles included in this study. For example, there were three sub-categories mentioned by Leamy et al. (2011) for Identity, but in this study only one of them was mentioned by the participants.

In the article of Leamy, et al. (2011), some sub-categories are furthermore described with several detailed criteria, which, however, is not feasible for this thesis. The reason for this is that not all quotes and direct data from the participants are accessible for this meta-analysis, which is severely limiting the possibility of detailed interpretation. For example there is one sub-theme for Connectedness named “relationships”. A further differentiation at this point could have been to sort the themes to the criteria “building upon existing relationships”, “intimate relationships” or “establishing new relationships” (Leamy et al., 2011) - which is impossible to undertake if the qualitative data from the participants is not directly accessible. So, the sub-categories are the most detailed categorization that could have been used under these circumstances. Still, for the sake of completeness, the figures of the sub-themes and criteria are included in this thesis – an additional advantage is that the figures can be picked up in the discussion again, for interpretation of the findings (see figure 2 and Appendix B).

Table 2

Table with recovery themes and sub-themes, along with their intensity and frequency effect sizes

General recovery theme	**Sub-theme**	**Frequency effect size**	**Intensity effect size; All criteria: (N=52)**
Connectedness		70%	15.38%
	Relationships	30%	5.78%
	Support from others	40%	7.68%
	Being part of community	10%	1.92%
Hope and optimism		60%	21.15%
	Helpful relation to the therapist*	50%	11.54%
	Positive thinking and valuing success	40%	9.61%
Identity		50%	11.53%
	Rebuilding or redefining (the perception of) the own identity*	50%	11.53%
Meaning		30%	7.69%
	Spirituality	20%	3.85%
	Rebuilding of life	20%	3.85%
Empowerment		80%	30.78%
	Personal responsibility	80%	15.39%
	Control over life	40%	13.47%
	Focusing upon strengths	10%	1.92%
Hindering factors*		20%	9.62%
	Lingering symptoms, physical, emotional and cognitive issues	20%	7.70%

	Impact of limitations on everyday life	10%	1.92%
Others*		10%	3.85%
	Psychological safety	10%	1.92%
	Practical support (material)	10%	1.92%

Note. *= sub-category of the CHIME deviates from the ones provided by Leamy et al. (2011) - something was changed or added, as described in 'Interpretation of results' in the methods section.

As can be seen in table 2, Connectedness was mentioned in 70% of the included studies, Hope and Optimism in 60%, Identity in 50% and Meaning in Life in 30%. Empowerment was mentioned in as much as 80% of the studies, while Hindering Factors came up in 20% and Other Factors in 10%. In line with the frequency effect size, it is noticeable that the intensity percentage of 53.33% for Empowerment is strikingly high - meaning that when taking all themes into account, Empowerment was mentioned in as many as 53.33% of the themes (see figure 1).

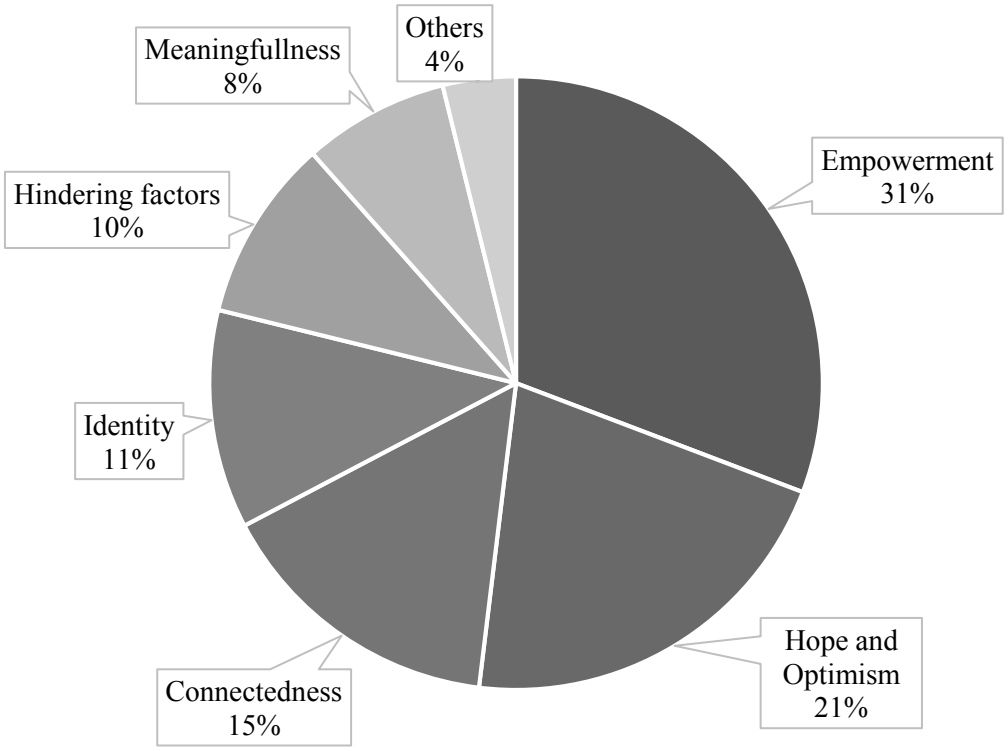

Figure 3. Pie chart with the intensity effect sizes for each category of the CHIME model, as represented by the included participants. The themes are presented according to their fundamentality (intensity effect size), with the most fundamental themes being presented first.

For the general theme of Connectedness, the sub-themes "relationships", "support from others" and "being part of a community" came up as related to recovery. One participant from the study of Ajdukovic et al. (2013), whose quote was sorted into "support from others", for example said:

> The family is most important in events like this… We got along well, mostly because of my wife, she had an understanding for me… but if she had criticized me, the situation [with symptoms] would have been worse when I went through my crisis. (p.4, recovered, male)

For the theme of Hope and Optimism, the sub-theme "helpful relation to the therapist" was for example expressed by a participant from the study of Khattra et al. (2017) in the following:

> It felt like she truly cared. She wasn't just saying whatever because it's part of her job, it felt like a real sense of her personality came through, which is important because I didn't want to talk to a robot. (p. 30, Deb)

"Positive thinking and valuing success" was also found as a sub-theme of Hope and Optimism, as expressed by another participant from the study by Khattra et al. (2017):

> I am a bit nervous because I have been dealing with it for 30 years. If I introduce more stress back, would I be able to keep it up? But I am thinking more and more that I can. I can think differently. (p. 30, Martha)

The theme Identity includes the sub-theme "rebuilding or redefining (the perception of) the own identity", which is for example mentioned by a patient from the study of Villaggi et al. (2015) as in the following: "The day that I decided that I was no longer an illness and that I deserved respect, so many things changed; it was a great boost." (p. 6).

For Meaning in life, the sub-themes "Spirituality" and "Rebuilding of life" emerged, while the latter is defined by quotes such as the following: "We started going to work. This was good because things started to become normal" (Ajdukovic et al., 2013, p. 10, recovered, female).

For Empowerment the sub-theme "personal responsibility" was found to be mentioned most frequently – consisting of the criteria "self-management" and "positive risk-taking". Strikingly, all criteria which were mentioned by the included participants referred to "self-management" only. It encompasses coping strategies and tools, as for example meditation training: "The meditation training had a very high calming effect… I used the breathing to keep me from getting agitated or if I was feeling anxious or stressed in class" (Lang et al., 2017, p. 7); "These techniques we've learned have been good. The calmness you felt after doing these exercises, it was great to be able to feel this calm." (Sarkadi, et al., 2018, p. 474). "Control over life" was also a sub-theme of Empowerment, composed of criteria as "knowledge of the own illness": "The illness (…) explained so many inconsistencies in my life. All of a sudden, this

new awareness made everything feel easy. Nothing stressed me anymore." (Sarkadi, et al., 2018, p. 475). Another sub-theme for Empowerment was "Focusing upon strengths".

Other sub-themes that were mentioned but could not be sorted into categories of the CHIME model were "Psychological safety" and "Received material support". The last general theme was composed of Hindering Factors as "Lingering symptoms, physical, emotional and cognitive issues", for example visible in the following quote: "If you're afraid to go to sleep, you stay up . . . (you're) not fully awake but you're not fully rested . . . but it's still not having, have normal sleep, nightmares and stuff." (Haun et al., 2016, p. 4).

Another sub-theme of Hindering Factors is the "Impact of limitations on everyday life".

4. Discussion

4.1 Fundamental recovery themes

4.1.1 Most important findings.

The aim of the study was to discover themes of importance for patients in their journey of recovery from the ADs GAD, PTSD and/or PD. The findings of the themes in this study in general are in line with the findings from the study of Leamy et al. (2011), from which the labels and categories were extracted. According to frequency effect sizes, the most frequently mentioned theme for personal recovery was Empowerment, followed by Connectedness, Hope and Optimism, Identity and Meaning in Life. The two additional themes Hindering Factors and Other Factors were mentioned second last and last of all themes, respectively. In the study of Leamy et al. (2011) also frequency and intensity effect sizes were calculated and presented in a table (p. 16) – thus the frequency of themes and sub-themes of this thesis easily can be compared to their results. However, it needs to be stated that the cohort of their study was general mental health disorders, not as specific as in this study. This point will be elaborated on later.

Interestingly, also the sequence of themes when sorting them according to frequency of mentioned themes is the same when comparing it to Leamy et al. (2011) – thus Empowerment was mentioned most frequently and Meaning in Life least. As mentioned above, "personal responsibility" was found to be the most frequently mentioned sub-theme of Empowerment – which also is in line with the findings of Leamy et al. (2011). To answer this question what specifically causes this, it is again looked at the themes, sub-themes, criteria and sub-criteria of the CHIME model (see figure 2 and Appendix B). As stated before, the sub-theme "personal responsibility" consists of two criteria, "self-management" and "positive risk-taking" - however, all themes mentioned by the participants referred only to "self-management". This, again, is in line with the study of Leamy et al. (2011), who also found the majority of participants mentioning that criterion.

Still, one difference to the findings of that previously mentioned study can be found in the mentioning of the sub-themes of the theme Hope and Optimism. It is composed of the sub-themes "Helpful relation to the therapist" and "Positive thinking and valuing success". In the study of Leamy et al. (2011), "Helpful relation to the therapist" is mentioned in 14% of the

studies, while in this study it was mentioned as often as 50%. A similar finding is true for the other sub-theme: "Positive thinking and valuing success" was mentioned in 40% of the studies, while in only 11% of the studies as found by Leamy et al. (2011).

4.1.2 Interpretation.

Interestingly, while most findings are in line with previous research on the CHIME model, there are two sub-themes which could not be categorized into an existing category of the CHIME model: Others and Hindering Factors. While Hindering Factors were neither taken into account by the CHIME model nor the Two Continua model, it is not possible to sort them into any existing category. However, for Others it is not that easy to decide: "Psychological safety" and "Practical support". In order to find a possibility of sorting them to another existing category, the Two Continua model was taken into account again. As elaborated on above, the Two Continua model consists of emotional, psychological and social wellbeing. At first glance, "Psychological safety" might seem to fit into the category of psychological wellbeing from the Two Continua model. However, while in that model psychological wellbeing is defined by experiencing self-realization and growth, it is not sure what participants meant with "psychological safety" in the study of Ajdukovic et al. (2013). When looking at that study more closely, it is noticeable that the authors defined it as a general reduction of uncertainty in life – thus "obtaining citizenship status, work permit, accommodation" and so on (Ajdukovic et al., 2013, p. 6). When comparing this definition to the one of "psychological wellbeing" from the Two Continua model, it is obvious that this theme cannot be grouped to that category. The other theme, "practical support", did not fit into the Two Continua model either - thus, it was decided to create a new category. Interestingly, when checking the definition of the authors, both "psychological safety" and "practical support" encompass similar elements – the settling of practical and organizational matters. Therefore, the possibility arises to group both sub-themes into one, interpreting it as "practical/organizational support".

Mainly, the difficulties with categorization of the themes/sub-themes lie in the differences in interpretation. This can for example be seen in the study by Kendall & Southam-Gerow (1996), where the patients declared the "therapeutic relationship" as most important factor of therapy (p. 728). However, it cannot be reported that in other mental disorders the relationship is perceived as less important. It is also possible to interpret the differentiation in findings by highlighting the value of the sub-theme "helpful relation to the therapist" in the CHIME model. One possibility for stressing the value is to sort this sub-theme to the theme

Connectedness instead of to Hope and Optimism about the future. That might be disputable of course, as the relationship can evoke hope and optimism – however, it is foremost simply a relationship. In a study about different elements of recovery, the authors Onken, Craig, Rigdway, Ralph and Cook (2007) state that elements of recovery are: "hope, self-determination, agency, meaning/purpose, (…) awareness, (…) social connectedness/relationships (and) (…) coping skills" (p.10). Interestingly, connectedness/relationships are described to consist of relationships to family and friends as well as to a mental health professional – this is thus an example of how those sub-themes could be combined (Onken, Craig, Rigdway, Ralph, & Cook, 2007).

When putting the themes that occurred from this meta-analysis into the context of the findings of other studies, it can be seen that Empowerment, Hope, Knowledge and Life satisfaction are often found to be important factors for recovery, while yet others found empowerment, hope, relationships, spirituality and self-redefinition as crucial factors (see Resnick, Rosenheck, & Lehman, 2004; Resnick, Fontana, Lehman, & Rosenheck, 2005). It can thus be seen that similar themes are mentioned across many studies, as for example Empowerment and Hope.

According to Zautra, Hall and Murray (2010), such themes for recovery can function as resources and are followed by certain outcomes – for example the authors hypothesized that the supportiveness of a social network leads to a decrease in depression and anxiety and that a sense of purpose leads to an increase in positive emotion and hope. Noticeable is furthermore, that in most themes the patients' role is active, rather than passive. For example, a feeling of Connectedness can be increased through seeking relationships with others, Hope and Optimism can be increased by working on a positive attitude and Empowerment by learning skills to manage daily symptoms. As Deegan (1988) put it: "people with (a mental health disorder) (…) are not passive recipients of rehabilitation services. Rather, they experience themselves as recovering in a new sense of self and of purpose within and beyond the limits of the (disorder) (…)" (p.55). Personal recovery, according to Deegan (1988), is thus about acceptance of the limitations and overcoming of the challenges of the disorder – which can thus be also found in the themes detected in this study.

Interesting to note is, as mentioned above, that the theme Empowerment was mentioned most frequently – and especially that the sub-theme "personal responsibility" and its criterion "self-management" was mentioned so frequently. When looking for an explanation for this focus, firstly the selection of studies comes into play. In this thesis namely most included studies

were focused on PTSD, which was not the case in for example the study by Leamy et al. (2011). For the comparison of this thesis with their study it also needs to be mentioned that Leamy et al. (2011) collected their data in 2010. Current shifts regarding themes might thus be possible due to the time difference. Furthermore they included participants with "any diagnosis of several mental illness", not with the focus on one specific disorder (Leamy et al., 2011, p.447). Accordingly, when comparing these two studies the question arises on how specific the process of personal recovery actually is. Themes important for recovery might thus differ between different patient groups regarding importance, or entirely different themes might arise. Most likely might be the first hypothesis, as mental disorders have many factors in common, and personal recovery ultimately plays a role in all of them. The persons suffering from different mental disorders might all face limitations and stigmata, even though different limitations and different stigmata apply. Regaining hope about the future and meaning in life might be important to everybody with a mental disorder, even though the specific accentuation and importance of those themes might vary.

This hypothesis generates reason to involve the Two Continua model again. According to that suggestion, the constructs of clinical disorder and personal recovery are not as separate as often discussed. It is possible, for example, that specific characteristics of one disorder influence the importance of a specific theme. For patients with ADs it might for example be especially important to have a feeling of self-management about the experienced symptoms or the disorder in general, which might make Empowerment their most important theme. This could for example be comprehensible for patients with panic attacks or flashbacks in PTSD, which occur suddenly and often without external cause. Another common feature of ADs is a certain extent of avoidance behavior, which might influence the importance (and thus frequency) of certain themes in a group. Empowerment might for example be especially helpful in tackling such avoidance behavior. For patients with depression on the other hand possibly Connectedness might be of most importance, as through support from and interaction with others the mood might be uplifted.

4.2 Limitations and suggestions for further research

When evaluating this thesis, several limitations of this study can be found: limitations of the included studies and limitations of this study in itself. In the following, firstly the limitations of the included studies are discussed.

Regarding the limitations of the included studies one difficulty is, that the interpretation of a specific factor or theme can vary compared to another study. This can in turn lead to a differentiation in the categorization of the themes. For example, Villaggi et al., (2015) sorted the quote "The day that I decided that I was no longer an illness and that I deserved respect, so many things changed; it was a great boost." (p. 6) to the sub-category of developing another self (within the theme Identity) – which in turn was sorted to the sub-theme of "rebuilding or redefining (the perception of) the own identity" in this study. However, when taking a closer look at the quote, it might indicate a gain in self-esteem, or express acceptance of the illness and the limitations. Therefore, sorting the quote to the sub-theme seems plain, while the categorization to a criterion is more complex – it could be sorted to "self-esteem", "acceptance" or "self-confidence and self-belief". By simply assigning the sub-theme as a whole (as defined by the authors) to one component of the CHIME model, the possible value of the criterion might be lost. This example makes the difficulties visible, which accompany the conduction of a meta-analysis without having access to the original data. To deal with this issue, a combined approach was used in this thesis: the quotes/sub-themes were sorted to sub-themes of the CHIME model, but while taking the criteria into account as well. It was for example checked which criterion a certain quote might represent and was then accordingly sorted to the sub-theme of that criterion.

Furthermore, as elaborated on above, predominantly studies with the focus on PTSD were included in this study – even though the intention was to also include GAD and PD. An explanation for this finding is that most studies focused on PTSD until now, which might pose a possible distorting influence to the results. It might for example be possible that the results for patients with PTSD differentiate for patients with GAD or PD. The generalization of the results of this study to a population of patients with GAD and PD should thus be treated with caution. As described, the quality and focus of the included studies can affect the meta-analysis that includes them.

The same difficulty arises with the fact that in this meta-analysis only few studies were included that focused on an actual comorbidity of GAD, PTSD and/or PD. As literature on recovery of those disorders is sparse in general, it was even more specific to look for literature about their comorbidity. However, as a suggestion for further research, it might in the future be fitting to also include the possibility of comorbidity between the disorders, as research in this area is still evolving. For this study, however, this suggestion would probably not have yielded different or additional results – if there would have been important further literature left out, it would most likely have been found when analyzing the reference lists of the relevant articles.

In the following, limitations of this specific study in itself are discussed. Firstly, it is important to refer to the selection process again. For all data-bases, only the first three pages were included after sorting the results for relevance, in order to limit the results. However, this should have only been applied to Google Scholar, as it would not have been possible to check all titles in this data-base. For the other data-bases the results were fewer, and the checking of all databases would possibly have increased the finding of suitable studies.

Secondly, the time limit for the publication of studies should have been extended when regarding it from hindsight. The reason for excluding all studies which were published more than five years ago was that the topic of personal recovery is a rather recent one, and that older studies would not be of relevance – specifically, studies which were conducted before the systematic review by Shanks et al. (2013). However, it would also have been possible to search the data-bases without a time limit – if any studies were conducted on that topic before 2013 they might be of relevance. If there were none, simply no further studies would have been found. The possible use of this suggestion for further research is that by checking the literature of the included studies, a relevant study emerged that was conducted in 2008. This indicates that the time limit was initially hindering the inclusion of that study in the first place. However, if more than one older but relevant source was missed, it would most likely also have been found when scanning the reference lists of the included articles.

Thirdly, assigning the themes/sub-themes from the included studies to categories of the CHIME model might be more reliable if more than one person would be involved in the process of assigning. When for example two persons who are trained in qualitative analysis of text fragments assign the themes/sub-themes, and discuss themes/sub-themes for which this is difficult, a high inter-rater reliability might be achievable.

One final suggestion for further research is that in a following study it might be wise to also check the quality of the included studies. This was for example done in a recent meta-analysis by de Vos, LaMarre, Radstaak, Bijkerk, Bohlmeijer and Westerhof (2017), in order to systematically check qualitative studies. A program such as Critical Appraisal Skills Program (CASP) could be used for that, which among other information can assess a study's strengths and weaknesses. Specifically, CASP can assess the reliability, credibility, unbiasedness and relevance of the study (Singh, 2013). Studies that do not suffice some certain criteria could then for example be excluded.

Concluding, there are several suggestions for future qualitative research. While in this study, the themes and sub-themes are sorted to the categories of the CHIME model in a deductive process, most of the included studies applied a different approach - finding out themes with a bottom-up approach and then clustering the themes. It reasonably influences the resulting categories/themes themselves, when categorizing the themes with a top-down approach when they were collected with a bottom-up approach. For example, categories/themes might have been different – either with a broader variety of more specific categories or with fewer and broader categories, depending on the access to data. With little access to original data, the categories would get broader – thus themes could be clustered, but few sub-themes might be found and probably no criteria, as the nuanced meaning of the results from qualitative interviews would possibly get lost without access to the original quotes. It might thus be of value to conduct future studies about specific mental disorders in a top-down approach from the CHIME model rather than bottom-up. The benefit of that would be that no new categories arise in every study, which get increasingly difficult to cluster or categorize. With a top-down approach from the CHIME model rather the fit of the existing categories, of for example the CHIME model, could be tested. This increase in information would then enable inferring to what groups of patients the CHIME model is applicable. For example, it might be fitting for general mental health disorders, but not so much for personality disorders – or results might show that the CHIME model is applicable to most mental health disorders, but that some themes are more important to patients with certain disorders than others.

Specifically, it might furthermore be interesting to conduct a qualitative study including participants with GAD, PTSD and/or PD in comorbidity, with the aim of discovering themes/sub-themes that are important to their recovery, also with a top-down approach. However, research is too sparse for a meta-analysis on this comorbidity at the current time - such a study might set a starting point for a pool of studies that a meta-analysis could select from in the future. Eventually, it might then be possible to infer how disorder-specific the process of personal recovery is, which in turn might generate ideas about differences in treatment of mental disorders – in the light of benefitting and fostering personal recovery.

4.3 Conclusion

The relevance of the conduction of this thesis, as mentioned before, lies in the qualitative nature of the included studies in order to find out about what is helpful for patients of GAD, PTSD

and PD. With this, eventually treatment (-processes) could be adapted accordingly, in order to meet the patients' own goals for their personal recovery. Themes that were found were mainly in line with the components of the CHIME model. However, during the course of this thesis it became obvious that a more accurate description of the included participants' themes for personal recovery would be the CHIMEOH model. When adapting the summarization of the sub-themes of the theme Others, a better name for that model would be CHIMEP-H model – consisting of Connectedness, Hope and Optimism, Identity, Meaning in life, Empowerment, Practical/Organizational support and some additional Hindering Factors in the process of personal recovery from GAD, PTSD and PD.

The most interesting finding is that the detected themes are predominantly in line with other literature, and also the finding that across different literature similar themes are mentioned, as for example Empowerment and Hope and Optimism. The themes, that are most important to the included patients, are Empowerment, Connectedness and Hope and Optimism. Specifically, it is interesting that the relation to the therapist is of increased importance to the patients included in this study, in comparison with other literature - which might be connected to the disorders they have: GAD, PTSD or PD. However, it might also be possible that the results even differ among those disorders, as here mainly PTSD patients' opinions were included. Regarding those results in the light of the CHIME and Two Continua models, the interesting question arises on how disorder-specific the process of personal recovery actually is. In particular, the suggestion arises that personal recovery might not be that unattached to the construct of clinical disorders as it is sometimes seen. As the additional value of this thesis lies in the focus on patients with ADs, it becomes visible that the importance of themes for the own recovery might vary among patients with different mental disorders. This might be further studied by conducting qualitative top-down research in this field.

Finally, the active role of the patient in his or her own process of recovery needs to be stressed. As Deegan specified (1996): "Recovery does not mean "cure". It does not mean stabilization or maintenance. Rather recovery is an attitude, a stance, and a way of approaching the day's challenges. It is a self-directed process of reclaiming meaning and purpose in life" (p.13).

5. References

Ajdukovic, D., Ajdukovic, D., Bogic, M., Franciskovic, T., Galeazzi, G. M., Kucukalic, A., ... & Priebe, S. (2013). Recovery from Posttraumatic Stress Symptoms: A qualitative study of attributions in survivors of war. *PloS one*, *8*(8). Doi:10.1371/journal.pone.0070579

Anthony, W. A. (1993). Recovery from mental illness: The guiding Vision of the Mental Health Service System in the 1990s. *Psychosocial Rehabilitation Journal*, *16*(4), 11-23. Doi: 10.1037/h0095655

Bandelow, B., & Michaelis, S. (2015). Epidemiology of Anxiety Disorders in the 21st Century. *Dialogues in clinical neuroscience*, *17*(3), 327.

Breivik, H., Collett, B., Ventafridda, V., Cohen, R. & Gallacher, D. (2006). Survey of chronic Pain in Europe: Prevalence, Impact on daily Life, and Treatment. *European Journal of Pain*, 10, 287–333. Doi:10.1016/j.ejpain.2005.06.009

Brijnath, B. (2015). Applying the CHIME Recovery Framework in two culturally diverse Australian communities: Qualitative results. *International Journal of Social Psychiatry*, *61*(7), 660-667. Doi: 10.1177/0020764015573084

Bruce, S. E., Yonkers, K. A., Otto, M. W., Eisen, J. L., Weisberg, R. B., Pagano, M., Shea, M. T., & Keller, M. B. (2005). Influence of Psychiatric Comorbidity on Recovery and Recurrence in Generalized Anxiety Disorder, Social Phobia, and Panic Disoder: A 12-Year Prospective Study. *American Journal of Psychiatry*, 162(6), 1179-1187. Doi: 10.1176/appi.ajp.162.6.1179

Chantarujikapong, S. I., Scherrer, J. F., Xian, H., Eisen, S. A., Lyons, M. J., Goldberg, J., Tsuang, M. & True, W. R. (2001). A Twin Study of Generalized Anxiety Disorder Symptoms, Panic Disorder Symptoms and Post-traumatic Stress Disorder in Men. *Psychiatry research*, *103*(2), 133-145.

Costello, E. J., Egger, H. L., & Angold, A. (2005). The Developmental Epidemiology of Anxiety Disorders: Phenomenology, Prevalence, and Comorbidity. *Child and Adolescent Psychiatric Clinics*, 14(4). Doi: 10.1016/j.chc.2005.06.003

Deegan, P. E. (1988). Recovery: The lived Experience of Rehabilitation. *Psychosocial rehabilitation journal*, *11*(4), 11-19

de Vos, J. A., LaMarre, A., Radstaak, M., Bijkerk, C. A., Bohlmeijer, E. T., & Westerhof, G. J. (2017). Identifying fundamental Criteria for Eating Disorder Recovery: a systematic Review and qualitative Meta-analysis. *Journal of Eating disorders*, *5*(1), 34. Doi: 10.1186/s40337-017-0164-0

Dezutter, J., Dewitte, L., Thauvoye, E., & Vanhooren, S. (2017). Meaningful Coping with Chronic Pain: Exploring the Interplay between Goal Violation, Meaningful Coping Strategies and Life Satisfaction in Chronic Pain Patients. *Scandinavian journal of psychology*, *58*(1), 29-35. Doi: 10.1111/sjop.12339

Ferrajão, P. C., & Aragão Oliveira, R. (2016). Portuguese War Veterans: Moral Injury and Factors related to Recovery from PTSD. *Qualitative health research*, *26*(2), 204-214. Doi: 10.1177/1049732315573012

Griffiths, T. L., Steyvers, M., & Firl, A. (2007). Google and the Mind: Predicting Fluency with PageRank. *Psychological Science*, *18*(12), 1069-1076

Haun, J. N., Duffy, A., Lind, J. D., Kisala, P., & Luther, S. L. (2016). Qualitative Inquiry explores health-related Quality of Life of Female Veterans with Post-traumatic Stress Disorder. *Military medicine*, *181*(11-12), 1470-1475. Doi: 10.7205/MILMED-D-16-00064

Hofmann, S. G., & Smits, J. A. (2008). Cognitive-behavioral Therapy for Adult Anxiety Disorders: a Meta-analysis of randomized placebo-controlled Trials. *The Journal of clinical psychiatry*, *69*(4), 621.

Jacsó, P. (2008). The pros and cons of computing the h-index using Google Scholar. *Online information review*, *32*(3), 437-452. Doi: 10.1108/14684520810889718

Jørgensen, K., & Rendtorff, J. D. (2017). Patient Participation in Mental Health Care-perspectives of Healthcare Professionals: an Integrative Review. *Scandinavian journal of caring sciences*. Doi: 10.1111/scs.12531

Kendall, P. C., & Southam-Gerow, M. A. (1996). Long-term follow-up of a Cognitive-behavioral Therapy for Anxiety-disordered Youth. *Journal of Consulting and Clinical Psychology*, *64*(4), 724

Khattra, J., Angus, L., Westra, H., Macaulay, C., Moertl, K., & Constantino, M. (2017). Client perceptions of corrective Experiences in Cognitive Behavioral Therapy and

motivational interviewing for Generalized Anxiety Disorder: An exploratory pilot study. *Journal of Psychotherapy Integration*, *27*(1), 23-34. Doi: 0.1037/int0000053

Kessler, R. C., Chiu, W. T., Jin, R., Ruscio, A. M., Shear, K., & Walters, E. E. (2006). The Epidemiology of Panic Attacks, Panic Disorder, and Agoraphobia in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *63*(4), 415-424. Doi:10.1001/archpsyc.63.4.415

Lang, A. J., Casmar, P., Hurst, S., Harrison, T., Golshan, S., Good, R., ... & Negi, L. (2017). Compassion Meditation for Veterans with Posttraumatic Stress Disorder (PTSD): a Nonrandomized Study. *Mindfulness*, 1-12. Doi: 10.1007/s12671-017-0866-z

Leamy, M., Bird, V., Le Boutillier, C., Williams, J., & Slade, M. (2011). Conceptual Framework for Personal Recovery in Mental Health: Systematic Review and Narrative Synthesis. *British Journal of Psychiatry,* 199(*6*), 445–452. Doi: 10.1192/bjp.bp.110.083733

Maley, J. H., Brewster, I., Mayoral, I., Siruckova, R., Adams, S., McGraw, K. A., ... & Mikkelsen, M. E. (2016). Resilience in Survivors of Critical Illness in the Context of the Survivors' Experience and Recovery. *Annals of the American Thoracic Society*, *13*(8), 1351-1360, Doi: 10.1513/AnnalsATS.201511-782OC

McMullan, M. (2006). Patients using the Internet to obtain Health Information: how this affects the Patient–health Professional Relationship. *Patient education and counseling*, *63*(1), 24-28. Doi: 10.1016/j.pec.2005.10.006

Meenan, R. F., Yelin, E. H., Nevitt, M., & Epstein, W. V. (1981). The Impact of Chronic Disease. *Arthritis & Rheumatology*, *24*(3), 544-549

Mojtabai, R., Olfson, M., & Mechanic, D. (2002). Perceived Need and help-seeking in Adults with Mood, Anxiety, or Substance use Disorders. *Archives of general psychiatry*, *59*(1), 77-84. Doi: 10.1001/archpsyc.59.1.77

Nesse, R. M. & Marks, I. M. (1994). Fear and Fitness: An Evolutionary Analysis of Anxiety Disorders. *Ethology and sociobiology*, *15*(5-6), 247-261

Onken, S. J., Craig, C. M., Ridgway, P., Ralph, R. O., & Cook, J. A. (2007). An Analysis of the Definitions and Elements of Recovery: A Review of the Literature. *Psychiatric rehabilitation journal*, *31*(1), 9. DOI: 10.2975/31.1.2007.9.22

Onwuegbuzie, A. J. (2003). Effect Sizes in qualitative Research: A Prolegomenon. *Quality and Quantity*, *37*(4), 393-409

Otto, M. W., Smits, J. A., & Reese, H. E. (2005). Combined Psychotherapy and Pharmacotherapy for Mood and Anxiety Disorders in Adults: Review and Analysis. *Clinical Psychology: Science and Practice*, *12*(1), 72-86

Resnick, S.G., Fontana, A., Lehman, A. F., & Rosenheck, R. A. (2005). An Empirical Conceptualization of the Recovery Orientation. *Schizophrenia Research*. 75:119–128. Doi: 10.1016/j.schres.2004.05.009

Resnick, S. G., Rosenheck, R. A., & Lehman, A. F. (2004). An exploratory Analysis of Correlates of Recovery. *Psychiatric Services*. 55(5), 540–547.

Rodgriguez, B. F., Bruce, S. E., Pagano, M. E., & Keller, M. B. (2005). Relationships among Psychosocial Functioning, Diagnostic Comorbidity, and the Recurrence of Generalized Anxiety Disorder, Panic Disorder and Major Depression. *Journal of Anxiety Disorders*, 19(7), 752-766. Doi: 10.1016/j.janxdis.2004.10.002

Sarkadi, A., Ådahl, K., Stenvall, E., Ssegonja, R., Batti, H., Gavra, P., ... & Salari, R. (2018). Teaching Recovery Techniques: Evaluation of a group Intervention for unaccompanied Refugee Minors with Symptoms of PTSD in Sweden. *European child & adolescent psychiatry*, *27*(4), 467-479. Doi: 10.1007/s00787-017-1093-9

Schomerus, G., & Angermeyer, M. C. (2008). Stigma and its Impact on help-seeking for Mental Disorders: What do we know?. *Epidemiology and Psychiatric Sciences*, *17*(1), 31-37

Shanks, V., Williams, J., Leamy, M., Bird, V. J., Le Boutillier, C., & Slade, M. (2013). Measures of Personal Recovery: a Systematic Review. *Psychiatric Services*, *64*(10), 974- 980

Singh, J. (2013). Critical Appraisal Skills Programme. *Journal of Pharmacology and Pharmacotherapeutics*, *4*(1), 76. Doi: 10.4103/0976-500X.107697

Slade, M., Leamy, M., Bacon, F., Janosik, M., Le Boutillier, C., Williams, J., & Bird, V. (2012). International differences in understanding Recovery: Systematic Review. *Epidemiology and Psychiatric Sciences*, *21(4)*, 353-364. Doi: 10.1017/S2045796012000133

Somers, J. M., Goldner, E. M., Waraich, P., & Hsu, L. (2006). Prevalence and Incidence Studies of Anxiety Disorders: a Systematic Review of the Literature. *The Canadian Journal of Psychiatry*, *51*(2), 100-113

Stenager, E., Christiansen, E., Handberg, G. & Jensen, B. (2014). Suicide Attempts in Chronic Pain Patients. A register-based Study. *Scandinavian Journal of Pain*, 5, 4–7. Doi: 10.1016/j.sjpain.2013.09.001

Trompetter, H. R., de Kleine, E., & Bohlmeijer, E. T. (2017). Why does Positive Mental Health Buffer against Psychopathology? An Exploratory Study on Self-compassion as a Resilience Mechanism and Adaptive Emotion Regulation Strategy. *Cognitive therapy and research*, *41*(3), 459-468

Villaggi, B., Provencher, H., Coulombe, S., Meunier, S., Radziszewski, S., Hudon, C., ... & Houle, J. (2015). Self-management Strategies in Recovery from Mood and Anxiety Disorders. *Global qualitative nursing research*, *2*, Doi: 10.1177/2333393615606092

Warwick, H., Reardon, T., Cooper, P., Murayama, K., Reynolds, S., Wilson, C., & Creswell, C. (2017). Complete Recovery from Anxiety Disorders following Cognitive Behavior Therapy in Children and Adolescents: A meta-analysis. *Clinical psychology review*, *52*, 77-91. Doi: 10.1016/j.cpr.2016.12.002

Westerhof, G. J., & Keyes, C. L. (2010). Mental Illness and Mental Health: The Two Continua Model across the Lifespan. *Journal of adult development*, *17*(2), 110-119. Doi: 10.1007/s10804-009-9082-y

Wittchen, H. U. (2002). Generalized Anxiety Disorder: Prevalence, Burden, and Cost to Society. *Depression and anxiety*, *16*(4), 162-171

Yehuda, R., Hoge, C. W., McFarlane, A. C., Vermetten, E., Lanius, R. A., Nievergelt, C. M., Hobfoll, S. E., Koenen, K. C., Neylan, T. C., & Hyman, S. E. (2015). Post-traumatic Stress Disorder. *Nature Reviews Disease Primers*, *1*. Doi:10.1038/nrdp.2015.57

Zautra, A. J., Hall, J. S., & Murray, K. E. (2010). A new definition of health for people and communities. *Handbook of adult resilience*, 1. New York, NY: Guildford Press

6. Appendix

6.1 Appendix A

Table 3

All themes/sub-themes for recovery that were mentioned per study, sorted into sub-components of the CHIME model

Connectedness	1 (n=43)	2 (n=2)	3 (n=60)	4 (n=46)	5 (n=36)	6 (n=43)	7 (n=13)	8 (n=12)	9 (n=50)	10 (n=38) PD (n=15)
- Peer support and peer groups										
- Relation-ships		More adaptive inter-personal relation-ships (2)						Social partici-pation	Social: Positive relation-ships (most), taking care of others (some)	

- Support from others	Social attach-ment and support (39)	Per-ceived social support (23)	Social support	Support: Family, spiritual (13)			
- Being part of commu-nity	Commu-nity involve-ment (7)						
Hope and optimism:							
- Belief in possibility of recovery							
- Motivation to change							
- Hope-inspiring relation-ships (**helpful**	Therapists positive role (1)			Infor-mation and reassu-rance by	Soothing and validating relation-ship with	seeking profession-nal help (most)	Therapist as coach

	relation to the thera-pist)			clini-cians (10)	therapist (11) Being listened to and under-stood (6)	
-	Positive thinking and valuing success	Positive shifts in experi-ence of anxiety (1) Hopefull-ness about accomp-lishment in therapy (1)	More positive view on others and self (or to rebuil-ding positive sense of self?)	Positive outlook (8)		Positive outlook (many)

- Having dreams and aspirations					
Identity:					
- Dimen-sions of identity					
- Rebuilding or redefi-ning a positive sense of identity	Persona-lity hardiness (28)	New intra- and interperso -nal awareness (2)	Experien-tial work (role plays) (12) Develop-ment of own determi-nation (5)	balanced sense of self (some)	Aware-ness and handling of feelings
- Overco-ming stigma					

Meaning in life:			
- Meaning of mental illness experiences			
- Spirituality		Meaning-fullness	finding meaning (some)
- Quality of life			
- Meaning-ful life and social roles			
- Meaning-ful life and social goals			
- Rebuilding life	Normali-zation of everyday life (17)	Normali-zation	
Empowerment:			

-	Personal responsebility	Coping strategies (32)	Learning helpful CBT tools to manage anxiety on daily basis (1)	Coping strategies (40)	Valuable tools	Exercises for calmness, peace and resilience		Programs: coaching and vocational training, substance abuse recovery programs	Manage daily symptoms (several)	Relaxation techniques
-	Control over life	Mental health treatment (28)			Comprehensibility (of events) Manageability				Empowering oneself (some) prevent relapse (many) better understanding of	Exposure gave confidence

				illness (many)
- Focusing upon strengths		Per-ceived personal resour-ces (38)		
Others:	Received material support (20) Psycho-logical safety (8)			
Hindering factors:			Impact of limi-tations on daily life (11)	Physical issues Cognitive issues

	Linge-ring symp-toms and mental health issues (9)	Emotion-nal issues

Note. From "Conceptual framework for personal recovery in mental health: systematic review and narrative synthesis", by Leamy et al, 2011, British Journal of Psychiatry 199(445–452).

6.2 Appendix B

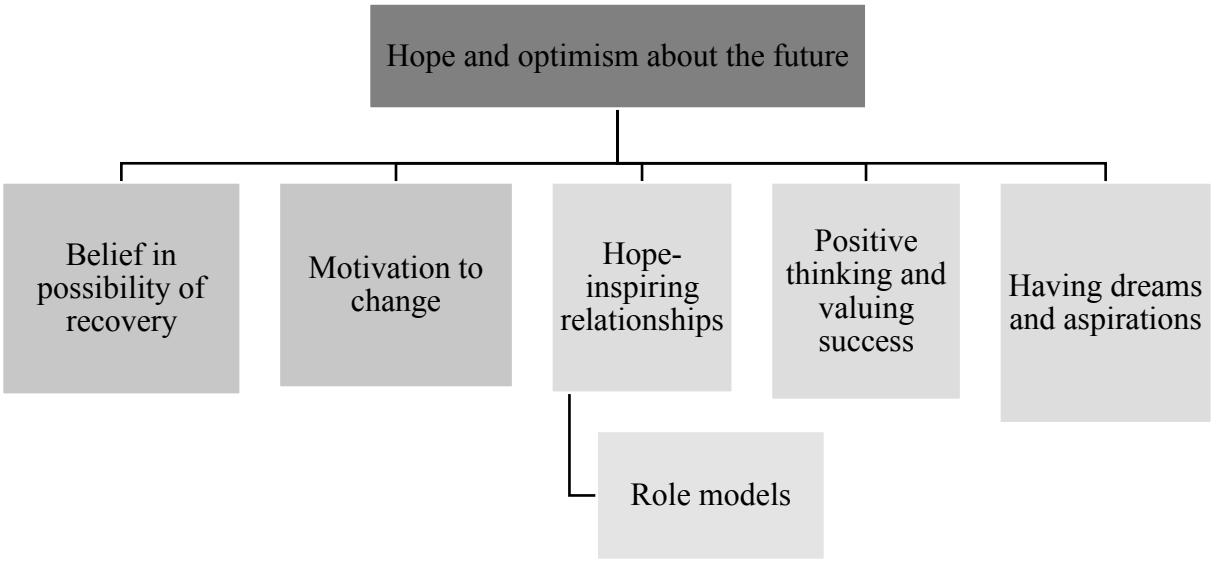

Figure 4. The sub-themes (medium grey) and criteria (light grey) of the theme Hope and Optimism about the Future (dark grey)

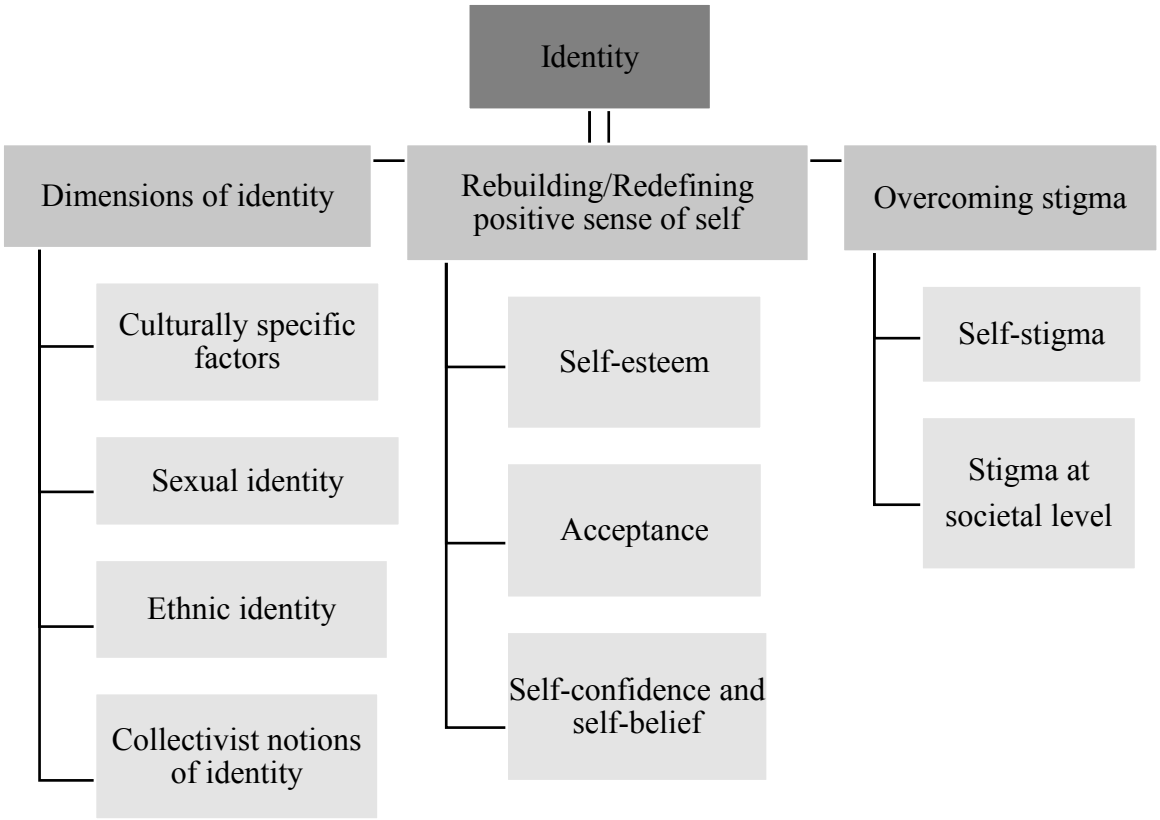

Figure 5. The sub-themes (medium grey) and criteria (light grey) of the theme Identity (dark grey)

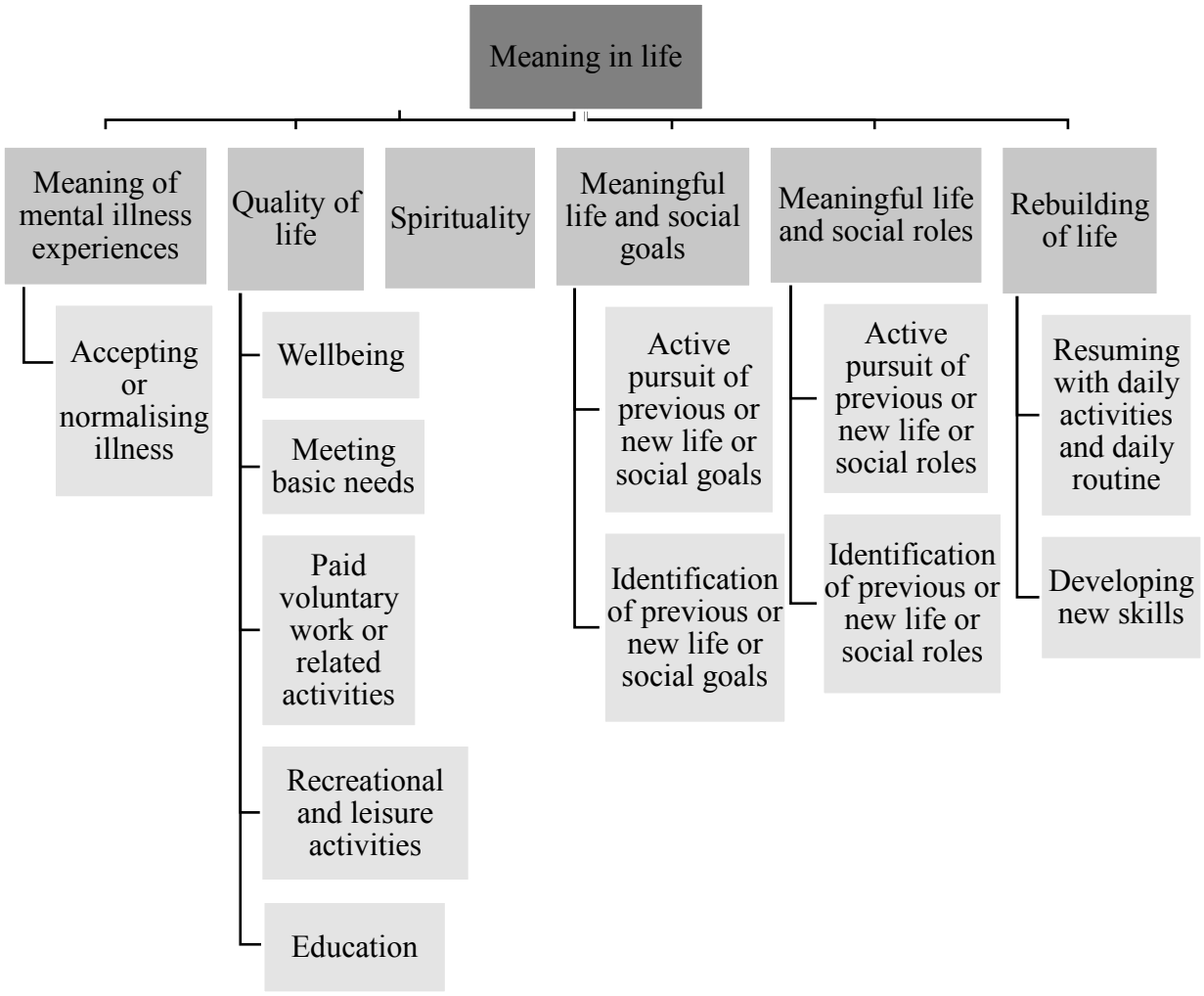

Figure 6. The sub-themes (medium grey) and criteria (light grey) of the theme Meaning in Life (dark grey)

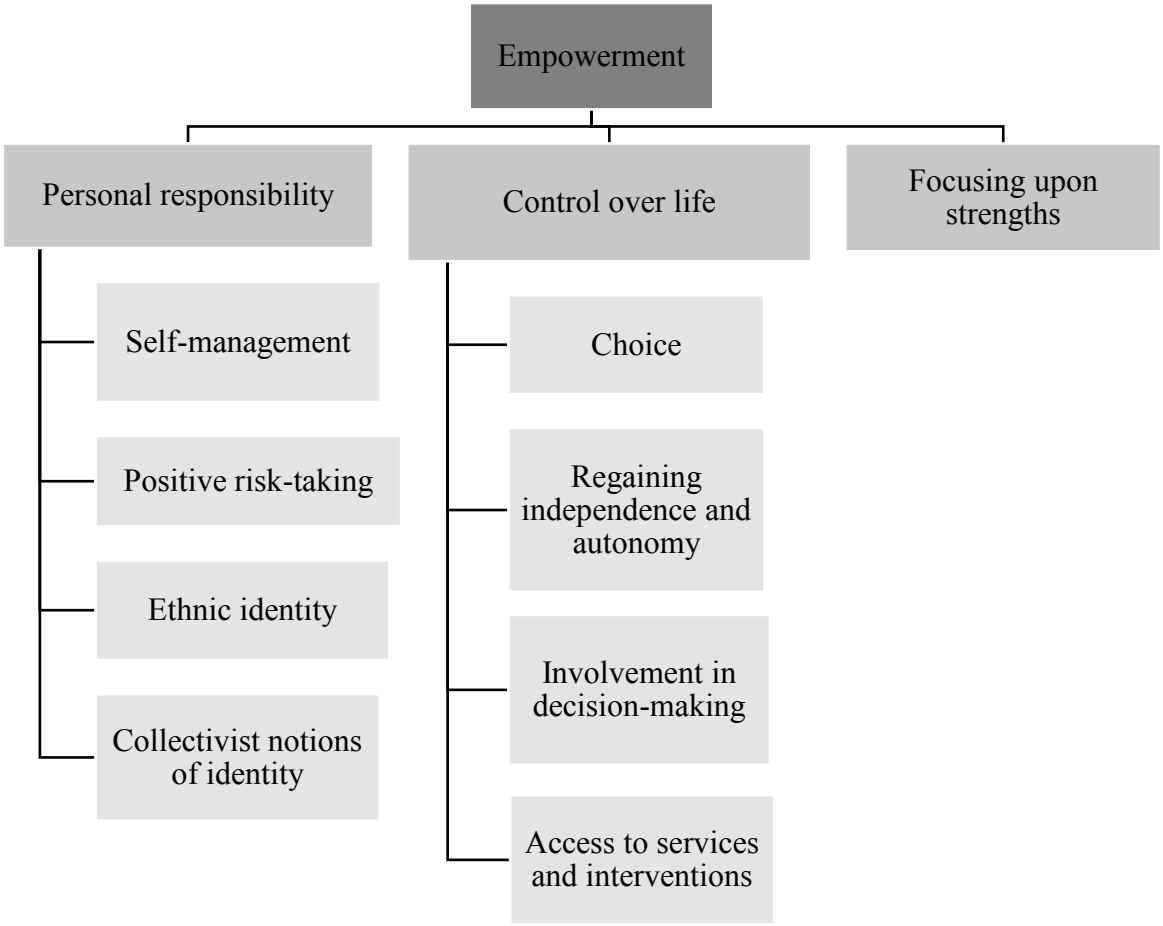

Figure 7. The sub-themes (medium grey) and criteria (light grey) of the theme Empowerment (dark grey)