Self-determination theory and strategies aimed at the basic psychological needs of psychiatric patients: A rapid review

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Dissertation accepted in fulfilment of the requirements for the degree Master of Arts in Clinical Psychology at the North-West University

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Declaration by Author

I declare that the research study *Self-determination theory and strategies aimed at the basic psychological needs of psychiatric patients: A rapid review,* is my own, original work, and that the referencing and editorial style the American Psychological Association's (APA) Publication Manual (7th edition) was adhered to, and that all sources are acknowledged. I also declare that there was no conflict of interest with regard to this study and that there was no financial support involved.

Furthermore, the co-author and supervisor, Dr. Tertia Oosthuizen, gives permission to the candidate, Johan van der Hoogt, to use the article as part of a master's dissertation and that the article may be submitted for publication with the Journal of Psychology in Africa. In addition, the co-author agrees that the study is a reflection of research regarding the subject matter.

Finally, I declare that the document was submitted to Turn-it-in to generate a report of similarities found in international databases. An acceptable similarity index of < 1% was found when reference lists were excluded.

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Summary

Self-determination theory (SDT) is a macro-theory that links the fulfilment of basic psychological needs (BPN) to enhanced well-being, functioning and intrinsic motivation in various different samples of people. Strategies associated with BPN fulfilment of autonomy, competence and relatedness have been explored in various areas, including areas such as healthcare, sport and schools. However, research exploring such strategies in psychiatric samples is underdeveloped. This study aimed to explore current research in order to create a collection of SDT-informed strategies suggested to fulfil the BPN of psychiatric patients.

A rapid review was conducted and keywords were searched on electronic databases. After duplicates were removed, 169 records were identified, 85 abstracts were screened for eligibility, after which 35 full text studies were assessed. Finally, after quality appraisal and checking for relevance to the research question, 15 records were identified for analysis. Qualitative thematic analysis was conducted on both qualitative and quantitative studies.

Four main themes that emerged were autonomy, competence and relatedness supportive strategies, as well as strategies focused on the effectiveness of interventions. The findings make it possible for mental healthcare institutions to identify the strategies that could potentially be applied to their specific contexts in creative ways. The proposed strategies, though, need to be tested and validated in specific contexts, both in practice and research. Action-based research is recommended, which can provide simultaneous testing of strategies, reporting on findings and adjusting strategies according to developing findings.

*Keywords***:** Self-determination Theory (SDT), Basic Psychological Needs (BPN), Autonomy, Competence, Relatedness, Psychiatric, Severe mental illness

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Outline of the Research Study

Article Format

The mini-dissertation is structured according to the requirements of the North-West University for the degree Masters of Artium in Clinical Psychology as it is submitted in partial fulfilment of the degree. The article for submission section follows the author guidelines of the Journal of Psychology in Africa, which are provided in Section B.

Section A: Background

The background includes a description of concepts relevant to the study, including positive psychology, self-determination theory (SDT), basic psychological needs (BPN), strategies associated with BPN and psychiatric patients. The research aims, approach and design, and method are also discussed. The relevant references are then listed.

Section B: Manuscript in Article Format

The author guidelines of the intended journal for publication, the Journal of Psychology in Africa, are provided. This is followed by the manuscript for submission, which includes an abstract, rationale, method, results, and a brief conclusion, as well as limitations and recommendations. Figures and tables are presented at the end of this script, followed by references.

Section C: Conclusion, Recommendations and Reflection

This section includes a conclusion based on the mini-dissertation, future recommendations, and a personal reflection on the research process.

Section A: Background

Introduction

This section describes the concepts relevant to the study and supports the rationale included in Section B.

Positive Psychology

The biomedical model follows the assumption that illness must first be vanquished as a prerequisite for a person to be healthy. The biomedical model fits within the positivist philosophical framework in that it views illness as a biological and objectively-defined construct where the practitioner acts as the expert who attempts to cure the problem (Gergen, 2011; Raeburn, 2016). Positive psychology stands in contrast to the biomedical model, as it assumes a person can grow, function and live a fulfilling life despite illness symptoms. A central premise of positive psychology is promoting well-being instead of exclusively attempting to reduce ill-being (Seligman, 2019). This challenges the focus of traditional psychiatry – which is primarily concerned with reducing illness symptoms – to promoting well-being, meaning, purpose and fulfilment in the face of illness symptoms (Keyes, 2007). In psychiatric settings, this focus has been described as "personal recovery" as an alternative focus to clinical recovery, and is a subjective and dynamic process that is different for each individual (Park & Chen, 2016). Individuals are supported to use their own strengths and resources to promote meaning and satisfaction in their lives. In pursuing the advancement of personal recovery orientated practice in psychiatric settings, the self-determination theory (SDT) has been considered as an established theoretical framework to guide recovery-orientated practice (Raeburn, 2016).

Self-determination Theory

SDT is a macro theory that operates from the organismic-dialectical paradigm, which explains that humans have a tendency toward self-growth and improvement but that

their environment greatly affects this process (Deci & Ryan, 2000). The theory explains that people naturally move toward growth and well-being when their basic needs for autonomy, competence and relatedness are met by their environment. The fulfilment or thwarting of these three basic human needs form the essence of the basic psychological needs theory (BPNT) (Ryan & Deci, 2017). The BPNT connects the fulfilment of autonomy, competency and relatedness to improved well-being, functioning and integration. Furthermore, the thwarting of those same needs is connected to ill-being and increases the risk of developing pathology (Vansteenkiste & Ryan, 2013).

Need fulfilment or need deprivation refers to the extent to which a person's environment supports or thwarts their BPN, and includes a person's subjective experience of need fulfilment or need deprivation (Silva et al., 2014). Therefore, the view of illness that SDT holds is consistent with the social constructionist framework, which means that illness and wellness depend on people's experiences of them and the meaning they attach to them (Keyes, 2007). The three BPNs proposed by SDT are autonomy, competence and relatedness.

Basic Psychological Needs

As defined by Ryan and Deci (2017), autonomy is regarded as a person's sense of choice or will and includes the degree of perceived voluntary or self-endorsed behaviour. In this view, autonomy is importantly distinguished from independence, as both dependence and independence can be externally or internally controlled or motivated. This definition has significant implications for how autonomy is understood in psychiatric settings; for example, a person can perform a given activity independently but unwillingly, or dependently but willingly.

The autonomy experienced in a given task is related to the degree to which an internal locus of causality (Ryan & Deci, 2000) or sense of responsibility (Teixeira et al.,

2020) is perceived. Furthermore, autonomy is achieved when a person's behaviour reflects their values or interests (Lynch et al., 2009). The degree to which such values or interests are integrated into the self determines the level of autonomy experienced when performing a specific behaviour. Even a person who values collectivism or conformity above individuality, for example, will experience autonomy when behaving according to those values that are approved by the self (Lynch et al., 2009).

Competence refers to how effective a person feels about interacting with the environment, as well as their sense of efficacy to have a desired impact or achieve desired outcomes (Ng et al., 2012; Teixeira et al., 2020). This especially refers to aspects in the environment that a person considers important (Ryan & Deci, 2017) and which create a feeling of mastery (Deci & Ryan, 1985). Experiencing competence may stem from using, improving or expressing inner abilities or skills (Ng et al., 2012). Furthermore, competence involves receiving positive feedback and feeling responsible for a competent act or behaviour (Deci & Ryan, 2000). This aspect of self-determination appears especially vulnerable in contexts that involve difficult challenges and where negative feedback is commonly received, such as some environments to which psychiatric patients might regularly be exposed.

Relatedness refers to an experience of involvement, connectedness, and a sense of belonging (Ryan & Deci, 2017). Moreover, it includes a sense of adding value or being significant in a certain social group. Care, concern, respect and acts of benevolence are present and experienced in both directions – receiving and giving (Martela & Ryan, 2016; Ng et al, 2012; Vansteenkiste & Ryan, 2013). In addition, relatedness can also involve a distal sense of interpersonal safety and security (Deci & Ryan, 2000).

Support for autonomy, competence and relatedness is associated with enhanced psychological energy, growth, well-being and positive behaviour outcomes (Ryan et al.,

2008). This happens through the process of integration – as motivations for a person's range of actions or behaviour become increasingly integrated into the self or personality. Integration enables an increased match between a person's behaviour and their inner values and goals (Ryan et al., 2008). The extent of integration determines the type of motivation, which in SDT is emphasised more than the level of motivation.

SDT describes various types of motivations that exist on a continuum from extrinsic to intrinsic motivation (Deci & Ryan, 2000; Ryan & Deci, 2008). *Extrinsic regulation* involves a person's motivation to gain rewards or avoid punishment. People experience force or pressure from controlling factors, such as involuntary admission or punishment for not following rules, or even at the other end, incentives such as the promise of money or cigarettes.

Introjected regulation occurs when a person accepts and internalises extrinsic factors without integrating them with their sense of self. Instead, people impose controlling factors on themselves and experience guilt or shame as a result. It involves seeking the approval of other people or of themselves through "introjects" which they have internalised. An example of an introject is: "My therapist will be disappointed if I miss a session". *Identified regulation* involves identifying with the importance of an activity or behaviour, or personally endorsing it; for example: "It is important for me to participate because I want to improve". *Integrated regulation* is achieved when a desired behaviour becomes aligned with a person's internal values and perceptions. Such a person has integrated the behaviour with her sense of self. For example: "I exercise because it is part of who I am". *Intrinsic regulation* is the most internal form of motivation, and involves personal interest, enjoyment or curiosity. For example: "I enjoy therapy because I find it interesting".

Thus, a person can experience controlled or autonomous motivation. Controlled motivation includes introjected and extrinsic regulations (Deci & Ryan, 2000; Ryan et al., 2008). Autonomous motivation includes intrinsic, integrated and identified regulation. Through the support of BPN, motivations can be shifted along the continuum – from controlled regulations to autonomous regulations. Such movement depends on the degree of integration, or the degree to which learning or behaviour change is integrated into the self or personality. This allows individuals to increasingly identify with treatment behaviours (Jochems et al., 2017), and is associated with increased positive outcomes as well as more sustained long-term change (Ryan & Deci, 2008). In essence, the focus of SDT-based interventions is the integration of new experiences and behaviours with personality, rather than specific behaviour change (Ryan & Deci, 2008).

The constructs and process model of SDT have been validated in numerous samples and contexts, including healthcare, psychotherapy, sport and physical activity, school environments, and work and other organisations (Chua et al., 2015; Davids et al., 2017; Ng et al., 2012; Ryan & Deci, 2017). These include samples of psychiatric patients, such as patients with first episode psychosis (Breitborde et al., 2012), patients with severe mental illness (Farholm & Sørensen, et al., 2017), outpatients with severe mental illness (Jochems et al., 2017), and a number of specific psychological disorders (Ryan & Deci, 2017).

Strategies Aimed at BPN

In addition to validating theoretical constructs of SDT in various contexts, the need to explore practical strategies or techniques which promote the fulfilment of BPN continue to be emphasized (Gillison et al., 2019; Teixeira et al., 2020). Such strategies are aimed at how people experience their psychosocial environments, and have been considered in various contexts, including healthcare, education and sport and performance settings

(Ryan & Deci, 2017; Vansteenkiste & Ryan, 2013). Silva et al. (2014) summarised examples of such strategies applied in a school and physical education context that focused both on institutional (school or hospital) and interpersonal (teacher-learner interaction) levels of intervention. It included creating autonomy-supportive environments by providing rationales for suggested activities and encouraging choice, by supporting people's own interests, and valuing people's perspectives. Strategies focused on competence included providing clear expectations, enabling optimal levels of challenge, and providing appropriate feedback and support. Relatedness-focused strategies involved communicating empathy, appreciation and concern, being dependable, and investing time and energy into persons.

Similar strategies have been suggested in samples of vulnerable people which could be related to psychiatric patients in general. These would include long term geriatric care patients (Duncan & Killian, 2017), patients with dementia (Willemse et al., 2015) and relocated refugees (Weinstein et al., 2016). The sound theoretical base of SDT provides a platform from which to explore strategies aimed at BPN in psychiatric contexts (Huck et al, 2018).

In psychiatric-related contexts such strategies may focus on various levels of intervention; for example, strategies may be focused on the individual level, such as in psychotherapy (Axer, 2012), interactions with health-care professionals (Barrio et al., 2013; Farholm & Halvari, et al., 2017; Johnson, 2007), or in the physical and psycho-social environment (Ellingsen-Dalskau et al., 2015; Shepley et al., 2016).

Psychiatric Patients

The term "psychiatric patients" in this study is synonymous with "people with severe mental illness" and "mental healthcare users". It may therefore refer to in-patients at psychiatric institutions, as well as substance rehab centres, outpatients that were

discharged from institutions, and members from community-based clubhouses. It is considered common for this group of individuals to struggle with independent living, social inclusion, employment, as well as high rates of re-admission to institutions (Moran et al., 2014).

In addition, people with severe mental illness are considered to experience significant frustration of their BPN (Cook & Jonikas, 2002). Institutionalised individuals face restricted, controlling and predominantly extrinsically motivated environments, with limited independence and limited opportunities for decision-making and volitional activity. Such factors are associated with further impaired motivation in people with severe mental illness, in addition to illness-related neurological markers of motivational deficits (Medalia & Brekke, 2010). A further concern is that frustration of BPN is associated with the development of mental ill-being and psychopathology (Vansteenkiste & Ryan, 2013). It can be argued that the environments meant to treat mental illness actually exacerbate or maintain it due to the frustration of BPN (Conte et al., 2008). Thus, current and potential strategies which can support BPN of psychiatric patients should be urgently explored.

Aim of the Study

The aim of this study was therefore to explore the SDT-based strategies that are suggested by current scientific literature to support the BPN of psychiatric patients. Furthermore, the study aimed to describe a collective set of such strategies, with theory-derived principles and practical examples applied to psychiatric settings. Such a collective of strategies could provide a platform for mental healthcare workers and researchers from which to select ideas to test, validate and further develop in their specific contexts, according to their resources and needs. This may help to bridge the gap that exists between the mental healthcare aims at policy levels and practice on ground level. In South African

mental healthcare, aims such as autonomy support, community integration and least restrictive treatments fail to reflect in mental healthcare practice (Mental Health Policy Framework, 2012; Dlamini, Personal Communication, November 29, 2019). Finally, the study could highlight the link between SDT and psychiatric practice, which could add to the recognized scope of SDT and promote further research in psychiatric contexts.

Research Approach and Design

The research approach should be grounded in the appropriate epistemological framework to ensure congruence between the research aims and methodology (Maree, 2016). This is to ensure that the same assumptions of the origins of knowledge are implied in the formulation of the study and in the processing and analysing of data (Maree, 2016). A qualitative approach was considered most appropriate to the aims of the study, which was to explore and describe a range of strategies rather than evaluating the effectiveness of any existing strategies. The aim of the qualitative method could be understood as follows: rather than to uncover objective scientific truths, it is to co-construct reality by exploring how it is experienced (Maree, 2017). This fitted within the constructivist framework, which assumes that knowledge is created through people's experiences and the meanings they attach to it (Maree, 2016). The data of the included studies were thus viewed as the knowledge of researchers, practitioners and patients based on their experiences of SDT in psychiatric contexts. In addition, the qualitative analysis of the data could provide sufficient in-depth descriptions that could add to the understanding of SDT-based strategies as well as to the development of SDT (Maree, 2016).

Also appropriate to the aim of the study was a rapid review design, which has the function of addressing specific clinical needs in a timely, efficient manner (Khangura et al., 2012). Rapid reviews follow the same basic protocols as systematic reviews; however, certain methodological steps are streamlined, such as the screening of titles, abstracts and

full text articles, as well as quality appraisal (Reynen et al., 2017). Where systematic reviews can extend up to two years, rapid reviews can take anything from five days to eight months to complete (Hartling et al., 2017). In addition, rapid reviews are more cost effective (Tricco et al., 2015) and require less reviewers than systematic reviews (Hartling et al., 2017; Reynen et al., 2017). Rapid reviews also use a more specified research question, which allows the inclusion criteria to be more specifically defined and limits the number of resources to consider for the study (Ganann, et al., 2010). According to Hartling et al. (2017), rapid reviews may exclude literature based on dates, language limitations or accessibility to published literature.

Findings are considered generally similar, although less detailed than systematic reviews. However, the quality of rapid reviews is considered lower and the risk for bias higher (Hartling et al., 2017; Reynen et al., 2017). For these reasons, rapid reviews are considered less conservative than systematic reviews, although with increased limitations and risk (Tricco et al., 2015). Therefore, it was essential to maintain transparency regarding the process, the level of rigour and the formulation of results (Ganann et al., 2010; Hartling et al., 2017). Consequently, the review process and method were transparently illustrated.

Method

The steps of the review process were based on the JBI guidelines for systematic reviews (Aromataris & Munn, 2017). Step one was to determine the *review question*; step two to conduct the *literature search*; step three to do the *quality appraisals*; step four was *data extraction*; step five *analysis and synthesis of the data*; step six *discussion*; and step seven *conclusion.*

The *review question* is considered essential in rapid reviews as it guides the remaining steps in the process (Hartling et al., 2017). It may be refined throughout the

search and the analysis process (Clarke & Braun, 2017). The final review question for this study was: What SDT-informed strategies can be identified from current scientific literature that are aimed at the BPN of psychiatric patients?

Regarding the *literature search* step, the inclusion and exclusion criteria were informed by the review question and the aim of the study. Consequently, wide inclusion criteria were selected in order to increase the exposure to different types of SDT-informed strategies. These inclusions were, for example, studies of various methods, including qualitative, quantitative or text and opinion studies, as well as doctoral theses. Exclusions served the function of enhancing the efficiency of the review process, and were, for example, studies not available in English and studies for which the full text documents could not be promptly attained.

Initial key words were derived from SDT and BPNT and related strategies pertaining to psychiatric samples. These words were expanded after an initial scope review by including applicable words found in the titles and reference lists of scope review studies. The search was conducted electronically through a number of relevant databases.

The relevance of studies was determined by viewing the title and abstract of studies, and where abstracts were unclear regarding the use of SDT, the presence of suggested strategies or population of interest, the full texts were considered. A secondary reviewer, the research supervisor, oversaw the search process, and detailed records were kept of inclusions and exclusions.

Quality appraisals were conducted by using the quality appraisal tools of the JBI for qualitative, quantitative and text and opinion studies respectively. These were the JBI QARI, JBI MASTARI and JBI SUMARI (JBI, 2018). For the purpose of the current study, no studies were excluded based on their quality. Rather, the quality appraisal's

function was to transparently indicate the nature of the quality of the studies that were analysed.

Data extraction was completed through a data extraction table based on the recommended qualitative data extraction tool of JBI (2014). This included the titles and authors of the studies, the samples involved, methods used, quality appraisal score and main findings. An additional column of "strategies identified" was added to ensure extraction of relevant information according to the review question.

Analysis and synthesis involved a qualitative thematic analysis, which was considered an appropriate method to guide the analysis and synthesis of the data in order to explore and describe SDT-informed strategies. Firstly, it allowed the use of different data sources (Yin, 2015) including qualitative and quantitative studies, as well as text and opinion studies. Secondly, it provided an opportunity for novel patterns to emerge in the data which were not necessarily indicated by previous research (Yin, 2015). Thirdly, it enabled a sufficient description of important nuances in the data which could get lost in a different type of analysis (Braun & Clarke, 2006).

The analysis and synthesis were guided by the well-recognized six-step process of Braun and Clarke (Braun & Clarke, 2006; Clark & Braun, 2013; Clarke & Braun, 2018), and were done in a cyclical rather than step-by-step manner. The steps included immersion in the data, developing codes or basic data pieces, developing initial themes, refinement and clarification of themes, and discussing how themes relate to the review question. Following these steps, conclusion statements were made and implications and recommendations were considered.

Ethics

Ethical guidelines for review studies proposed by the Joanna Briggs Institute (JBI) were considered (Pearson et al., 2015). Analyst triangulation was partially employed by

making use of two analysts, including the researcher and supervisor. The supervisor oversaw the selection process, quality appraisals, and data extraction. Confirmability was maintained by keeping a clear and consistent audit trail throughout all the steps of the rapid review process. This included search records, personal reflective notes, decisions and reasoning with regard to identified themes, raw data and methods of data analysis. Such notes could indicate the role that personal beliefs and values played in the research process.

Further guidelines for review studies proposed by Vergnes et al. (2010) were also adhered to. Firstly, article appraisals included an ethical appraisal of scope articles. Specifically, approval by a governing body was checked. Secondly, financial sources as well as any other possible dual relationships were checked, including any relationships that a 'reasonable observer' might question (Wager & Wiffen, 2011).

In addition, the study considered practical guidelines for components of trustworthiness in qualitative research based on Guba's 1981 model (Amankwaa, 2016). Firstly, as rapid reviews consider fewer resources than systematic reviews, transferability was maintained by including a comprehensive variety of samples (Leaman et al., 2017), including institutionally admitted inpatients, discharged outpatients and patients attending community care centres, patients of different demographic variables and geographic areas, and patients with various different psychiatric diagnoses. Secondly, the extent to which the findings could be transferred to other contexts was upheld through comprehensive descriptions of every component of the study.

References

Amankwaa, L. (2016). Creating protocols for trustworthiness in qualitative research. *Journal of Cultural Diversity, 23*(3), 121-127. https://eds-a-ebscohost-com.nwulib.nwu.ac.za

Axer, A. (2012). Recovery from psychiatric disability and personal autonomy. *Archives of Psychiatry & Psychotherapy, 14*(4), 5-8. https://eds-a-ebscohost-com.nwulib.nwu.ac.za

Barrio, L., Cyr, C., Benisty, L., & Richard, P. (2013). Autonomous Medication Management (GAM): New perspectives on well-being, quality of life and psychiatric medication. *Ciência & Saúde Coletiva, 18*(10), 2879-2887. https://doi.org/10.1590/S1413-81232013001000012

Breitborde, N. J., Kleinlein, P., & Srihari, V. H. (2012). Self-determination and first-episode psychosis: Associations with symptomatology, social and vocational functioning, and quality of life. *Schizophrenia Research, 137*(1-3), 132-136. https://doi.org/10.1016/j.schres.2012.02.026

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/abs/10.1191/1478088706qp063oa

Clarke, V., & Braun, V. (2013). Teaching thematic analysis. *Psychologist, 26*(2), 120–123. https://eds-a-ebscohost-com.nwulib.nwu.ac.za/eds/pdfviewer

Clarke, V., & Braun, V. (2017). Thematic Analysis. *The Journal of Positive Psychology, 12*(3), 297-298. https://doi.org/10.1080/17439760.2016.1262613

Conte, C., Snyder, C., & McGuffin, R. (2008). Using self-determination theory in residential settings. *Residential Treatment for Children and Youth, 25*(4), 307–318. https://doi.org/10.1080/08865710802533498

Cook, J. A., & Jonikas, J. A. (2002). Self-Determination among Mental Health consumers/ survivors: Using lessons from the past to guide the future. *Journal of Disability Policy Studies, 13*(2), 87. https://doi.org/10.1177/10442073020130020401

Davids, E. L., Roman, N. V., & Kerchhoff, L. J. (2017). Adolescent goals and aspirations in search of psychological well-being: From the perspective of Self-determination theory. *South African Journal of Psychology*, *47*(1), 121-132. https://doi.org/10.1177/0081246316653744

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the Self-Determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Duncan, J. M., Killian, T. S., & Lucier-Greer, M. (2017). Leisure, relatedness, and ill-being among older adults in long-term care. *Activities, Adaptation & Aging*, *41*(4), 273-290. https://doi.org/10.1080/01924788.2017.1326764

Farholm, A., Halvari, H., Niemiec, C. P., Williams, G. C., & Deci, E. L. (2017). Changes in return to work among patients in vocational rehabilitation: A Self-Determination Theory perspective. *Disability & Rehabilitation*, *39*(20), 2039-2046. https://doi.org/10.1080/09638288.2016.1215559

Farholm, A., Sørensen, M., & Halvari, H. (2017). Motivational factors associated with physical activity and quality of life in people with severe mental illness. *Scandinavian Journal of Caring Sciences, 31*(4), 914-921. https://doi.org/10.1111/scs.12413

Ganann, R., Ciliska, D., & Thomas, H. (2010). Expediting systematic reviews: Methods and implications of rapid reviews. *Implementation Science, 5,* 56-65. https://doi.org/10.1186/1748-5908-5-56

Gergen, K. J. (2011). The self as social construction. *Psychological Studies, 56*(1), 108–116. https://doi.org/10.1007/s12646-011-0066-1

Gillison, F. B., Rouse, P., Standage, M., Sebire, S. J., & Ryan, R. M. (2019). A meta-analysis of techniques to promote motivation for health behaviour change from a self-determination

theory perspective. *Health Psychology Review*, *13*(1), 110–130. https://doi.org/10.1080/17437199.2018.1534071

Hartling, L., Guise, J., Hempel, S., Featherstone, R., Mitchell, M. D., Motu'apuaka, M. L., & Umscheid, C. A. (2017). Fit for purpose: Perspectives on rapid reviews from end-user interviews. *Systematic Reviews, 6,* 1-11. https://doi.org/10.1186/s13643-017-0425-7

Huck, G. E., Finnicum, C., Morrison, B., Kaseroff, A., & Umucu, E. (2018). Consumer perspectives on physical activity interventions within assertive community treatment programs. *Psychiatric Rehabilitation Journal*, *41*(4), 312–318. https://doi.org/10.1037/prj0000311

Joanna Briggs Institute (JBI) (2014). *The Joanna Briggs Institute Reviewers' Manual 2014: Methodology for JBI Mixed Methods Systematic Reviews.* https://joannabriggs.org/assets/docs/sumari/ReviewersManual_Mixed-Methods-Review-Methods-2014-ch1.pdf

Joanna Briggs Institute (JBI) (2018). *Joanna Briggs Institute Critical Appraisal Tools.* https://joannabriggs.org/ebp/critical_appraisal_tools

Jochems, E. C., Duivenvoorden, H. J., Van Dam, A., Feltz-Cornelis, C. M., & Mulder, C. L. (2017). Motivation, treatment engagement and psychosocial outcomes in outpatients with severe mental illness: A test of Self-Determination Theory. *International Journal of Methods in Psychiatric Research, 26*(3). https://doi.org/10.1002/mpr.1537

Johnson, V. D. (2007). Promoting behavior change: Making healthy choices in wellness and healing choices in illness—use of Self-Determination Theory in nursing practice. *Nursing Clinics of North America, 42*(2), 229-241. https://doi.org/10.1016/j.cnur.2007.02.003

Keyes, C. L. (2007). Promoting and protecting mental health as flourishing: A complementary strategy for improving national mental health. *American Psychologist, 62*(2), 95–108. https://doi.org/10.1037/0003-066X.62.2.95

Khangura, S., Konnyu K., Cushman R., Grimshaw J., & Moher, D. (2012). Evidence summaries: The evolution of a rapid review approach. *Systematic Reviews*, *1*(1), 10. https://doi.org/10.1186/2046-4053-1-10

Leaman, J., Richards, A. A., Emslie, L., & O'Moore, E. J. (2017). Improving health in prisons - from evidence to policy to implementation - experiences from the UK. *International Journal of Prisoner Health*, *13*(3-4), 139-167. https://doi.org/10.1108/IJPH-09-2016-0056

Lynch, M. F., La Guardia, J. G, & Ryan, R. M. (2009). On being yourself in different cultures: Ideal and actual self-concept, autonomy support, and well-being in China, Russia, and the United States. *Journal of Positive Psychology*, *4*(4), 290–304. https://selfdeterminationtheory.org/SDT/documents

Maree, K. (2016). *First steps in research* (2nd ed.). Van Schaik Publishers.

Martela, F., & Ryan, R. M. (2016). Prosocial behavior increases well-being and vitality even without contact with the beneficiary: Causal and behavioral evidence. *Motivation and Emotion*, *40*(3), 351. https://doi.org/10.1007/s11031-016-9552-z

Medalia, A., & Brekke, J. (2010). In search of a theoretical structure for understanding Motivation in Schizophrenia. *Schizophrenia Bulletin*, *36*(5), 912-918. https://doi.org/10.1093/schbul/sbq073.

Moran, G., Russinova, Z., Yim, J., & Sprague, C. (2014). Motivations of persons with psychiatric disabilities to work in Mental Health Peer Services: A Qualitative study using Self-Determination Theory. *Journal of Occupational Rehabilitation*, *24*(1), 32–41. https://doi.org/10.1007/s10926-013-9440-2

National Mental Health Policy Framework and Strategic Plan (2012). https://www.safmh.org.za/documents/policies

Ng, J. Y., Ntoumanis, N., Thogersen-Ntoumani, C., Deci, E. L., Ryan, R. M., Duda, J. L., & Williams, G. C. (2012). Self-Determination Theory applied to health contexts: A meta-analysis. *Perspectives on Psychological Science*, *7*(4), 325–340. https://doi.org/10.1177/1745691612447309

Park, J., & Chen, R. K. (2016). Positive psychology and hope as means to recovery from mental illness. *Journal of Applied Rehabilitation Counseling*, *47*(2), 34–42. https://doi.org/10.1891/0047-2220.47.2.34

Pearson, A., White, H., Bath-Hextall, F., Salmond, S., Apostolo, J., & Kirkpatrick, P. (2015). A mixed-methods approach to systematic reviews. *International Journal of Evidence-Based Healthcare, 13*(3), 121–131. https://doi.org/10.1097/ XEB.0000000000000052

Raeburn, T. (2016). *Recovery-oriented practices within an Australian psychosocial Clubhouse: A case study analysis*. (Unpublished doctoral dissertation). *Dissertation Abstracts International Section C: Worldwide*. https://search-ebscohost-com.nwulib.nwu.ac.za

Reynen, E., Robson, R., Ivory, J., Hwee, J., Straus, S. E., Pham, B., & Tricco, A. C. (2017). A retrospective comparison of systematic reviews with same-topic rapid reviews. *Journal of Clinical Epidemiology*, *96*(1), 23-34. https://doi.org/10.1016/j.jclinepi.2017.12.001

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78. https://doi.org/10.1037/0003-066X.55.1.68

Ryan, R. M., & Deci, E. L. (2008). A Self-Determination Theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology*, *49*(3), 186-193. https://doi.org/ 10.1037/a0012753

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press.

Ryan, R. M., Patrick, H., Deci, E. L., & Williams, G.C. (2008). Facilitating behaviour change and its maintenance: Interventions based on Self-determination theory. *The European Health Psychologist, 10*(2), 1-5. https://selfdeterminationtheory.org/SDT/documents/...EHP.pdf

Seligman, M. E. (2019). Positive Psychology: A Personal History. *Annual Review of Clinical Psychology*, *15*, 1–23. https://doi.org/10.1146/annurev-clinpsy-050718-095653

Shepley, M. M., Watson, A., Pitts, F., Garrity, A., Spelman, E., Kelkar, J., & Fronsman, A. (2016). Mental and behavioral health environments: Critical considerations for facility design. *General Hospital Psychiatry*, *42*(1), 15-21. https://doi.org/10.1016/j.genhosppsych.2016.06.003

Silva, M. N., Marques, M. M., & Teixeira, P. (2014). Testing theory in practice: The example of Self-determination theory interventions. *The European Health Psychologist, 16*(5), 171-180. https://www.researchgate.net/ publication/273132506.

Teixeira, P. J., Marques, M. M., Silva, M. N., Brunet, J., Duda, J. L., Haerens, L., La Guardia, J., Lindwall, M., Lonsdale, C., Markland, D., Michie, S., Moller, A. C., Ntoumanis, N., Patrick, H., Reeve, J., Ryan, R. M., Sebire, S. J., Standage, M., Vansteenkiste, M.,...& Hagger, M. S. (2020). A classification of motivation and behavior change techniques used in self-determination theory-based interventions in health contexts. *Motivation Science*. Advance online publication. https://doi.apa.org/doiLanding?doi=10.1037%2Fmot0000172

Tricco, A. C., Antony, J., Zarin, W., Strifler, L., Ghassemi, M., Ivory, J., Perrier, L., Hutton, B., Moher, D., & Straus, S. E. (2015). A scoping review of rapid review methods. *BMC Medicine*, *13*(1), 1–15. https://doi.org/10.1186/s12916-015-0465-6

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, *23*(3), 263-280. https://doi.org/10.1037/a0032359

Vergnes, J. N., Marchal-Sixou, C., Nabet, C., Maret, D., & Hamel, O. (2010). Ethics in Systematic Reviews. *Journal of Medical Ethics*, *36*(12), 771-774. https://doi.org/10.1136/jme.2010.039941

Wager, E., & Wiffin, P.J. 2011. Ethical issues in preparing and publishing systematic reviews. *Journal of Evidence-based Medicine*, *4*(2), 130-134. https://doi.org/10.1111/j.1756-5391.2011.01122.x

Weinstein, N., Khabbaz, F., & Legate, N. (2016). Enhancing need satisfaction to reduce psychological distress in Syrian refugees. *Journal of Consulting and Clinical Psychology*, *84*(7), 645-650. https://doi.org/10.1037/ccp0000095

Willemse, B. M., Downs, M., Arnold, L., Smit, D., de Lange, J., & Pot, A. M. (2015). Staff resident interactions in long-term care for people with dementia: The role of meeting psychological needs in achieving residents' well-being. *Aging & Mental Health,19(5), 444–452.* https://doi.org/10.1080/13607863.2014.944088

Section B: Manuscript

Author Guidelines

Publishing Ethics

By submitting to the Journal of Psychology in Africa for publication review, the author(s) agree to any originality checks during the peer review and production processes. A manuscript is accepted for publication review on the understanding that it contains nothing that is abusive, defamatory, fraudulent, illegal, libellous, or obscene. During manuscript submission, authors should declare any competing and/or relevant financial interest which might be potential sources of bias or constitute conflict of interest. The author who submits the manuscript accepts responsibility for notifying all co-authors and must provide contact information on the co-authors.

Manuscripts

Manuscripts should be written in English and conform to the publication guidelines of the latest edition of the American Psychological Association (APA) publication manual of instructions for authors. Manuscripts can be a maximum of 7 000 words.

Submission

Manuscripts should be prepared in MSWord, double spaced with wide margins and submitted via the journal's Editorial Manager system.

Before submitting a manuscript, authors should peruse and consult a recent issue of the Journal of Psychology in Africa for general layout and style.

Manuscript Format

All pages must be numbered consecutively, including those containing the references, tables and figures. The typescript of a manuscript should be arranged as follows:

- Title: this should be brief, sufficiently informative for retrieval by automatic searching techniques and should contain important keywords (preferably < 13).
- Author(s) and Affiliation(s) of author(s): The corresponding author must be indicated. The author's respective affiliation where the work was done must be indicated. An e-mail address for the corresponding author must be provided.
- Abstract: Articles and abstracts must be in English. Submission of abstracts translated to French, Portuguese and/or Spanish is encouraged. For data-based contributions, the abstract should be structured as follows: Objective – the primary purpose of the paper; Method – data source, participants, design, measures, data analysis; Results – key findings, implications, future directions; and Conclusions – in relation to the research questions and theory development. For all other contributions (except editorials, book reviews, special announcements) the abstract must be a concise statement of the content of the paper. Abstracts must not exceed 150 words. The statement of the abstract should summarise the information presented in the paper but should not include references.
- Text: (1) Per APA guidelines, only one space should follow any punctuation; (2) Do not insert spaces at the beginning or end of paragraphs; (3) Do not use colour in text; and (4) Do not align references using spaces or tabs, use a hanging indent.

- Tables and figures: These should contain only information directly relevant to the content of the paper. Each table and figure must include a full, stand-alone caption, and each must be sequentially mentioned in the text. Collect tables and figures together at the end of the manuscript or supply as separate files. Indicate the correct placement in the text in this form <insert Table 1 here>. Figures must conform to the journal's style. Pay particular attention to line thickness, font and figure proportions, taking into account the journal's printed page size – plan around one column (82 mm) or two column width (170 mm). For digital photographs or scanned images the resolution should be at least 300 dpi for colour or greyscale artwork and a minimum of 600 dpi for black line drawings. These files can be saved (in order of preference) in PSD, PDF or JPEG format. Graphs, charts or maps can be saved in AI, PDF or EPS format. MS Office files (Word, PowerPoint, Excel) are also acceptable but DO NOT EMBED Excel graphs or PowerPoint slides in an MS Word document.

Referencing

Referencing style should follow latest edition of the APA manual of instructions for authors.

- References in text: References in running text should be quoted as follows: (Louw & Mkize, 2012), or (Louw, 2011), or Louw (2000, 2004a, 2004b). All surnames should be cited the first time the reference occurs, e.g., Louw, Mkize, and Naidoo (2009) or (Louw, Mkize, & Naidoo, 2010). Subsequent citations should use et al., e.g. Louw et al. (2004) or (Louw et al., 2004). 'Unpublished observations' and 'personal communications' may be cited in the text, but not in the reference list. Manuscripts submitted but not yet published can be included as references followed by 'in press'.

- Reference list: Full references should be given at the end of the article in alphabetical order, using double spacing. References to journals should include the author's surnames and initials, the full title of the paper, the full name of the journal, the year of publication, the volume number, and inclusive page numbers. Titles of journals must not be abbreviated. References to books should include the authors' surnames and initials, the year of publication, full title of the book, the place of publication, and the publisher's name.

Manuscript for Submission

Self-determination theory and strategies aimed at the basic psychological needs of psychiatric patients: A rapid review

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Abstract

Self-determination theory (SDT) indicates that autonomous motivation, well-being and adaptive functioning are influenced by the fulfilment of basic psychological needs (BPN), which entail autonomy, competence and relatedness. This study aimed to explore what is known about strategies that support BPN in psychiatric samples from current scientific literature. A rapid review was conducted, which included an analysis of 15 articles according to the Joanna Briggs Institute (JBI) guidelines for reviews. Qualitative thematic analysis was conducted on both qualitative and quantitative studies. Four overarching themes that emerged were autonomy, competence and relatedness supportive strategies, as well as strategies to enhance the effectiveness of interventions. However, the proposed strategies need to be tested and validated in specific contexts, both in practice and research.

Keywords: Self-determination Theory (SDT), Basic Psychological Needs (BPN), Autonomy, Competence, Relatedness, Psychiatric, Severe Mental Illness

Rationale

Basic psychological needs (BPN), as part of the self-determination theory (SDT) (Deci & Ryan, 2000), has been linked to enhanced well-being, functioning and motivation in various different contexts, including healthcare, psychotherapy, sport and physical activity, school environments, as well as work and organisations (Davids, Roman, & Kerchhoff, 2017; Nie, Chua, Yeung, Ryan, & Chan, 2015; Ryan & Deci, 2017). These include samples of psychiatric patients, such as patients with first episode psychosis (Breitborde, Kleinlein, & Srihari, 2012), patients with severe mental illness (Farholm, Sørensen, et al., 2017), outpatients with severe mental illness (Jochems, Duivenvoorden, Van Dam, Feltz, & Mulder, 2017), and other specific psychological disorders (Ryan & Deci, 2017).

In addition to validating links between constructs of SDT, there has been a focus toward practical strategies that promote the fulfilment of BPN in various groups and settings, such as education, work and sport and performance settings (Ryan & Deci, 2017; Vansteenkiste & Ryan, 2013). Such strategies have also focused on samples of vulnerable people that can be related to psychiatric patients in general, such as long term geriatric care patients (Duncan, Killian, & Lucier-Greer, 2017), patients with dementia (Willemse et al., 2015) and relocated refugees (Weinstein, Khabbaz, & Legate, 2016). The need to develop practical SDT-based techniques or strategies continues to be emphasized in healthcare settings (Gillison, Standage, Sebire, & Ryan, 2019; Teixeira et al., 2020). However, little research could be found to comprehensively explore and describe SDT-based strategies in psychiatric samples, and such findings have not yet been described in a review study up to date.

As SDT-derived strategies have proven effective across many domains, it is justified that it should also receive attention in psychiatric samples. The established

theoretical base of SDT provides a foundation from which to explore strategies aimed at BPN of people in psychiatric contexts (Huck, Finnicum, Morrison, Kaseroff, & Umucu, 2018). Such strategies can span over various intervention levels in psychiatric settings. These can include the individual level, such as in psychotherapy (Axer, 2012), interactions with healthcare professionals (Barrio, Cyr, Benisty, & Richard, 2013; Farholm, Halvari, Niemiec, Williams, & Deci, 2017; Johnson, 2007), or the patient's physical and psycho-social environment (Ellingsen-Dalskau, Morken, Berget, & Pedersen, 2015; Shepley et al., 2016). This creates an opportunity for multi-level approaches to address the fulfilment of the BPN in psychiatric samples in general, including institutionalised and community-based patients.

SDT explains that people naturally move toward growth and well-being when their basic needs for autonomy, competence and relatedness have been met (Deci & Ryan, 2000). The basic psychological needs theory (BPNT) (Ryan & Deci, 2017) connects the fulfilment of autonomy, competency and relatedness to improved well-being, functioning and integration. The frustrations of those same needs are furthermore connected to ill-being and a greater risk of developing pathology (Vansteenkiste & Ryan, 2013).

As defined by Ryan and Deci (2017), autonomy is regarded as a person's sense of choice or will, and includes one's degree of perceived voluntary behaviour. Autonomy is achieved when a person's behaviour reflects their values or interests. The degree to which such values or interests are integrated into the self, determine the level of autonomy experienced when performing the specific behaviour (Ryan & Deci, 2000).

Competence refers to a sense of effectiveness or mastery in interacting with the environment, and includes expressing of one's abilities or the growing of skills (Deci & Ryan, 1985). It may also be experienced when a person feels responsible for a competent act or when receiving positive feedback (Deci & Ryan, 2000).

Relatedness includes experiences of involvement, connectedness, as well as a sense of belonging (Deci & Ryan, 2017). Moreover, it involves a sense of adding value to a certain social group and of having a significant place in it. Cook and Jonikas (2002) found that the BPN of psychiatric patients was significantly unfulfilled, and even up to date this has not yet been comprehensively addressed.

Therefore, the purpose of this study was to examine current scientific literature for SDT-informed strategies that are suggested to support the BPN fulfilment of psychiatric patients. In addition, this study aimed to describe a collective set of such suggested strategies, which researchers and practitioners can consider to test and validate in their specific contexts. A combination of strategies can provide creative insight and perspective which can guide the practice and policy at different types of psychiatric institutions, as well as manifest itself within different intervention levels according to their specific needs and resources. This is especially necessary in South African mental healthcare, as a significant difference is noted between stated mental healthcare values and goals, such as autonomy-support, community integration and least restrictive treatment, and the reality that patients experience (Mental Health Policy Framework, 2012; Dlamini, Personal Communication, November 29, 2019). In addition, this study can serve as a departure point for further research into strategies to enhance the fulfilment of BPN in psychiatric patients. Lastly, this review study will expand the basis of knowledge and scope of practice of the increasingly popular SDT by strengthening the link to the psychiatric context.

Method

Research Design

A qualitative approach was considered appropriate to the study aims, which were to explore and describe a variety of strategies rather than to evaluate the effectiveness

thereof. The study was grounded in the constructivist framework, in that it viewed the data as knowledge derived from the experiences researchers, practitioners and patients had of SDT, as well as the meanings they attached to it (Maree, 2016).

The design was a rapid review of current literature. Rapid reviews are conducted to promptly address clinical health needs or inform decision-making on policy levels (Hartling et al., 2017; Reynen et al., 2017), which made it appropriate to address the inadequate BPN fulfilment of psychiatric patients. It is implemented in shorter time and requires fewer authors than systematic reviews (Reynen et al., 2017). The current study involved two authors: one primary and one secondary reviewer. Rapid reviews also use a more specified review question, which allows the inclusion criteria to be more specifically defined (Ganann, Ciliska, & Thomas, 2010). The review question that guided this study was:

> What SDT-informed strategies can be identified from current scientific literature that are aimed at the BPN of psychiatric patients?

Inclusion and Exclusion Criteria

In relation to the review question, a wide variety of studies were included. The following criteria common to rapid reviews (Reynen et al., 2017; Tricco et al., 2015) were used to include the studies listed: full-text journal studies, peer-reviewed studies, non-peer reviewed studies, quantitative studies, qualitative studies, mixed- method studies, review studies and PhD studies between the years 1985 and 2019. Non-peer reviewed and PhD studies were also included, as the aim was to explore a variety of existing strategies rather than to evaluate the effectiveness of existing strategies. The exclusion of certain studies was to enhance the efficiency of the search process, and the criteria were: studies published in languages other than English, studies that did not describe strategies informed

by SDT, studies that did not focus on psychiatric patients or people with mental illness, and grey literature such as conference proceedings.

Research Process

The steps in the review process are suggested by the Joanna Briggs Institute (JBI) guidelines for systematic reviews (Aromataris & Munn, 2017) and are illustrated in Figure 1.

<insert Figure 1 here>

Search strategy

A scope review was done in collaboration with a North-West University Library Information Specialist. Keywords in the search were identified by using constructs described in SDT. In addition, terminology related to "psychiatric samples" and "strategies" were expanded by including, firstly, descriptive words of article titles in the scope review, and secondly, descriptive words found in reference lists. The following keywords and Boolean operators were used:

"self-determination theory" or "basic psychological needs theory" AND
"psychiatric" or "mental ill" or "mental disorder"* AND
"strategies" or "methods" or "techniques" or "interventions" or "practices" or "treatment" or "outcomes" or "suggestions" or "support" or "design" or "implement" or "consideration" or "effect" AND
"strengthen" or "promot" or "enhanc*" or "improv*" or "fulfil*" or "satisfaction" or "effectiveness"*

This study made use of the EBSCO Discovery Service, which provided access to over 70 databases that the North-West University was subscribed to, including PsychInfo, Medline, Academic Search Primer, ScienceDirect, Directory of Open Access Journals, PsycArticles and OAlster.

Titles, abstracts and full-texts were screened and assessed for relevance to the research question. Full text articles not available in the initial search were obtained by contacting authors directly, or discarded if contact was unsuccessful. The search process is illustrated in Figure 2.

<insert Figure 2 here>

Quality appraisals

Critical appraisals for quality were conducted by the primary reviewer and evaluated by the secondary reviewer, and discrepancies were resolved. The purpose was to transparently indicate the quality of the selected studies, rather than to exclude studies based on quality, which was appropriate to the aim of the study. The JBI QARI, JBI MASTARI and JBI SUMARI (JBI, 2017) were used respectively for qualitative, quantitative and text and opinion studies. The criteria for quality appraisals are indicated in Table 1.

<insert Table 1 here>

Data extraction

Quality appraisal was followed by data extraction. The research methods, main findings and identified strategies associated with BPN were extracted and summarised. The format was based on the suggested qualitative extraction table of the JBI (2014), with a category added for “strategies identified”. This is illustrated in Table 2.

<insert Table 2 here>

Data analysis and synthesis

Thematic analysis was conducted after data extraction. The focus of the thematic analysis was to consider explicit themes in the data relevant to the research question, and was informed by the SDT concepts of autonomy, competency and relatedness – the three BPNs.

The analysis was guided by Braun and Clarke's (2006) widely recognised six step process (Clarke & Braun, 2013; Clarke & Braun, 2018), which allows moving through steps numerous times in a cyclical manner. The approach was mainly deductive as data was viewed through a SDT lens. The first step was immersion in the data, which involved in-depth reading of the selected articles with specific focus on identifiable strategies. The second step, developing codes, was done by extracting identifiable strategies. These were coded by breaking the strategies down into smaller pieces in the form of single sentences or concepts. Two examples of such data codes were "provide choices of activities" and "include desirable activities".

In the third step, similar pieces of data were grouped together into eligible themes. In the fourth step, themes and sub-themes were refined and clarified. The fifth step included drawing links between themes, and in the sixth step a coherent description of the themes was created. Finally, themes and sub-themes were considered in relation to the research question, and conclusive statements were drawn according to these results. As a quality enhancement measure, all data were reviewed once more against the identified themes, and refinements were made.

Ethical Considerations

Ethical approval was obtained from the North-West University Health Research Ethics Committee (HREC), with approval number N W U - 0 0 4 8 8 - 2 0 - A 1. Ethical guidelines for review studies (Pearson et al., 2015) which were considered, included partial triangulation by using two reviewers and conformability by saving search records and reflective notes. In addition, a criterion for ethical appraisal of scope was included in quality appraisals (Vergnes, Marchal-Sixou, Nabet, & Maret 2010). Furthermore, qualitative research guidelines for promoting trustworthiness (Amankwaa, 2016) were maintained through transparent descriptions of every component of the study. Moreover, a

comprehensive variety of sample studies promoted transferability (Leaman, Richards, Emslie, & O'Moore, 2017).

Findings

From the 15 studies that met the selection criteria, 14 were peer-reviewed, with seven published in USA journals, two in UK journals, one in a Scandinavian journal, and four in international journals. One was a PhD study that included three peer-reviewed articles, published in an international journal, a UK journal and a USA journal respectively. There were four studies that used qualitative methods, six that were quantitative and five that were based on text and opinion studies.

Thematic analysis of the 15 studies that met the criteria indicated four overarching themes, namely autonomy focused strategies, competence focused strategies, relatedness focused strategies, and strategies that focused on the effectiveness of intervention programmes. A thematic map is illustrated in Figure 3.

<insert Figure 3 here>

Theme 1: Autonomy Focused Strategies

The first overarching theme involved giving individuals opportunities to express themselves according to their inner values and goals. Six main themes were identified, including offering individuals a voice, offering a choice, providing meaningful rationales, tapping into personal values and goals, minimizing restriction, and the careful use of extrinsic contingencies.

1.1. Offering individuals a voice. Voice is offered by creating opportunities for users to experience having a voice and by receiving their expressions of voice appropriately.

1.1.1. Creating opportunities for voice emerged as a first subtheme from three studies. It stressed the need for healthcare personnel to encourage individuals to express

themselves (Raeburn, 2016), to share their experience of treatment and treatment progress, and to ask questions (Lynch, Plant, & Ryan, 2005). One suggestion was to promote voice by including members in management meetings and for staff to encourage informal feedback meetings (Raeburn, 2016). For outpatients, the Comprehensive Health Enhancement Support System (CHESS) smartphone app was suggested to support voice through weekly check-in feedback surveys, which allowed patients to share their experiences (McTavish, Chih, Shah, & Gustafson, 2012).

1.1.2. Receiving voice appropriately was a subtheme that was further prevalent from five studies. It emphasized that besides creating opportunities for voice, healthcare professionals should listen in such a way that individuals feel understood (Jochems et al., 2017) and that their opinions are valued and accepted (Jochems et al., 2017; Raeburn, 2016). It entailed showing genuine interest (Farholm, Sørensen, et al., 2017) and acknowledged users' perspectives and emotions (Britton, Williams, & Conner, 2008), including their negative experiences (Jochems, Mulder, Van Dam, & Duivenvoorden, 2011) such as concerns, doubts, fears and obstacles regarding treatment (Britton et al., 2008). It was noted that such principles could be implemented in practice through Motivational Interviewing's (MI) principle of reflective listening (Britton et al., 2008).

1.2. Offering individuals choices. Autonomy is supported by increasing users' opportunities for making choices, emphasizing their existing choices and respecting the choices they made.

1.2.1 Increasing opportunities for choices emerged as a first subtheme from nine studies (Farholm, Sørensen, et al., 2017; Jochems et al., 2011; Lynch et al., 2005). It involved suggestions that members could be allowed choices such as which activities to participate in, or to cease participation, or which staff to engage with, or the topics of desired training courses (Raeburn, 2016), as well as which consequences or privileges to

be implemented in response to undesirable or desirable behaviours (Conte, Snyder, & McGuffin, 2008).

There were suggestions for including choices of desirable or enjoyable activities, such as exercise, walking or swimming groups, basketball or billiards (Huck et al., 2018). Examples of cost-effective choices available from the CHESS app were choices of tools, information services (Muroff et al., 2017) and notifications of events in the area considered to be low-risk for relapse to substance use (McTavish et al., 2012).

1.2.2. Emphasizing available choices. In addition to creating choices, it was suggested in five studies that therapists and staff intentionally emphasize existing choices available to users (Conte et al., 2008). This could be followed by connecting such choices to their interests or goals as well as encouraging them to act on their personal choices. Examples included emphasizing choices of available treatment options (Britton et al., 2008; Wu et al., 2000) or daily life choices, such as choosing how to spend free time (Jochems et al., 2017). An example from psychotherapy was supporting suicidal patients' autonomy by highlighting their choice in the decision for life or death; which allow them to perceive themselves as responsible and to own their choice to commit to treatment (Britton et al., 2008).

1.2.3. Respect user choices. Furthermore, two studies described that users' choices should be respected instead of resisted. This could be achieved through the MI principle of "rolling with resistance", which involves listening empathically and validating both sides of ambivalence; for example, for either engaging or not engaging in treatment (Britton et al., 2008; Pickens, 2012).

1.3. Providing meaningful rationales. This theme emerged from six studies, and described that autonomy is fostered through helping patients develop a rationale for engaging in desired behaviour (Jochems et al., 2011). It was emphasized that healthcare

providers should give meaningful reasons for recommendations, decisions made (Britton et al., 2008) or preferred outcomes (Farholm, Sørensen, et al., 2017). An example was to provide information about the benefits of physical activities (Huck et al., 2018). This principle was emphasized for situations wherein choices were limited or specific options had to be enforced (Lynch et al., 2005). An example was where a patient may use hostility to assert their dissatisfaction. They could be taught that they can also communicate their distress or need, in addition to their anger, which could enable them to realise that anger results in restraint, whereas conveying distress and needs may result in support (Conte et al., 2008).

1.4. Tapping into personal values and goals. This theme developed from three studies, and involved building intrinsic motivation by making connections to the internal values and goals of users. It suggested that therapists should recognize and reflect on users' personal interests and goals (Britton et al., 2008) and connect them to available treatment options (Wu et al., 2000). Mental health peer services apply this principle by tapping into values such as meaning, purpose, authenticity and personal contribution. Individuals who have lived through the experience of severe mental illness – and who are coping and managing their illness – are assigned to form a supportive relationship with those users who are currently or newly experiencing severe mental illness. It has been described as "a calling", "a mission", "important" and "meaningful" (Moran, Russinova, Yim, & Sprague, 2014). Furthermore, the principle of MI of *summarising* a person's "living talk" or "change talk" develops a discrepancy between their current behaviour and their internal values and goals (Britton et al., 2008).

1.5. Minimizing restriction. This theme was reflected in two articles, and suggested to refrain from using restrictive measures such as seclusion or restraint as far as possible. This would allow residents to struggle with potential crises, solve problems and

process the information, which prepares them to cope in less restricting environments through growth of their own internal coping resources (Conte et al., 2008; Jochems et al., 2017).

1.6. Careful use of extrinsic contingencies emerged as a theme from four studies. It described the principle that autonomy is supported by avoiding or minimising external contingencies and controls (such as rewards and punishments), as these could undermine intrinsic motivation in the long term (Farholm, Sørensen, et al., 2017; Jochems et al., 2011; Wu et al., 2000). However, incentives or rewards could encourage initial participation in recommended treatment programmes, and seemed to have more value if matched with the personal interests of users (Huck et al., 2018). Examples included a special sugar free drink, pocket-money, or help with access to education courses, to help users achieve personally meaningful goals.

Theme 2: Competence Focused Strategies

This overarching theme included strategies suggested to promote experiences of mastery and a sense that behaviour resulted in desired outcomes. The included themes were: promoting accessibility to resources, personalising activities, creating exposure to work environments, supporting treatment activities and doing goal evaluations.

2.1. Promoting accessibility to resources. The importance of accessibility to relevant information and resources became prevalent from four studies, and numerous suggestions were mentioned. Time-appropriate resources from the CHESS app (McTavish et al., 2012; Muroff et al., 2017) included the *online discussion boards* and the "*ask an expert"* option, allowing users access to a professional within 48 hours. An *instant library* of resources included recovery stories in video and text format, articles, approved websites, as well as tips about addiction, medication adherence and coping strategies of

previous users. Other resources included tools such as relaxation exercises or reminders of appointments.

In addition to the app, there were recommendations to provide access to stories of positive treatment or positive supported working experiences through newsletters or information booklets (Raeburn, 2016). In physical activity groups, suggested resources included information about physical activity and its benefits, as well as access and transport to facilities (Huck et al., 2018).

2.2. Personalizing activities to members emerged from five studies and involved pursuing optimal interest and appropriate challenge. One suggestion was to structure therapeutic activities according to individual ability in order to provide a moderate, optimal challenge (Lynch et al., 2005; Wu et al., 2000). Other suggestions were to match members to activities, duties or work opportunities according to their interests, strengths, and levels of self-efficacy (Raeburn, 2016). In physical activity groups, this involved grouping participants appropriately according to their limitations, as well as tailoring physical activities to the needs and abilities of patients (Farholm, Sørensen, et al., 2017; Huck et al., 2018).

2.3. Creating exposure to work environments emerged as a theme from two studies. It described using work related activities to build experiences of purpose, effectiveness, and of having some kind of influence on the future, as well as providing something to look forward to. Examples from a clubhouse model included supported employment programmes or simulated work-day schedules, with tasks like telephone duty, contributing to a newsletter or website, art and drama activities, preparing meals, doing horticultural work or building maintenance, or managing social, community or fundraising initiatives (Raeburn, 2016). Mental health peer-service also created vocational experiences that included managing a workload, collaborating with multidisciplinary team members

and pursuing vocational goals (Moran et al., 2014). It was further suggested that users get paid as part of such services (Moran et al., 2014).

2.4. Providing support with treatment activities. Data analysis also indicated the need for sufficient structure and instruction, practice of skills, encouragement, and positive affirmations.

2.4.1. Providing structure and instruction was a subtheme evident in four studies. It emphasized that treatment activities be broken down into manageable steps, and that clear expectations (Wu et al., 2000), sufficient instructions (Farholm, Sørensen, et al., 2017) and proper demonstration be provided (Raeburn, 2016), including demonstrations of appropriate coping skills (Conte et al., 2008).

2.4.2. Allowing practise of skills was a subtheme highlighted in three studies. It advocated that users should receive the necessary exposure to tools and skills required to achieve their desired behaviours or goals (Jochems et al., 2017), and be allowed adequate time to practise (Farholm, Sørensen, et al., 2017), for example, competence for physical activity could be enhanced through practise on exercise equipment (Moran et al., 2014).

2.4.3. Provide encouragement. This subtheme was prevalent in four studies and suggested that patients be actively inspired and encouraged to believe in their ability to engage in treatment behaviour (Jochems et al., 2011; Moran et al., 2014; Raeburn, 2016). Examples on the CHESS app were motivational phrases sent daily to users of the app, and a daily counter offering a constant reminder of the number of days that sobriety has been achieved or treatment complied with (McTavish et al., 2012).

2.4.4. Giving positive affirmations. Five studies highlighted the need for positive affirmations. Verbal feedback could be used to affirm users' adaptive behaviours, knowledge, efficacy in treatment behaviours (Britton et al., 2008; Wu et al., 2000) and progress (Jochems et al., 2011; Lynch et al., 2005). This could be practised through a MI

"way of being" (Britton et al., 2008; Pickens, 2012), as well as affirming the connections between users' appropriate actions and the resulting outcomes (Wu et al., 2000).

2.5. Conducting goal evaluation. A theme of the importance of setting and evaluating goals emerged from five studies. It suggested that therapists encourage the setting of treatment goals (Wu et al., 2000) and daily life goals (Lynch et al., 2005). Opportunities for goal-setting could be created through scheduled goal-setting meetings. A staff member could meet with a group of patients on a regular basis to discuss treatment goals and assess their progress (Raeburn, 2016). This can include writing down goals and breaking them into manageable parts. In addition to setting goals, it was emphasized that healthcare providers should support residents in interpreting successes and failures on tasks and goals (Conte et al., 2008). When evaluating goals, skill development should be emphasized rather than outcome goals or making interpersonal comparisons (Farholm, Sørensen, et al., 2017).

Theme 3: Relatedness-focused Strategies

The strategies in this overarching theme were concerned with promoting dedicated involvement of users, as well as a sense of belonging and contribution to significant relationships. Five themes emerged under this overarching theme, including creating meaningful connections, opportunities for collaboration, promoting a sense of community, involving relatives, and establishing a positive identity in the community.

3.1. Creating meaningful connections. The need to emphasize relatedness was clear for users' relationships with healthcare providers as well as their peers.

3.1.1. Connections with healthcare providers. This subtheme arose from three articles and entailed that a strong therapeutic alliance be prioritized in the client-healthcare provider relationship (Britton et al., 2008; Pickens, 2012). This could be achieved through a MI "way of being", by expressing empathy and using reflective listening (Pickens,

2012). Furthermore, it was suggested that warmth, genuine interest and even liking should be communicated between staff and users (Lynch et al., 2005).

3.1.2. Connections among peers. In addition, it was clear from four articles that opportunities should be created for meaningful connections among peers. Mental health peer-services created relationships that provided a unique, authentic and reciprocal way of connecting. It was described as "an emotional home" where "no one is above or below on another" and even "more real than traditional therapy" (Moran et al., 2014).

The CHESS app promoted connection though building a profile and establishing friends on the app (McTavish et al., 2012). Emotional support could be shared anonymously between users of the app through online support groups (McTavish et al., 2012). Groups such as physical activity groups could also provide a platform for developing meaningful social connections (Farholm, Sørensen, et al., 2017) by creating a climate of acceptance and camaraderie, which could be facilitated by shared life circumstances and common goals among users (Huck et al., 2018).

3.2. Creating opportunities for collaboration. This theme emphasized creating collaboration through joint efforts as well as through joint decision-making.

3.2.1. Collaboration through joint efforts was a subtheme described by one study. It suggested fostering collaborative efforts by employing sufficient staff to engage with and support members, but not enough to complete daily responsibilities without collaborating with members (Raeburn, 2016). Members could thus experience a shared ownership of responsibilities as well as a sense of contribution and being relied upon.

3.2.2. Collaboration through joint decision making emerged as a subtheme from one study, which advocated for including members in decision-making groups such as meetings of facility management, programme planning or programme feedback (Raeburn, 2016).

3.3. Promoting a sense of community was a theme that stood out from one study and included two subthemes.

3.3.1. Creating a receptive environment entailed creating a safe environment that values inclusion, participation, respect and a sense of belonging, as well as provides consistent support. It was suggested that in practice, these mentioned values could be displayed in a visible area. The way each value is implemented and experienced by members can be routinely discussed. Staff can then continuously encourage such values, for example, when they encourage respectful communication between members at random times (Raeburn, 2016).

3.3.2. Normalising of interfering symptoms is another subtheme that stood out. Staff members were encouraged to exhibit receptive attitudes toward users who experience interfering symptoms such as thought disorder. Instead of attempting to direct their attitudes or thoughts, staff could further support their expression, choice and participation (Raeburn, 2016).

3.4. Involving relatives emerged from five studies and were concerned with users' experience of emotional support and interest from their relatives. It included two subthemes.

3.4.1. Establishing contact with relatives. This subtheme was described in three studies and suggested enhancing relatedness through re-establishing social and family relationships (Farholm, Sørensen, et al., 2017; Jochems et al., 2011; Raeburn, 2016). An example from the CHESS app was that significant others were made accessible in high-risk situations, as they received a text message when the panic button was pressed (McTavish et al., 2012).

3.4.2. Involving relatives in treatment plans. A second subtheme that emerged from two studies suggested that relatives be informed of the significance of their

relationship with the patient in treatment. In addition, they should be educated on treatment principles to enhance the transfer of skills, such as autonomy support for example, to different settings (Wu et al., 2000), as well as guided on supporting the patient post-discharge (Muroff et al., 2017).

3.5. Establishing a positive identity in the community emerged as a theme from two studies and entailed enhancing connections between patients and the community, as well as reframing community views of patients from "burdens" into a "community responsibility" (Perlman et al., 2017; Raeburn, 2016). Examples were that users could participate in mental health awareness campaigns, or on a more consistent basis establish partnerships with local businesses for supported employment opportunities. Another suggestion was self-funding initiatives, such as those used by social firms, to facilitate interactions between members and local communities. One example was opening a charity shop that is open to community members (Raeburn, 2016).

4. Strategies Focused on the Effectiveness of Interventions

This overarching theme included factors associated with the effectiveness of SDT-related interventions, and focused on policy-making, management interactions with staff, training of personnel, and general language use. Four themes were identified.

4.1. Incorporating strategies at policy and management levels was an evident theme in three studies and included three subthemes.

4.1.1. Adjusting the conceptualization of illness and wellness stood out as a theme and called for broadening the understanding of the concept of recovery at directive, policy and management levels, i.e. to move from considering only clinical recovery to include personal recovery, which involves fulfilment of BPN (Huck et al., 2018; Moran et al., 2014; Raeburn, 2016).

4.1.2. Including strategies in organisational documentation emerged as a second subtheme, which emphasized that the expression of an organisation's commitment to recovery-orientated practices (such as self-determination) should be comprehensively documented (Raeburn, 2016). Some examples were to include SDT-related commitments in vision and mission statements, health-promotion materials, websites and on-the-job descriptions and evaluation forms of healthcare workers. In addition, the impact of such strategies on the recovery and self-determination of individuals should be illustrated by recording testimonial stories or quotes. An example of a clubhouse member's quote was: "Working is very important to me and helps me to keep well" (Raeburn, 2016).

4.1.3. Pursuing organisational autonomy was a third subtheme that emerged and held the premise that in order to advance self-determination on an institutional level, self-sustaining approaches to funding should be adopted instead of complete reliance on government funding (Raeburn, 2016). By adopting the approach of social firms, individual and community resources are considered to create income opportunities, as illustrated in the example of opening of a charity shop.

4.2. Optimising the quality of interventions. This theme emphasized the necessity of intervention feedback and clinician training, and consisted of two subthemes that emerged from five studies.

4.2.1. Including staff members and users in programme feedback. The importance of staff and user feedback was emphasized as it could highlight the challenges that intervention programmes face in psychiatric settings (Jochems, 2017) as well as promote the individualization of strategies (Huck et al., 2018). Such opportunities could be provided by establishing quality enhancement groups consisting of staff and members. In addition, staff could also endorse informal feedback, which Raeburn (2016) considers to be a valuable form of feedback apart from formal meetings and anonymous surveys.

4.2.2. Conducting extensive clinician training emerged as a second subtheme. Emphasis was placed on the need for extensive, continuous training and monitoring of clinicians implementing SDT-based or related recovery-orientated interventions (Jochems, 2017; Raeburn, 2016). It was suggested that healthcare providers be trained to include constructs of BPN as treatment goals and when assessing indicators of recovery (Moran & Nemec, 2013; Perlman et al., 2017). An example of such an assessment is the Basic Need Satisfaction in General Scale, which measures to what degree psychological needs are experienced as fulfilled. In addition, it was suggested that staff be trained to promote autonomy in crisis situations (Conte et al., 2008).

4.3. Using need-supportive language. The theme of intentionally attending to need-supportive language in general arose from four articles and developed into three subthemes.

*4.3.1. Using autonomy-supportive languag*e. This subtheme described the importance of including words such as "could" and "choose" instead of controlling words such as "must" and "should" (Farholm, Sørensen, et al., 2017; Lynch et al., 2005).

4.3.2. Creating competence-supportive language was a subtheme that described how to use competence-supportive terms. An example was calling vocational activities "work-ordered day", or calling groups "work units" to enhance a sense of work competence (Raeburn, 2016).

4.3.3. Using inclusive language. This subtheme described the necessity to promote relatedness by referring to people as "members" rather than "patients", "clients" or even "users". Other more inclusive terms mentioned were "colleagues" or "participants" (Raeburn, 2016; Wu et al., 2000).

4.4. Promoting psychological need fulfilment of staff. This theme was derived from two articles and described promoting staff motivation to endorse an SDT-based

intervention by supporting the BPN of staff, both on personal and institutional levels. It was emphasized that hospital administrators should strive to promote autonomy, competence and relatedness for their staff (Lynch et al., 2005; Moran & Nemec, 2013) through creating appropriate levels of challenge, providing opportunities for initiative and for meaningful interactions, and by tapping into their personal values and goals.

Discussion

The collection of strategies focused on supporting autonomy, competency and relatedness, and finally on optimising the effectiveness of intervention programmes. Firstly, autonomy supportive strategies are considered. On its own, increased opportunities for giving users voice may be insufficient to enhance autonomy, unless users subjectively experience that their voices are heard and valued (Lynch et al., 2005). This is because need fulfilment does not only consider visible, objective components, but also the subjective experience of the individual (Silva, Marques & Teixeira, 2014). To facilitate the subjective experience of voice, MI provides practically applicable guidelines. One is that healthcare providers should include twice as many reflection statements in their dialogue as the number of questions they ask (Miller & Rollnick, 2013).

Opportunities for choice may seem limited in psychiatric settings, especially during crisis or acute illness episodes where treatment tends to become more restrictive. However, the strategies of providing and emphasising choice remain relevant to the specific context in which a user is, even as it changes. Conte et al. (2008) explains that choices should be emphasised when a user is stable and planning treatment goals, as well as in a crisis situation that needs to be de-escalated.

When practitioners are unable to provide any choice in a situation, autonomy can be supported by providing meaningful reasons for their recommendations. The meaning of rationales can also tap into users' intrinsic values or goals – like the rationale of attending

therapy to improve parenting skills. Recognising and reflecting on the internal goals and values of users support autonomy, and also enhances intrinsic treatment motivation, as treatment behaviours become increasingly integrated into the self or personality (Britton et al., 2008).

The strategy of minimising restrictions is in line with various mental healthcare guidelines that emphasise the use of the least restrictive environments and the least intrusive treatments (Mental Capacity Act, 2005; Mental Healthcare Act, 2002). The application, however, remains challenging due to factors such as the need to maintain high levels of security (Sustere & Tarpey, 2018) and healthcare staff's perceived threat to safety (Conte et al., 2008). Another challenge may be a lack of alternative options with regards to restrictive measures or a lack of trust, confidence or training in alternative options such as that of positive risk-taking. With the awareness of such challenges, the general principle can be increasingly applied on an everyday, micro context level, for example, by limiting time spent in restrictive environments such as closed wards, or by being more supportive of users to take positive risks and to learn from crises experienced in less restrictive settings, or by promoting activities associated with community life (Conte et al., 2008; Raeburn, 2016; Sustere & Tarpey, 2018).

One aspect in which SDT differs from other motivational theories used in psychiatric contexts, is that it demotes the use of extrinsic motivators such as rewards and punishments – as these are recognised to diminish autonomy and intrinsic motivation (Jochems et al., 2011). From the current scope of studies, the applicability of this principle to psychiatric samples is still being explored. It is noted that incentives might be useful to encourage initial participation, although one should realize that such extrinsic motivation will likely stop when incentives are stopped, unless motivation can become internalised and more intrinsic in the process. To illustrate: a user might gradually move from a more

extrinsic (I participate to get the reward) to a more integrated (I participate because I value learning) regulation.

Competence supportive strategies are addressed next. Inaccessibility to relevant information thwarts users' need for competence. Proposed strategies to address this problem do not have to be labour-intensive. The CHESS smartphone app provides a platform for unlimited access to relevant and trustworthy information. Healthcare providers can creatively explore various ways to give users access to information related to their illness, its impact on individuals and relatives, as well as information on previously used coping strategies.

The strategy of personalising activities to members involves pursuing optimal challenges, which allows experiences of mastery rather than those of failure or boredom. Exposure to work-simulated environments is considered a significant source of competence for patients with severe mental illness (Raeburn, 2016). The specific activities provided are open to variations depending on the individual's skill and self-efficacy, as well as on the creativity and supportive capacity of staff members and managers of institutions. Apart from the specific activities, a great deal of value stems from the experience of spending allocated time on activities referred to as "work" rather than "treatment" (Raeburn, 2016).

The strategies aimed at providing support share an assumption, namely, that although users' execution of activities can be impaired due to illness, they can learn to participate optimally with sufficient support, instruction, demonstration and practice. MI practice intentionally reflects on users' own perception of their treatment efficacy, and, together with the user, considers steps that are expected to enhance it (Miller & Rollnik, 2013). Another example from MI is the use of scaling. An example is: "Why would you say you

are 30% confident to perform the task, and not 0%?" These responses may evoke reasons for confidence that will likely strengthen competence.

The strategy of providing positive affirmations can focus on a range of concepts, such as a user's effective engagement in treatment or his role in creating treatment progress. Other positive psychology concepts can also possibly be added, such as affirming character strengths or sharing appreciation (Wissing, Potgieter, Guse, Khumalo, & Nel, 2014). The open nature of this strategy makes it widely applicable. However, affirmations should be sincere and genuine (Miller & Rollnick, 2013) and can be facilitated by being specific and personal rather than vague and general.

Goal-setting and evaluation provide accessible tools to facilitate competence. Opportunities can be created for users to participate in goal discussions – individually or in groups, with therapists or with staff members. Goals may include treatment goals (attending individual and group therapy sessions), behavioural goals (doing self-care), social goals (having a meaningful conversation each week) or daily life-goals (doing something fun). SDT advocates pursuing intrinsic goals, such as those of personal growth, intimacy and community, rather than extrinsic goals, such as popularity or wealth (Ryan & Deci, 2008). Users can gain insight and self-efficacy through reflecting on goal progress and past behaviours, and by being shown appropriate coping behaviours (Lynch et al., 2005). A systematic goal-setting approach was found to be significantly effective in psychiatric samples (Anthony, Rogers, Mizock, Lyass, & Ellison, 2014).

Strategies associated with relatedness are considered next. The psychotherapy relationship serves as a significant support for relatedness (Ryan & Deci, 2008). However, in the study of Moran et al. (2014) a meaningful, reciprocal peer relationship was experienced to be as meaningful, or in one case even more meaningful, than psychotherapy. Such a consideration has a potential implication for current treatments to

which users have access to in South Africa. Where there are limited psychologists to the number of users, it may be efficient for psychologists to manage peer services or groups compared to an exclusive focus on individual therapy.

Group services such as occupational therapy or physical activity groups can also support relatedness efficiently – by allowing the continuity of groups and by promoting social support. This can foster a sense of community with mental illness as part of their identity (Conrad-Garrisi & Pernice-Duca, 2013). For outpatients, the CHESS smartphone app creates various opportunities for relatedness by using technology that is familiar to a large number of users. This has potential to facilitate BPN of revolving door patients. However, the extent to which South African patients will access such an app still needs to be explored.

Collaboration through joint participation supports different aspects of relatedness than meaningful relationships, such as the sense of making a valuable or unique contribution and of being needed (Raeburn, 2016). Enabling these experiences appears more important than the specific activities users get involved in. This challenges healthcare providers to be innovative in their ideas to promote collaboration in their specific contexts.

The principle of creating a safe, acceptable environment had little practical implementation strategies in the data. The one strategy of scheduling joint reflection meetings on pre-determined values in shared living environments contains the advantage that it considers users' experiences – which are the target of the strategy.

Interventions focused on relatives should be prioritised, as support from relatives is recognised as having a significant impact on users in terms of self-stigma, self-esteem, treatment-adherence and well-being (Korkmaz & Küçük, 2016). Interventions such as

psycho-education of family members can positively affect users' perceived support and self-stigma, and facilitate community re-integration (Yang et al., 2014).

The final strategies are focused on the effectiveness of SDT-based intervention programmes: Firstly, psychiatric practice was pressured to include positive psychology concepts in policy and in practice. Barriers to a more rapid inclusion of such concepts were the slow research progress on practical application and the small number of controlled trials to illustrate its effectiveness, which Moran and Nemec (2014) attributed to shortcomings in funding and documenting. Needs-based interventions are also more process than time or results-orientated (Ryan & Deci, 2008), which makes it more difficult to define and measure. Moreover, effectively implementing strategies require intensive clinician training and is time-consuming.

Other challenges for SDT-based interventions were direct barriers to the fulfilment of psychological needs, such as users' experiences of stigma, blame, rejection and distancing from significant others (Raeburn, 2016). Furthermore, impaired social and behavioural functioning, thought disorder, mood difficulties, confusion and perceptual disturbances during illness episodes (Jochems et al., 2011; Raeburn, 2016) also provided challenges for implementing SDT-based strategies. In addition, certain strategies – such as minimising restriction and endorsing autonomy – were considered to be in opposition to traditional psychiatric practices (Moran & Nemec, 2014).

These factors may shed light on why research on SDT in psychiatric contexts has progressed more slowly, relatively speaking, compared to other contexts such as that of physical health and education (Ryan & Deci, 2017). Nevertheless, arguments from a positive psychology framework remain that traditional clinical outcome measures that focus only on symptom reduction, are insufficient to inform optimal recovery for psychiatric users. Thus, positive psychology concepts such as BPN, meaning in life,

character strengths, and experiences of positive affect and flow should be added in assessments, treatment planning and clinician training (Moran & Nemec, 2014).

Regarding the quality control of intervention programmes, both staff and users should be included in continuous feedback meetings (Raeburn, 2016). This provides room for exploring creative, context-specific ideas for supporting BPN, and for evaluating and adjusting them. Such opportunities are important, as the application of SDT to psychiatric contexts is at a young stage and will require trials and adjustments.

Another feedback strategy is described in the evaluation of MI therapy sessions (Miller & Rollnick, 2013) and can be applied to need-supportive language. Need-supportive language can serve as a measure of the extent to which SDT concepts were internalised. Staff can reflect on extracts of their communication with users and assess the degree to which need-supportive language is present.

The internalisation of staff members' need-supportive practices is facilitated by their own experience of need-support (Lynch et al., 2005). When staff members experience strategies focused on enhancing their BPN, they will be more intrinsically motivated to support BPN of users, and exhibit reduced restrictive and coercive behaviour toward them. In addition, applying SDT on different organisational levels, for example, between directors and managers, managers and staff, and staff and patients, will facilitate cultural change in the organisation to become more need-supportive.

In addition to multi-level interventions, strategies aimed at the fulfilment of psychological needs should be comprehensive, as the fulfilment of needs affect one another. For example, competence is more effectively increased when autonomy is supported (Ryan & Deci, 2017). In other words, all three needs will indirectly benefit from strategies focused on the other needs (Deci & Ryan, 2000). Furthermore, strategies should be continuous with a long-term focus, because behaviour change associated with

fulfilment of BPN has more distinct long-term effects compared to controlled forms of behaviour change (Ryan & Deci, 2008).

On considering the strategies overall, it is noted that in the first place a number of strategies involve psychological constructs that are not concretely defined, such as an attitude or a way of being. A challenge with such strategies is that practitioners tend to overestimate the extent to which they are implementing it (Miller & Rollnick, 2013; Ragaisis, 2017). As a result, it is useful to highlight the practical tools that are prominent in this collection of strategies. These include the use of the CHESS app for outpatients, the use of mental health peer-services, the use of a mental health clubhouse – practices as well as making use of MI as a therapeutic style. In fact, MI and SDT have been considered to be congruent, with SDT serving as a meaningful theoretical framework, and with MI seen as an effective practical application thereof (Moran & Nemec, 2014; Ryan & Deci, 2008).

Secondly, in the analysis we found that boundaries of specific contexts and target populations of strategies became indistinct: for example, certain strategies were aimed at in-patients, others at outpatients; some were developed for psychiatric institutions and others for clubhouses, and the distinction was not clearly maintained in the analysis. This fitted the purpose of the study: to explore a range of suggested strategies. It was also appropriate to SDT due to its established universal applicability (Deci & Ryan, 2017). Strategies do, however, require validation in every new context where they are applied. The theory advocates the principle, and it is the responsibility of researchers and mental healthcare workers to innovatively test the principles in practice and research. An example of this would be that when the application of motivational interviewing was tested, evidence from a meta-analysis was found for its effectiveness on the treatment adherence and clinical outcomes of patients with severe mental illness (Wong-Anuchit, Chantamit, Schneider, & Mills, 2019).

Conclusion

This study aimed to explore current literature for a range of SDT-informed strategies that are suggested to support the BPN of psychiatric patients. Due to the universality of SDT and the recognized frustration of the BPN of psychiatric patients, it was deemed relevant and necessary to explore and describe such strategies. Consequently, a rapid review was conducted.

Thematic analysis of 15 studies that met the inclusion criteria resulted in four overarching themes, including autonomy, competence and relatedness focused strategies, as well as strategies aimed at the effectiveness of intervention programmes. The themes and subthemes could illustrate practical strategies suggested to implement SDT in psychiatric settings. Such strategies need to be creatively tested in various psychiatric contexts.

Limitations and Recommendations

Several limitations need to be considered when interpreting the findings of this study. Firstly, the streamlined rapid review method may have excluded potential valuable studies if they were not available in English or if the full-texts were not attainable. Secondly, although steps were taken to enhance rigour and trustworthiness and to reduce bias, there remains a subjective influence by the researchers, which makes it unlikely to replicate the findings precisely.

Thirdly, the generalizability of this study was restricted by certain scope studies that focused on specific individuals, such as outpatients or individuals with alcohol addiction disorders. Likewise, some text and opinion studies did not specify the range of settings or disorders they considered. However, generalizability was also protected by including studies of various methods and samples, for example, some studies reported

findings from qualitative enquiries, others from quantitative data, and others made arguments from current literature.

Another limitation was the deductive SDT-informed analysis, and exclusively focusing on SDT based strategies. Though this provided a well-established theoretical framework, other potentially beneficial concepts that did not form part of SDT were not considered. One example is Well Being Therapy, which addresses concepts similar to BPN, but also focuses on factors such as purpose in life and self-acceptance (Ruini & Fava, 2012). Other relevant positive psychology concepts such as flow and post-traumatic growth were also not included. Lastly, none of the scope studies focused on a South African context. It should thus be kept in mind that the list of strategies should be understood as proposed strategies that need to be tested and validated as they are implemented.

Future research can consider how to tailor SDT-based interventions to specific contexts or specific individuals. Action-based research (Visser & Moleko, 2012) is recommended, since it focuses simultaneously on implementing intervention strategies, evaluating results and adjusting strategies accordingly. In addition, future studies should consider barriers to implementing SDT-based interventions and explore ways to manage and adjust to such barriers.

References

Amankwaa, L. (2016). Creating protocols for trustworthiness in qualitative research. *Journal of Cultural Diversity*, *23*(3), 121-127. https://eds-a-ebscohost-com.nwulib.nwu.ac.za

Anthony, W. A., Rogers, E. S., Mizock, L., Lyass, A., & Ellison, M. L. (2014). Implementing and evaluating goal setting in a statewide psychiatric rehabilitation program. *Rehabilitation Counselling Bulletin*, *57*(4), 228–237. https://doi.org/10.1177/0034355213505226

Aromataris, E., Munn, Z. (2017). *Joanna Briggs Institute Reviewer's Manual.* The Joanna Briggs Institute, 2017. https://reviewersmanual.joannabriggs.org/

Axer, A. (2012). Recovery from psychiatric disability and personal autonomy. *Archives of Psychiatry & Psychotherapy*, *14*(4), 5-8. https://eds-a-ebscohost-com.nwulib.nwu.ac.za

Barrio, L., Cyr, C., Benisty, L., & Richard, P. (2013). Autonomous Medication Management (GAM): New perspectives on well-being, quality of life and psychiatric medication. *Ciência & Saúde Coletiva*, *18*(10), 2879-2887. https://doi.org/10.1590/S141381232013001000012

Breitborde, N. J., Kleinlein, P., & Srihari, V. H. (2012). Self-determination and first-episode psychosis: Associations with symptomatology, social and vocational functioning, and quality of life. *Schizophrenia Research*, *137*(1-3), 132-136. https://doi.org/10.1016/j.schres.2012.02.026

Britton, P. C., Williams, G. C., & Conner, K. R. (2008). Self-determination theory, Motivational Interviewing, and the treatment of clients with acute suicidal ideation. *Journal of Clinical Psychology*, *64*(1), 52–66. https://doi.org/10.1002/jclp.20430

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Clarke, V., & Braun, V. (2013). Teaching thematic analysis. *Psychologist*, *26*(2), 120–123. https://eds-a-ebscohost-com.nwulib.nwu.ac.za/eds/pdfviewer

Clarke, V., & Braun, V. (2018). Using thematic analysis in counselling and psychotherapy research: A critical reflection. *Counselling & Psychotherapy Research*, *18*(2), 107–110. https://doi.org/10.1002/capr.12165

Conte, C., Snyder, C., & McGuffin, R. (2008). Using self-determination theory in residential settings. *Residential Treatment for Children and Youth*, *25*(4), 307–318. https://doi.org/10.1080/08865710802533498

Conrad-Garrisi, D. L., & Pernice-Duca, F. (2013). The relationship between sense of mattering, stigma, and recovery: An empirical study of clubhouse participants in the US Midwest. *International Journal of Self Help and Self Care, 7*(1), 41-57. https://doi.org/10.2190/SH.7.1.d

Cook, J. A., & Jonikas, J. A. (2002). Self-Determination among Mental Health consumers/ survivors: Using lessons from the past to guide the future. *Journal of Disability Policy Studies*, *13*(2), 87. https://doi.org 10.1177/10442073020130020401

Davids, E. L., Roman, N. V., & Kerchhoff, L. J. (2017). Adolescent goals and aspirations in search of psychological well-being: From the perspective of Self-Determination theory. *South African Journal of Psychology*, *47*(1), 121-132. https://doi.org /10.1177/0081246316653744

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York, NY: Plenum.

Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the Self-Determination of behavior. *Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Duncan, J. M., Killian, T. S., & Lucier-Greer, M. (2017). Leisure, relatedness, and ill-being among older adults in long-term care. *Activities, Adaptation & Aging, 41*(4), 273-290. https://eds-b-ebscohost-com.nwulib.nwu.ac.za

Ellingsen-Dalskau, L. H., Morken, M., Berget, B., & Pedersen, I. (2015). Autonomy support and need satisfaction in prevocational programs on care farms: The Self-Determination Theory perspective. *Work (Reading, Mass.), 53*(1), 73-85. https://doi.org/10.3233/WOR-152217

Farholm, A., Halvari, H., Niemiec, C. P., Williams, G. C., & Deci, E. L. (2017). Changes in return to work among patients in vocational rehabilitation: A Self-Determination Theory perspective. *Disability & Rehabilitation*, *39*(20), 2039 2046. https://doi.org/10.1080/09638288.2016.1215559

Farholm, A., Sørensen, M., & Halvari, H. (2017). Motivational factors associated with physical activity and quality of life in people with severe mental illness. *Scandinavian Journal of Caring Sciences, 31*(4), 914-921. https://doi.org/10.1111/scs.12413

Ganann, R., Ciliska, D., & Thomas, H. (2010). Expediting systematic reviews: Methods and implications of rapid reviews. *Implementation Science, 5*, 56-65 https://doi.org/10.1186/1748-5908-5-56

Gillison, F. B., Rouse, P., Standage, M., Sebire, S. J., & Ryan, R. M. (2019). A meta-analysis of techniques to promote motivation for health behaviour change from a self-determination theory perspective. *Health Psychology Review*, *13*(1), 110–130. https://doi.org/10.1080/17437199.2018.1534071

Hartling, L., Guise, J., Hempel, S., Featherstone, R., Mitchell, M. D., Motu'apuaka, M. L., & Umscheid, C. A. (2017). Fit for purpose: Perspectives on rapid reviews from end-user interviews. *Systematic Reviews, 6,* 1-11. https://doi.org/10.1186/s13643-017-0425-7

Huck, G. E., Finnicum, C., Morrison, B., Kaseroff, A., & Umucu, E. (2018). Consumer perspectives on physical activity interventions within assertive community treatment programs. *Psychiatric Rehabilitation Journal*, *41*(4), 312–318. https://doi.org/10.1037/prj0000311

Joanna Briggs Institute (JBI) (2018). *Joanna Briggs Institute Critical Appraisal Tools.* https://joannabriggs.org/ebp/critical_appraisal_tools

Joanna Briggs Institute (JBI) (2014). *The Joanna Briggs Institute Reviewers' Manual 2014: Methodology for JBI Mixed Methods Systematic Reviews.* https://joannabriggs.org/assets/docs/sumari/ReviewersManual_Mixed-Methods-Review-Methods-2014-ch1.pdf

Jochems, E. C., Duivenvoorden, H. J., Van Dam, A., Feltz-Cornelis, C. M., & Mulder, C. L. (2017). Motivation, treatment engagement and psychosocial outcomes in outpatients with severe mental illness: A test of Self-Determination Theory. *International Journal of Methods in Psychiatric Research, 26*(3). https://doi.org/10.1002/mpr.1537

Jochems, E. C., Mulder, C. L., Van Dam, A., & Duivenvoorden, H.J. (2011). A critical analysis of the utility and compatibility of motivation theories in psychiatric treatment. *Current Psychiatry Reviews, 7*(4), 298–312. https://doi.org/10.2174/157340011797928204

Johnson, V. D. (2007). Promoting behavior change: Making healthy choices in wellness and healing choices in illness—use of Self-Determination Theory in nursing practice. *Nursing Clinics of North America, 42*(2), 229-241. https://doi.org/10.1016/j.cnur.2007.02.003

Korkmaz, G., & Küçük, L. (2016). Internalized stigma and perceived family support in acute psychiatric in-patient units. *Archives of Psychiatric Nursing*, *30*(1), 55–61. https://doi.org/10.1016/j.apnu.2015.10.003

Leaman, J., Richards, A. A., Emslie, L., & O'Moore, E. J. (2017). Improving health in prisons from evidence to policy to implementation - experiences from the UK. *International Journal of Prisoner Health*, *13*(3-4), 139-167. https://doi.org/10.1108/IJPH-09-2016-0056

Lynch, M. F., Plant, R. W., & Ryan, R. M. (2005). Psychological needs and threat to Safety: Implications for staff and patients in a psychiatric hospital for youth. *Professional Psychology: Research and Practice*, *36*(4), 415–425. https://doi.org/10.1037/0735-7028.36.4.415

Maree, K. (2016). *First steps in research* (2nd ed.). Pretoria: Van Schaik Publishers. McTavish, F. M., Chih, M.-Y., Shah, D., & Gustafson, D. H. (2012). How patients recovering from alcoholism use a smartphone intervention. *Journal of Dual Diagnosis*, *8*(4), 294–304. https://doi.org/10.1080/15504263.2012.723312

Mental Capacity Act. (2005). http://www.legislation.gov.uk/ ukpga/2005/9/section/2

Mental Healthcare Act, (2002). https://www.gov.za/.../files/gcis_document /201409/a17-02.pdf

Miller, W. R., & Rollnick, S. (2013). *Motivational interviewing: Helping people change* (3rd ed.). New York, NY: Guilford Press.

Moran, G., & Nemec, P.B. (2014). Walking on the sunny side: What positive psychology can contribute to psychiatric rehabilitation concepts and practice. *Psychiatric Rehabilitation Journal*, *36*(3), 202–208. https://doi.org/10.1037/prj0000012

Moran, G., Russinova, Z., Yim, J., & Sprague, C. (2014). Motivations of persons with psychiatric disabilities to work in Mental Health Peer Services: A Qualitative study using Self-Determination Theory. *Journal of Occupational Rehabilitation, 24*(1), 32–41. https://doi.org/10.1007/s10926-013-9440-2

Muroff, J., Robinson, W., Chassler, D., Lopez, L. M., Gaitan, E., Lundgren, L., ... Gustafson, D. H. (2017). Use of a smartphone recovery tool for Latinos with co-occurring alcohol and other drug disorders and mental disorders. *Journal of Dual Diagnosis, 13*(4), 280–290. https://doi.org/10.1080/15504263.2017.1348649

National Mental Health Policy Framework and Strategic Plan (2012). https://www.safmh.org.za/documents/policies

Perlman, D., Patterson, C., Moxham, L., Taylor, E. K., Brighton, R., Sumskis, S., & Heffernan, T. (2017). Understanding the influence of resilience for people with a lived experience of mental illness: A Self-determination Theory perspective. *Journal of Community Psychology, 45*(8), 1026–1032. https://doi.org/10.1002/jcop.21908

Pearson, A., White, H., Bath-Hextall, F., Salmond, S., Apostolo, J., & Kirkpatrick, P. (2015). A mixed-methods approach to systematic reviews. *International Journal of Evidence-Based Healthcare, 13*(3), 121–131. https://doi.org/10.1097/ XEB.0000000000000052

Pickens, J. (2012). Development of Self-Care Agency through Enhancement of Motivation in People with Schizophrenia. *Self-Care, Dependent-Care & Nursing*, *19*(1), 47–52. https://eds-a-ebscohost-com.nwulib.nwu.ac.za

Raeburn, T. (2016). *Recovery-oriented practices within an Australian psychosocial Clubhouse: A case study analysis*. (Unpublished doctoral dissertation). *Dissertation Abstracts International Section C:Worldwide*. https://search-ebscohost-com.nwulib.nwu.ac.za

Ragaisis, K. M. (2017). Psychiatric inpatient nurses' perceptions of using motivational interviewing. *Issues in Mental Health Nursing*, *38*(11), 945–955. https://doi.org/10.1080/01612840.2017.1377328

Reynen, E., Robson, R., Ivory, J., Hwee, J., Straus, S. E., Pham, B., & Tricco, A. C. (2017). A retrospective comparison of systematic reviews with same-topic rapid reviews. *Journal of Clinical Epidemiology*, *96*(1), 23-34. https://doi.org/10.1016/j.jclinepi.2017.12.001

Ruini, C., & Fava, G. A. (2012). Role of Well-Being Therapy in achieving a balanced and individualized path to optimal functioning. *Clinical Psychology & Psychotherapy*, *19*(4), 291–304. https://doi.org/10.1002/cpp.1796

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78. https://doi.org/10.1037/0003-066X.55.1.68

Ryan, R. M., & Deci, E. L. (2008). A Self-Determination Theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology*, *49*(3), 186-193. https://doi.org/10.1037/a0012753

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York, NY, US: Guilford Press.

Shepley, M. M., Watson, A., Pitts, F., Garrity, A., Spelman, E., Kelkar, J., & Fronsman, A. (2016). Mental and behavioral health environments: Critical considerations for facility design. *General Hospital Psychiatry*, *42*(1), 15-21. https://doi.org/10.1016/j.genhosppsych.2016.06.003

Silva, M. N., Marques, M. M., & Teixeira, P. (2014). Testing theory in practice: The example of Self-determination theory interventions. *The European Health Psychologist, 16*(5), 171-180. https://www.researchgate.net/publication/273132506.

Sustere, E., & Tarpey, E. (2018). Least restrictive practice: Its role in patient independence and recovery. *Journal of Forensic Psychiatry and Psychology*, *30*(4), 614–629. https://doi.org/10.1080/14789949.2019.1566489

Teixeira, P. J., Marques, M. M., Silva, M. N., Brunet, J., Duda, J. L., Haerens, L., La Guardia, J., Lindwall, M., Lonsdale, C., Markland, D., Michie, S., Moller, A. C., Ntoumanis, N., Patrick, H., Reeve, J., Ryan, R. M., Sebire, S. J., Standage, M., Vansteenkiste, M.,...& Hagger, M. S. (2020). A classification of motivation and behavior change techniques used in self-determination theory-based interventions in health contexts. *Motivation Science*. Advance online publication. https://doi.apa.org/doiLanding?doi=10.1037%2Fmot0000172

Tricco, A. C., Antony, J., Zarin, W., Strifler, L., Ghassemi, M., Ivory, J., … Straus, S. E. (2015). A scoping review of rapid review methods. *BMC MEDICINE*, *13*, 224-239. https://doi.org/10.1186/s12916-015-0465-6

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, *23*(3), 263-280. https://doi.org/10.1037/a0032359

Vergnes, J. N., Marchal-Sixou, C., Nabet, C., Maret, D., & Hamel, O. (2010). Ethics in Systematic Reviews. *Journal of Medical Ethics*, *36*(12), 771-774. https://doi.org/10.1136/jme.2010.039941

Visser, M., & Moleko, A. G. (2012). *Community psychology in South Africa* (2nd ed.). Van Schaik Publishers.

Weinstein, N., Khabbaz, F., & Legate, N. (2016). Enhancing need satisfaction to reduce psychological distress in Syrian refugees. *Journal of Consulting and Clinical Psychology, 84*(7), 645-650. https://doi.org/10.1037/ccp0000095

Willemse, B. M., Downs, M., Arnold, L., Smit, D., De Lange, J., & Pot, A. M. (2015). Staff resident interactions in long-term care for people with dementia: The role of meeting psychological needs in achieving residents' well-being. *Aging & Mental Health, 19*(5), 444–452. https://doi.org/ 10.1080/13607863.2014.944088

Wissing, M. P., Potgieter, J. C., Guse, T., Khumalo, I. P., Nel, L. (2014). *Towards flourishing: Contextualising positive psychology*. Pretoria: Van Schaik

Wong-Anuchit, C., Chantamit-o-pas, C., Schneider, J. K., & Mills, A. C. (2019). Motivational Interviewing-based Compliance/Adherence Therapy interventions to improve psychiatric symptoms of people with Severe Mental Illness: Meta-analysis. *Journal of the American Psychiatric Nurses Association*, *25*(2), 122–133. https://doi.org/10.1177/1078390318761790

Wu, C. Y., Chen, S. P. & Grossman, J. (2000). Facilitating intrinsic motivation in clients with mental illness. *Occupational Therapy in Mental Health*, *16*(1), 1–14. https://doi.org/10.1300/J004v16n01_01

Yang, L. H., Lai, G. Y., Tu, M., Luo, M., Wonpat-Borja, A., Jackson, V. W., Lewis-Fernández, R., & Dixon, L. (2014). A brief anti-stigma intervention for Chinese immigrant caregivers of individuals with psychosis: Adaptation and initial findings *Transcultural Psychiatry, 51*(2), 139–157. https://doi.org/10.1177/1363461513512015

Yin, R.K. (2015). *Qualitative research from start to finish* (2nd ed.). New York, NY: The Guilford Press

List of Figures and Tables

Figure 1: Research Stages

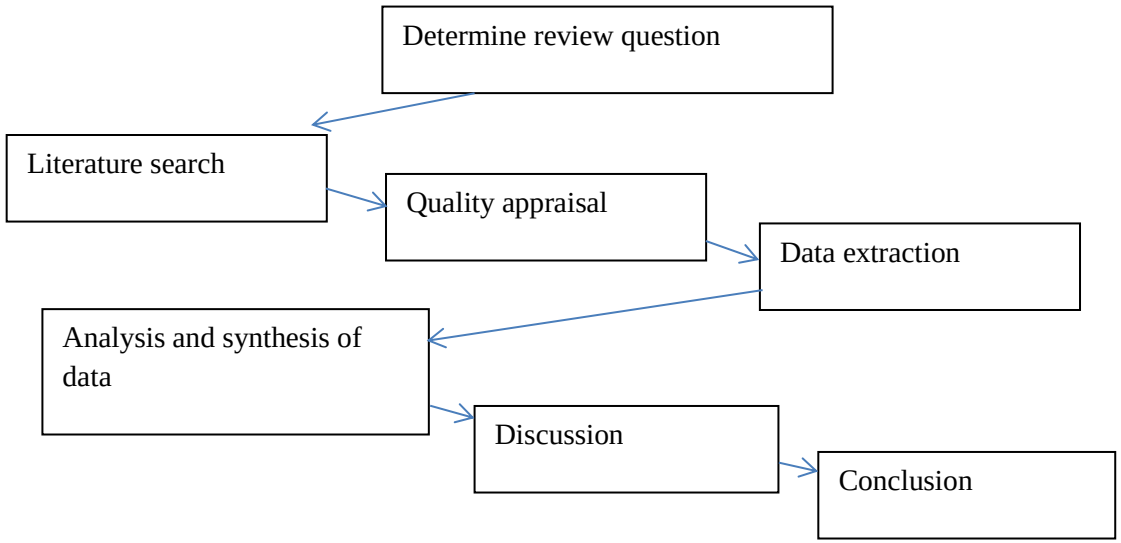


Figure 2: Flow Diagram of Identification and Screening Process

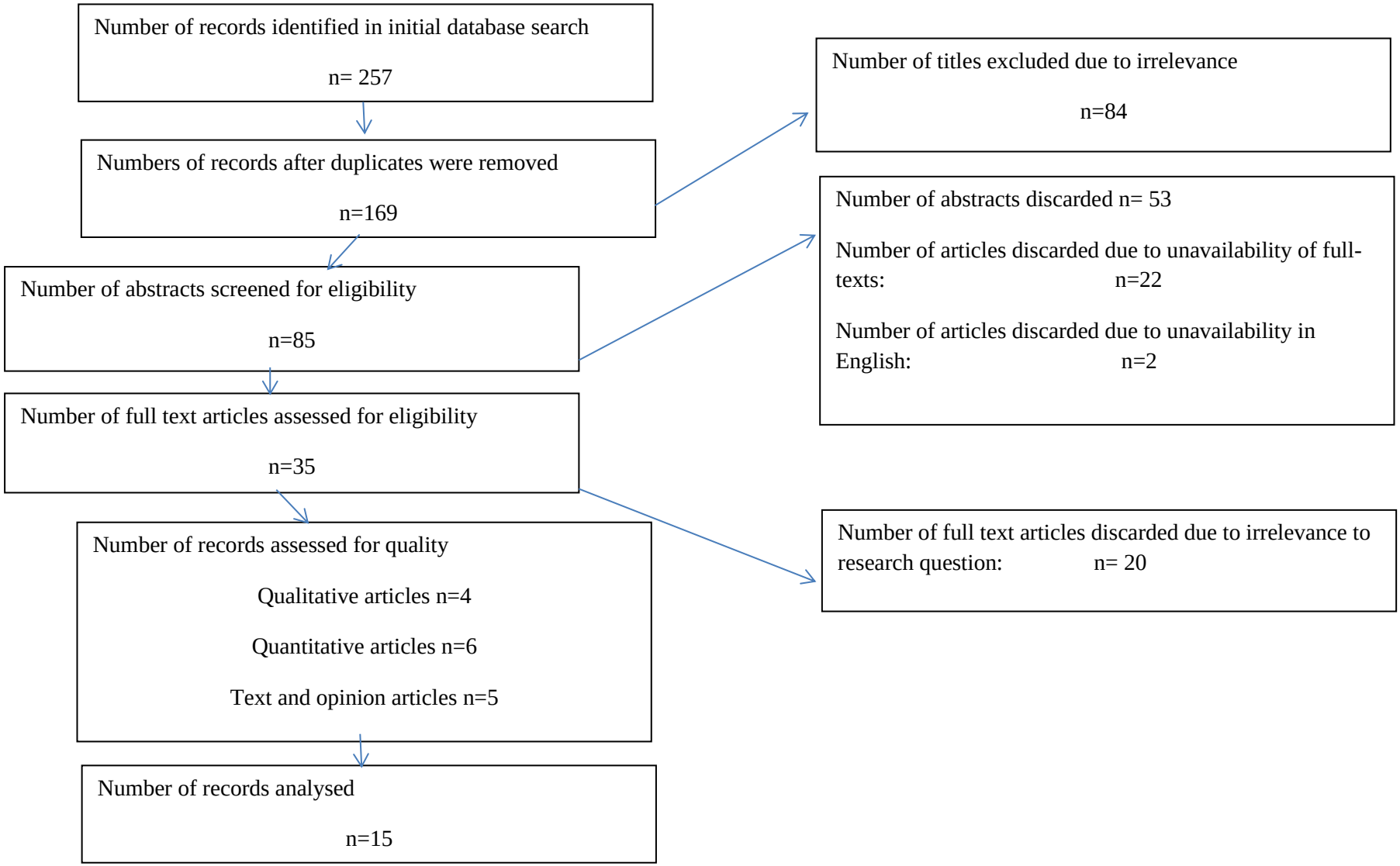


Table 1A: JBI QARI Critical Appraisal Checklist

Article number	Author and publication date	Is there congruity between the stated philosophical perspective and the research methodology?	Is there congruity between the research methodology and the research question or objectives?	Is there congruity between the research methodology and the methods used to collect the data?	Is there congruity between the research methodology and the representation and analysis of data?	Is there congruity between the research methodology and the interpretation of results?	Is the research ethical according to current criteria and is there ethical approval by an appropriate body?	Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?
11	Moran, G., Russinova, Z., Yim, J., & Sprague, C. (2014)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
22	Huck, G. E., Finnicum, C., Morrison, B., Kaseroff, A., & Umucu, E. (2018)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
100	Chin-Yu Wu, Shu-Ping Chen, & Grossman, J. (2000)	Yes	Yes	No	Yes	No	No	Yes

110	Raeburn, T. (2016).	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

Table 1B: JBI MASTARI Critical Appraisal Checklist

Article number	Author and publication date	Is the sample representative of patients in the population as a whole?	Are the patients in a similar point in the course of their condition or illness?	Has bias been minimised in relation to selection of cases and controls?	Are confounding factors identified and strategies to deal with them stated?	Are outcomes assessed using objective criteria?	Was follow-up carried out over a sufficient time period?	Were the outcomes of people who withdrew described and included in the analysis?	Were outcomes measured in a reliable way?	Was appropriate statistical analysis used?
7	Perlman, Heffernan (2017)	No	Yes	N/A	No	Yes	No	No	Yes	Yes
20	Muroff, Gustafson (2017)	No	Yes	No	No	Yes	Yes	Yes	Yes	No
28	Lynch, M. F., Jr., Plant, R. W., & Ryan, R. M. (2005).	No	Yes	No	No	Yes	Yes	No	Yes	Yes
30	McTavish, F., Chih, M.-Y., Shah, D., & Gustafson, D.	Yes	Yes	Yes	No	No	Yes	Yes	No	No

	(2012)								
38	Jochems, E. C., Duivenvoorden, H. J., Dam, A., Feltz, C. C. M., & Mulder, C. L. (2017).	Yes	No	Yes	No	Yes	Yes	No	Yes	Yes
47	Farholm, A., Sørensen, M., & Halvari, H. (2017).	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes

Table 1C: **JBI SUMARI Critical Appraisal Checklist**

Article number	Author and publication date	Is the source of the opinion clearly identified?	Does the source of the opinion have standing in the field of expertise?	Are the interests of the relevant population the central focus of the opinion?	Is the stated position the result of an analytical process, and is there logic in the opinion expressed?	Is there reference to extant literature?	Is any incongruence with the literature or sources logically defended?
26	Moran, G. S., & Nemec, P. B. (2013).	Yes	Yes	Yes	Yes	Yes	No
33	Conte, C., Snyder, C., & McGuffin, R. (2008).	Yes	Yes	Yes	Yes	Yes	Yes
54	Britton, P. C., Williams, G. C., & Conner, K. R. (2008).	Yes	Yes	Yes	Yes	Yes	Yes
95	Jochems, E.C, Mulder, C.L., Van Dam, A., & Duivenvoorden, H.J.(2011).	Yes	No	Yes	Yes	Yes	Yes
126	Pickens, J. (2012).	Yes	Yes	Yes	Yes	Yes	No

Table 2: Data Extraction

Qualitative Studies

nr	Title	Authors and date of publication	Sample	Methodology	Quality (/7)	Findings	Strategies identified associated with SDT
11	Motivations of persons with psychiatric disabilities to work in mental health peer services: A qualitative study using self-determination theory	Moran, G., Russinova, Z., Yim, J., & Sprague, C. (2014).	Thirty-one (31) peer workers, with diagnoses of either schizophrenia or mood disorders, from multiple mental health agencies in a large Northeastern United States city	Semi-structured individual interviews. Qualitative analysis through: stage 1 – inductive, grounded theory; stage 2 – deductive, theory driven analysis	7	External motivational factors included non-personalised occupational goals and escaping negative experiences at work. Internal motivational factors were related to autonomy (freedom to disclose; match between work and personal values), competence (personal experience used as a resource) and relatedness (intimate, reciprocal connection)	1. Facilitate self-determination by working as peer providers. 2. Creating autonomy supportive environments by: matching personal values with work; allowing freedom to disclose. 3. Promote competence by tapping into personal experience. 3. Foster relatedness through supporting intimate reciprocal connections.
22	Consumer perspectives on physical activity interventions within assertive community treatment	Huck, G. E., Finnicum, C., Morrison, B., Kaseroff, A., & Umucu, E. (2018).	Eighteen (18) individuals with serious mental illness in Midwestern United States	Semi-structured individual interviews and consensual qualitative research conventions	7	Participation could be enhanced through group physical activities, incentives, skills training and motivational strategies.	1. Support relatedness through structuring group activities that allow social support and working toward common group goals. 2. Foster competence through skills training, imparting

	programs.						information, accessibility for diverse needs and promoting confidence through professional input and guidance. 3. Foster autonomy by allowing choice of activities and including desirable activities. 3. Use external regulation appropriately through incentives.
100	Facilitating intrinsic motivation in clients with mental illness.	Wu, C. Y., Chen, S. P. & Grossman, J. (2000).	Two case studies; one female and one male from Taiwan, both diagnosed with schizophrenia.	Literature review with case study descriptions of incorporating SDT principles	4	Therapeutic environments that foster autonomy, provide positive feedback regarding client competence and endorses collaboration with significant others are integral to facilitate intrinsically motivated behaviour for clients with mental illness in occupational therapy.	1. Develop autonomy by providing choices based on client's needs and internal goals, by minimising pressure to perform in a determined way and by encouraging initiation. 2. Use clear structure to promote competence. 3. Enhance relatedness by encouraging involvement of significant others.
110	Recovery-oriented practices within an Australian psychosocial clubhouse: a case study analysis.	Raeburn, T. (2016).	Documentation of an Australian clubhouse; including policies, meeting minutes, website, feedback forms.	Qualitative case study design Directive content analysis of	7	There are opportunities to extend the role of the clubhouse; recovery orientated principles should be represented in service documentation; and	1. Competence can be promoted through exposure to work-activities, with sufficient demonstration, encouragement and support. 2. Relatedness can be fostered

	documentation.	clubhouses should increase its evidence-based practice.	through collaboration that allow a sense of shared contribution, achievement, responsibility and positive relational experiences, and through inclusion, sense of belonging and strengthening relationships with family members.
Field notes from participant observation	Theoretical thematic analysis of field notes	SDT provides a framework that is applicable to psychosocial rehabilitation research and recovery-orientated practices in the clubhouse model.	3. Autonomy is enhanced by allowing voluntary participation and assisting with social, educational and employment goals.
12 Clubhouse members with diagnoses of schizophrenia, bipolar disorder or schizoaffective disorder. Six staff members.	Theoretical thematic analysis of interviews		2. Expression of an organisation's commitment to recovery orientated practices (such as self-determination) should be documented.

Quantitative Studies

nr	Title	Authors and date of publication	Sample	Methodology	Quality (/9)	Findings	Strategies identified
7	Understanding the influence of resilience for people with a lived experience of mental illness: A self-determination theory perspective.	Perlman, D., Patterson, C., Moxham, L., Taylor, E. K., Brighton, R., Sumskis, S., & Heffernan, T. (2017).	Hundred-and-fifty-nine (159) consumers from New South Wales, Australia who lived with severe mental illness, including schizophrenia, schizoaffective, depressive-, bipolar-, anxiety-, post-traumatic stress-, personality- and eating disorders.	Correlation design using questionnaires. Data analysis through Pearson correlation coefficient and regression analysis.	4	Relatedness significantly predicted resilience, while competence and autonomy did not.	1. Relatedness should be enhanced through reconnecting or establishing social relationships (including personal and family relationships) and finding a positive identity in the community. 2. Relatedness should be included in personal recovery plans.
20	Use of a smartphone recovery tool for Latinos with co-occurring alcohol and other drug disorders and mental disorders.	Muroff, J., Gustafson, D.H. (2017).	Seventy-nine (79) Spanish-speaking Latinos with substance use disorders or co-occurring substance use and other mental disorders, who completed residential treatment.	Chi-square analysis, t-tests and regression analysis.	5	Latino's who completed residential treatment will engage with a smartphone app that can meet needs associated with continued care. Services linked to relatedness and autonomy were used more consistently, while competence services-use reduced over time.	1. Relatedness and competence can be enhanced through discussion boards accessible through a mobile app. 2. Competence can be promoted through relevant information accessible on a mobile app.
28	Psychological needs and threat to	Lynch, M. F., Jr., Plant, R. W., &	Hundred-and-eighty-six (186) staff	Correlation design using	5	Staff member's attitudes toward hospital philosophy	1. Facilitate self-determination through less

	safety: implications for staff and patients in a psychiatric hospital for youth.	Ryan, R. M. (2005).	members from different administrative levels and 93 adolescent patients from a psychiatric hospital in Northeastern United States.	questionnaires for both staff and patients.		and policy are essential and can impact the degree of need support or need frustration in the work environment. Enhancing staff self-determination improves well-being at work as well as internal motivation to endorse hospital care programmes.	restriction and coercion, encouraging questions and giving choices on spending free time. 2. Promote intrinsic staff motivation in endorsing a new hospital programme. 3. Staff autonomy should be endorsed on a personal daily work routine level and institutional decision making level. 4. Promote staff voice in decision making, choice, initiative and connectedness in work. 5. Promote staff competence through encouraging feedback and creating optimal challenge.
30	How patients recovering from alcoholism use a smartphone intervention.	McTavish, F., Chih, M.-Y., Shah, D., & Gustafson, D. (2012)	Three-hundred-and-forty-nine (349) adults diagnosed with alcohol dependence from institutions in the	Randomised control trial	5	Patients with alcohol use disorder or comorbid substance use – or mental disorders will use smartphone apps for continued support, resources	1. Competence can be promoted by offering time-appropriate resources for high-risk situations. 2. Relatedness is enhanced through opportunity to give

			Midwest and East coast of the United States, at the stage of being discharged.			and information.	and receive social support.
38	Motivation, treatment engagement and psychosocial outcomes in outpatients with severe mental illness: a test of self-determination theory.	Jochems, E. C., Duivenvoorden, H. J., Dam, A., Feltz, C. C. M., & Mulder, C. L. (2017).	Two-hundred-and-ninety-four (294) adult Dutch outpatients with a primary diagnosis of either a psychotic or personality disorder, and 57 of their treating clinicians.	Longitudinal, experimental design.	6	The SDT model explained variance in treatment engagement, psychosocial functioning and quality of life. SDT can be used to influence health outcomes in patients with severe mental illness.	1. Promote autonomy by enhancing patients' understanding of treatment as necessary to reach personal goals, acknowledging patient's perspectives, offering choice, supporting initiative and minimising control. 2. Foster competence by promoting experiences of mastery. 3. Enhance relatedness by promoting empathic, affectionate and dedicated involvement of patients with people.
47	Motivational factors associated with physical activity and quality of life in people with severe mental illness.	Farholm, A., Sørensen, M., & Halvari, H. (2017).	Eighty-eight (88) Norwegian outpatients with affective, psychotic-, anxiety- and other types of disorders	Correlational design, with structural equation modelling.	7	The SDT model fits with a sample of patients with severe mental illness regarding physical activity and health-related quality of life. Physical activity should be	1. Autonomy can be promoted through physical activity by using autonomy-supportive language instead of controlling language, offering choices, own initiative and providing

structured to meet patients' needs for autonomy, competence and relatedness.	meaningful rationales. 2. Competence can be enhanced by supporting experiences of mastery through tailoring activities. 3. Relatedness can be fostered by showing genuine interest into patients, taking their perspectives.

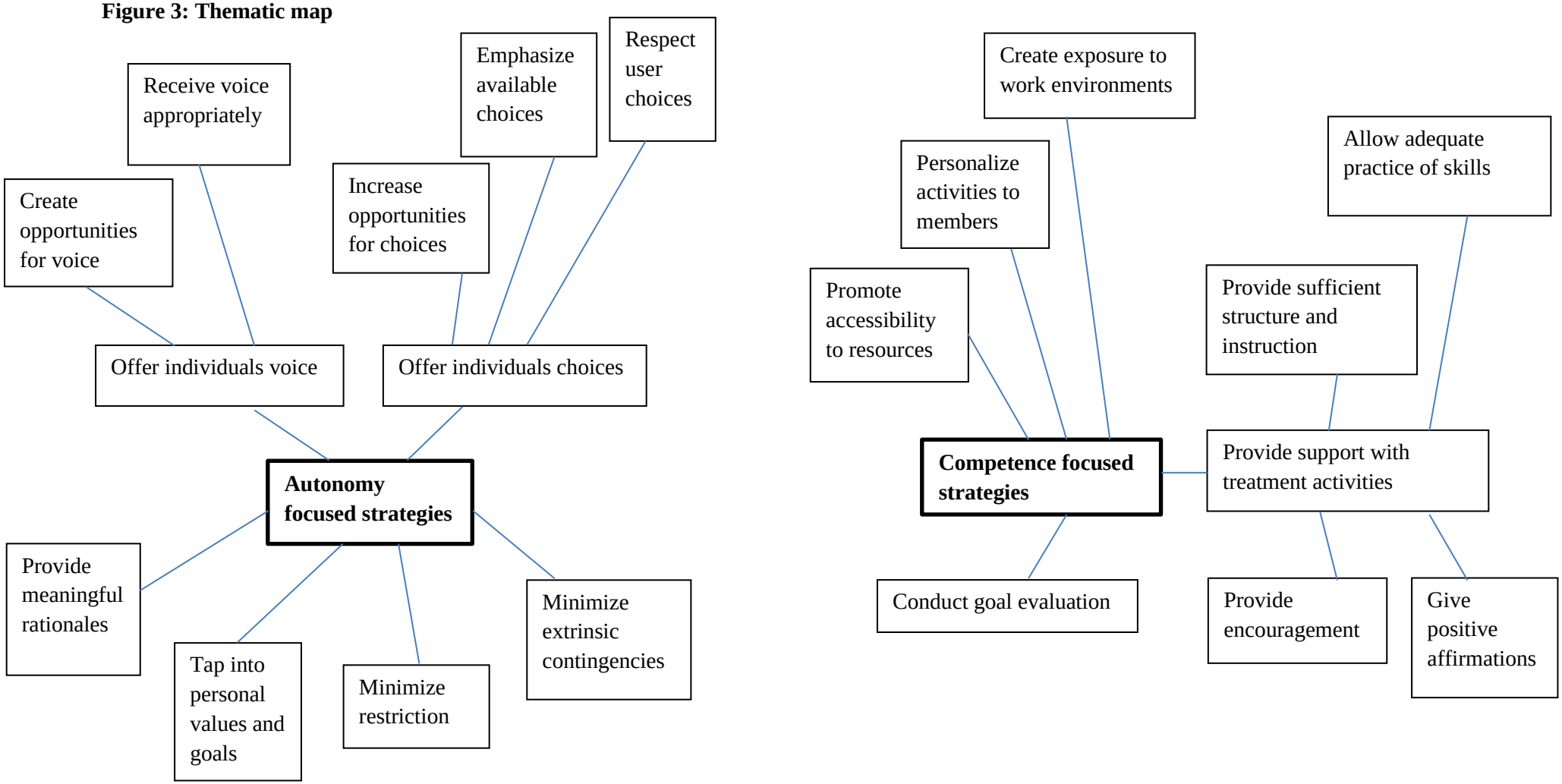
Text and Opinion Studies

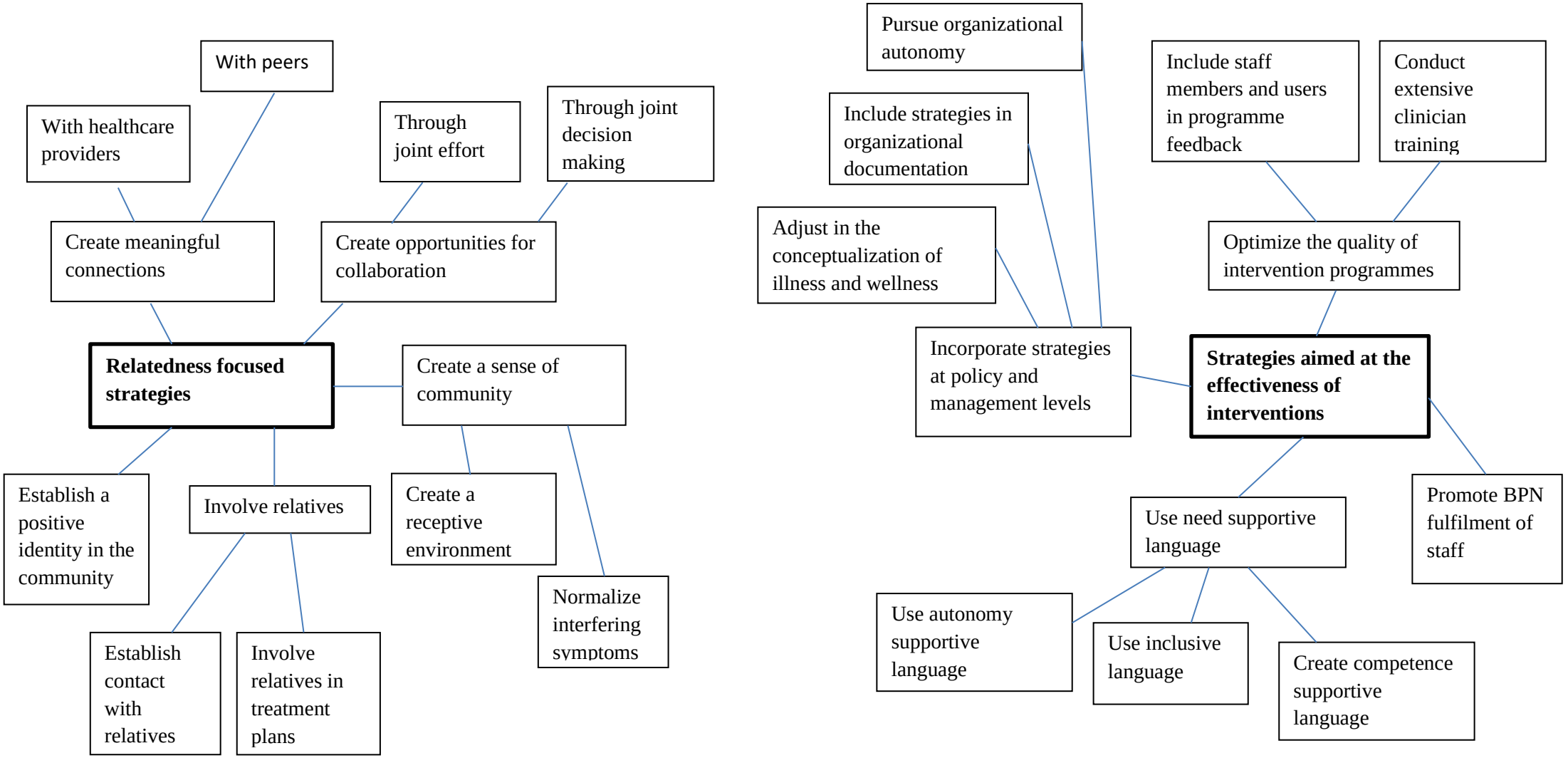
nr	Title	Authors and date of publication	Sample	Methodology	Quality (/6)	Conclusion	Strategies identified
26	Walking on the sunny side: What positive psychology can contribute to psychiatric rehabilitation concepts and practice.	Moran, G. S., & Nemec, P. B. (2013)	Literature	Literature review	5	Using a positive psychology approach to psychiatric rehabilitation can re-assess previously considered rehabilitation outcomes and advance recovery orientated research. In the training of service providers, it can enhance culture and focus on recovery.	1. Assess positive psychology indicators of recovery (such as self-determination) in addition to symptom reduction. 2. Modify interventions, activities and contexts to support intrinsic motivation. 3. Promote competence through programmes that train positive traits such as resilience. 4. Training of health care providers to expand a pathology perspective to include positive psychology concepts (such as psychological need fulfilment).
33	Using self-determination theory in residential settings.	Conte, C., Snyder, C., & McGuffin, R. (2008).	Literature	Literature review	6	There are benefits to train residential treatment facility staff in SDT to support residents in dealing with crises.	1. Promote autonomy and self-reliance through growth of resident's internal coping resources. 2. Accentuate choice. Allow residents to choose which consequences or privileges are implemented for desirable or undesirable behaviours. 3. Acknowledging a person's perspective and emotions and allowing choices that can lead to cognitive consideration in crises situations. 4. Providing meaningful reasons for why a resident should consider alternative information.

							5. Provide and promote alternative options for dealing with crises. 6. Promote autonomy and competence by using least restrictive environments, that can allow residents to struggle with potential crises, problem solve and process the information. 7. Help residents interpret successes and failures on tasks to promote competence.
54	Self-determination theory, Motivational Interviewing, and the treatment of clients with acute suicidal ideation.	Britton, P. C., Williams, G. C., & Conner, K. R. (2008).	Literature	Literature review	6	The principles of SDT and congruent approaches such as Motivational Interviewing (MI) can be used to increase treatment engagement and treatment outcome.	1. Clinicians support autonomy through acknowledging client's perspectives, listening to concerns, doubts, fears and obstacles, and acknowledging the client's available choices and options, and by providing meaningful rationales for recommendations or decisions made; and connecting rationales with clients' values, beliefs and personal goals. 2. Enhance competence through positive verbal feedback, affirming clients' adaptive behaviours and efficacy in treatment behaviours. 3. Enhance relatedness by putting emphasis on the quality of the relationship. 4. Use MI principles: Foster autonomy through expressing empathy, using reflective listening, rolling with resistance and developing discrepancy. Enhance competence by promoting self-efficacy and affirmations. Strengthen relatedness by expressing empathy, rolling with resistance, using open-ended questions, reflections and summaries.

95	A critical analysis of the utility and compatibility of motivation theories in psychiatric treatment.	Jochems, E.C, Mulder, C.L., Van Dam, A., & Duivenvoorden, H.J. (2011).	Literature	Critical analysis	5	The transtheoretical model, integral model of treatment and SDT provide different but compatible approaches to treatment motivation in people with mental illness.	1. Competence is promoted through developing clear, realistic expectations and goals about behaviour change, through encouraging patients to believe in their capability to engage in appropriate behaviour, and by giving positive feedback for their progress. 2. Autonomy is fostered through helping patients develop a meaningful rationale for engaging in desired behaviour, by minimising external contingencies and controls, by promoting opportunities for choice and active participation, and by acknowledging negative experiences of engaging in appropriate behaviour.
126	Development of self-care agency through enhancement of motivation in people with schizophrenia.	Pickens, J. (2012).	Literature	Literature review	5	Motivation of patients with schizophrenia or schizoaffective disorder could be enhanced through principles of SDT, MI and the transtheoretical model.	1. Relatedness should be emphasised through the client-health-care-provider relationship. 2. SDT can be practically applied through MI.

Figure 3: Thematic map




With peers
With healthcare providers
Through joint effort
Through joint decision making
Create meaningful connections
Create opportunities for collaboration
Relatedness focused strategies
Create a sense of community
Establish a positive identity in the community
Involve relatives
Create a receptive environment
Normalize interfering symptoms
Establish contact with relatives
Involve relatives in treatment plans
Pursue organizational autonomy
Include staff members and users in programme feedback
Conduct extensive clinician training
Include strategies in organizational documentation
Adjust in the conceptualization of illness and wellness
Optimize the quality of intervention programmes
Incorporate strategies at policy and management levels
Strategies aimed at the effectiveness of interventions
Use need supportive language
Promote BPN fulfilment of staff
Use autonomy supportive language
Use inclusive language
Create competence supportive language

Section C: Conclusion, Recommendations and Reflection

Conclusion

The aim of this rapid review was to search current literature for strategies associated with the BPN of psychiatric samples, as well as to synthesize a collection of suggested SDT-informed strategies that could support the BPN of people in psychiatric settings. A rapid review was conducted and 15 studies were used for qualitative thematic analysis. Four studies used qualitative data and included samples of psychiatric inpatients and outpatients from USA and Taiwan, as well as clubhouse members from Australia. Six studies used quantitative data and included samples of Australian, American, Dutch, Latin American and Norwegian outpatients, as well as American inpatient adolescents. Finally, five studies were based on text and opinion.

Qualitative thematic analysis revealed four overarching themes, including autonomy, competence and relatedness focused strategies, as well as strategies to enhance the effectiveness of intervention programmes. Autonomy focused strategies entailed offering individuals voice, offering choice, minimizing restriction and external contingencies, tapping into personal goals, and providing meaningful rationales. Competence focused strategies included promoting accessibility to resources, personalizing activities to users, creating exposure to work environments, providing support with treatment activities, and conducting goal evaluation. Relatedness focused strategies involved creating meaningful connections, promoting collaboration, promoting acceptance and safety, involving relatives, and establishing a positive identity in the community. Strategies aimed at the effectiveness of interventions included incorporating strategies at policy and management levels, optimizing the quality of interventions, promoting the BPN of staff, and using need-supportive language.

The themes focused on suggested SDT-based strategies rather than on strategies that were empirically proven to be effective. This was decided as research on the effectiveness of existing strategies in psychiatric settings has not yet developed sufficiently to include experimental designs with control groups. In addition, the suggested strategies were reported with vague, unspecified contexts in order to encourage healthcare workers to creatively apply the suggestions in their specific contexts where feasible. Such creative applications will require continuous testing and adjustment, which can be conducted as a form of action research.

A major barrier to the implementation of SDT-informed strategies that was emphasized was the contrast it has with traditional psychiatric treatment still dominating psychiatric institutions, especially in South Africa. Other barriers were the intensive training and time requirements of SDT-based interventions, as well as functional impairments of psychiatric patients.

Recommendations

It is recommended that healthcare workers creatively test suggested strategies in increasingly more psychiatric contexts and evaluate the impact thereof. For example, in addition to individual therapy, strategies associated with BPN should be implemented in interactions with other practitioners in the multidisciplinary team, permanent staff and relatives. Furthermore, scientist-practitioners who endorse SDT should continue to close the gap between theory and practice and focus on multiple types of research methods, including action research, case studies, qualitative designs and, where possible, quantitative, experimental designs. Institutional administration and management should become familiar with SDT-based concepts and interventions, as well as related concepts from positive psychology. Interventions aimed at promoting SDT-based strategies should be focused on multiple levels in institutions, for example, by also implementing strategies

in management-staff interactions. In addition, such interventions should include a long term focus instead of focusing exclusively on immediate outcomes.

Self-reflection of the Research Process

I started the study process with a deep concern for the experience of psychiatric patients after a family member was diagnosed with Huntington's disease and institutionalized in a well-known private local facility. It is such a vivid, heartfelt memory that stays with me, of him saying: "It isn't the confinement of the facility that is the worst to me, I miss my family". I realized that his experienced disconnection from his family caused continuous emotional pain. In addition, I saw how he, despite his emotional pain, befriended another person in the facility as well as Knoffel, the facility's pet dog.

This experience catalysed my interest into psychological needs, as I thought that surely there could be a way to intentionally promote the fulfilment of such needs, especially in the case of a condition with a poor prognosis and no promising available treatments. Reading about psychological needs made me aware about how common some of the basic needs are that people share. SDT seemed to provide a thorough and established framework that already connected need fulfilment to enhanced wellbeing, functioning and intrinsic motivation. In addition, there were theoretical principles and in some cases practical strategies said to enhance need fulfilment, which was very exciting to me. Furthermore, the SDT structural model seemed to be found universally applicable, which made me more confident that it could be applied to psychiatric settings as well.

However, a scope review and initial reading made it evident that SDT and related strategies were not sufficiently established in psychiatric contexts to allow for a review of the effectiveness of empirically tested strategies. Therefore, I chose to focus on suggested strategies and to acknowledge the need to test and validate strategies in specific contexts, as well as the need to be creative to apply the theoretical principles in more settings.

In the second year of the study, during my internship at a psychiatric institution, I was attuned to patients' BPN and observed the potential impact thereof. For example, I saw how two adolescents, one female and one male, with comparable intellectual disability, formed an invaluable friendship with one another when they were allowed sufficient time together. In the same ward, two older, higher functioning adolescents accepted a role of taking care of and being kind to the lower functioning individuals. Seeing both of them in individual therapy, it seemed quite clear how their relatedness was supported by their feeling of responsibility, of being needed and sometimes appreciated. Perhaps indirectly, this seemed to impact their well-being, functioning and treatment motivation in the ward.

Another example is of a 25-year-old male patient who I experienced as resistant and distrustful in individual therapy. I gave him choices as far as my creativity allowed, for example, frequency and time of sessions, and I highlighted his choices of what to discuss in therapy. I would like to believe that this supported his need for autonomy as well as relatedness, perhaps through the developing trust in the relationship. To the treating team's surprize, he was completely committed with follow-up therapy after being discharged. Of course these examples are affected by my personal bias, and my observations could be understood through other theories as well.

In addition, I also experienced some of the barriers to an SDT-based treatment approach. Where advocating to allow a patient increased freedom of movement, or to respect her wish to cease her medication as she was unresponsive and experienced severe side effects for more than 6 months, this was met with resistance and distrust form multidisciplinary team members.

Such experiences highlighted the need to clarify and understand the resistances and barriers to SDT-based approaches. And perhaps, rather than expecting radical and

immediate institutional change in South-Africa, it is needed to encourage practitioners to creatively try and test SDT-approaches in low risk situations, and to record and share such ideas and findings.

Appendix A: Ethics Approval Form

Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 086 016 9698
Web: http://www.nwu.ac.za

North-West University Health Research Ethics Committee (NWU-HREC)

Tel: 018 299-1206
Email: Ethics-HRECApply@nwu.ac.za (for human studies)

28 October 2020

RESEARCH ETHICS COMMITTEE LETTER OF DECISION: NO RISK

Based on the review by the North-West University Health Research Ethics Committee (NWU-HREC) on 28/10/2020, the NWU-HREC hereby clears your study as a no risk study. This implies that the NWU-HREC grants its permission that, provided the general conditions specified below are met, the study may be initiated, using the ethics number below.

Study title: Self-determination theory and strategies aimed at the Basic Psychological Needs of psychiatric patients: A rapid review
Principal Investigator/Study Supervisor/Researcher: Dr CM Oosthuizen
Student: J van der Hoogt - 30744415

Ethics number: N W U - 0 0 4 8 8 - 2 0 - A 1
Institution Study Number Year Status
Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Application Type: Single study
Commencement date: 28/10/2020

Risk: No Risk

General conditions:

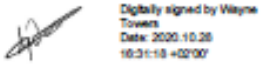
The following general terms and conditions will apply:

- *The commencement date indicates the first date that the study may be started.*
- *In the interest of ethical responsibility, the NWU-HREC reserves the right to:*
  - *request access to any information or data at any time during the course or after completion of the study;*
  - *to ask further questions, seek additional information, require further modification or monitor the conduct of your research;*
  - *withdraw or postpone clearance if:*
    - *any unethical principles or practices of the study are revealed or suspected;*
    - *it becomes apparent that any relevant information was withheld from the NWU-HREC or that information has been false or misrepresented;*
    - *submission of the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and/or*
    - *new institutional rules, national legislation or international conventions deem it necessary.*
- *NWU-HREC can be contacted for further information via Ethics-HRECApply@nwu.ac.za or 018 299 1206*

The NWU-HREC would like to remain at your service and wishes you well with your study. Please do not hesitate to contact the NWU-HREC for any further enquiries or requests for assistance.

Yours sincerely,

NWU-HREC Chairperson

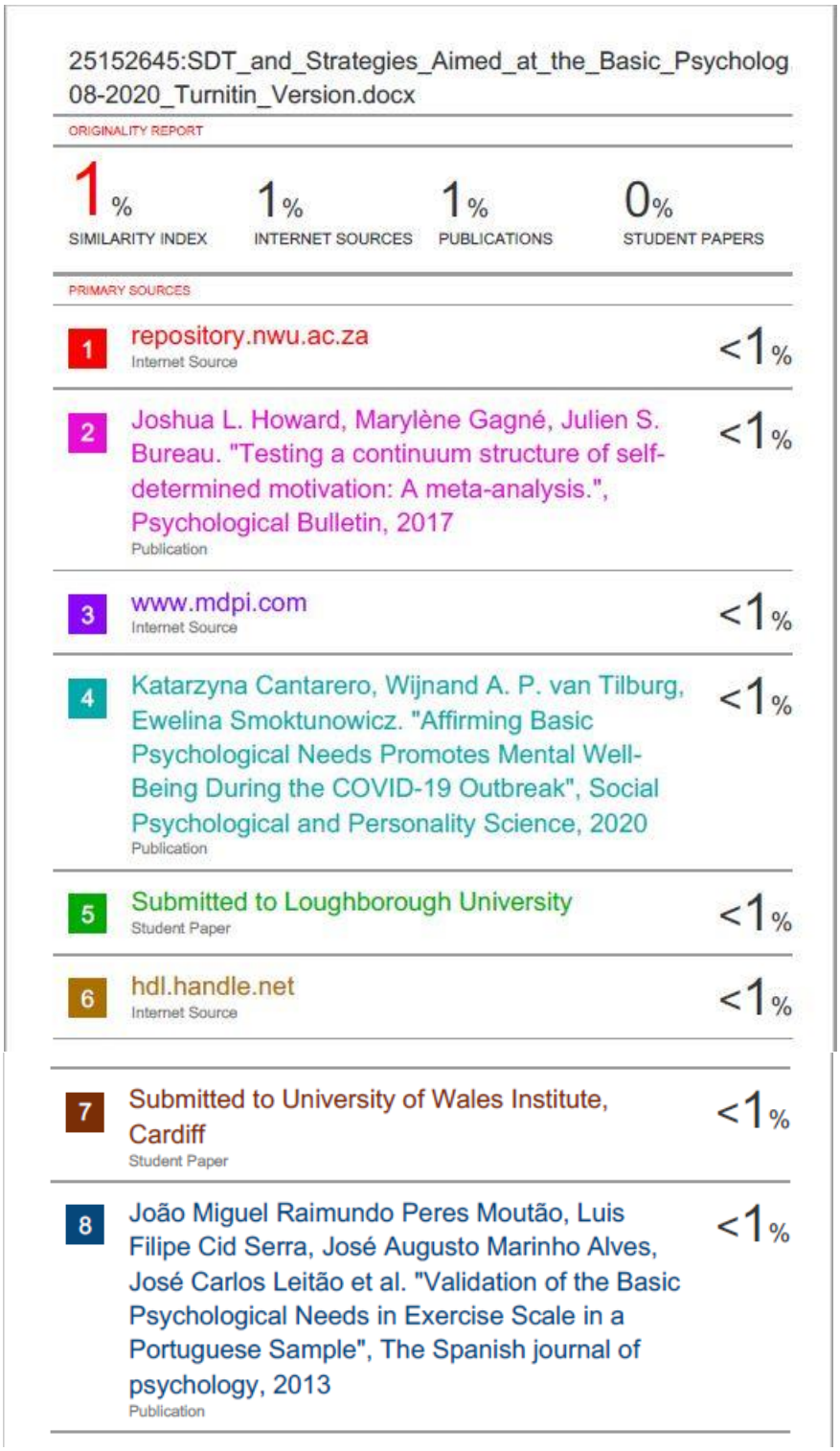


Head of the Faculty of Health Sciences Ethics Office for Research, Training and Support

Current details: (13210572) G:\My Drive\My Documents 2019\0227\NWU-HREC\NWU-HREC_Approval Letters\9.1.5.4.3_LOD_NWU-00000-20-A1_2020mmdd.docm
13 February 2020

File reference: 9.1.5.4.3

Appendix B: Turnitin Report



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