

Teachers' well-being, metacognitive awareness and satisfaction with life in a school for learners with mild intellectual disability

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Thesis submitted for the degree *Philosophiae Doctor* in Learner Support at the North-West University

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October 2019

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DECLARATION

I the undersigned, hereby declare that the work contained in this dissertation / thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

A handwritten signature in black ink, appearing to read 'Lillian E Jacobs', is written over a solid horizontal line.

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Date: October 2019

ACKNOWLEDGEMENTS

My Messiah, Yeshua who gave me the power to complete this study. Without your mercy, this study would have been impossible.

My sincere appreciation goes to the following institutions/persons for their support, encouragement and wisdom:

- The North-West University for financial support throughout this endeavour
- My supervisor, Dr Illasha Kok for the amazing support, and the afforded skilled professional guidance.
- My significant profound respect and appreciation to Dr Divan Jagals, my co-supervisor for sharing his insight and passion for research and for caring to such an extent.
- Ms Salome Coertze for the meticulous language editing.
- My appreciation also goes to Kirchner van Deventer for the technical editing of the thesis as well as the editing of the bibliography and referencing of this thesis.
- Mark Jacobs: My husband, your unconditional support and love during the study are sincerely appreciated. I will always cherish the sacrifices you have made during the study.
- My Children: Kesia, Jemima and Jehodia for your love, understanding and support during the study. Your unselfish love and assistance will remain with me forever.
- Ra-eesah and Ashraf Haffejee, my friends, who housed me numerous times in Potchefstroom during the study period. It will always be remembered and appreciated.
- Mr PD Vengatsammy, for your support, patience and the times you allowed me to travel for my data collection.

The teachers in schools for learners with mild intellectual disability that were prepared to participate in the study.

ABSTRACT

The purpose of this study was to design a model to determine the relationship between well-being, metacognitive awareness, and satisfaction with life of teachers in a school for learners with mild intellectual disability. To provide this nuance understanding of teachers' well-being, and the nature of the relationship between well-being, metacognitive awareness, and satisfaction with life, a framework is offered. The framework is based on three interrelated propositions outlined in this study, namely (a) Proposition 1: Hedonic and eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge; (b) Proposition 2: Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life; and (c) Proposition 3: Well-being (subjective and objective) leads to satisfaction with life independently (subjective or objective). A mixed-method design consisting of a pragmatic paradigm was employed. The merging of the quantitative (correlations) and qualitative (relationships) findings confirmed the association between well-being, metacognitive awareness, and satisfaction with life. In Proposition 1, strong correlations were found between hedonic and eudaimonic well-being and metacognitive awareness of participants was also confirmed. The association between the constructs in Proposition 1 is therefore established in the quantitative and qualitative results. In Proposition 2, a significant association was found between metacognitive awareness of metacognitive knowledge and metacognitive regulation, as well as satisfaction with life as indicated in the quantitative and qualitative results of this study. In Proposition 3, the association between well-being (subjective and objective) that leads to satisfaction with life independently (subjective or objective) was confirmed in the quantitative and qualitative results. Results and findings also confirmed that teachers in schools for learners with mild intellectual disability, specifically in the Gauteng and North-West province, experience well-being. The schools in the sample represented teachers teaching in schools for learners with mild intellectual disability in the Gauteng and North-West province in South-Africa and therefore, the findings should not be generalised to all schools in general.

Key terms:

Well-being, metacognitive awareness, satisfaction with life, mild intellectual disability

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Chapter 1 Orientation to the research

1.1 Introduction and background to the study

A recent Google Scholar search with the key words "metacognitive awareness" "well-being" "satisfaction with life" indicated only 216 results (Google Scholar, 2020a). After limiting the search to only those publications that report on the South African context, merely 8 results were available (Google Scholar, 2020b). The research result was then refined by substituting "South Africa" as a key word with "Mild Intellectual Disability". This refined search produced only one hit (Google Scholar, 2020c) – the work of Kuokken (2016). The researcher felt that these illustrations are necessary since the scarcity of literature on their concepts relevant to the current study encourages the use and understandings of these concepts in other contexts, even those outside of teachers teaching in a school for learners with mild intellectual.

This study took place within the context of a school for learners with mild intellectual disability in South Africa. Learners with mild intellectual disability often require specialised trained teachers (Hansen, Buitendach & Kanengoni, 2015) as these learners are especially noted for their short-term memory deficits and inability to use rehearsal strategies in an automatic way (Engelbrecht, Oswald, Swart & Eloff, 2003). Insufficient preparation of teachers to teach learners with mild intellectual disability can therefore inhibit the teaching and learning of learners (Okoza & Aluede, 2013). A further demand on these teachers is that no formal curriculum, at the time of this study, has been developed for learners with mild intellectual disability in South Africa (Eksteen, 2009; Moosa, 2014). Such a curriculum would emphasise the need for these learners who struggle with academic skills as reading, writing, and numerical (Mastropieri, Scruggs & Shiah, 1997; Sahoo, Biswas & Padhy, 2015). These are some examples of the challenges that affect the teaching and learning of the learner with mild intellectual disability (Moosa, 2014).

1.2 Research problem and motivation for the study

Teachers who continuously endeavour to be happy and function well, typically experience a feeling of well-being (Konu & Rimpelä, 2002). As teachers seek to find happiness in life and in their work, they face many challenges in their workplace; challenges that could jeopardise their well-being (Kok, 2013). The care of teachers' well-being, metacognition and satisfaction with life, however, are often left to themselves (Viljoen & Rothmann, 2009), suggesting their own personal needs are not necessarily recognised in their working environment. Well-being is considered a fundamental pre-requisite for a healthy, constructive, and productive quality teaching and learning life (Shamstalab, Bahman & Seyedvaliollah, 2014).

According to Hansen et al. (2015), insufficient teaching preparation of lessons impedes on the well-being of teachers in a school for learners with mild intellectual disability. Despite demands for greater accountability, efficiency and quality of teaching, and an increase in autocratic management styles (Imhangbe, Okecha & Obozuwa, 2018), teachers have to deal with a national curriculum in a school for learners with mild intellectual disability that is not suitable for them at the time of the study (Eksteen, 2009; Moosa, 2014; Viljoen & Rothmann, 2009).

To address this need, the South African educational system is required to examine strategies which will accommodate and promote teachers' personal growth and well-being. One strategy is the application of metacognitive competence of teachers (Van Horn, Taris, Schaufeli & Schreurs, 2004) that can be applied to achieve the set goals (Nader-Grosbois & Lefèvre, 2011). Metacognition, which serves the purpose of personal goal-striving and goal-setting (Kiaei & Reio Jr., 2014), refers to the awareness of a person's feelings, the cognitive strategies as well as the processes followed during the thought process (Desoete & Özsoy, 2017). Metacognition is therefore a necessary concept to explore as an aspect for well-being and satisfaction with life (Nisiforou, 2009). Teachers can reach well-being when they are able to take control of their personal growth, and to reach the goal of what they wish to become (Van Horn et al., 2004).

Yet, the relationship between teachers' well-being, metacognitive awareness, and satisfaction with life is often overlooked in the context of schools for learners with mild intellectual disability. According to Haybron (2007), the philosophy of happiness is important for well-being and satisfaction with life and that strategies, such as curriculum redesign, attempts to enhance these aspects of teachers' well-being. Hence, the interest in positive psychology continues to grow with the emphasis on cultivating the well-being of teachers (Grover, 2015; Norrish, Williams, O'Connor & Robinson, 2013; Soutter, O'Steen & Gilmore, 2014; Van Dierendonck, Díaz, Rodríguez-Carvajal, Blanco & Moreno-Jiménez, 2008). Research on the determinants of well-being, metacognitive awareness, and satisfaction with life in a school setting with learners with mild intellectual disability would therefore expand the existing body of knowledge.

Taking the constructs of teachers' well-being, metacognitive awareness and satisfaction with life into consideration, this study derived three propositions towards a model for a deeper understanding on theories of well-being. Despite the considerable progress that has been made in research concerning psychology and education, models reporting on well-being, metacognitive awareness, and life satisfaction (e.g. Ebersöhn, 2014; Fouché, 2015; Kok, 2013; Naidoo & Muthukrishna, 2014; Van der Vyver, Van der Westhuizen & Meyer, 2014; Willers et al., 2013) in the context of a school for learners with mild intellectual disability has been lacking, especially in South Africa (Bezuidenhout & Cilliers, 2010; Grover, 2015; Plattner & Mberengwa, 2010).

For example, the theory of metacognitive locale (Jagals, 2015; Jagals & Van der Walt, 2016b) has been developed to suggest interrelated networks between various levels of metacognitive awareness, yet the lacunae in the literature holds that no models exist (yet) based on research on the relationships between teachers’ well-being, metacognitive awareness, and satisfaction with life in a school for learners with mild intellectual disability.

1.3 Clarifying the constructs used in the study

First a note on the scarcity of literature on the topic, as explained in the introductory paragraph of the chapter. The scarcity of literature suggests an illustration of how the concepts of well-being, metacognitive awareness and satisfaction with life are understood across different contexts. The researcher felt that these illustrations are necessary since the scarcity of literature on their concepts relevant to the current study encourages the use and understandings of these concepts in other contexts.

Table 1-1: Conceptual understandings of metacognitive awareness, well-being and satisfaction with life regardless of context

Conceptual understanding	Contextual*	Source
Teachers require specialised training to accommodate learners with mild intellectual disability.	Short term memory impairment	(Engelbrecht, Oswald, Swart & Eloff, 2003)
Teachers need to be able to teach metacognitive strategies.	Teaching cognitive strategies	(Okoza & Aluede, 2013)
CAPS is not suitable as a curriculum for learners with mild intellectual disability.	CAPS in special need schools	(Moosa, 2014)
Well-being	Well-being in schools excluding teachers	(Konu & Rimpela, 2002)
Well-being and satisfaction with life co-exist in educational institutions	University employees	(Viljoen, & Rothman, 2009)
Research implies that well-being is fundamental in life.	Health, constructive and productive quality teaching and learning life	(Shamstalab, Bahman & Seyedvaliolah, 2014)
Teachers who apply metacognitive competence can achieve their goals	Children’s problem solving activities	(Nader-Grosbois & Levevre, 2011)
Teachers experience well-being when they can identify the level of their learners cognitive functioning.	Assessment of IQ and social quotient of children with autism.	(Dhanesh & Karthikeyan, 2012)

The sources identified in Table 1 are not context bound (i.e. published only with regard to MID contexts), hinting towards understanding the concepts as abstract ideas, regardless of context. According to Reddy, (2019) borrowing from literature outside the context of the current study can therefore be considered as epistemological border crossing.

This is done, especially, due to the lack of available literature reporting on well-being, metacognitive awareness and satisfaction with life in the context of a school for learners with

mild intellectual disability. For the purpose of this study, the theories of Self-actualisation, Self-transcendence and metacognition were therefore considered to be abstract ideas to understand the conceptual relationship between the concepts, regardless of their application in context, as also supported by the work of (source). As a result, acknowledging the available sources from other non-(a school for learners with mild intellectual disability)-contexts, these conceptual understandings provide the researcher with the necessary scientific structure and conceptual understanding for the development of the theoretical propositions of this study.

To explain the title of the study: *Teachers' well-being, metacognitive awareness and satisfaction with life in a school for learners with mild intellectual disability*, key constructs are clarified below.

1.3.1 Well-being

Research on well-being has been growing in recent decades (Keyes, Shmotkin & Ryff, 2002; Seligman, 2011; Stratham & Chase, 2010). Well-being is documented as a significant health consequence in several professions, including education (Fouché, 2015; Rathunde & Csikszentmihalyi, 2005; Rothmann & Hamukang'andu, 2013). Soutter et al. (2014, p. 502) describe well-being as a “multi-dimensional construct that emerges as individuals interact with others, their environment and the conditions and circumstances in which their life unfolds”. Well-being is a multi-dimensional construct and “has given rise to blurred and overly broad definitions of well-being” (Forgeard, Jayawickreme, Kern & Seligman, 2011, p. 81).

There are mainly two conceptual traditions that dominate the understanding of well-being: (i) eudaimonic well-being and (ii) hedonic well-being. The extent to which individuals are fully functioning refers to eudaimonic well-being (Ryan & Deci, 2001; Waterman, 1993). On the one hand, according to Ryff (1995, p. 100), eudaimonic well-being is “the striving for perfection that represents the realization of one’s true potential”. Hedonic well-being, on the other hand, can be described in terms of the extent to which individuals feel good and content with life (Kahneman, Diener & Schwarz, 1999; Ryan & Deci, 2001). Recently, Mason (2015, p. 15) explained hedonic well-being as the cognitive and affective value of an individual's life “in terms of the presence and relative frequency of positive and negative emotions”. Diener and Suh (1997) posit that well-being refers to how individuals assess their lives in the forms of affect and cognitions. Well-being can thus be guided by emotions and feelings that embodies the affective part and focuses on happiness while the cognitive part is an informative conscious evaluative judgement about one’s satisfaction with life.

This cognitive part is grounded in metacognitive awareness as “a precursor to the process of happiness on as well as the realisation of one’s own ability to make decisions to become more effective and more autonomous” (Okoza & Aluede, 2013, p. 64).

1.3.2 Metacognitive awareness

Metacognition is often defined as awareness of one's knowing (Okoza & Aluede, 2013). Two distinct components (i.e. metacognitive knowledge and metacognitive regulation) which rises awareness of and regulates feelings and thoughts (Nisiforou, 2009; Schraw & Dennison, 1994; Schraw & Moshman, 1995).

Metacognitive awareness can be identified as an important aspect to improve the well-being of individuals (Shamstalab et al., 2014). It is believed that improved metacognitive awareness brings about a happy life, and that well-being empowers individuals to use these skills and in the long run enhance their satisfaction with life (Adaryani, Jalili & Roshani, 2013).

1.3.3 Satisfaction with life

Satisfaction with life can be referred to as “a cognitive judgmental process” (Diener, Emmons, Larsen & Griffin, 1985, p. 71) in which individuals measure the quality of their lives according to their own benchmarks. Lucas, Diener and Suh (1996) define satisfaction with life as a global evaluation of an individual of his or her whole life. Likewise, satisfaction with life is defined as a measure of how individuals evaluate the entirety of their life (Veenhoven, 1996). More recently, Meyer and Meyer (2016, p. 855) explained that the main components of satisfaction with life include “the evaluation of an individual’s life experiences, negative or positive, and making a subjective assessment of the overall balance sheet of life experiences to date”. Most human beings strive to be happy in life, therefore satisfaction with life can be assumed to be a widely shared goal of humanity. Happiness and productivity of teachers promotes a positive overall satisfaction with life (Demirel, 2014). Satisfaction with life is important in terms of teaching, because teaching is a profession carried out in a relationship and interaction with human communities to a large extent (Šarančić, 2013). If teachers experience satisfaction with life, they have a positive influence on learners’ lives and on their teaching experiences (Al-Zboon, Alkhatib & Alkhaldeh, 2015).

1.3.4 Mild intellectual disability

A brief explanation of intellectual disability is provided here before defining the concept of mild intellectual disability. Bexkens, Jansen, Van der Molen and Huizenga (2016) explain that the “intelligence quotient” (IQ) and refers to the person’s ability to learn or apply knowledge in his or her life, skilled reasoning, problem-solving and decision-making. Adaptive functioning refers to the age appropriate functioning of a person in daily living such as self-care, self-help and the ability to create and maintain relations with peers or other individuals (Polloway, Lubin, Smith & Patton, 2010).

Children with mild intellectual disability is defined as children with significant limitations in adaptive skills, higher incidence of motor problems (Vuijk, Hartman, Scherder & Visscher, 2010), and an IQ score between 50 and 70 (Nouwens, Lucas, Smulders, Embregts & Van Nieuwenhuizen, 2017). Learners functioning at a level of mild intellectual disability typically have limited mental ability, a short attention span, and their development of movement skills after the age of 7 is delayed and typically slower (Gluck, 2016; Simons et al., 2007). The learners with mild intellectual disability can acquire practical skills and attain reading and mathematics skills up to grade levels 3-6 (Katz & Lazcano-Ponce, 2008).

1.4 Research questions

The primary research question of the study is:

How are well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disability linked?

This question is clarified by the secondary questions as showed in Table 1-1. The nature of the questions suggests a mixed method research approach. This study therefore is based on the independent collection and analysis of two types of data from both quantitative and qualitative approaches and, consequently, questions focused on both approaches.

Table 1-2: Primary and secondary research questions according to research approach

Primary research question How are well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disability related?	
Quantitative	Qualitative
What is the nature of the relationship, if any, between hedonic well-being and metacognitive awareness? (§ 4.5)	What is the teachers' experience on well-being among the group of teachers teaching in a school for learners with mild intellectual disability? (§ 5.11)
What is the nature of the relationship, if any, between satisfaction with life and metacognitive awareness? (§ 4.5)	What is the teachers' metacognitive awareness among the group of teachers teaching in a school for learners with mild intellectual disability? (§ 5.12)
What is the nature of the relationship, if any, between satisfaction with life and metacognitive awareness? (§ 4.5)	What is the teachers' experience regarding their satisfaction with life among the group of teachers teaching in a school for learners with mild intellectual disability (§ 5.13)

The aim of the study is mentioned below, followed by the theoretical orientation to the study.

1.5 Aim of the study

The primary aim of the study was to investigate how well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disability are linked. To reach the goal, a theoretical orientation was developed for the purpose of this study.

1.6 Theoretical orientation

In this study, three propositions were derived according to the theoretical orientation depicted in Figure 1-1.

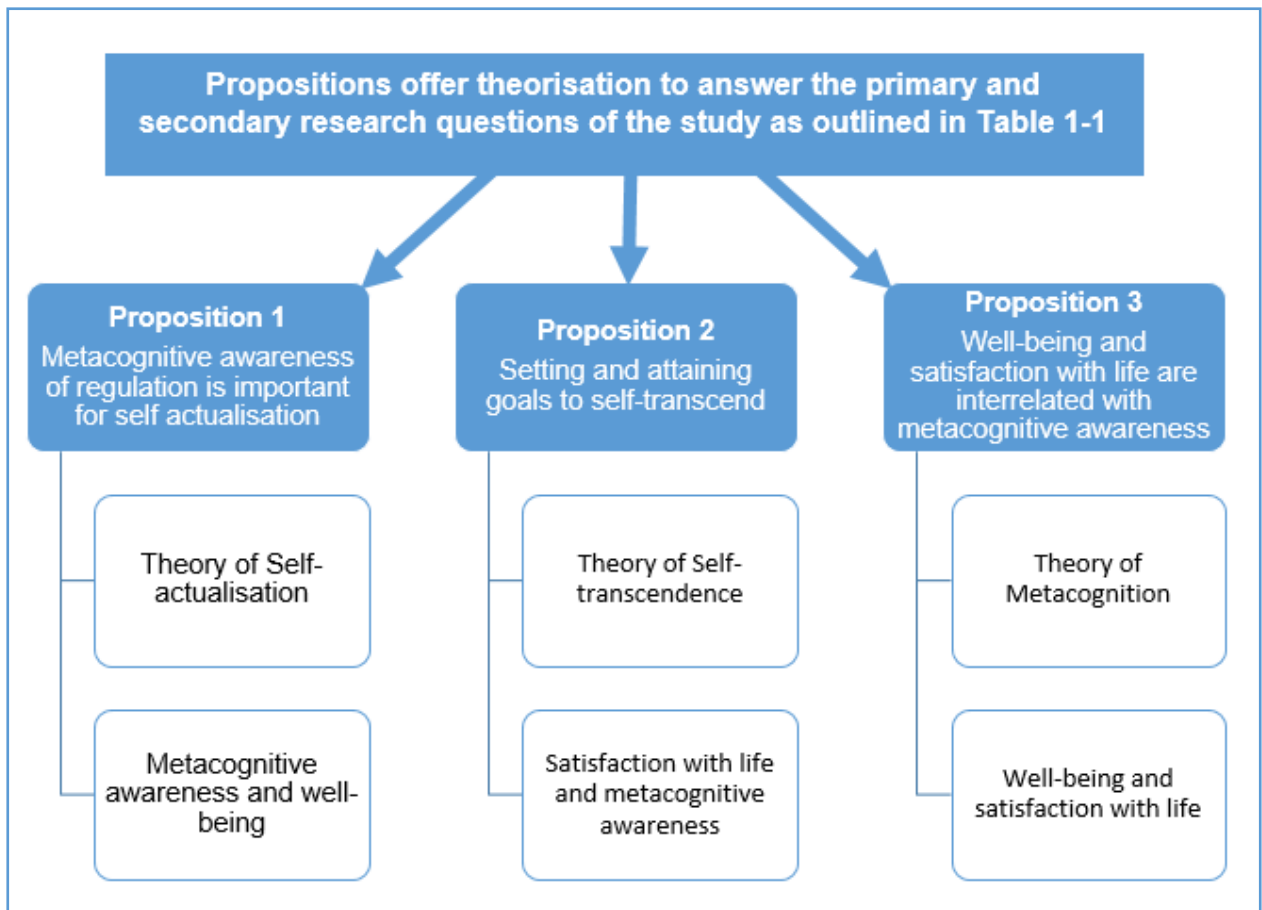


Figure 1-1: Theoretical orientation of the study

Three propositions were derived from the conceptual theoretical framework, as depicted in Chapter 2 (§2.3), guided by three underpinning theories. The theories include: Self-actualisation (Maslow, 1962), Self-transcendence (Maslow, 1971), and the Theory of Metacognition (Flavell, 1979). Essentially, the Theory of Self-actualisation explains that hedonic and eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge. The Theory of Self-transcendence suggests that metacognitive awareness of metacognitive knowledge and metacognitive regulation mediate satisfaction with life. The Theory of Metacognition proposes that well-being leads to satisfaction with life. Metacognitive awareness of regulation (how one plans and manages) and self-knowledge (knowing one’s own strengths and weaknesses) play an important role in developing the potential needed to reach a state of well-being. Through metacognitive regulation (i.e. plan, monitor and evaluate) individuals can reach goals they set for themselves and become satisfied with life. Well-being and satisfaction with life is a complex and dynamic system of what appears to consist of two dimensions interrelated with one another and with metacognitive awareness.

Based on this theoretical orientation, the propositions were derived towards answering the primary and secondary research questions, as indicated in Figure 1-2.

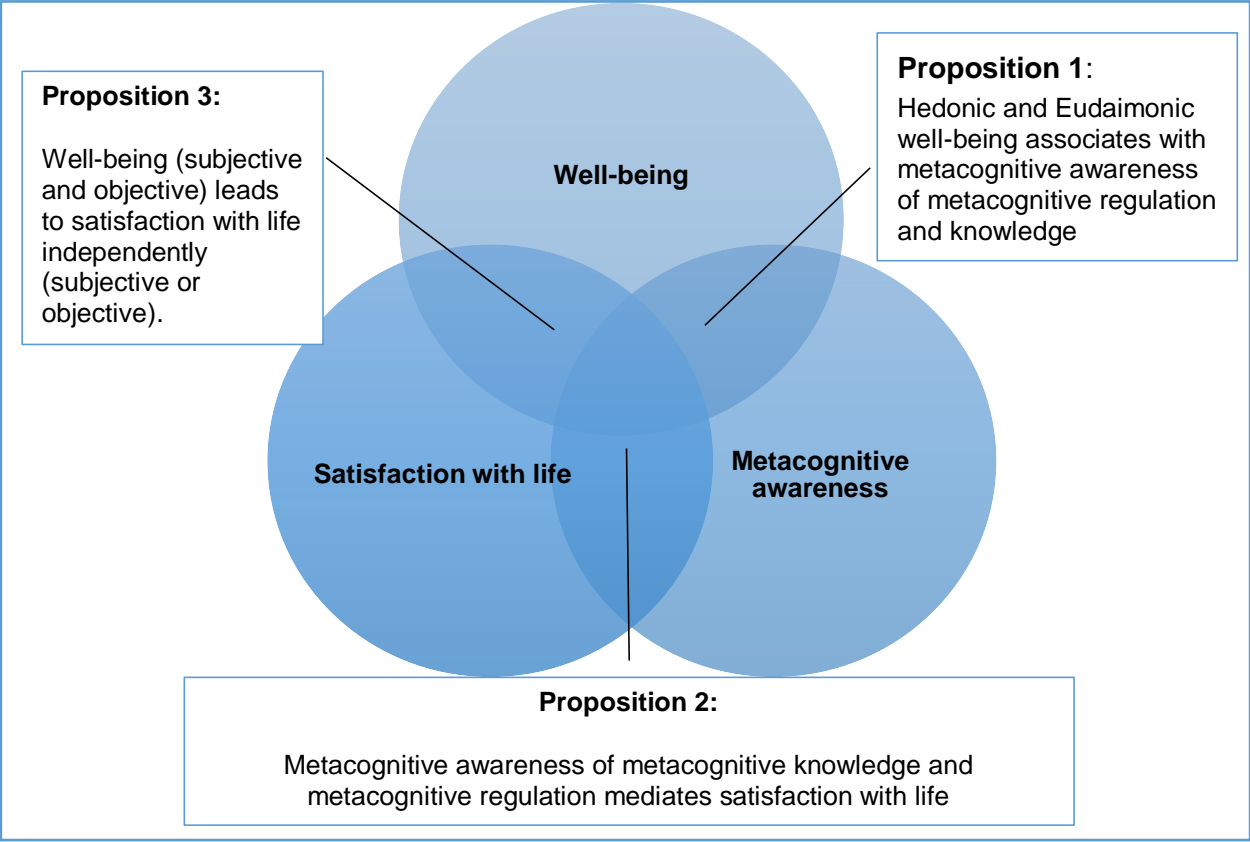


Figure 1-2: Propositions towards answering the primary and secondary research questions

The convergent parallel mixed method design as an analysis approach is discussed below.

1.7 The convergent parallel mixed method design

The research design can be considered a framework or blueprint to specify a plan for generating empirical evidence needed to address a research problem (McMillan & Schumacher, 2014). For the purpose of this study, the convergent parallel mixed method research design entails separate quantitative (QUANT) and qualitative (QUAL) data collection and analysis approaches within the same time frame. To develop a more complete and deeper understanding of the relationship between teachers' well-being, metacognitive awareness, and satisfaction with life, which is overlooked in the context of a school for learners with mild intellectual disability, the convergent parallel mixed method was employed.

The purpose of a convergent parallel mixed method design, according to Wittink, Barg and Gallo (2006), is to validate and provide a better understanding of the association¹ between constructs. In the case of this study, the constructs are well-being, metacognition, and satisfaction with life. To obtain different, yet complementary information, data were collected and analysed at the same time from two independent approaches using quantitative and qualitative methods. The quantitative and qualitative approaches applied in this study are discussed in greater detail in Chapter 3. In Figure 1-3 (following page) only an introductory brief overview of the convergent parallel mixed method design is provided to illustrate how it was utilised in the study.

From Figure 1-3 it seems that both approaches are considered equal. From a pragmatist philosophy, the convergent parallel mixed methods research design was employed to independently collect and analyse data to answer the secondary research questions, and in turn the primary question. To do so, a positivist lens was applied in the quantitative research strand of the study and an interpretivist lens was applied in the qualitative research strand of the study. There is however a paradigmatic war between these two perspectives (Creswell & Plano; Clark, 2014) To develop an independent view to merge these paradigms, pragmatism was considered as the grounding philosophy in this mixed method study. In particular the quantitative and qualitative components were analysed independently and interpreted together.

¹ In this study the reader should take note that the term *association* is synonymous with the words correlation and relationship, as it explains the quantitative correlations and the qualitative relationships between concepts. Its purpose is to reflect the connection or the link between the results and findings between these two approaches.

Convergent parallel mixed method research	Quantitative	<p style="text-align: center;">Worldview</p> <p>Ontologically, the researcher as a positivist, views the experience of the mild intellectual disability teachers in relation to their various psychological needs, including well-being and the preparation of the curriculum as causes of the effects of their satisfaction with life.</p>
		<p style="text-align: center;">Ethical</p> <p>Permission was obtained from the Ethics Committee of the North West University (Potchefstroom Campus). Permission was obtained from the Department of Basic Education, North West Province and Gauteng Province, as well as from the principals at the identified schools.</p> <p>Voluntary participation, privacy, trust, and the safety of respondents were adhered to.</p>
		<p style="text-align: center;">Sampling</p> <p>A battery of quantitative measuring instruments was voluntarily completed by the teachers of the 14 schools for learners with mild intellectual disability.</p>
		<p style="text-align: center;">Data collection</p> <p>Data were obtained by means of questionnaires.</p>
		<p style="text-align: center;">Validity</p> <p>The measuring instruments and scales were statistically processed based on Cronbach-Alpha values calculated for constructs of instruments.</p>
		<p style="text-align: center;">Data analysis</p> <p>Data were statistically analysed.</p>
		<p style="text-align: center;">Worldview</p> <p>Ontologically, the researcher, as an interpretivist, explored the causes and effects to understand and make sense of the teachers' experiences in a school for learners with mild intellectual disability.</p>
	Qualitative	<p style="text-align: center;">Ethical</p> <p>Permission was obtained from the Ethics Committee of the North West University (Potchefstroom Campus). Permission was obtained from the Department of Basic Education, North West Province and Gauteng Province, as well as from the principals at the identified schools.</p> <p>Voluntary participation, privacy, trust, and safety of participants were adhered to.</p>
		<p style="text-align: center;">Sampling</p> <p>14 teachers voluntarily participated in the qualitative research strand of the study.</p>
		<p style="text-align: center;">Data collection</p> <p>The data included digital recordings and verbatim transcripts of the interviews with the teachers.</p>
		<p style="text-align: center;">Validity</p> <p>The following criteria were used: truth value, consistency, neutrality, and applicability.</p>
		<p style="text-align: center;">Data analysis</p> <p>The verbatim transcribed notes were coded by reading through every sentence and labelling them according to meaningful analytical themes or codes.</p>

Figure 1-3: Convergent parallel mixed method research utilised to explore the association between well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disability

The results and findings of these two approaches are presented in Chapter 4 and Chapter 5, and thereafter triangulated and interpreted for the discussion which follows in Chapter 6. As such, the research design for this study is underpinned by a pragmatist philosophy. A pragmatist philosophy

guides the choice of mixing qualitative and quantitative approaches of research into a single mixed method study (see also: Johnson & Onwuegbuzie, 2004; Morgan, 2007; Teddlie & Tashakkori, 2003). In this sense, pragmatism refers to the belief in doing what works best to achieve the desired result (Creswell & Plano Clark, 2007). As the philosophical orientation underpinning this study imposes the use of a mixed method, the integration of the quantitative and qualitative data leads to a broader understanding of the association between well-being, metacognitive awareness, and satisfaction with life of teachers teaching in a school for learners with mild intellectual disability in South Africa, Although the methodological grounding of this study is guided by a pragmatist philosophy, for the purpose of this study, each approach (quantitative and qualitative) will separately be scrutinised against positivism (for the quantitative research strand) and interpretivism (for the qualitative research strand).

1.7.1 Worldview

The pragmatic philosophical worldview underpinning this study is defined by Tashakkori and Teddlie (2003, p. 713) as:

A deconstructive paradigm that debunks constructs such as “truth” and “reality” and focuses instead on “what works” as the truth regarding the research questions under investigation. Pragmatism rejects the either/or choices associated with the paradigm wars, advocates for the use of mixed methods in research, and acknowledge that the values of the researcher play a large role in the interpretation of the results.

The pragmatic paradigm distinguishes mixed method research visibly from a quantitative and qualitative research approach. The quantitative approach is based on a world view of positivism and the qualitative research approach is based on an interpretive worldview (Tashakkori & Teddlie, 2010).

The quantitative research strand of the study constituted the positivist paradigm in order to gain scientific knowledge on the well-being, metacognition, and satisfaction with life of the respondents and participants that are teaching in a school for learners with mild intellectual disability. The positivist paradigm introduced theory and practice of well-being through three propositions.

The qualitative research strand of the study constituted the interpretivist paradigm to explore the teachers' well-being within the mild intellectual disability schools which is the social context. The experience of teachers' well-being was suggested by research through themes and sub-themes.

1.7.2 Ethical considerations

Regardless of the research design, sampling, techniques and choice of methodology, all researchers are subjected to ethical considerations (Gorard, 2010). The protection of the respondents and participants is an important part of research ethics (Terre Blanche, Durrheim & Painter, 2004). Based on the ethical guidelines as deliberated by Lichtman (2010, pp. 49-67). Lichtman, Leedy and Ormrod (2010, pp. 101-105), Fraenkel and Wallen (2009, pp. 52-56) and Neuman (2011, pp. 145-154), the following ethical considerations were accounted for in this study:

- Research permission and ethical clearance (NWU-00446-17-A2) to carry out this research was requested and obtained from the North West University's Ethics Committee.
- Consent and approval by the National Department of Basic Education to conduct research in schools.
- Written permission obtained from the provincial Departments of Basic Education (Gauteng and North West Province), the different District Offices and the selected schools for learners with mild intellectual disability in Gauteng and North-West Province.
- Signed informed consent of all voluntary participating teachers.

Firstly, the researcher ensured that the respondents and participants were informed about the relevant aspects of the research study before they signed the informed consent, because by signing the informed consent, the respondents and participants voluntarily gave their permission and were fully aware of what the research study involves. They were made aware of their right to withdraw, without any penalty, at any stage from the research study.

Secondly, the written informed consent included aspects such as ensuring no causing of harm or distress to the respondents or participants, anonymity in the quantitative and qualitative research strand of the study to ensure that the respondents and participants are not traceable after completion of the study (Terre Blanche, Durrheim & Painter, 2014), the data were collected in a private, quiet place to minimise interruption and ensure anonymity, and confidentiality was confirmed by ensuring the respondents and participants that only the researcher and supervisors will have access to the data (Creswell, 2003).

The quantitative data were stored in a safe locked place after the research study was completed (Fraenkel & Wallen, 2009). The qualitative data from the digital recorder was copied on a password protected computer. The anonymous findings were communicated in the written research report of the researcher (Neuman, 2011).

1.7.3 Sampling

The strategies chosen for selecting the sample were based on the logistics and ethics of the researcher. Also, the diversity of the respondents and participants' characteristics and experiences guided the sampling process (Mertens, 2015). A probability sample was preferred for the quantitative research strand of the study in the Gauteng and North-West Province (Ritchie, Lewis & Elam, 2003). A total of 14 schools within these two provinces were selected to complete a battery of five questionnaires.

Purposive sampling, described as a non-random sampling, is representative of the information needed to answer the research questions and was preferred for the qualitative research strand of the study (Fraenkel & Wallen, 2009). At least one teacher at each school was identified to participate in the semi-structured interviews to gather information about the selected teachers' subjective experiences. The researcher continued collecting data until it did not lead to any new information during the coding process (Ritchie, 2003).

1.7.4 Data collection

The researcher collected qualitative data through individual face-to-face interviews with teachers in each school, to assist in explaining the outcomes from the quantitative data collected.

During the quantitative research strand of the study, data were collected by means of standardised questionnaires and scales. The questionnaires in scales were in a booklet format presented in English to measure teachers' well-being, metacognitive awareness, and satisfaction with life.

The questionnaires were deemed suitable for collecting the relevant data, namely: (i) the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999), (ii) the Questionnaire for Eudaimonic Well-Being (Waterman et al., 2010), (iii) the Oxford Happiness Questionnaire (Hills & Argyle, 2002), (iv) the Metacognitive Awareness Inventory for Teachers (Balcikanli, 2011), and (v) the Satisfaction with Life Questionnaire (Diener et al., 1985). All the respondents and participants in the study indicated that they could read, write and understand English. The researcher could therefore "observe what naturally goes on in the world without directly interfering with it" (Field, 2013, p. 873).

During the qualitative research strand of the study, the researcher conducted semi-structured interviews as casual conversations between the researcher and the participants to generate data (Mertens, 2015). Individual interviews were recorded by a digital recorder for later verbatim transcription. The researcher further relied on note taking which assisted in formulating follow-up

questions to refer back to the participant regarding what was said earlier (Mertens, 2015). This supported the researcher to make a reflective interpretation and investigate the meaning of the data exhaustively.

1.7.5 Validity and trustworthiness

For the qualitative research strand of the study, the measuring instruments and scales were statistically processed based on Cronbach-Alpha values calculated for constructs of instruments and scales. The researchers employed standardised questionnaires and scales that already confirmed the reliability of Cronbach-Alpha values in previous studies. The measuring instruments used were: the Subjective Happiness Scale (Lyubomirsky & Lepper, 1999), the Questionnaire for Eudaimonic Well-Being (Waterman, 1993), the Oxford Happiness Questionnaire (Hills & Argyle, 2002), the Metacognitive Awareness Inventory for Teachers (Balcikanli, 2011), the Satisfaction with Life Questionnaire (Diener et al., 1985), (§3.4.7).

Trustworthiness was employed for the semi-structured interviews in this study and the researcher made use of the four measures as suggested by Krefting (1991). The four measures to ensure trustworthiness are: neutrality, applicability, consistency, truth, and value and were applied in the qualitative research strand of the study (§3.5.7).

1.7.6 Data analysis

Quantitative data analysis is statistical in nature and the choice of strategies is based on the “purpose of the research, the design of the study and the characteristics of the data itself” (Mertens, 2015, p. 464). For the purpose of this study, data were collected through questionnaires that were analysed using the Statistical Package for Social Sciences (SPSS).

Frequencies and percentages were used to describe the numerical biographical information of the respondents, in relation to their gender, age, and teaching experience. The battery of questionnaires was analysed by means of hierarchical linear modelling (HLM), where each school was considered as a primary unit of measurement, as explained by Garson (2013). This modelling is ideally used where nested data exist on more than one level to identify the association between well-being, metacognitive awareness, and satisfaction with life (Woltman, Feldstain, MacKay & Rocchi, 2012).

Qualitative data generation is generally based on the researcher’s interpretation of words (Mertens, 2015). Cohen, Manion and Morrison (2007) describe qualitative data generation as a process of making sense from the respondents’ perspectives and opinions of situations. The researcher familiarised herself with the data that was presented in words. Semi-structured

interviews were recorded by means of a digital recorder, transcribed verbatim and the codes were applied to the theory model by Saldaña (2016) for further analysis. The transcribed text was read to obtain a sense of the whole. Thereafter the researcher employed the open coding process to increase the credibility and dependability of the study. By means of codes the underlying meaning of the transcribed text were found which permitted the qualitative data to be understood in relation to the context. Codes were used to group the data into categories which can be defined as a gathering of content that links commonality. The identified categories were employed as data related to resolve the aim of the study. Underlying means in categories were linked through themes and sub-themes.

1.8 Compare and relate

The researcher employed data triangulation to contribute to a more nuanced understanding of the association between well-being, metacognitive awareness, and satisfaction with life of teachers in a school for learners with mild intellectual disability (Watts & Carlson, 2002).

According to Denzin and Lincoln (1994), a variety of data can be employed to address a single research problem. Methodological triangulation is employed by means of a variety of methods to address a single research problem. The combination of the quantitative approach by means of a battery of standardised questionnaires and the qualitative approach by means of semi-structured interviews were employed for methodological triangulation. For the purpose of this study, the researcher collected data in 14 schools for learners with mild intellectual disability in the Gauteng and North West Province to explore the consistency of the data across the locations (Shih, 1998). The researcher compared and crosschecked the consistency of the quantitative and qualitative data that was gathered (Patton, 1990). The quantitative and qualitative research approaches were used for data collection to inform the convergent parallel mixed method design.

1.9 Interpretations

In Chapter 6, findings of the quantitative and qualitative data are interpreted and discussed in detail. Data were further triangulated and combined, and then interpreted by means of the conceptual theoretical framework of the study in terms of the three derived propositions.

1.10 Contribution of the study

This study contributes to the scholarly field through attempts to find the association between well-being, metacognitive awareness, and satisfaction with life of teachers in a school for learners with mild intellectual disability setting. In this study, the researcher set out to develop a model through a quantitative and qualitative approach. This model will contribute to the understanding of the well-being of teachers teaching in a school for learners with mild intellectual disability, and further contribute towards national and global publications on the association between teachers' well-

being, metacognitive awareness, and satisfaction with life in a school for learners with mild intellectual disability.

1.11 Summary

In this chapter, the researcher oriented the reader to the background of the study, followed by the research problem and motivation for the study. The researcher then presented the clarification of the key constructs, research questions, the aims and objectives of the study. An overview of the theoretical perspectives, research design and methodology that were applied in the study, and concluded by briefly stating how confidentiality and trustworthiness were ensured in the data collection and generation processes. The ethical considerations pertaining to this research study was also discussed. A conceptual theoretical framework to develop a model was offered in this chapter. The model's objective is to clarify the association between the constructs of well-being, metacognitive awareness, and satisfaction with life that will answer the primary research question. Chapter 2 reviews the background and orientation of the study. Below is a summary and description of each chapter.

Table 1-3: Chapter summary and description

Chapter	Title	Description
Chapter 1	Introduction, background and orientation	Introduction, orientation, purpose, motivation and methodology of the study.
Chapter 2	Well-being, Metacognitive awareness and satisfaction with life in a school for learners with mild intellectual disability	Three interrelated theoretical propositions were developed. The three propositions were employed to indicate the association between the constructs of metacognitive awareness, well-being and satisfaction with life.
Chapter 3	Research methodology and methods	Chapter 3 presents a detailed description of the research design and the methodology. The research design and methodology were implemented for triangulation of the quantitative and qualitative data.
Chapter 4	Analysis of the quantitative data of the study	The quantitative results were presented in Chapter 4. Descriptive and inferential statistics were employed to determine the association between well-being, metacognitive awareness and satisfaction with life.
Chapter 5	Analysis of the qualitative data of the study	The qualitative findings is presented in Chapter 5. Themes, sub-themes and categories confirmed the propositions. The three propositions confirmed the association between well-being, metacognitive awareness and satisfaction with life.
Chapter 6	Summary, discussions and recommendations	The quantitative and qualitative data were triangulated in Chapter 6. Limitations of the study is discussed and recommendations for further research.

Chapter 2 Well-being, metacognitive awareness and satisfaction with life in a school for learners with mild intellectual disability: A conceptual framework

2.1 Introduction

In Chapter 1, it was proposed that the current move towards positive psychology in education could provide a more nuanced understanding of what the underlying causes of well-being entails, and is likely to promote awareness and a positive sense of well-being of teachers in a school for learners with mild intellectual disability. Through the eudaimonic and hedonic perspective, well-being's association with metacognitive awareness could offer a conceptualised lens (or theoretical model) as a contribution to understanding teachers' well-being and the nature of the relationship between well-being, metacognitive awareness, and satisfaction with life. In Chapter 2 the constructs of well-being, metacognitive awareness, and satisfaction with life towards self-actualisation are conceptualised and described in detail. This is followed by a discussion on three interrelated propositions based on the conceptual overlap between the constructs. A conceptual framework that can be applied to develop a model to assist in understanding the role metacognitive awareness plays in the well-being and satisfaction with life of teachers teaching in a school for learners with mild intellectual disability is offered here. The conclusion follows with thoughts about future directions for researchers and educationists regarding well-being in a school for learners with mild intellectual disability.

2.2 Background and orientation

Positive psychological well-being has long been considered a focal part of life. In education contexts, well-being's role towards satisfaction with life focuses on the character and positive experiences of both teacher and learner. Literature seems to provide different conceptualisations of *satisfaction with life* as some have termed this concept as life satisfaction which involves the cognitive aspect of subjective well-being (Michalos, 2017). It is acknowledged that teachers' well-being is deeply rooted in the quality of their work (Evans et al., 2018). If a teacher's well-being is neglected, it can result in a negative impact on their satisfaction with life and, consequently, affect the lives of their colleagues and learners. One particular challenge that teachers in a school for learners with mild intellectual disability face, is the lack of sufficient formal educational programmes to prepare them to teach learners with mild intellectual disability.

In effect, this challenge includes the relationship between their own mental well-being in the private sphere of their lives and the workplace demands in the public sphere.

Since well-being is considered an essential requirement for healthy, constructive, and productive quality education (McCallum & Price, 2016), teachers in a school for learners with mild intellectual disability need to constantly plan, monitor, and evaluate their own knowledge and that of their learners. For these teachers to experience well-being in the public sphere, they need guidelines to create optimal learning experiences. It is anticipated that well-being in the public sphere also flows through into the private sphere (Wahlbeck, 2015). Although the constructs of well-being, metacognitive awareness, and satisfaction with life have been extensively researched, there remains a scarcity in literature regarding their interrelated nature and how they are experienced by teachers in a school for learners with mild intellectual disability (Mills et al., 2017; Smith & Bryant, 2017; Umino & Dammeyer, 2016, 2018). An understanding of this nature could aid in the development of questionnaires, designs and the development of theoretical models, and could assist in the rethinking of professional development workshops offered to teachers in terms of the scope and the content of curriculum implementation in these schools.

The above point of view has been taken from a positive psychology perspective and impacts on teaching in the area of well-being, metacognitive awareness, and satisfaction with life. To address the concerns of teachers' well-being, metacognitive awareness, and satisfaction with life, an understanding is needed of what these constructs entail and how they can contribute to self-actualisation. Well-being is a multi-dimensional construct, governed by conceptual eudaimonic and hedonic differences (Baselmans & Bartels, 2018). Individuals can therefore experience well-being in at least two ways: eudaimonic well-being, which refers to a fully functional individual, and hedonic well-being, which involves individuals who feel good and content with their life. Having an awareness of this well-being and how to regulate the eudaimonic and hedonic differences imply a higher, more objective level of thinking – that is becoming metacognitively aware of one's well-being. Metacognition, in this sense, refers to an awareness of thinking that is associated with active control over the process of thinking (e.g. planning and predicting). Metacognitive awareness of well-being can lead to satisfaction with life, which in turn equips teachers with the necessary knowledge and skills to evaluate their own lives, and to become self-actualised. Through self-actualisation, teachers will show signs of self-awareness, be concerned with personal growth and less concerned with the opinions of others. The teachers will become interested in fulfilling their inherent potential. This overlap between self-actualisation and well-being suggests the role of metacognitive awareness within satisfaction with life needs some clarity.

2.2.1 The context of schools for learners with mild intellectual disabilities

Metacognitive awareness, as described above, would require the ability to reason, plan, think, and communicate reflectively about own ideas and feelings or emotions (Reynolds, Zupanick & Dombeck, 2013). In the South African context, teachers' well-being, metacognitive awareness, and satisfaction with life are constructs often overlooked in research conducted in a school for learners with mild intellectual disability. In South Africa's public sphere teachers receive no formal training to prepare them for the private sphere (Eksteen, 2009). Consequently, they find it difficult to experience well-being in the private sphere since they cannot accurately determine the level of cognitive functioning of these learners (Dhanesh & Karthikeyan, 2012). As such, a literature review was conducted and the constructs *well-being*, *metacognitive awareness*, and *satisfaction with life* were contextualised in the theoretical framework of positive psychology. This framework was scrutinised against the theories of Self-actualisation, Self-transcendence, and Metacognition. In the discussion, in view of this conceptual framework, the constructs' nature and interrelationship were constructed in the form of three propositions about how the constructs function in a school for learners with mild intellectual disability.

2.3 Conceptual framework

The concept of well-being is embedded in positive psychology (Oberle, 2018). Within a positive psychology perspective, factors that contribute towards the well-being of individuals include positive emotions, engagement, relationships, meaning and purpose, and overall a feeling of accomplishment (Martin E.P. Seligman, Ernst, Gillham, Reivich & Linkins, 2009). According to Blanca, Ferragut, Ortiz-Tallo and Bendayan (2018), addressing these factors can improve individuals' well-being which involves insight, or metacognitive awareness, of these factors and managing them. Phillips, Hine and Marks (2017) state that the characteristics of metacognitive awareness strike at the very heart of satisfaction with life and self-actualisation. These characteristics of metacognitive awareness emphasise positive experiences and emotions as the pillars of satisfaction with life.

2.3.1 Well-being

Carlquist, Ulleberg, Delle Fave, Nafstad and Blakar (2017) perceived that there are distinctive methods of experiencing well-being or living a good life. Belzak, Sim, Thrash and Wadsworth (2017) considered the hedonic and eudaimonic well-being. The hedonic or subjective well-being (SWB) tradition emphasises constructs such as happiness, positive affect, low negative affect, and satisfaction with life (Kesebir, 2018; Kjell, Daukantaitė, Hefferon & Sikström, 2016; Schwartz & Sortheix, 2018).

The eudaimonic or psychological well-being tradition (PWB) emphasises positive psychological functioning and human development (Baselmans & Bartels, 2018; Ryff, 2018; Van de Weijer, Baselmans, Van der Deijl & Bartels, 2018).

Metacognitive awareness is considered as a practical tool for developing a teacher's well-being (Huppert, 2017; Palantis et al., 2017). Metacognitive awareness can enhance well-being through a good teaching practice technique. This technique provides a simple yet robust framework for teachers to plan, monitor and evaluate. Planning, monitoring and evaluating have an enormous impact, not just on the effectiveness of teachers, but also on enhancing or detracting from well-being. The well-being of the teacher as well as the well-being of the learner in a school for learners with mild intellectual disability is important. Through metacognitive awareness teachers will be able to identify the benefits of teaching learners with mild intellectual disability. In the public sphere this implies that apart from the income teachers receive at their workplace, there are several benefits teaching practice offers that is central to well-being in the private sphere. Examples of these benefits include having an identity, opportunities for social interaction and support, purpose, passing time, engaging challenges, and possibilities for status (Gallagher, 2017). Metacognition is an aid to develop awareness that is necessary to achieve well-being and experience satisfaction with life.

2.3.2 Metacognitive awareness

Metacognition is most simply defined as "thinking about thinking" and consists of two components: metacognitive knowledge and metacognitive regulation (Flavell, 1979). Metacognitive knowledge includes the factors that might impact performance, knowledge about strategies, and knowledge about when and why to use strategies. Metacognitive regulation is the monitoring of one's cognition and includes planning activities, awareness of comprehension and task performance, and evaluation of the efficacy of monitoring processes and strategies (Adagideli, Saraç & Ader, 2015). Metacognition assists in empowering an individual to monitor and alter self-cognitive performances so that teachers can shape their own teaching more viably (Griffith & Lacina, 2017). The idea of metacognition is likewise connected with teachers' emotions and contemplations concerning cognitive processes and conditions. Notwithstanding the self-direction cognitive process that teachers utilise in the light of their teaching, the idea of metacognition widely alludes to what teachers think about their own cognition (Lunn Brownlee, Ferguson & Ryan, 2017). Having a unique position among psychological well-being theories, life satisfaction is characterised as a cognizant intellectual judgement period led by a teacher with a specific end goal to assess his/her life according to his/her claim measures (Bartels, 2015).

It is accounted for that teachers who are more efficacious in cognitive intercessions, can utilise their metacognitive awareness in an effective way (Pearce, 2017). Teachers may therefore overcome issues through metacognitive awareness that fortify their faculties of expectation, self-assurance and bliss, and enhance satisfaction with life (Duman, 2018).

2.3.3 Satisfaction with life

Satisfaction with life refers to a teacher's personal judgement of well-being and quality of life, based on his or her own chosen criteria. Bartels (2015) defines satisfaction with life, which is treated as a synonym to subjective well-being (SWB) referred to colloquially as happiness and as a person's evaluation of his or her life. Naseem (2018) has reiterated that this evaluation is both cognitive, that is, it is life satisfaction judgments, and affective, i.e. it involves pleasant and unpleasant emotional reactions, a practical explanation on how teachers could measure their life satisfaction. It is generally agreed that teachers create a very strong impression in the minds of young learners by their overall personality and behavioural patterns. It is important for a teacher to take an optimistic view of the profession and to experience satisfaction with life.

Pauli, Chambel, Capellari and Rissi (2018) state that teachers who are happy with their work and find satisfaction in life, play a pivotal role in the education of their learners. A teacher's personality, behaviour, and sense of satisfaction with life can have a paramount effect on learners. Satisfied teachers can do justice to their work and are supposed to be acclaimed and are deemed to have highly accepted personalities by learners. Only a friendly, enthusiastic, secure, and well-adjusted teacher can contribute to the well-being and education of his learners. Various research findings show that satisfaction with life depends on the concept of well-being (e.g. Diener & Biswas-Diener, 2002; Diener et al., 2017; Kjell et al., 2016). There is evidence that job-related well-being affects a teacher's overall satisfaction with life (Holman, Johnson & O'Connor, 2018). In particular, having the proper training to teach learners with mild intellectual disability, and using an effective curriculum designed for learners with mild intellectual disability can affect life beyond teaching (Ahmad & Thressiakutty, 2018). The satisfaction with life component is of particular interest to workplace research as it has been linked to job satisfaction (Lee, Yu, Sirgy, Singhapakdi & Lucianetti, 2018). Further, job satisfaction has been linked to job performance (Kašpárková, Vaculík, Procházka & Schaufeli, 2017). Research suggests that workplace well-being and performance are a complimentary and dependent component of a financially and psychologically healthy workplace (Harter, Schmidt & Keyes, 2002).

2.4 Theoretical orientation

A great deal of research has been done on well-being, metacognitive awareness, and satisfaction with life (see for example Cikrikci & Odaci, 2016; Cloninger, 2008) providing a review of the literature subjective. However, in the South African context, not much has been done on well-being, metacognitive awareness, and satisfaction with life of teachers in a school for learners with mild intellectual disability. For this reason, theories of Self-actualisation, Metacognition and Self-transcendence were drawn upon and are conceptualised here.

The theories respectively deal with the following constructs: the Theory of Self-actualisation (for the constructs metacognition and well-being) the Theory of Metacognition (for the constructs well-being and satisfaction with life), and the Theory of Self-transcendence (for the satisfaction with life and metacognition). These theories have been selected based on their underpinning assumptions about education and overall well-being.

The Hierarchy of Human Needs (a five-tier motivational theory in psychology first described by Maslow in 1943), for instance, has provided a major contribution to teaching and classroom management in schools (De Vito, Brown, Bannister, Cianci & Mujtaba, 2016; Goel, Angeli, Dhirar, Singla & Ruwaard, 2018). Rather than reducing behaviour to a response in the environment, Maslow (1970) adopted a holistic approach to education and learning. His theory looks at the entire physical, emotional, social, and intellectual qualities of an individual and how they impact on learning. The eudaimonic concept of human flourishing dates back to the writings of Greek philosophers such as Plato and Aristotle. The notion of “happiness” is argued as the idea of a “good life”, as a happy and flourishing life – a life pursued by developing the correct motives and true character (Kristjánsson, 2016). In order to live this life, one must develop a virtuous character, i.e. to be a virtuous person who desires and lives a good life (Gavin & Mason, 2004). Aristotle’s deep concern for locating his theorisation of happiness in meaning-making is practically embedded in well-being research traditions.

2.4.1 Theory of Self-actualisation

Self-actualisation is a term that has been used in various psychology theories, often in slightly different ways. The term was originally introduced by the organismic theorist Kurt Goldstein in his attempt to provide a pathway for human motive to realise its full potential (Jena & Dorji, 2016). Expressing one’s creativity, being on a quest for spiritual enlightenment, the pursuit of knowledge, and the desire to give to society are examples of self-actualisation.

In Goldstein's view, it is the organism's master motive, the only real motive: "the tendency to actualize itself as fully as possible is the basic drive, the only drive [...] the drive of self-actualization" (Goldstein as cited by Modell, 1996, p. 44).

The self-actualisation concept was brought most fully to prominence in Abraham Maslow's hierarchy of human needs as the final level of psychological development that can be achieved when all basic and mental needs are essentially fulfilled and the actualisation of full personal potential takes place (Datta, 2010). Maslow formulated a more positive account of human behaviour which focused on what goes right (Kenrick, Griskevicius, Neuberg & Schaller, 2010). Maslow (1943) emphasised that some people can achieve self-actualisation through creating works of art or literature, for others through sport, in the classroom, or within a corporate setting. Maslow (1962) believed self-actualisation could be measured through the concept of peak experiences, which occurs when a person experiences the world totally for what it is, and there are feelings of euphoria, joy, and wonder.

According to Maslow's (1943) theory, an individual's needs are arranged in a hierarchy from the lower-level physiological needs to the higher-level needs for self-actualisation. The physiological needs are the highest priority because until they are reasonably satisfied, other higher-level needs will not emerge to motivate behaviour. Research by Setiawan (2018, April) and Singh and Behera (2016) reported that Maslow's (1943) hierarchy is best noted as a ladder structure with all humans having the potential to move or climb towards the realisation of several characteristics of the self-actualised person.

Self-actualisation therefore is a process whereby human well-being is simply the commendable objective of life and actualisation is the best approach to arrive. Education ought to work as a coordinator of encounters that prepares people for keeping up a satisfying life, and if education does its job well, an informed individual ought to have a self-actualised identity (Kiaei & Reio Jr., 2014).

2.4.2 Theory of Self-transcendence

Self-transcendence refers to the capacity to expand self-boundaries. An individual may find themselves engaged with an environment shared with others. Through such engagement they can become aware of the strengths and weaknesses of self and others (Reed, 2014). Also, through engagement with others it is possible to experience a sense of enhanced well-being (Runquist & Reed, 2007).

Such engagement, it seems, can lead to the development of self-transcendent characteristics of developmental maturity which, in turn, leads to an expansion of self-boundaries. This implies an enhanced awareness, and a broadened perspective on life is achieved when objective well-being is experienced. A person can feel connected to others, self, and the environment when experiencing self-transcendence.

In the case of this study, metacognitive awareness and well-being might be experienced in teaching environments where the self relates to other people as sources of transcendence. Self-transcendence consists of four dimensions, including (i) intrapersonal (toward more noteworthy consciousness of one's rationality, qualities, and dreams), (ii) interpersonal (to identify with others and one's condition), (iii) transient (to incorporate one's past and future in a way that has significance for the present), and (iv) transpersonal (to interface with measurements past the ordinarily noticeable world) dimensions. Since these dimensions are described through different terminology in the literature (e.g. Belzak et al., 2017; Garcia-Romeu, 2010; Venter, 2016), they will be discussed in terms of their defining characteristics.

The *intrapersonal dimension* is characterised by a purposeful shift-away from the subjective self towards an objective self who serves and value other people more. This implies metacognitive knowledge of the self or a metacognitive awareness of personal capacity in relation to others. The *interpersonal dimension* is characterised by the shift from the need for extrinsic motivation to intrinsic motivation, valuing the existence of something in its own right. The *transient dimension* goes beyond the individually-directed self into an interconnected system of wholeness. The individual can become consciously aware of one's moral values and virtues that can facilitate a shift from subjective to objective well-being. According to Rosenfeld (2017), human beings are coextensive with their condition, and equipped for awareness that reaches beyond physical and temporary measurements. The *transpersonal dimension* refers to the awareness of an alternative, extra-rational or extraordinary event which inspires the individual to experience well-being (Yaden, Haidt, Hood Jr., Vago & Newberg, 2017).

2.4.3 Theory of Metacognition

Flavell (1979, p. 906) originally coined the term metacognition in the late 1970s to denote "cognition about cognitive phenomena," or more simply thinking about thinking (Shepherd & Patzelt, 2018). It must be emphasised that researchers who followed Flavell have all grounded their conceptualisations of metacognition upon this original meaning of metacognition (see, for instance Efklides, 2011; Jagals & Van der Walt, 2016b).

In his classic masterwork *Metacognition and Cognitive Monitoring: A New Area of Cognitive Developmental Inquiry*, Flavell (1979) described three major facets of metacognition: metacognitive knowledge, metacognitive experiences, and metacognitive skills (or strategies controlling cognition).

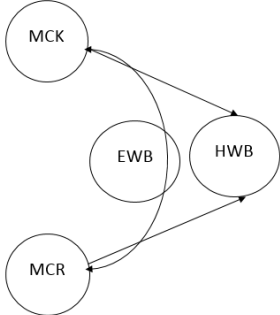
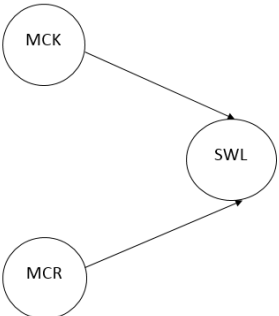
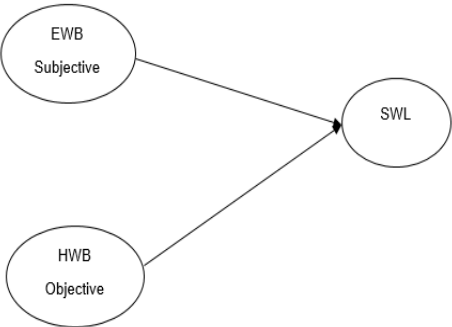
Lai (2011) conceptualised *metacognition* as consisting of only the first two dimensions of knowledge and regulation. Research by others (e.g. Hrbáčková, Hladík & Vávrová, 2012; Kállay, 2012; Kleitman & Gibson, 2011; Liliana & Lavinia, 2011; Snyder, Nietfield & Linnenbrink-Garcia, 2011) suggest that metacognitive knowledge includes knowledge about oneself as a learner and the factors that might impact performance, knowledge about strategies, and knowledge about when and why to use strategies.

Metacognitive knowledge can therefore be arranged according to three domains of metacognition, including declarative (which is the episodic and semantic properties) (Elman, Klostermann, Marian, Verstaen & Shimamura, 2012), conditional (referring to the context and circumstances) (Philip & Hua, 2006), and procedural (which is the behavioural properties) (Roebbers & Spiess, 2017). Declarative knowledge is related to the information around oneself and the elements that influence cognition. Declarative knowledge in this manner comprises the accurate proclamations of the episodic and semantic memory (Jagals & Van der Walt, 2016a). Procedural knowledge alludes to the mindfulness and administration of cognizance which incorporates knowledge about systems. Both the declarative and procedural knowledge sorts are interrelated with the unique situation or states of the individual, tasks, and strategies (Jagals & Van der Walt, 2018). Conditional knowledge alludes to the learning about when and why a strategy can be utilised. It can likewise incorporate awareness of the information of the conditions in which one would learn best or instruct most successfully. Lai (2011) further described metacognitive regulation as the monitoring of one's cognition, which includes planning activities, awareness of comprehension and task performance, and evaluation of the efficacy of monitoring processes and strategies.

2.5 Propositions

As explained above, the conceptual framework prepares the reader for a conceptualisation of the relationship between well-being (in its eudaimonic and hedonic dimensions), metacognitive awareness and satisfaction with life. To do so, this relationship is first scrutinised, theoretically, by focussing on the conceptual overlap between: (1) metacognitive awareness and well-being, (2) satisfaction with life and metacognitive awareness (3) well-being and satisfaction with life. The three mentioned propositions will now be discussed in detail.

Table 2-1: Three propositions

<p>2.5.1 Proposition 1: Hedonic and Eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge</p>	
 <p>A path diagram with four nodes: MCK (Metacognitive Knowledge), MCR (Metacognitive Regulation), EWB (Eudaimonic Well-being), and HWB (Hedonic Well-being). MCK and MCR are on the left, EWB is in the middle, and HWB is on the right. Arrows point from MCK to EWB, MCK to HWB, MCR to EWB, and MCR to HWB. There is also a bidirectional arrow between EWB and HWB.</p>	<p>Metacognitive awareness serves as a gateway to achieve eudaimonic well-being as well as hedonic well-being.</p>
<p>2.5.2 Proposition 2: Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life</p>	
 <p>A path diagram with three nodes: MCK (Metacognitive Knowledge), MCR (Metacognitive Regulation), and SWL (Satisfaction with Life). MCK and MCR are on the left, and SWL is on the right. Arrows point from MCK to SWL and from MCR to SWL.</p>	<p>Teachers are able to reach satisfaction with life through metacognitive regulations (plan, monitor and evaluate) and metacognitive knowledge.</p>
<p>2.5.3 Proposition 3: Well-being (subjective and objective) leads to satisfaction with life independently (subjective or objective).</p>	
 <p>A path diagram with three nodes: Subjective EWB (Eudaimonic Well-being), Objective HWB (Hedonic Well-being), and SWL (Satisfaction with Life). Subjective EWB and Objective HWB are on the left, and SWL is on the right. Arrows point from Subjective EWB to SWL and from Objective HWB to SWL.</p>	<p>Satisfaction with life includes eudaimonic well-being and hedonic well-being.</p>

2.5.1 Proposition 1: Hedonic and Eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge

The constructs of well-being and metacognitive awareness are of particular interest in the present argument since both constructs are important contributors to teachers' satisfaction with life (source). To operationally define eudaimonic well-being, Waterman et al. (2010) developed the Questionnaire for Eudaimonic Well-Being (QEWB) to capture the subjective experiences (such as beliefs) of the ways in which teachers view their experience of happiness through expressiveness - which allows them to engage and add meaning to life. Through such awareness, individuals can direct the development of their potential (through planning, monitoring and evaluating) and orient the achieving of their personal goals (through self, others, tasks, and strategy knowledge).

This implies that metacognitive awareness of regulation (how one plans and manages) and self-knowledge (knowing one's own strengths and weaknesses) play an important role in developing the potential needed to achieve a feeling of well-being. In contrast to the eudaimonic characteristics, the hedonic perspective of well-being deals with subjective happiness. This includes the controlling and regulation of positive and negative emotional experiences (such as happiness and sadness), and cognitive judgments through monitoring and evaluation. Through awareness of the knowledge of strategies, the task of teaching and the curriculum, as well as knowledge of the characteristics of the learners with mild intellectual disability, such awareness can lead to self-actualisation. Self-actualisation is an intermediary theory that can serve as a process to achieve well-being through metacognitive awareness (Compton, 2018). Metacognitive awareness, which is a teachable skill, can therefore serve as an educational gateway to achieve self-actualisation and in turn, well-being (Aristotle, c. 340BCE; 2004).

2.5.2 Proposition 2: Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life

Satisfaction with life is synonymous to subjective well-being (i.e. happiness) and refers to teachers' assessment of the quality of their lives on the basis of their own unique set of criteria (Satuf, Monteiro, Pereira & Esgalhad, 2018). Two broad aspects of subjective well-being include affective components and cognitive components (Molero, Shaver, Fernández & Recio, 2017). The affective component of subjective well-being reports the presence of positive affect and the absence of negative affect. The cognitive aspect of subjective well-being deals with people's judgment about satisfaction with life and metacognitive regulation (Diener, Oishi & Lucas, 2003). These authors have indicated separate components of satisfaction with life, including its affect. These components appear to have a differing relationship with other variables.

For instance, the process of reaching satisfaction with life implies integration between cognitive and affective components. What follows are some examples that serve as illustrations to relate metacognitive awareness and satisfaction with life and are by no means the only examples in existence.

Metacognitive knowledge includes teachers' knowledge about themselves (person), the tasks to be done, and the strategies used (Flavell, 1979). Declarative knowledge consists of understanding the person, the task, and the strategy variables which influence teaching (Little & McDaniel, 2015). For example, the teaching of solving mathematic problems for learners with mild intellectual disability might create awareness regarding complex problems being easier to solve if taught in smaller parts (task variable), some teachers will teach routine problems in a better way than others (person variable), or teaching problems in different ways (strategy variable).

Procedural knowledge enables the teacher to apply the declarative knowledge by regulating the person, the task and the strategy variables (Churchill, 2017). A teacher might recall a methodology to teach a mathematic problem for learners with mild intellectual disability but realise that the methodology cannot be applied (person variable) and forget how to manipulate the methodology.

Conditional knowledge refers to the knowledge about why, when, and where certain procedures and strategies can be applied and others not. Metacognitive regulation involves planning, monitoring, and evaluation (Little & McDaniel, 2015). Planning relates to the predictions and expectations known to occur before a certain problem-solving behaviour and involves a specific person, task, and strategy knowledge. Monitoring during these processes refers to understanding personal achievement and results through continuous checking if the conditions of the problem reflect prior knowledge and skills.

The affective and cognitive components of subjective well-being are somewhat distinctive and can provide complementary information when assessed separately with other variables (Jayawickreme, Tsukayama & Kashdan, 2017). Satisfaction with life is the ultimate goal and can be reached through metacognitive regulation. For instance, metacognitive monitoring and control of actions through setting goals and working with appropriate strategies can lead to achieve such a goal. When a person is happy and positive feelings in everyday life outweighs the negative feelings, it contributes positively to satisfaction with life. The Self-transcendence theory explains how a person's positive feelings towards life as a whole can lead to satisfaction (Erdamar & Demirel, 2016). Through metacognitive regulation (i.e. plan, monitor, and evaluate) people can reach the goals they set for themselves and become satisfied with life.

2.5.3 Proposition 3: Well-being (subjective and objective) leads to satisfaction with life independently (subjective or objective)

Recent conceptualisations of well-being have identified two broad categories, namely objective and subjective well-being. The objective categorisation of well-being is generally considered external to the individual and may include economic resources (for example, income, and goods), political circumstances, health, and literacy (Forgeard et al., 2011). Subjective categorisation of well-being variably encompasses factors such as happiness, emotion, engagement, purpose, satisfaction with life, social relationships, competence, and accomplishment.

Irrespective of whether the focus is on objective or subjective well-being, these authors note that “the multiplicity of approaches in the study of well-being has given rise to blurred and overly broad definitions of well-being, with researchers using the construct of ‘well-being’ synonymously with ‘happiness’, ‘quality of life’, or ‘satisfaction with life’” (Forgeard et al., 2011, p. 81). Likewise, De Pablos-Pons, Colás-Bravo, González-Ramírez and Martínez-Vara del Rey (2013) consider that subjective well-being is an area of social psychology linked to happiness or satisfaction with life. Past research includes a study by Kiaei and Reio Jr. (2014) which concluded that satisfaction with life correlated positively with subjective well-being (hedonic). In addition, Schutte, Wissing, Ellis, Jose and Vella-Brodrick (2016) claim that there is a relationship between objective well-being (eudaimonic) and satisfaction with life. According to Ignat and Clipa (2012), satisfaction with life is an indicator of a teacher’s well-being as it includes a self-concept of subjective happiness (hedonic) and an objective (eudaimonic) sense of meaning. The goal is to attain the deeper sense of meaning as Reed (2014) explains, it requires a developmental capacity known as self-transcendence. Proposition 1 argues that this can only be done through metacognitive awareness.

The relationship between well-being and satisfaction with life is a complex and dynamic system of what appears to be two dimensions that simultaneously interact with one another and with metacognitive awareness. On the one hand, metacognitive awareness of hedonic well-being leads to satisfaction with life. On the other hand, metacognitive awareness of eudaimonic well-being also leads to satisfaction with life. This creates the impression that satisfaction with life is multi-faceted and suggests that satisfaction with life can be personally defined by one’s own awareness of that well-being component which one has to transcend to.

2.6 Discussion and synthesis

The propositions outlined above offer abstract reasoning and theorisations about the possible relations as well as the assumptions that could link the constructs of well-being, Metacognitive awareness and satisfaction with life. A synthesis of these propositions, offered here, could serve as a valuable framework to understand this relationship. In terms of its descriptive, rhetorical, as well as inferential power, the propositions are used to examine the theoretical, pre-theoretical, and philosophical foundations of the association between well-being, Metacognitive awareness and satisfaction with life.

In this section, an overview of each proposition is given first against the background of the above conceptual framework, placing the propositions within the context of previous research. Thereafter, limitations of previous research in new areas of exploration are discussed in terms of the implications for ontology as guidelines in and for practical research in the context of school for learners with mild intellectual disability. Then epistemological contributions towards theory and model development are discussed along with methodological choices of research approaches, design and methods for research in this field.

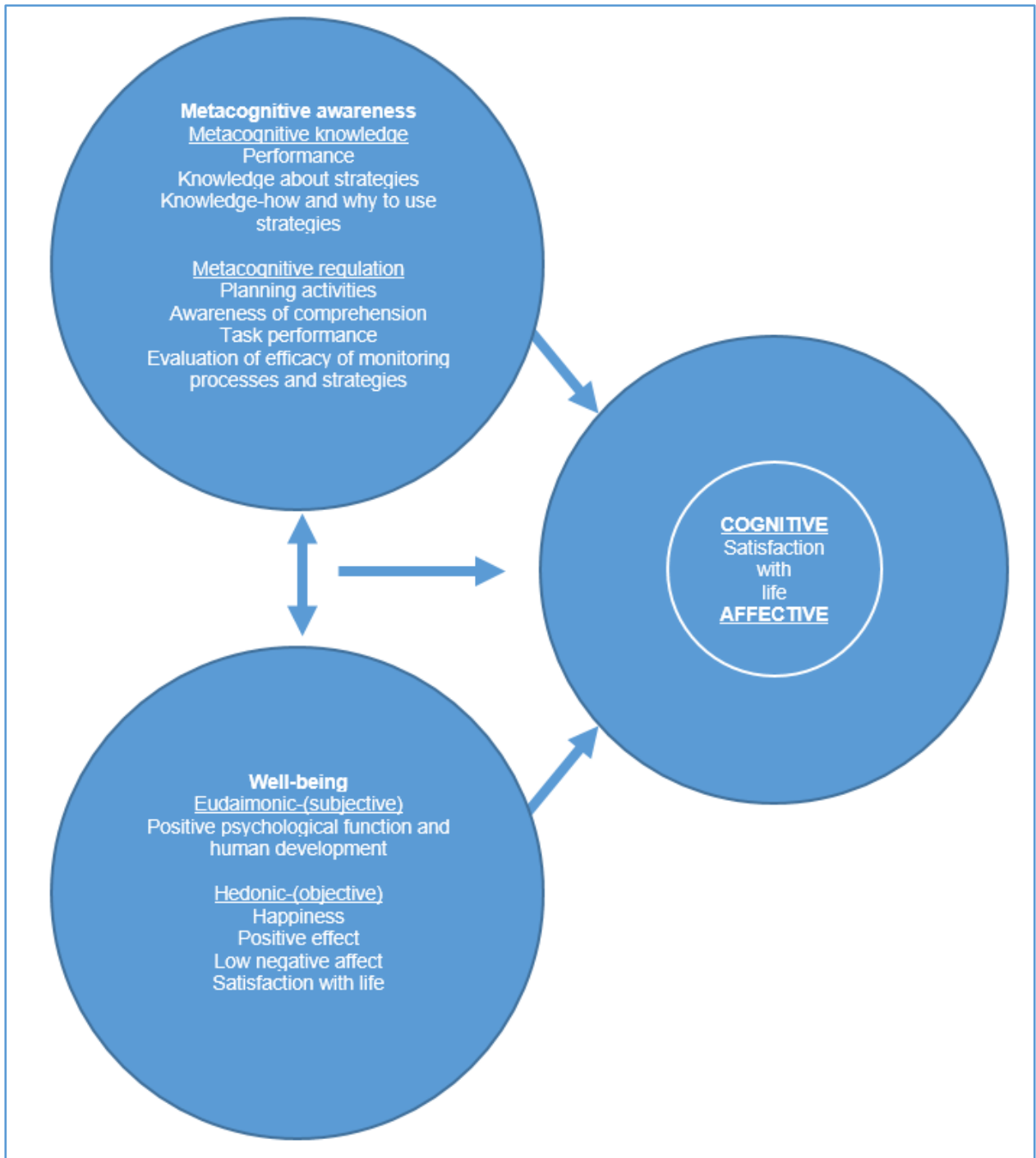


Figure 2-1: Overview of conceptual model

Table 2-2: Synthesis of the propositions of Well-being, metacognitive awareness and satisfaction with life

Proposition	Conceptual framework	Theoretical framework	Ontological (practice) implications	Epistemological (theory) implications	Methodological (method) implications
Hedonic and eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge	Figure 1	Self-actualisation theory in a school for learners with mild intellectual disability	Guidelines for teachers in a school for learners with mild intellectual disability to experience well-being. <u>Some examples:</u> <ul style="list-style-type: none"> Curriculum adjustments Design models for curriculum implementation 	Theoretical considerations for explaining and predicting, verifying, falsifying of theory. <u>Some examples:</u> <ul style="list-style-type: none"> Conceptual analysis Philosophical arguments Explanatory power of the theory Predictability of the theory 	A meta-analysis should be conducted across the components of well-being and satisfaction with life. <u>Some examples:</u> <ul style="list-style-type: none"> Cross-cultural surveys Comparative experimental procedures
Metacognitive awareness mediates satisfaction with life	Figure 2	Theory of Self-transcendence	Metacognition empowering for teachers to monitor and alter self-cognitive performances. <u>Some examples:</u> <ul style="list-style-type: none"> Professional development opportunities 	Local research should be done to report more in-depth on the constructs of metacognition and satisfaction with life, particularly in a school for learners with mild intellectual disability. <u>Some examples:</u> <ul style="list-style-type: none"> Promote local theory development 	Conduct research associated with different scientific paradigms. <u>Some examples:</u> <ul style="list-style-type: none"> Positivist Interpretivist Transformative Indigenous
Well-being leads to satisfaction with life independently subjective or objective	Figure 3	Theory of Metacognition	Teachers must be able to identify the benefits of teaching through metacognitive awareness <ul style="list-style-type: none"> Developing teaching strategies and methodologies How and when to use teaching strategies and methodologies.	Theoretical considerations are needed for clarity between the unique roles and understanding of subjective (centripetal) and objective (centrifugal) discourses on satisfaction with life. Through awareness of characteristics of learners with mild intellectual disability, teachers can develop awareness of teaching strategies and methodologies that can lead to satisfaction with life	Mixed method and multi-method studies should be conducted with an in-depth analyses of qualitative and quantitative approaches to theorise about and model the relationship between well-being and satisfaction with life. <u>Some examples:</u> <ul style="list-style-type: none"> Explore issues of causality Hypothesis testing

2.6.1 Hedonic and Eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge

A study conducted by Toffalini, Veltri and Cornoldi (2014) showed that metacognitive aspects explained up to 77% of the variance in subjective well-being. The relationship between metacognition and well-being was also explored by Kiaei and Reio Jr. (2014) who indicated positive significant correlations between metacognitive knowledge with subjective well-being (hedonic, $r=0,31$) and objective well-being (eudaimonic, $r=0,55$). Likewise, metacognitive regulation correlated positively with subjective well-being (hedonic, $r=0,30$) and objective well-being (eudaimonic, $r=0,51$), an almost equal relationship between domains of well-being and metacognition.

Even though there is an association between metacognition and well-being, some limitations in the field exist. The role of other constructs related to well-being are diverse and often overlooked, for instance, satisfaction with life through self-actualisation. These constructs that are overlooked could result in a lack of proper guidelines for teachers in a school for learners with mild intellectual disability to experience well-being (Udoba, 2014).

2.6.2 Metacognitive awareness mediates satisfaction with life

The study conducted by Umino and Dammeyer (2016) revealed that the declarative knowledge subscale of the Metacognitive Awareness Inventory's Knowledge of Cognition, and the planning subscale of the MAI's Regulation of Cognition were scored significantly lower at the end of an intervention. There was a strong positive medium relationship between satisfaction with life and metacognitive awareness ($r=0,28$, $p < 0,001$) in a study conducted by Cikrikci and Odaci (2016). Limitations is that the terms "life satisfaction" and "satisfaction with life" are used interchangeably in the literature with an emphasis on relationships between metacognition and life satisfaction. Less research seems to report on metacognition and satisfaction with life.

2.6.3 Well-being leads to satisfaction with life

In a study conducted by Okwaraji, Nduanya, Okorie and Eke Okechukwu (2017) the findings were that 82,5% of the respondents said they were happy while 83,5% were satisfied with life. A study by Bartels (2015) indicated correlations in the range of 0,5-0,6 for the association of overall well-being with satisfaction with life or happiness/positive affect or across dimensions. A study by Argan, Argan and Dursun (2018) indicated a significant relationship among constructs of well-being, satisfaction with life, and leisure and happiness.

The limitations that were identified is that the study consisted of many people in only one city, therefore, it cannot be considered representative of the Turkish population.

2.7 Conclusion and recommendations

Defined educational problems could prepare the teachers that teach learners with mild intellectual disability better. The lack of these defined educational problems is a challenge that can influence their well-being in their private lives and public lives (workplace). If teachers do not experience well-being it can result in a negative impact on their satisfaction with life, which in return can impact negatively on the lives of their colleagues and learners. In literature there seems to be different conceptualisations of *satisfaction with life* as some have termed this concept as *life satisfaction* which involves the cognitive aspect of subjective well-being. Since positive psychological well-being is considered a focal part of life, its value in educational contexts need to be more prominent towards addressing teachers' satisfaction with life. In this regard, the association between metacognitive awareness and well-being could pave the way for more positive teacher characters in children's lives.

Chapter 3 Research methodology and methods

3.1 Introduction

In Chapter 2 a literature study was undertaken to establish the conceptual and theoretical framework for the study. Theory related to teachers' wellbeing, metacognitive awareness and satisfaction with life in a school for learners with mild intellectual disability has been examined to better understand the association between these constructs. The conceptual theoretical framework serves as an outline on which the research study's propositions is based.

In Chapter 3, it was important for the researcher to review the philosophical assumption of overarching research design, discuss the relevant paradigms, and to present a detailed description of the research approaches employed in the study. The methods (i.e. the strategies and instruments) implemented to obtain the quantitative data and qualitative data are explained in detail. Furthermore, the researcher elaborates on the different ethical considerations that had to be met, as well as on the measures taken to ensure the quality of the research study, while explaining the strands and processes involved in this study.

The primary aim of this study was to determine the link between well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disability in the Gauteng and North-West provinces of South Africa. To do so, the researcher determined the association theoretically by means of three propositions in Chapter 2. In Chapter 4, the relationship between the constructs, was statistically determined as correlations during the quantitative research strand. In Chapter 5 this relationship was confirmed by means of themes and sub-themes in the qualitative research strand. The two data sets were combined and compared in terms of the findings to determine "meta-inferences" (Tashakkori & Teddlie, 2003, p. 687) through triangulation.

The study was directed by the following propositions: i) Hedonic and Eudaimonic well-being associate with metacognitive awareness of metacognitive regulation and knowledge; ii) Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediate satisfaction with life; and iii) Well-being (subjective and objective) leads to satisfaction with life independently, subjective or objective. The humanistic nature of the research study and the complex research constructs guided the researchers' decision to determine teachers' well-being, metacognitive awareness, and satisfaction with life in a school for learners with mild intellectual disability and to address the existing knowledge gap using convergent a parallel mixed method research that depends on independent collection and analysis of two types of data from two different paradigms and research approaches.

Next, the researcher promotes pragmatism as the dominant philosophy that assumes a unified foundation set that guides practice within mixed methods research.

3.2 Philosophy of the research methodology

Prior to the selection of an appropriate research methodology, the researcher adopted an appropriate philosophical stance that underpins this study. The philosophy influences each step of the research process (Mertens, 2015). Pragmatism is commonly regarded as the philosophical position to be taken with mixed method research as it is not committed to any one system of philosophy or reality.

The 'what' and 'how' of a research problem is important for researchers employing pragmatism (Creswell, 2003, p. 11). Pragmatism, if regarded as a philosophy in research, bypasses the argumentative concerns of reality and truth, and accept that there are “singular and multiple realities, towards solving problems in the real world” (Creswell & Plano Clark, 2007, p. 22). Therefore, pragmatism is the paradigm that assists to shed light on human inquiry as being equivalent to experimental and scientific inquiry, meaning that “humans want to see what work, what solves problems, and what help us to survive” (Christ, 2013, p. 111). The pragmatic paradigm places the research problem in a dominant position and applies all approaches to understand the problem (Creswell, 2003). Practical consequences and empirical findings are important to understand the importance of philosophical positions and, importantly, to help in deciding which action to take to better understand real-world phenomena (including psychological, social, and educational phenomena). The mixed methods design can therefore be implemented with any paradigm with no philosophical loyalty to any alternative paradigm.

Both qualitative and quantitative research approaches have many benefits. Researchers can put together insights and procedures from both approaches to produce a superior product (i.e. mixed methods research provides a more workable solution and produces a superior product).

William James, in his second lecture on pragmatism, *What pragmatism means* (1907, p. 45) stated: “The pragmatic method is primarily a method of settling metaphysical disputes that otherwise might be interminable.” The pragmatic method applied in such cases is to try and interpret each notion by tracing its respective practical consequences.

Pragmatism, according to research methodologists and empirical researchers, therefore, suggests an instant and beneficial middle position philosophically and methodologically.

Pragmatism furthermore offers a concrete and outcome-oriented method of inquiry that is grounded on action and indications iteratively to further action and the removal of doubt. The researcher revised the list of strengths and weaknesses of the pragmatic paradigm as tabled in Johnson and Onwuegbuzie (2004) and preferred pragmatism. Pragmatism is deemed fit to help the researcher to better answer the primary research question suitable for research in a pragmatic paradigm as illustrated in Figure 3-1:

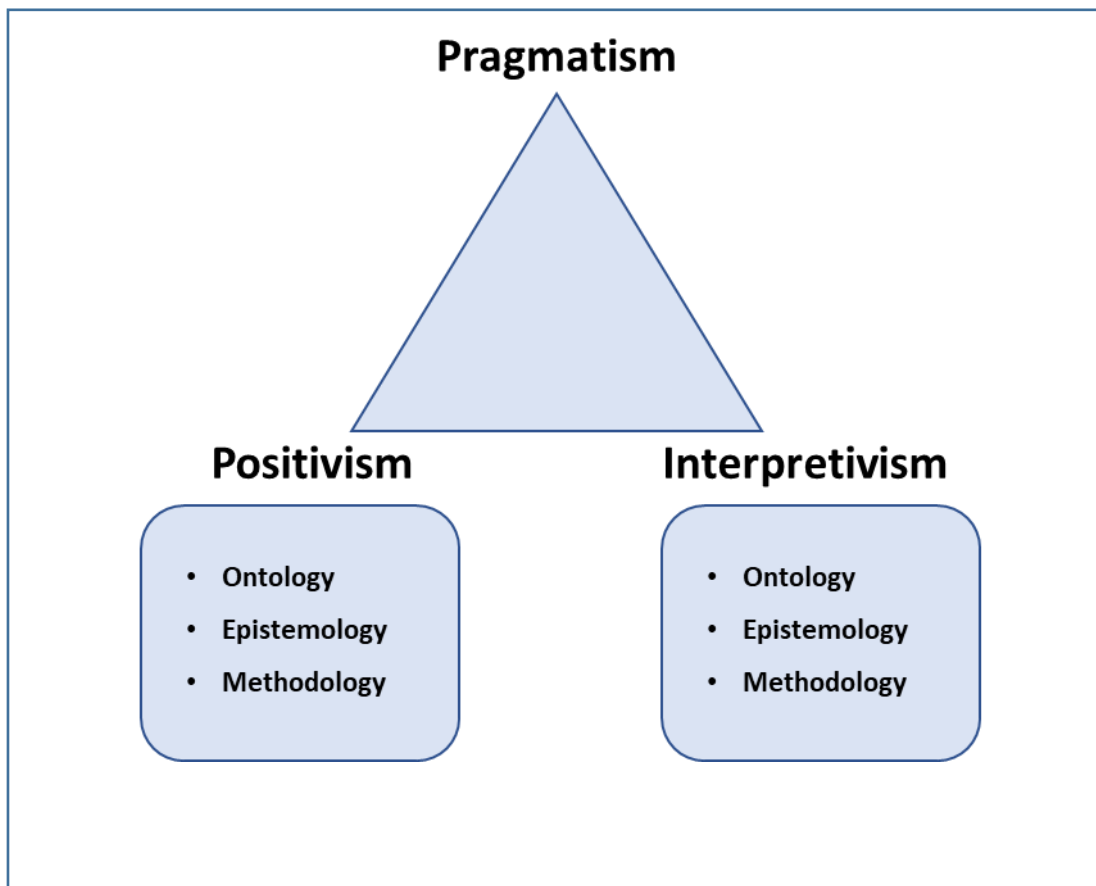


Figure 3-1: Overview of pragmatic paradigm as implemented in this study

Various authors explain that pragmatism provides assumptions regarding knowledge and inquiry, which support the mixed methods research (Johnson & Onwuegbuzie, 2004; Maxcy, 2003; Tashakkori & Teddlie, 2010). Furthermore, they explain that pragmatism, as philosophy, distinguishes mixed method research visibly from a quantitative research approach based on a worldview of positivism, and a qualitative research approach based on an interpretive worldview, (Tashakkori & Teddlie, 2010). There are various types of mixed method research designs. For the purpose of this research study, the researcher decided on the convergent parallel mixed method research design (§ 1.7).

3.3 Mixed methods research design

Mixed method research, according to Johnson, Onwuegbuzie and Turner (2007, p. 123), is “the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration”. The rationale for choosing the convergent parallel mixed method design, was to validate and provide a better understanding or develop a more comprehensive understanding of the primary aim of the study by obtaining different, but complementary data sets (Creswell, 2014; Creswell, Plano Clark, Gutmann & Hanson, 2003; Hallberg & Richards, 2015; Yin, 2014).

Apart from its practicality and insightfulness, the convergent parallel mixed method design deemed to offer varied ways and methodological flexibility (Teddlie & Tashakkori, 2009). These various ways of looking at the association between teachers’ well-being, metacognitive awareness, and satisfaction with life in a school for learners with mild intellectual disability contribute to valuable data and evidence to professional academic practice.

In the sections below, the quantitative and qualitative research approaches, as it applies to this study, will be discussed in detail as two independent strands. The term *respondent* will be employed for the qualitative research strand of the study and *participant* for the quantitative research strand of the study.

3.4 Quantitative research strand

For the purpose of this study, the quantitative research strand of the research process was conducted by means of standardised questionnaires and scales governed by positivism. Positivism is further governed by quantifiable observations which lead to statistical analyses from which a single reality is created, or a reality with known probabilities.

3.4.1 Positivism as paradigm

Positivism can be defined as the epistemological doctrine that regards physical and social reality as being independent of the person observing it. Observations of this reality (when free from bias) generates assumption about scientific knowledge (Gall, Gall & Borg, 2007; Nieuwenhuis, 2007a). Knowledge is thus independent of what anyone believes, experiences, etc. (Girod-Séville & Perret, 2001; J. H. McMillan & Schumacher, 2006). Only educational phenomena that can be perceived by the senses can be considered valid knowledge. Feelings are not considered (Coleman & Briggs, 2002).

In positivism, there are no provisions for human interests within the study so that the researcher does not influence the phenomenon observed (J. H. McMillan & Schumacher, 2006). According to Gall et al. (2007), positivist researchers accept that phenomena in the social environment have an objective reality. When phenomena are studied objectively, it is assumed that the researcher is independent from the study.

In this study, the qualitative research strand constituted the positivist paradigm, as the emphasis was on the well-being, metacognition, and satisfaction with life of teachers in a school for learners with mild intellectual disability.

3.4.1.1 Positivistic ontology

In philosophy, ontology is the study of being, or existence, and is a specification of a conceptualisation (Tashakkori & Teddlie, 2010). The product of a study of the categories of things that exist or may exist in some domain is called ontology. Ontology is the “science of being”, according to Sale, Lohfeld and Brazil (2002), and is the philosophical discipline that asks, “What is?” and “What does it mean to be?” Fundamental questions of being and thus in everyday language are investigated and the nature of reality is considered. Ontological assumptions form one of the most important structures and is central to the pragmatist philosophy in this study. The concept of positivism can be defined primarily in terms of its ontological assumptions. The researcher preferred the positivist paradigm that underpins quantitative methodology. Positivism allowed the researcher to study the constructs under investigation without the researchers’ perspective. In this study, teachers’ eudaimonic and hedonic well-being, metacognitive awareness, and satisfaction with life in a school for learners with mild intellectual disability were measured by means of standardised questionnaires and scales in the fourteen schools for learners with mild intellectual disability (Marczyk, DeMatteo & Festinger, 2005; Sarantakos, 2005). The questionnaires and scales are therefore valid, reliable, and representative as the data collection techniques focused on gathering hard data in the form of numbers to enable evidence to be presented in quantitative form (Neuman, 2003; Sarantakos, 2005).

3.4.1.2 Positivistic epistemology

The epistemological assumptions focus on the meaning of knowledge as it is determined by the researcher who is “free to develop whatever type of relationship with participants that is appropriate for the research problem” (Mertens, 2015, p. 79). The nature of the relationship is judged in terms of its ability to obtain significant statistical analyses centred on the interaction between the researcher and participant. The researcher and participants are considered as equal partners in the research process in which knowledge is co-constructed (Mertens, 2015).

Hung (1997) explains that logical positivism regards theories as an accepted system. Positivism shares underpinnings which allow the researcher to look at the association between the constructs of well-being, metacognition, and satisfaction with life for future well-being within the context of mild intellectual disability schools.

3.4.1.3 Positivistic methodology

According to Coleman and Briggs (2002), quantitative research is a rational, linear process, which is largely influenced by the scientific method. Data is collected through surveys and experiments. Terre Blanche, Durrheim and Painter (2006) show that quantitative research makes sense in situations where knowledge of the variables and researchers already exist to find methods to control or measure these variables (in this case, to find the correlation between well-being, metacognition, and satisfaction with life). Creswell (2009) concludes by noting that quantitative research tests the theories by determining the relationships between different variables. These variables can be measured using instruments so that numerical data can be analysed using statistical procedures. Data is obtained in a systematic and standardised manner and the results of quantitative research appear positivistic in numerical form and are reported in statistical language (De Vos, Strydom, Fouché & Delport, 2005; Gall et al., 2007). This rigor of statistical techniques, according to Baumard and Ibert (2001), emphasises the view that quantitative approaches provide greater assurance of objectivity than qualitative approaches. Several authors also point out that, as a result of standardisation of research design, quantitative research can be duplicated and replicated (Coleman & Briggs, 2002; De Vos et al., 2005). Furthermore, quantitative positivist researchers are interested in generalising their findings, therefore, a concern regarding the representativeness of samples (Coleman & Briggs, 2002; Creswell, 2009; Gall et al., 2007).

3.4.2 Research approach

Quantitative research is mostly conducted in social sciences and produces quantitative data that can be statistically analysed and the results can be expressed numerically. A quantitative research method was employed to study the natural phenomena namely the well-being of teachers in a school for learners with mild intellectual disability. In this quantitative research, the data were gathered using structured research instruments. Quantitative research templates are objective, elaborate, and are often investigational in nature. The results achieved from this research technique are coherent, statistical, and neutral (Goertzen, 2017). A structured technique was employed for data collection and conducted on larger sample sizes that are representative of the population. In this study, a group of teachers in a school for learners with mild intellectual disability represents the population.

All aspects of the study were carefully designed before data were collected. Data is in the form of numbers and statistics, often arranged in tables, charts, figures, or other non-textual forms (Konkol, 2019). The researcher employed standardised questionnaires and scales to collect numerical data (Goertzen, 2017; Williams, 2007). The overarching aim of a quantitative research approach is to classify features, count them, and construct a statistical model to explain what has been observed (Depaoli, Agtarap, Choi, Coburn & Yu, 2018). The researchers' goal in conducting the quantitative research in this study was to determine the correlation between well-being, metacognition, and satisfaction with life in a school for learners with mild intellectual disability.

3.4.3 Ethical considerations

As the research study involved human beings, it was imperative to ensure the research was conducted in an ethical manner that focused on the integrity and justifiability of the research practice (Creswell, 2013). Consequently, research permission ethical clearance (NWU-00446-17-A2) was obtained from the Research Ethics Committee of the North-West University (Potchefstroom Campus) and permission was attained from the Department of Basic Education of the North-West Province and the Gauteng Province, as well as from the principals at the identified schools. The Ethics Committee classified the research as a *low risk* research study. The Department of Education in Gauteng and North-West gave permission for their schools to be part of the study. The researcher adhered to the four-stage access model of responsible engagement in schools as postulated by Johl and Renganathan (2010), which entails pre-entry, during fieldwork, after fieldwork, and getting back as the essential stages when gathering data.

During the pre-entry phase, the researcher formally contacted the principals (gatekeepers) at the school telephonically to ask for permission to access the school as a research site. Furthermore, the principal arranged for appointments with the participants based on their availability. The researcher, accompanied by a departmental head, handed out the informed consent forms to the respondents and participants and explained the nature and benefits of the research, as well as the issues of confidentiality and anonymity.

The researcher, in the presence of the HODs (mediators), informed the participants of the ethical principles to which the researcher pledged, namely: voluntary participation – participants were informed about their right to withdraw from the research study at any stage during the research; privacy – confidentiality was obtained throughout the collection of the data and the use of data were anonymous (questionnaires) and anonymous (stripped of any direct identifiers); trust – the participants' autonomy and freedom were respected and they were not exposed to any acts of betrayal either in the research process or during the publishing of the report; and, safety – there was no risk of harm of any kind and participants were informed that this is a low risk study.

The respondents and participants who gave signed informed consent were well informed of what the research entailed. The consent forms were signed and handed to the Head of Department, without the researcher being present. There was no conflict of interest in the selection of the respondents and participants as a criterion of proper inclusion was employed to ensure fairness and equity during sampling (§ 3.8).

Keeping to the second stage of the access model suggested by Johl and Renganathan (2010), the researcher dressed professionally during fieldwork to adapt to the values and norms of the research site (schools for learners with mild intellectual disability). The researcher was granted access to an available safe space in each of the school venues to ensure privacy during data collection. After the fieldwork, during the third stage, the researcher expressed informal appreciation to the participants, serving them with refreshments. In the last stage of responsible engagement, the researcher exited the research site with good rapport for possible future needs of accessing the research site again.

3.4.4 Respondent selection

A probability sample for the quantitative research strand involved a multiple cluster sample of the schools for learners with mild intellectual disability in the Gauteng and North-West provinces. A total of 24 teachers in 10 schools, and 22 teachers in two schools in the two provinces respectively, voluntarily signed consent to complete the standardised questionnaires and scales.

Inclusion criteria were employed to ensure fairness and equity during sampling of the respondents. The targeted population were South African teachers who teach in a school for learners with mild intellectual disability in the Gauteng and North-West Provinces. The purpose with this specific targeted population was to shed light on the well-being, metacognitive awareness, and satisfaction with life of the teachers.

Registration as a qualified schoolteacher in South Africa and a teaching position at a school for learners with mild intellectual disability in the Gauteng and North-West Department of Basic Education were the requirements to include the respondents (quantitative) and participants (qualitative) in the sample for this study. Teachers who did not hold a teaching position at a school for learners with mild intellectual disability and who were not from the Gauteng and North-West Department of Basic Education were excluded from this study. The criteria above were set to assist the researcher to get an unbiased sample from the larger population. Teachers who met the specified criteria intended for the research in this study can be referred to as the sample (Alvi, 2016).

3.4.5 Data collection

The quantitative research strand of the study employed self-reported questionnaires and scales to measure teachers' eudaimonic and hedonic well-being, metacognitive awareness, and satisfaction with life satisfaction. Survey research was employed to obtain data from teachers in a school for learners with mild intellectual disability.

The anonymity of the schools, as well as the participants', were essential during data collection. The researcher protected the identity of the respondents and participants by masking their personal information on the letters of consent as well as on any other data collection tool.

The completed standardised questionnaires and scales were stored after collection in a locked steel cabinet and will be kept safe for the three years. The instruments and scales were employed to better understand the correlation between teachers' well-being, metacognitive awareness, and satisfaction with life. The data were captured, organised, and processed for statistical analyses.

A booklet format battery of measuring instruments, presented to the participants in English, employed for the purposes of this study are listed below.

3.4.5.1 Questionnaires employed

The Subjective Happiness Scale (SHS) of Lyubomirsky and Lepper (1999) is a four-item self-report measure of hedonic well-being. The SHS contains a statement with seven-point responses with which participants either rate themselves or compare themselves to others where 1 represents "not a very happy person", and 7 represents "a very happy person". Extremera and Fernández-Berrocal (2014) found a Cronbach-Alpha of 0,85 in high school students, college students, and community adult sample.

The Questionnaire for Eudaimonic Well-Being (QEWB) of Waterman et al. (2010) is a 21-item self-report measure of well-being from an eudaimonic perspective. The original questionnaire of Waterman et al. (2010) comprised a scale from 1 to 7. Schutte, Wissing and Khumalo (2013) attempted to reduce the scale to four points for South African contexts. Similarly, Whaley (2014) reduced a six-point scale to a two-point Likert scale. However, Whaley reports that in this case, the instrument is likely to lose information about respondents' well-being and the researcher therefore also considered information retrieved from the other instruments administered, as well as supportive data from qualitative interviews. The QEWB for the purpose of this study was therefore adapted to a two-point Likert scale (1=strongly disagree, and 2=strongly agree). The current study reported a Cronbach-Alpha of 0,72 which was sufficient for the purpose of this study.

The Oxford Happiness Questionnaire (OHQ) by Hills and Argyle (2002) is a 29-item self-report measure of cognitive components of happiness. The OHQ is rated on a six-point Likert scale (1=strongly disagree, and 6=strongly agree). Liaghatdar, Jafari, Abedi and Samiee (2008) reported a Cronbach-Alpha of 0,92 in the Islamic Republic of Iran's undergraduate student sample.

The Metacognitive Awareness Inventory for Teachers (MAIT) compiled by Balcikanli (2011) is a 24-item self-report measure regarding aspects of metacognitive awareness of knowledge and regulation of teachers. The MAIT is rated on a five-point Likert scale (1=strongly disagree, and 5=strongly agree). A reliable Cronbach-Alpha of 0,85 has been found by Balcikanli (2011) in a Turkish teacher sample.

The Satisfaction with Life Questionnaire (SWLQ) of Diener et al. (1985) is a five-item self-report measure of cognitive judgments of one's satisfaction with life. The SWLS is rated on a seven-point Likert scale (1=strongly disagree, and 7=strongly agree). Doğan, Sapmaz, Tel, Sapmaz and Temizel (2012) found a Cronbach-Alpha of 0,91 in a Turkish student sample. Schutte et al. (2013) reported a Cronbach-Alpha of 0,74 in a South African student sample.

The reliability of the instruments employed in this study is illustrated in Table 3-1.

Table 3-1 The reliability of the instruments employed in the study

Research instruments	Cronbach-Alpha*
Metacognitive Awareness Inventory for Teachers	0,922
Subjective Happiness Scale	0,740
Satisfaction with Life Questionnaire	0.876
The Oxford Happiness Questionnaire	0,888
The Questionnaire for Eudaimonic Well-Being	0,724

Coefficients of 0,5 or higher indicate reliability as per Cotterall and Murray (2009, p. 35).

3.4.6 Data analysis

The Statistical Consultancy Services of the North-West University (Potchefstroom Campus) employed the SPSS programme to calculate the statistical results based on the data and as such, deployed mathematical frameworks and theories pertaining to the quantity under question. First the data were collected and then transposed unto an excel document according to the guidelines of the consultation services. Second the consultation services conducted descriptive and inferential statistical techniques. This included the biographical data such as gender, age, and teaching experience. Some techniques involved the calculation of mean scores through descriptive statistics, effect sizes through inferential statistics, Cronbach alpha numeric, exploratory factor analysis for the correlations followed by multiple regressions for structural equation modelling and goodness fit. An independent Levene's sample test was employed for equality of variances. Spearman's Rho, a non-parametric test, was employed to measure the strength of correlation between two variables to calculate the respondents' well-being, metacognitive awareness, and satisfaction with life. Effect sizes of gender, age, and teaching experience were determined through ANOVA. The researcher also tested homogeneity of variables through Levene's statistics. The structural equation model was built through chi-square analyses. The researcher then conducted the analyses of the calculated results herself and by following the guidelines of Palant, (2010). This was followed by the interpretation of the analysed results.

3.4.7 Validity

Validity is defined as "the extent to which a concept is accurately measured in a quantitative study" (Heale & Twycross, 2015, p. 66). Internal validity implies that there is a great authority over variables of the study, for example, factors of the study. External validity relates to the speculations that can be produced employing the data of the whole population.

Certain perspectives can upset the internal validity of a study, for instance, choice selection bias and recorded elements. Setting (e.g. a test) can additionally cause respondents to flounder. In this study, internal validity was determined through a Cronbach-Alpha coefficient which tests for inter-item links. A Cronbach-Alpha value of 0,7 indicates low reliability, 0,8 moderate reliability and 0,9 high reliability (Maree & Van der Westhuizen, 2007). According to Field (2013), the interpretation of these values depends on the type of constructs being measured. For instance, lower values can be employed realistically with well-being constructs.

Measures are reliable when various researchers can employ the same measures under stable conditions, offering consistent results that do not vary (McMillan & Schumacher, 2006).

The researcher employed standardised questionnaires and scales that were already employed in previous studies, confirming the reliability and consistency of these measuring instruments for this study. Reliability Cronbach-Alpha of 0,9 has been reported by employing the Metacognitive Awareness Inventory for Teachers (MAIT) by Balcikanli (2011), the Subjective Happiness Scale (SHS) by Lyubomirsky and Lepper (1999) revealed a Cronbach-Alpha of 0,7 in this study. The Oxford Happiness Questionnaire (OHQ) by Hills and Argyle (2002) revealed a Cronbach-Alpha of 0,8 and The Questionnaire for Eudaimonic Well-Being (QEWB) by Waterman et al. (2010) revealed a Cronbach-Alpha of 0,7 in this study.

In § 3.4 (the quantitative research strand of the chapter) attention was given to the exposition of the quantitative research approach and methodology. The research methods in terms of data collection and data analysis were explained and reasons were provided for choosing the quantitative research approach. The validity of the quantitative approach of the study was provided and ethical issues were addressed.

The quantitative research strand of the study's standardised questionnaires and scales, as discussed above, were employed to enable triangulation, thereby increasing the validity of the study. The qualitative method of research employed for methodological triangulation to inform the convergent parallel mixed method design will be discussed next.

3.5 Qualitative research strand

For the purpose of this study, the qualitative research strand of the research process was conducted by means of semi-structured individual interviews governed by interpretivism.

3.5.1 Interpretivism as paradigm

The qualitative research strand of this study employed interpretivism as paradigm, descriptive and contextual in nature in order to gain a holistic understanding of the teachers' well-being, metacognitive awareness, and life satisfaction in its natural context. Briggs, Coleman and Morrison (2012) make it clear that reality exists from the individual's subjective experience of the external world and states that reality is dependent on its observer. The researcher seeks to understand the world in which individuals live and work by obtaining subjective explanations of the participants' experiences.

The qualitative research strand of the study is therefore located within the interpretivist paradigm. Snape and Spencer (2014) explain the interpretivist qualitative research as the social world's influence on human beings. It is a complex responsibility for the researcher to maintain objectivity.

The interpretivist paradigm coincides with sociology where understanding of the world, as experienced by the participants, is explored as well as by the objective observation of the researcher (Snape & Spencer, 2014). The nature and purpose of the interpretivist paradigm are subsequently described.

According to the interpretivist paradigm, there is a distance between the participant and the researcher and, therefore, the researcher supports the experiences of the participants and the meaning they give to these experiences. In the context of the study, the findings from the data depend on meaning provided by teachers in terms of their well-being in a school for learners with mild intellectual disability and provided the researcher with insight into the participants' experience of their well-being.

3.5.1.1 Interpretivist ontology

Ontology is the study of being human (Mouton & Marais, 1990). The ontological assumptions are concerned with what constitutes reality, in other words what is real. Guba and Lincoln (1994) and Lichtman (2010) agree that reality is subjective and thus differs from person to person. Ontologically, the relationship between the researcher and this study is regarded as the experiences of teacher's well-being, metacognitive awareness, and satisfaction with life in a school for learners with mild intellectual disability as structured by participants. The researcher therefore shared the experiences of the participants to gain an in-depth insight into the lives of the respondents. The researcher wanted to obtain an understanding of the well-being, metacognitive awareness, and satisfaction with life of teachers in a school for learners with mild intellectual disability (Cecez-Kecmanovic, 2011).

In the context of the study, the findings from the data depended on meaning provided by teachers in a school for learners with mild intellectual disability in terms of their well-being. Reality was seen through various views of the participants by means of semi-structured individual interviews. The researcher relied on the direct (verbatim) responses of participants by spending time in the field with the participants without being affected by the researchers' judgments. The researcher reported the participants' experiences through identified themes and sub-themes during the data analysis.

3.5.1.2 Interpretivist epistemology

Pascale (2011) states that epistemological assumptions are largely concerned with questions about how the world is experienced, including the nature, origin and limitation of knowledge. Epistemologically, the nature of the relationship between the researcher and the research focus of this study can be defined as the participants' personal experiences and involvement in the research context. Knowledge of the phenomenon in the study was constructed by the participants' description of their own experiences.

3.5.1.3 Interpretivist methodology

Qualitative studies can be employed successfully with small groups, communities and organisations (Lichtman, 2010). The qualitative approach is a descriptive form of research. Basit (2010) believes the purpose of qualitative research is to understand and interpret the social life of the individuals in depth. Drew, Hardman and Hosp (2008), Creswell (2013) and McMillan and Schumacher (2014) explain that qualitative research is appropriate for situations where the researcher wants to focus on a phenomenon and study the participants in their natural circumstances. Thus, qualitative research is appropriate to determine participants' experiences and to report on numerous interpretations within the social context in which the problem is being investigated (Creswell, 2013).

Qualitative research was employed which allowed the researcher to derive greater depth of understanding of the research problem (Berg, 2007). Participants were invited to take part in individual interviews with the intention of a better understanding and to explore the research questions. Before the interviews commenced, the researcher gained verbal permission from the participants to record the interviews. Data were collected by open-ended questions in semi-structured individual interviews for transcription and coding.

3.5.2 Research approach

The researcher employed a qualitative research approach to determine the relationship between well-being, metacognition, and satisfaction with life. Qualitative research, according to Creswell (2013), is a process that uses clear methods and guidelines to discover and understand a specific social or human phenomenon. The qualitative research was beneficial to the study in terms of finding the association between the constructs of well-being of the teachers in a school for learners with mild intellectual disability. Participants were encouraged to answer the research questions according to their understanding and interpretation as qualitative research stresses the importance of people's interpretation of circumstances.

Qualitative research was appropriate for the researcher to derive an in-depth understanding of the relationship between well-being, metacognition, and satisfaction with life in the natural setting. Therefore, participants were given a chance of freedom to express their views within a safe environment. The qualitative approach allowed the researcher to collect data in the schools for learners with mild intellectual disability where participants experience the issue under study. The semi-structured interviews, as previously mentioned, were transcribed and coded. The verbatim recordings of the fourteen interviews provided clarity which assisted with avoiding misinterpretation. The researcher gained verbal permission from the participants to digital record the interviews.

3.5.3 Ethical considerations

Ethical issues, according to Maree and Van der Westhuizen (2007), are extremely important in any research study. Permission for this study was obtained from the Ethics Committee of the North-West University (Potchefstroom Campus) with ethical clearance (NWU-00446-17-A2). The ethical issues were addressed using informed consent (Creswell, 2013). McMillan and Schumacher (2014) describe educational research as research that focuses mainly on people and that the researcher is ethically responsible for the rights and well-being of the participant. The ethical guidelines followed in this study are now discussed (Bless, Higson-Smith & Sithole, 2013; Brinkmann & Kvale, 2008; Gay, Mills & Airasian, 2012).

3.5.3.1 Voluntary participation

The basic ethical principle of the research was that participants would volunteer to participate. Obtaining information and observing participants without their knowledge or consent is unethical (Patton, 2015). To obtain consent, the teachers (including the principal) were well informed about the purpose of the research, as well as the implication of participating in the study (Patton, 2015).

The participants were provided with written information that provided clarity on the purpose of the research. The consent form provided the following: the purpose of the research study, the identity of the researcher and her supervisors, the basis on which participants were selected to participate voluntarily in the research, the purpose for which the data will be employed, confirmation that the data will be stored safely, and an undertaking that confidentiality would be maintained.

3.5.3.2 Informed consent and protection against harm

The protection of participants in research is an ethical requirement (Brinkmann & Kvale, 2008). Informed consent means that participants can voluntarily participate in research after being informed of the intended procedures, risks, and benefits (Bulger, Heitman & Reiser, 2002).

The researcher made sure that the participants provided informed consent in writing that they will voluntarily participate in the research with an understanding of the nature of the study (Brinkmann & Kvale, 2008). The researcher assured the participants that confidentiality of all recorded data would be maintained (Gay et al., 2012). The researcher informed the participants that they could withdraw at any time during the research, even if they gave written permission (Gay et al., 2012).

3.5.3.3 Confidentiality

Protecting the identity of the participant's data were ensured. All information provided to the researcher was treated as confidential. According to Kennedy (2008), the researcher must protect the data obtained and ensure that participants cannot be identified through the collected data and the presentation of the findings (Thorne, 1998). Confidentiality further requires that any information that can identify the participants should be removed (Gay et al., 2012). Deleting participants' names from the data ensured they remained anonymous (Gay et al., 2012). In the context of the study, the researcher replaced all the names and/or identifiable information of participants and those of the schools on the transcripts with codes to ensure the participants' and the schools' anonymity and confidentiality of the data.

The researcher conducted the interviews in a private and safe area. Before commencing with the interviews, the researcher obtained verbal permission from the participants to record the interviews. After the fieldwork, the researcher expressed informal appreciation to the participants and served them with refreshments. During the last stage of responsible engagement, the researcher exited the research site with a good rapport with the institutions in case any future needs arise of accessing the research site again.

3.5.4 Participant selection

A purposive sample of 14 teachers were invited to voluntarily take part in qualitative individual interviews.

Ritchie and Ormston (2013) is of the opinion that although qualitative research does not necessarily exclude large groups, smaller groups of participants are mostly employed. Targeted sampling is based on the purpose of a research study (Leedy & Ormrod, 2010). Participants for this study were selected according to the following criteria: South African teachers who teach in mild intellectual disability schools in the Gauteng and North-West Provinces. The purpose with this specific targeted population was to support the qualitative research strand of the study to shed light on the well-being, metacognitive awareness, and satisfaction with life of teachers.

One teacher from each school, specifically teachers who were willing to share their experience openly of being attached to the schools for learners with mild intellectual disability, participated in the study. Fourteen participants volunteered for the study. Teachers who do not hold a teaching position at a school for learners with mild intellectual disability and who were not from the Gauteng and North-West Department of Basic Education were excluded from this study. The schools for learners with mild intellectual disability were chosen as, during the time of the study, there was no set curriculum for learners in these schools which could affect the well-being of teachers negatively.

3.5.5 Data collection

Interviewing is a two-way conversation which allows the researcher to derive an in-depth understanding of the research problem and learn more about the phenomenon (Palinkas et al., 2015), as well as obtain an idea of the experience of the participants in their natural setting (Nieuwenhuis, 2007b). For the purposes of this study, semi-structured individual interviews were employed according to the interview schedule in Addendum I. In each interview, questions were asked to participants regarding well-being, metacognitive awareness and satisfaction with life, and they were encouraged to respond freely to the questions, as Fraenkel and Wallen (2009) advised. Interview questions asked is indicated in Addendum I. By listening attentively to the participants, the researcher encouraged them to expand on statements to provide clarity, if and when further explanations were considered necessary (Nieuwenhuis, 2007b). Interviews can serve as a research tool with which data on the social world can be obtained. In this study, the researcher asked participants to express themselves about their opinions, attitudes, and experiences (as Patton, 2015 claims) regarding metacognitive awareness and satisfaction with life.

The individual interviews assisted to understand why a person acts in a certain way (Greeff, 2005). In line with Merriam (2009), the interviews provided an opportunity for the researcher to investigate participants' perspectives on their metacognitive awareness and satisfaction with life in the research study.

Each interview was unique, and the interviews were characterised by variation in the duration of the interviews, as well as the supplementary questions posed by the researcher. With the consent of each participant, each interview was digitally recorded for the purpose of transcribing for use during the data analysis. The latter ensured that no data had been lost or misinterpreted.

3.5.6 Data analysis

Interviews were digitally recorded as the recording of semi-structured interviews preserved the original form of the words participants used to portray their experiences and reflections. This also allowed the researcher to get an in-depth account of the phenomenon as experienced by the teachers (Evans et al., 2018; Patton, 2015). To conduct the analysis the researcher employed a qualitative content analysis approach as data analysis technique to analyse data in the form of text (Patton, 2015). The reason for doing this was to propose a model that serves as support to test and/or expand the conceptual model.

To conduct the analysis all the interviews were digital-recorded and transcribed verbatim. The researcher read each transcript word by word, highlighting identified text which resembles patterns found across the literature study to derive codes. This was done by carefully using words to probe for clarity and phrases of understanding. The digitally recorded interviews were transcribed verbatim and coded for further analysis. In essence, the researcher coded each transcript and recorded it in writing after comparing the transcripts (Rogers, 2018). Since content analysis as a research analysis method aims to identify patterns (Sgier, 2014), the researcher employed content analysis to interpret the content of the text through coding and identifying themes and categories. In this sense the codes-to-theory model by Saldaña (2016) was employed.

To do so, coding was conducted by labelling the qualitative data text in the right-hand margin. The researcher wrote text, keyword(s) or phrase(s) that seemed to capture the essence of the description of the responses of participants and served as an indicator of a code or category. In terms of instances that have similar meanings (e.g. passion, job satisfaction) (Stuckey, 2015).

Categories, which refer to the organisation and grouping of codes, were then established to organise the codes into meaningful clusters to analyse the data obtained, while themes were established as referral to a categorical form to interpret the meaning of these categories (Rogers, 2018). All of these were summarised to establish a profile of the themes as it offers a light on the description of the categories. To ensure the density of each category was suited towards a sub-theme or theme, the number of coded instances were counted to determine the frequencies of each category.

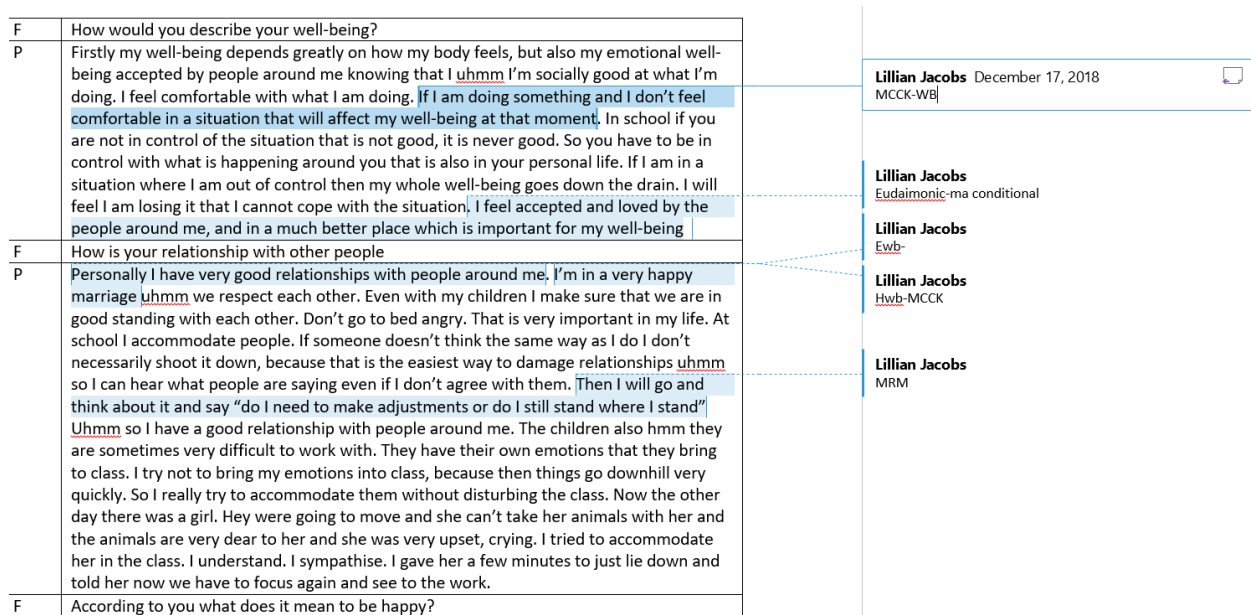


Figure 3-2: A sample of this analysis process

Each code and category were then represented as a characteristic or profile of the theme. This was considered a novel approach to get a complete overview of the findings. Once all transcripts had been coded, the researcher examined all data again, reflected upon their meaning in terms of the conceptual-theoretical framework of the study, and then sorted the codes into common categories (e.g. Spirituality, metacognitive awareness of conditional knowledge, declarative knowledge, passion job satisfaction). The categories were then further divided into sub-themes and further into themes. Patterns were identified regarding participants' reactions and responses. These were compared and summarised in terms of these sub-themes and themes. An overview of this is presented in the results section of Chapter 5 in Table 5-5.

3.5.7 Trustworthiness

Creswell (2013) defines qualitative validity as the consistency of the research approaches that apply to different researchers and different projects. Creswell (2013) further describes reliability as the researcher's direct attempt to apply the accuracy of the results through various procedures. Fraenkel and Wallen (2009, p. 453) define that reliability refers to the relevance, significance, and usefulness of the data collected, and validity refers to the consistency of the collection over a certain period and in a certain context and under certain conditions. Lincoln, Lynham and Guba (2011) explain that reliability and validity in qualitative research can be defined as credibility. Guba and Lincoln (1994) define credibility as the "truth value" of the finding, the relevance of the research in other contexts, the neutrality of the results in terms of participants, and the conditions of the researcher and the consistency with which the research can be found in the same context with the same participant. Credibility in this research study was pursued by making use of the four criteria as suggested by Guba and Lincoln (1994), and they also specify four strategies to ensure credibility. The researcher applied Guba's (1981) model of trustworthiness which includes the criteria and strategies illustrated in Figure 3-2:

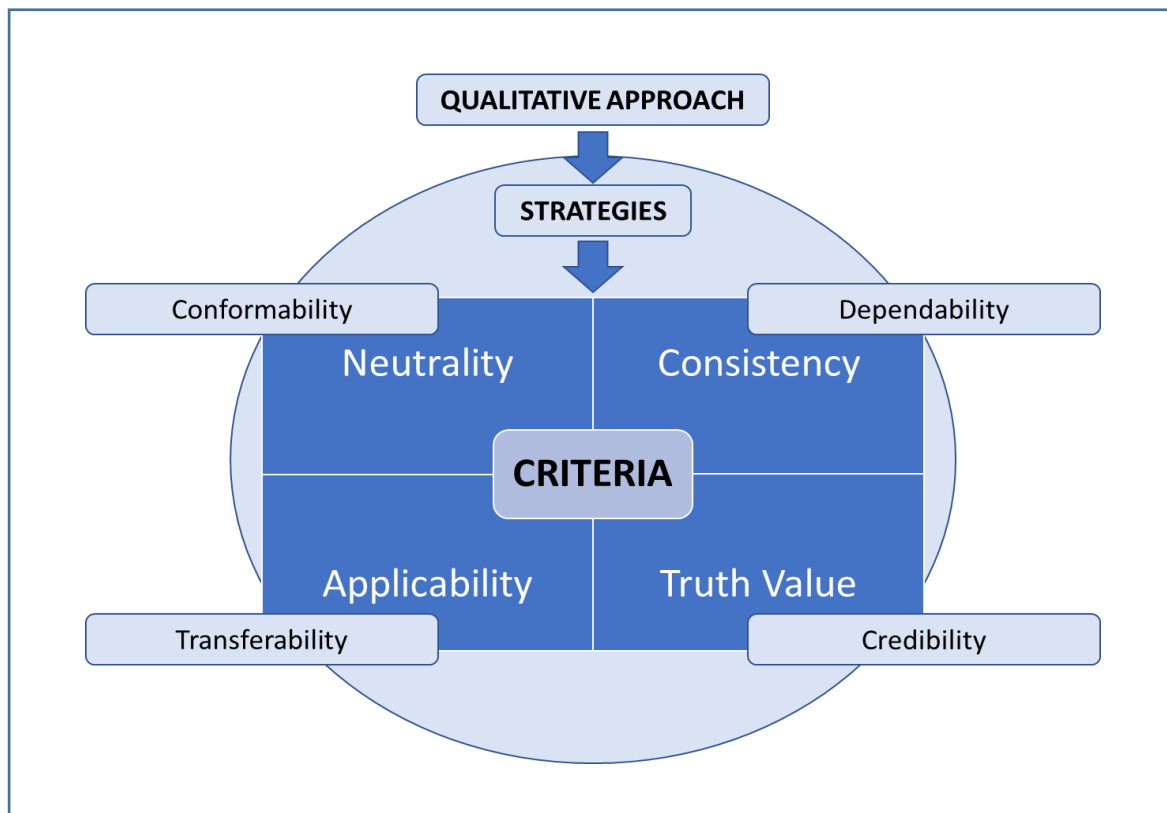


Figure 3-3: Measures to ensure trustworthiness (Adapted from Krefting, 1991, p. 217)

The criteria to ensure credibility is truth value, neutrality, applicability, consistency, and truth value as discussed below.

3.5.7.1 Neutrality (Confirmability)

Tobin and Begley (2004) state that the confirmability and the interpretation of the data are not a figment of the researcher's imagination, but distinguishably determined by the data. In order to ensure that the results are the experiences and ideas of the teachers in a school for learners with mild intellectual disability, the researcher did not include personal observations and feelings in the data before it was verified (Shenton, 2004, p. 72). Findings and interpretation of the research study were derived directly from the data and the researcher made use of the digital recordings during the second round of the data analysis.

3.5.7.2 Applicability (Transferability)

Transferability, according to Merriam (1998, p. 55), is the extent to which the findings of one study can be applied to other situations. The researcher attached data analysis documentation of the interviews to provide a clear description that would facilitate transferability.

The analysis documentation represents the written evidence of the researcher's activities and should enable other researchers to replicate this study in a similar context and yield similar results (Lincoln & Guba, 1985). Transferability is addressed if the researcher provides enough data to achieve a result comparison (Creswell, 2013).

3.5.7.3 Consistency (Dependability)

Bitsch (2005) states that dependability refers to the stability of findings over a time period and that several strategies can be followed to achieve dependability. Bowen (2009) explains that an audit trail opportunity is provided for external researchers to confirm the investigation process and the results. According to Guba and Lincoln (1994), this is possible through interviews. Hence, the researcher made use of individual semi-structured interviews with teachers in a school for learners with mild intellectual disability to gather information on their experiences. The digital recordings of semi-structured interviews were transcribed verbatim to ensure that no information was lost. A detailed description of the research design is also provided to ensure consistency and integrity.

3.5.7.4 Truth value (Credibility)

Credibility, according to Carboni (1995), is the deliberate attempt by the researcher to attach integrity to the meaning and interpretation of the data. The results of the research assume a reflection of the experiences of the participants in a reliable manner (Guba & Lincoln, 1994). The interpretation of the data should clarify the truth related to the external experiences of the researcher (Denzin & Lincoln, 2005).

In the qualitative research strand of the chapter, attention was given to the exposition of the qualitative research approach and methodology. The research methods in terms of data collection and data analysis were explained and reasons were provided for choosing the qualitative research approach. An outline of the credibility criteria of the study was provided and ethical issues were addressed.

In the qualitative research strand of the study, semi-structured interviews were employed to enable triangulation, thereby increasing the validity of the study. For methodological triangulation, qualitative and quantitative research methods were employed with data from both informing the convergent parallel mixed method design.

3.6 Triangulation

The researcher employed triangulation through two methods to study the same phenomenon in order to ensure validity of the study (Campbell & Fiske, 1959). Triangulation was done by following the guidelines of Curtin and Fossey (2007).

The quantitative and qualitative approach were employed for data triangulation towards a greater understanding of the well-being, metacognitive awareness, and satisfaction with life of teachers in a school for learners with mild intellectual disability in this study (Almalki, 2016). The researcher attempted to maximise the range of data (Brown et al., 2015).

The researcher applied two or more data collection instruments to cross-check and compare the consistency of the information gathered through data triangulation (Almalki, 2016; Kelle, Kühberger & Bernhard, 2019). In this study, the researcher employed the quantitative approach by means of standardised questionnaires and scales, and the qualitative approach by means of semi-structured individual interviews. The researcher employed space triangulation which is the collection of data at multiple sites (Adami & Kiger, 2005). Data for this study were collected in 14 schools for learners with mild intellectual disability in Gauteng and North-West provinces to ensure the consistency of data across the schools (Kelle et al., 2019).

To gather depth and breadth of the well-being, metacognitive awareness, and satisfaction with life of teachers, person triangulation was employed. Person triangulation, according to Adami and Kiger (2005) involves the collection of data from different levels of persons to cross-validate data. Information was collected from persons on different levels. In 12 schools, 12 teachers, and in two schools, 22 teachers completed the five standardised questionnaires and scales. The researcher conducted a semi-structured individual interview with one teacher in each of the 14 schools for learners with mild intellectual disability. The two types of methodological triangulation are the 'across-method' and the 'within-method'. Across-method triangulation, which requires the application of both the quantitative and qualitative approach were employed in this study (Fusch, Fusch & Ness, 2018).

3.7 Summary

In Chapter 3, pragmatism as philosophy to guide the thinking behind this study was explicated. Next, the researcher elaborated on the rationale for selecting a concurrent, mixed method research approach, employed to achieve the purpose of whether there is a link between well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disability in the provinces of Gauteng and North-West in South Africa.

The role of the researcher during the process and the protection of the participants were also explained. In Chapter 4, the respective analysis of the quantitative and qualitative data will be illuminated in detail to answer the research questions as presented in this study.

Chapter 4 Analysis of the quantitative data of the study

4.1 Background to the study

The main aim of this study, as outlined in Chapter 1, was to propose a model that serves as support to test and/or expand the conceptual model derived from the conceptual theoretical framework in Chapter 2 (illustrated in Figure 4-1). In Chapter 2, three theoretical propositions were formulated:

- *Proposition 1: Hedonic well-being and Eudaimonic well-being associates with metacognitive awareness of metacognitive regulation.*
- *Proposition 2: Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life.*
- *Proposition 3: Well-being (subjective and objective) leads to satisfaction with life independently (subjective or objective).*

Following the discussion on the research design and methodology in Chapter 3, the focus in Chapter 4 is on presenting the quantitative results, confirming these propositions. This includes the descriptive and inferential statistics to search for the association between well-being, metacognitive awareness, and satisfaction with life of teachers in a schools for learners with mild intellectual disability.

In Chapter 4, the author first reflects on the three propositions of Chapter 2 and presents a profile of the biographical information of the respondents in terms of their gender, age, and teaching experience. This is followed by a report on the reliability of measuring instruments to determine the measures of the constructs of well-being, metacognitive awareness, and satisfaction with life. Thereafter, a presentation of the results on the descriptive statistics (frequencies, averages, and standard deviations) of well-being, metacognitive awareness, and satisfaction with life follows. Inferential statistics were calculated to present the results as a comparison between male and female respondents in terms of effect sizes in relation to the measured constructs, followed by a similar discussion on the effect of age and teaching experience. The results overall indicate significant associations between the constructs of well-being, metacognitive awareness, and satisfaction with life after which a structural equation model on the association between these constructs is constructed.

Overview of the three propositions and focus of the study.

The primary research question in this study is: *How is well-being, metacognitive awareness, and satisfactions with life of teachers who teach in a school for learners with mild intellectual disability related?*

Table 4-1: Three theoretical propositions of the study

Proposition	Secondary research question addressed	Variables in this study
1	What is the nature of the relationship, if any, between hedonic well-being and metacognitive awareness? What is the nature of the relationship, if any, between eudaimonic well-being and metacognitive awareness?	Hedonic and Eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge.
2	What is the nature of the relationship, if any, between satisfaction with life and metacognitive awareness?	Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life.
3	What is the nature of the relationship, if any, between well-being and satisfaction with life?	Well-being (subjective and objective) leads to satisfaction with life independently whether it is subjective or objective.

In addition to Table 4-1, Figure 4-1 on the next page, reminds the reader of the conceptual model derived from the conceptual theoretical framework in Chapter 2, to be tested and expanded by means of the quantitative results presented in the remainder of the chapter.

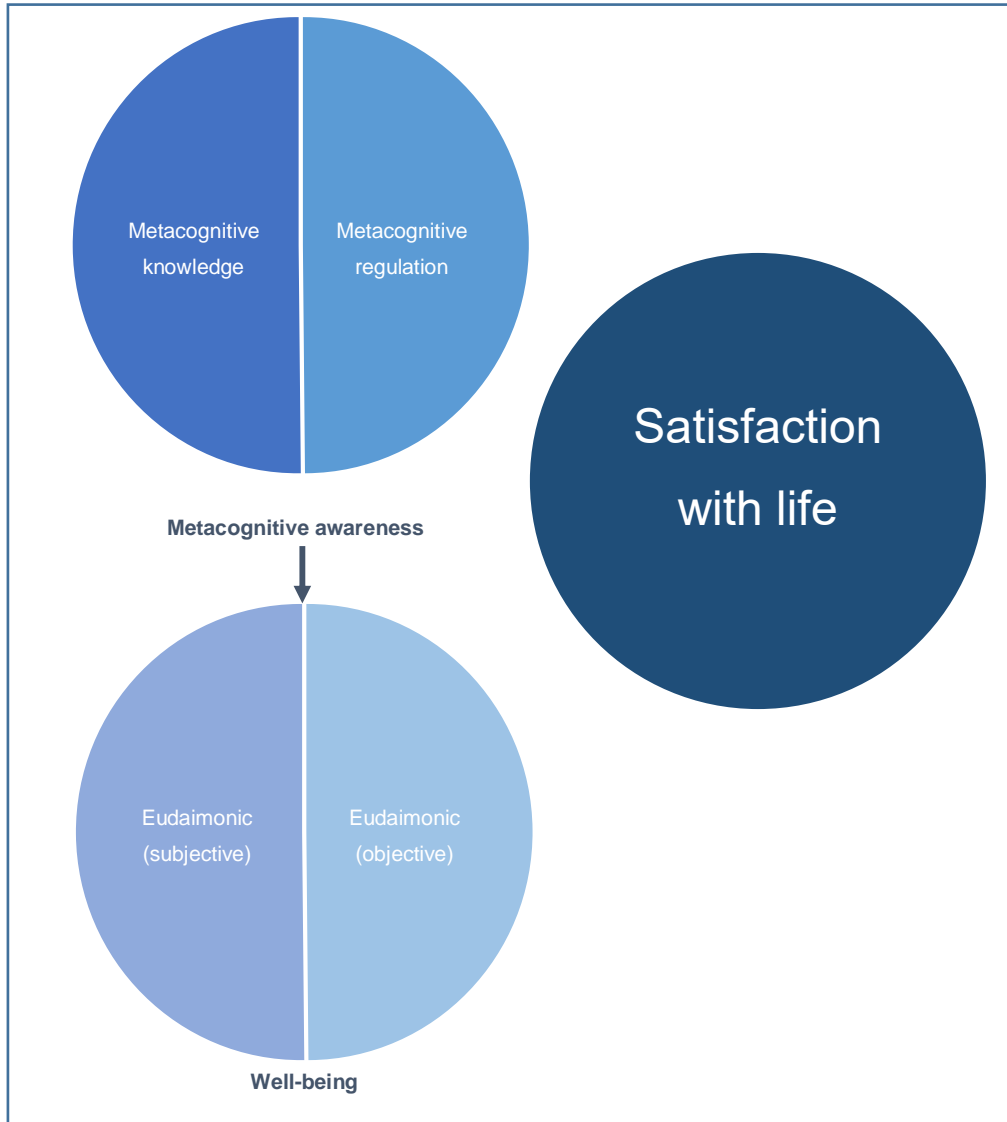


Figure 4-1: Conceptual theoretical framework

The outline in Figure 4-1 demonstrates the associations between well-being, metacognitive awareness, and satisfaction with life for teachers in a school for learners with mild intellectual disability.

Furthermore, the primary aim of this study was to test a conceptual model of the well-being, metacognitive awareness and satisfaction with life of teachers in a school for learners with mild intellectual disability, by examining the association between these constructs. By doing this, the researcher was able to propose a model of such teachers' well-being, metacognitive awareness, and satisfaction with life in a school for learners with mild intellectual disability. Such a model can be utilised by the Department of Basic Education to develop teachers' well-being in a school for learners with mild intellectual disability.

4.2 Profile and biographical information of the sample population

4.2.1 Number of respondents per school

Fourteen schools in the Gauteng and North-West provinces in South Africa participated in the quantitative strand of the study. Twenty-four teachers from each school volunteered to act as respondents to the instruments in the qualitative research strand, except in two schools where there was a total number of 22 staff members per school. The number of teachers was informed by the research objective of the study, the primary research question and the research design as suggested by Onwuegbuzie and Collins (2007). The biographical information includes these teachers' gender, age, and years of teaching experience. Respondents, overall, differed in terms of these biographical variables. The frequency of respondents per school is illustrated in Table 4-2 and shows the number of respondents per school in this sample. The total number of respondents were 332.

Table 4-2: Number of respondents per school

School	Frequency (hz)	Percent (%)	Valid percentage	Cumulative percentage
1	24	7,2	7,2	7,2
2	24	7,2	7,2	14,5
3	24	7,2	7,2	21,7
4	24	7,2	7,2	28,9
5	24	7,2	7,2	36,1
6	24	7,2	7,2	43,4
7	24	7,2	7,2	50,6
8	24	7,2	7,2	57,8
9	24	7,2	7,2	65,1
10	24	7,2	7,2	72,3
11	24	7,2	7,2	79,5
12	24	7,2	7,2	86,7
13	22	6,6	6,6	93,4
14	22	6,6	6,6	100,0
Total	332	99,7	100,0	
Missing	1	0,3		
Total	333	100,0		

Overall, there were more female respondents than male respondents as indicated in the next section.

4.2.2 Respondents’ gender

Out of 332 respondents, only three did not report on their gender. There were 221 female respondents (66,4%), almost twice as many as male respondents (n=109; 32,7%). Table 4-3 captures these cumulative percentages.

Table 4-3: Gender of the respondents

Gender	Frequency	Percentage	Valid percentage	Cumulative percentage
Female	221	66,4	66,4	67,3
Male	109	32,7	32,7	100,0
Missing	3	0,9	0,9	0,9
Total	333	100,0	100,0	

These results indicate that there are more female teachers teaching at schools for learners with mild intellectual disability, than male teachers. The biographic characteristics of these respondents were measured in terms of age, and years of teaching experience.

4.2.3 Respondents’ ages

The participants’ ages varied from 22 to 64 years as indicated in Figure 4-2:

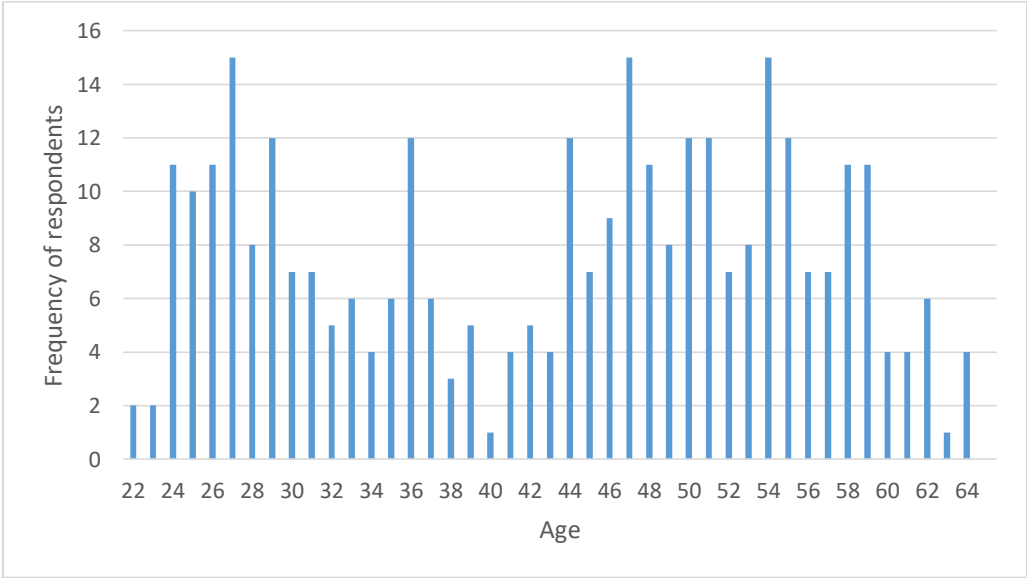


Figure 4-2: Age of the respondents

Figure 4-2 indicates the different age groups of teachers currently teaching at a school for learners with mild intellectual disability in the Gauteng and North-West provinces. Research amongst the respondents shows a variation in ages which contributes to a broader continuum of the well-being, metacognition, and satisfaction of life of teachers in a school for learners with mild intellectual disability, in these provinces (Blanca et al., 2018). The youngest group of respondents in this study was 22 years of age. The oldest age group of respondents in this study was 64. The mean age group of respondents is 43 years with a standard deviation of 11,97 years. Age, as a biographical variable, seems to indicate a diverse sample of male and female teachers suggesting that the sample is representative of the population.

Respondents also differed in terms of the teaching experience as the next section shows.

4.2.4 Respondents’ teaching experience

Respondents’ teaching experience varied between a minimum of one year, and a maximum of 41 years, as illustrated in Figure 4-3. Note that the teaching experience indicates experience in both the mainstream and school for learners with mild intellectual disability.

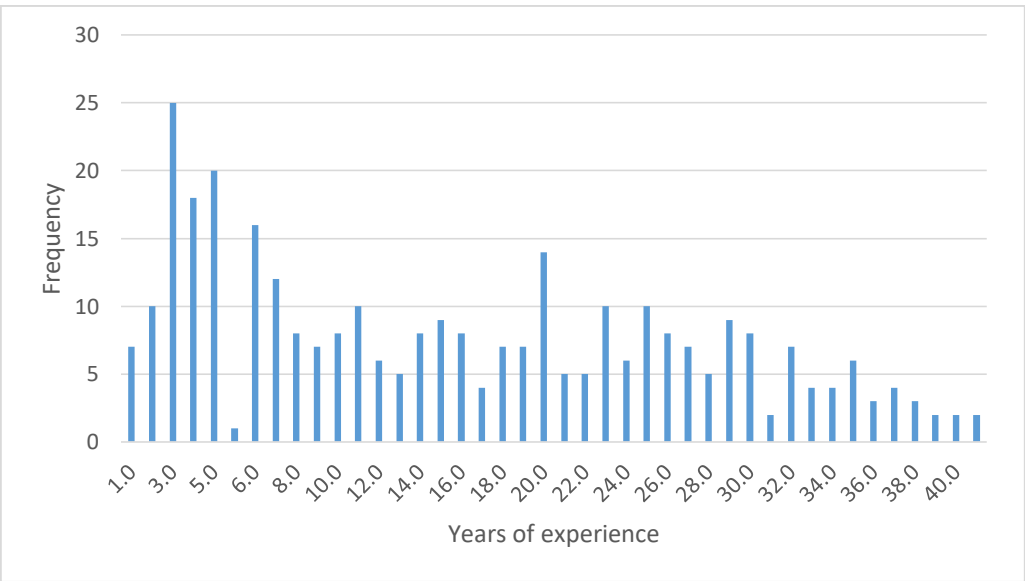


Figure 4-3: Respondents’ teaching experience

The teaching experience of teachers that are currently in a school for learners with mild intellectual disability in Gauteng and North-West in the 14 schools where the research was done, ranges from one year to 41 years with an average of 16 years of teaching experience. Of the 333 respondents, 11 did not indicate their teaching experience.

The teaching experience of respondents is an important characteristic which contributes to the determination of the well-being, metacognition, and satisfaction with life of teachers. Figure 4-4 gives an indication of the teaching experience of teachers in a school for learners with mild intellectual disability, showing that the lowest number of teaching years is one year, and the highest number of teaching years is 41 years. The average number of years of teaching experience among the respondents is 15,98 years, with a standard deviation of 11,1 years. These statistics of teaching experience indicate that the average teacher has experience in a number of curriculum changes, including a shift from the pre-1996 traditional curriculum, the 1997-2004 outcomes-based education curriculum, the 2004-2011 national curriculum statement and the current 2012-2018 continuous assessment policy statement (CAPS). Some respondents also commented on *curriculum change* as an aspect influencing their well-being as seen in the result section of the qualitative research strand of this study in Chapter 5.

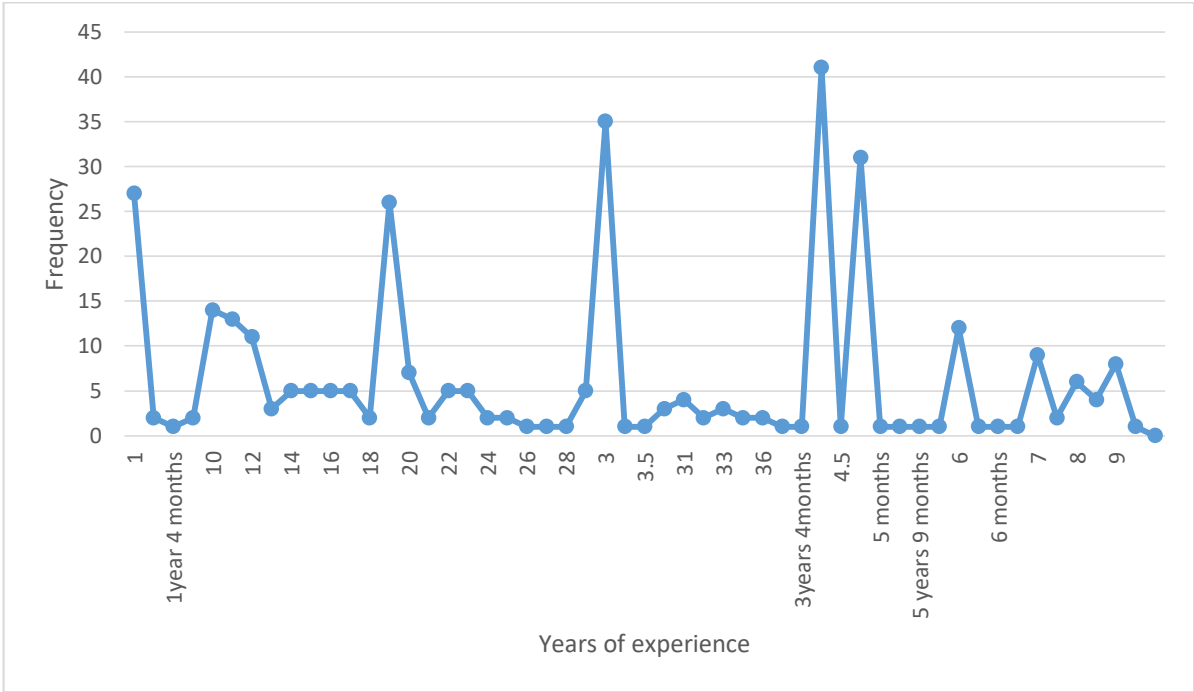


Figure 4-4: Respondents’ years of experience teaching in a school for learners with mild intellectual disability

Figure 4-4 indicates the teaching experience of teachers currently teaching in a school for learners with mild intellectual disability. The experience varies between a minimum of three months and a maximum of 37 years. The average teaching time for a teacher of learners with mild intellectual disability is (approximately) eight years. Of the 333 respondents, four did not indicate their teaching experience in a school for learners with mild intellectual disability.

Teachers' teaching experience in a school for learners with mild intellectual disability, is a contributing continuum to determine if the average experience of well-being, metacognitive awareness, and satisfaction with life diverge between respondents (McLeod, 2018). In comparison with the average teaching experience in both mainstream and school for learners with mild intellectual disability (16 years), it seems that the respondents of this study spent almost half of their professional teaching experience in a school for learners with mild intellectual disability (eight years).

We now look at a report on the measuring instruments administered to these respondents, followed by their responses in order to measure their well-being, metacognitive awareness and satisfaction with life in order to test and/or expand the proposed model from the conceptual theoretical framework, based on these measures.

4.3 Measures of well-being, metacognitive awareness and satisfaction with life

The constructs of *well-being*, *metacognitive awareness*, and *satisfaction with life* were discussed in (§ 2.2.2) to conceptualise the three propositions that are based on the research question and aims of the study. These propositions steered the focus of the study. The constructs were measured independently by means of the administered instruments as discussed in Chapter 3 (The measuring instruments employed in this study are outlined in (§ 3.9.1.1), and the frequency of respondents per school were initially employed to determine the correlation between the well-being, metacognition, and satisfaction with life of teachers. The results of the frequency of respondents' gender, teaching experience² and respondents' age were used to illustrate the significance of this data that augments the constructs specified in the conceptualised model. Firstly, the abbreviations used in the tables and figures are provided:

² Teaching experience refers to the respondents' overall teaching experience including but not limited to experience in a school for learners with mild intellectual disability.

Table 4-4: Clarification of abbreviations used in tables and figures

Abbreviations of measuring instruments	Clarification of measuring instruments
SHS	Subjective Happiness Scale
EWB	Eudaimonic Well-being
OHQ	Oxford Happiness Questionnaire
SWLS	Satisfaction with Life Questionnaire
MCAIT	Metacognitive Awareness Inventory for Teachers
CKDK	Metacognitive Awareness of Declarative Knowledge
MCK-PK	Metacognitive Awareness of Procedural Knowledge
MCK-CK	Metacognitive Awareness of Conditional Knowledge
MCR-P	Metacognitive Regulation of Planning
MCR-M	Metacognitive Regulation of Monitoring
MCR-E	Metacognitive Regulation of Evaluation

The association of the measuring instruments with the biographical information is now discussed.

4.3.1 Association of measuring instruments with the biographical information

In order to determine any associations between the instruments and the biographical information, calculated mean scores, averages, and standard deviations of the respondents' responses on the Likert Scales of the instruments, as well as the biographical data are captured in Table 4-5. The reliability of each of these instruments are reported on as Cronbach-Alphas with coefficients of 0,5 or higher, indicating reliability (Pallant, 2010).

Table 4-5: Averages and standard deviations

Instrument	Likert-scale	Cronbach-Alpha	Minimum	Maximum	Mean (M)	Std. Deviation (SD)
SHS	7-point (1: not a very happy person - 7: very happy person)	0,740	2,50	7,00	5,32	0,92
EWB	2-point (1: strongly disagree - 2: strongly agree)	0,724	0,05	1,00	0,85	0,13
OHQ	6-scale (1: strongly disagree - 6: strongly agree)	0,888	2,21	5,97	4,47	0,63
MCAIT	5-scale (1: strongly disagree - 5: strongly agree)	0,922			4,0012	0,45099
MCK_DK	5-scale (1: strongly disagree - 5: strongly agree)		2,50	5,00	4,15	0,48
MCK_PK	5-scale (1: strongly disagree - 5: strongly agree)		2,25	5,00	3,99	0,53
MCK_CK	5-scale (1: strongly disagree - 5: strongly agree)		1,50	5,00	4,06	0,51
MCR-P	5-scale (1: strongly disagree - 5: strongly agree)		2,00	5,00	3,99	0,54
MCR-M	5-scale (1: strongly disagree - 5: strongly agree)		2,00	5,00	3,93	0,59
MCR-E	5-scale (1: strongly disagree - 5: strongly agree)		1,50	5,00	3,89	0,61
SWLS	7-scale (1: strongly disagree - 7: strongly agree)		8,00	35,00	25,74	5,95
Biographical data						
Age		329	22	64	43,02	11,97
Years of experience		322	1,0	41,0	15,98	11,1
Years of experience in a school for learners with mild intellectual disability		329	0,25	37,00	8,77	8,70

Respondents across the 14 schools indicated an average Subjective Happiness (SHS) (M=5,32; SD=0,92), which suggests they are overall happy people. When Eudaimonic Well-being (EWB) was measured, the respondents strongly agreed they experience subjective well-being (M=0,85, SD=0,13). The Oxford Happiness Questionnaire OHQ (M=4,47; SD=0,63) indicated that respondents experience happiness only slightly. Respondents' responses to the Metacognitive Awareness Inventory for Teachers (MAI) indicated two strands of data regarding their metacognitive awareness. First, their responses in terms of metacognitive knowledge showed overall declarative knowledge (M=4,15; SD=0,48), Procedural Knowledge (M=3, 9; SD=0,53).

These results indicate that they are overall aware of themselves as persons, of their tasks, as teachers, and the strategies they are using. Conditional Knowledge (M=4,06; SD=0,51). Second, the responses to items measuring metacognitive regulation indicated almost similar measures for planning (M=3,99; SD=0,54), monitoring (M=3,93; SD=0,59) and evaluation (M=3,89, SD=0,61). The results indicated that respondents are experiencing satisfaction with life (M=25,74; SD=5,95).

4.4 Associations between gender and the measuring instruments: Independent T-test

Inferential statistics were calculated to determine any practical or differences between male and female respondents' well-being, metacognitive awareness, and satisfaction with life. To do so, an independent T-test was calculated to compare the average of the two means in terms of gender. Levene's test of equality of variance was conducted to determine if: (i) significance is smaller than 0,05 which indicates no homogeneity of variances, of which equal variances are not assumed; and (ii) significance greater than 0,05, which indicates homogeneity of variances, of which equal variances are assumed. In the event where significance (p-value) is less than 0,05, the means are considered statistically significantly different, as suggested by (Pallant, 2010). Pallant (2010) further suggests that, $d=0,2$ indicates a small effect, $d=0,5$ indicates a medium effect and $d=0,8$ a large effect. To determine if the biographical information influences the variables, a T-test was conducted. After the completion of the T-test, Table 4-6 was compiled.

Table 4-6: Effect sizes and statistical significance

	Gender	N	Mean	Std. Deviations	p-value	Cohen's Effect sizes (d)
SHS	M	109	5,2064	0,86190	0,11683	0,18
	F	221	5,3756	0,94587		
EWB	M	109	0,8588	0,10746	0,53409	0,06
	F	221	0,8501	0,13779		
OHQ	M	109	4,5171	0,64523	0,35713	0,11
	F	221	4,4485	0,63170		
MAI	M	109	3,9577	0,39871	0,16498	0,15
	F	220	4,0269	0,47184		
SWLS	M	109	25,7890	5,04622	0,87405	0,02
	F	220	25,6864	6,37538		
MCK-DK	M	109	4,0726	0,47360	0,02695	0,26
	F	220	4,1966	0,47751		
MCK-PK	M	109	3,9404	0,50792	0,26589	0,13
	F	220	4,0102	0,54810		
MCK-CK	M	109	4,0589	0,46816	0,95172	0,01
	F	220	4,0625	0,53187		
MCR-P	M	109	3,9197	0,47003	0,09117	0,19
	F	220	4,0261	0,56602		
MCR-M	M	109	3,9083	0,50422	0,57177	0,06
	F	220	3,9473	0,62749		
MCR-E	M	109	3,8463	0,54210	0,30822	0,11
	F	220	3,9182	0,62812		

Overall, effect sizes revealed no practical or visible differences between male and female respondents ($p < 0,0005$).

Well-being's measurement indicated effect sizes which ranged between 0,01 and 0,26 suggesting small effects between male and female respondents. The Subjective Happiness Scale revealed a small effect size ($d = 0,18$; $p = 0,11683$) suggesting that male and female respondents in a school for learners with mild intellectual disability did not differ much in their subjective happiness. Similarly, there was a small effect between male and female respondents' eudaimonic wellbeing ($d = 0,06$; $p = 0,53409$) indicating that the respondents did not differ much in their eudaimonic well-being. The Oxford Happiness Questionnaire also revealed a small effect size ($d = 0,11$; $p = 0,35713$) between male and female respondents, a representation that respondents' happiness did not vary.

The Metacognitive Awareness Inventory indicated a small effect size ($d=0,15$; $p=0,16498$) between male and female respondents. Metacognitive awareness of declarative knowledge ($d=0,26$; $p=0,02695$) and metacognitive awareness of procedural knowledge ($d=0,13$; $p=0,26589$) specified a small effect size between male and female respondents. Metacognitive awareness of conditional knowledge ($d=0,01$; $p=0,95172$) and metacognitive awareness of planning ($d=0,19$; $p=0,09117$) pointed out a small effect between male and female respondents. Metacognitive awareness of monitoring ($d=0,06$; $p=0,57177$) and metacognitive awareness of evaluation ($d=0,11$; $p=0,30822$) showed a small effect size between male and female respondents.

Satisfaction with life showed a small effect size ($d=0,02$; $p=0,87405$) between male and female respondents suggesting that male and female respondents did not differ much in their satisfaction with life.

4.5 Associations with age and teaching experience

The correlations between age, and teaching experience, in addition to the statistical significance, indicates the p-values. There was an almost none to small effect size between the respondents' age, teaching experience, and teaching experience in a school for learners with mild intellectual disability in relation to well-being, metacognitive awareness, and satisfaction with life, as illustrated in Table 4-7.

Table 4-7: Association with respondents' age, teaching experience and teaching experience in mild intellectual disability schools

	Age	Teaching experience	Teaching experience in mild intellectual disability schools
SHS	0,009	0,027	-0,062
	0,875	0,626	0,260
EWB	0,158**	0,199**	0,145**
	0,004	0,000	0,008
OHQ	0,036	0,084	-0,007
	0,511	0,132	0,892
MAI	0,186**	0,259**	0,118*
	0,001	0,000	0,033
SWLS	-0,029	-0,011	-0,076
	0,596	0,848	0,172

** Correlation is significant at the 0,01 level (2-tailed)

* Correlation is significant at the 0,05 level (2-tailed)

From Table 4-7 one can see that the analyses has identified significant correlations between the respondents' age(s) and their eudaimonic well-being (0,158), as well as their metacognitive awareness (0,186). Also, their teaching experience (0,199) and teaching experience in a school for learners with mild intellectual disability (0,145) associates with their eudaimonic well-being. Similarly, their teaching experience (0,259) and teaching experience in a school for learners with mild intellectual disability (0,118) associates with their metacognitive awareness.

To explore the correlations of the respondent's responses on the measures of well-being, metacognitive awareness, and satisfaction with life further, Spearman's Rho was calculated to reveal any possible correlations between the measures.

4.6 Correlations between constructs measured

Correlations were calculated between the respondents' well-being, metacognitive awareness, and satisfaction with life. The correlations of this study are represented in Table 4.7 to answer the secondary research questions.

Table 4-8: Correlations between well-being, metacognitive awareness, and satisfaction with life

	SHS	EWB	OHQ	SWLS	MCK-DK	MCK-PK	MCK-CK	MCR-P	MCR-M	MCR-E
SHS	1,000	0,227**	0,503**	0,416**	0,246**	0,235**	0,254**	0,235**	0,149**	0,186**
EWB		1,000	0,360**	0,249**	0,252**	0,236**	0,238**	0,244**	0,222**	0,219**
OHQ			1,000	0,547**	0,323**	0,317**	0,349**	0,285**	0,247**	0,282**
SWLS				1,000	0,177**	0,183**	0,213**	0,237**	0,150**	0,195**
MCK-DK					1,000	0,689**	0,644**	0,518**	0,530**	0,470**
MCK-PK						1,000	0,715**	0,597**	0,554**	0,540**
MCK-CD							1,000	0,648**	0,592**	0,553**
MCR-P								1,000	0,705**	0,647**
MCR-M									1,000	0,772**
MCR-E										1,000

** Correlation is significant at the 0,01 level

All relationships between well-being, metacognitive awareness, and satisfaction with life are significant at the 0,01 level. The relationship between subjective happiness and eudaimonic well-being was investigated by calculating Spearman's Rho. Correlations revealed both practical ($r > 0,5$) and statistical significance ($p > 0,05$), except for eudaimonic well-being and metacognitive awareness of declarative knowledge. In all instances, the correlations revealed positive correlations ranging between 0,149 and 0,772. According to Pallant (2010), $0,10 < r < 0,29$ shows a small correlation, $0,30 < r < 0,49$ shows a medium correlation, and $0,50 < r < 1,0$ shows a strong correlation. To explore these relationships, the following results on the correlations between the constructs are presented in accordance of the three propositions outlined in Chapter 2.

Proposition 1: Hedonic and eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge

The correlations between hedonic and eudaimonic well-being indicated below, shows the contribution towards the respondents' satisfaction with life

The Subjective Happiness Scale and The Oxford Happiness Questionnaire ($r=0,547$; $p<0,05$), Eudaimonic Well-being and The Oxford Happiness Questionnaire ($r=0,360$; $p<0,05$), Subjective Happiness Scale and Eudaimonic Well-being ($r=0,227$; $p<0,05$).

The strong correlations between metacognitive regulation of planning, monitoring and evaluating and metacognitive awareness of declarative knowledge, procedural knowledge and conditional knowledge, indicate that respondents are able to develop their potential which is a directive towards attaining well-being. These correlations imply that hedonic and eudaimonic well-being associate with metacognitive awareness of metacognitive regulation and knowledge. Metacognitive awareness can therefore be regarded as a gateway to achieving well-being.

Proposition 2: Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life

The relationship between satisfaction with life and metacognitive knowledge domains of metacognitive awareness is evident in the small correlations between the Satisfaction with Life Scale and Metacognitive Awareness of Declarative Knowledge ($r=0,177$; $p<0,05$), Satisfaction with Life Scale and Metacognitive Awareness of Conditional Knowledge ($r=0,213$; $p<0,05$), Satisfaction with Life Scale and Metacognitive Awareness of Planning ($r=0,237$, $p<0,05$), Satisfaction with Life Scale and Metacognitive Awareness of Evaluation ($r=0,195$, $p<0,05$), Satisfaction with Life Scale and Metacognitive Awareness of Procedural knowledge which is ($r=0,183$; $p<0,05$), and Satisfaction with Life Scale and Metacognitive Awareness of Monitoring

($r=0,150$; $p<0,05$). These small correlations indicate that metacognitive awareness of metacognitive knowledge mediates satisfaction with life of the respondents in this study.

Proposition 3: Well-being (subjective and objective) leads to satisfaction with life independently (subjective or objective)

The relationship between hedonic well-being, eudaimonic well-being and satisfaction with life of the respondents in this study is evident in the correlations between The Oxford Happiness Questionnaire and Satisfaction with Life Questionnaire ($r=0,503$, $p<0,05$), Subjective Happiness Scale and the Satisfaction with Life Questionnaire ($r=0,416$, $p<0,05$), Eudaimonic Well-being (EWB) and Satisfaction with Life ($r=0,249$, $p<0,05$). The correlations show that satisfaction with life can be indicated by the respondents' awareness of their subjective and objective well-being.

Since the correlations supports the initial propositions, and indicated relationships between the constructs of well-being, metacognitive awareness, and satisfaction with life, these relationships are confirmed to construct a statistical model through structural equation modelling.

4.7 Structural Equation Modelling

Structural equation modelling is a combination of exploratory factor analysis and multiple regression (Meyers, Gamst & Guarino, 2013). Structural equation modelling extends the relationship between variables through a measurement model and a structural model. The measurement model depicts the pattern of the relationships which can then be observed and confirmed. To do so, inter-relations between the constructs can be observed in a proposed model based on several structural equations through several regressions. According to Schreiber, Nora, Stage, Barlow and King (2006), the following aspects should form part of such analysis: (i) the research question dictates the use of structural equation modelling; (ii) structural equation modelling is discussed in the methodology of the research; (iii) a sufficient conceptual framework of the theoretical model exists; (iv) descriptive and inferential statistics are sufficient; (v) a graphic display of the model is provided; with (vi) the implications discussed. In addition, a goodness of fit should be employed to assess the model.

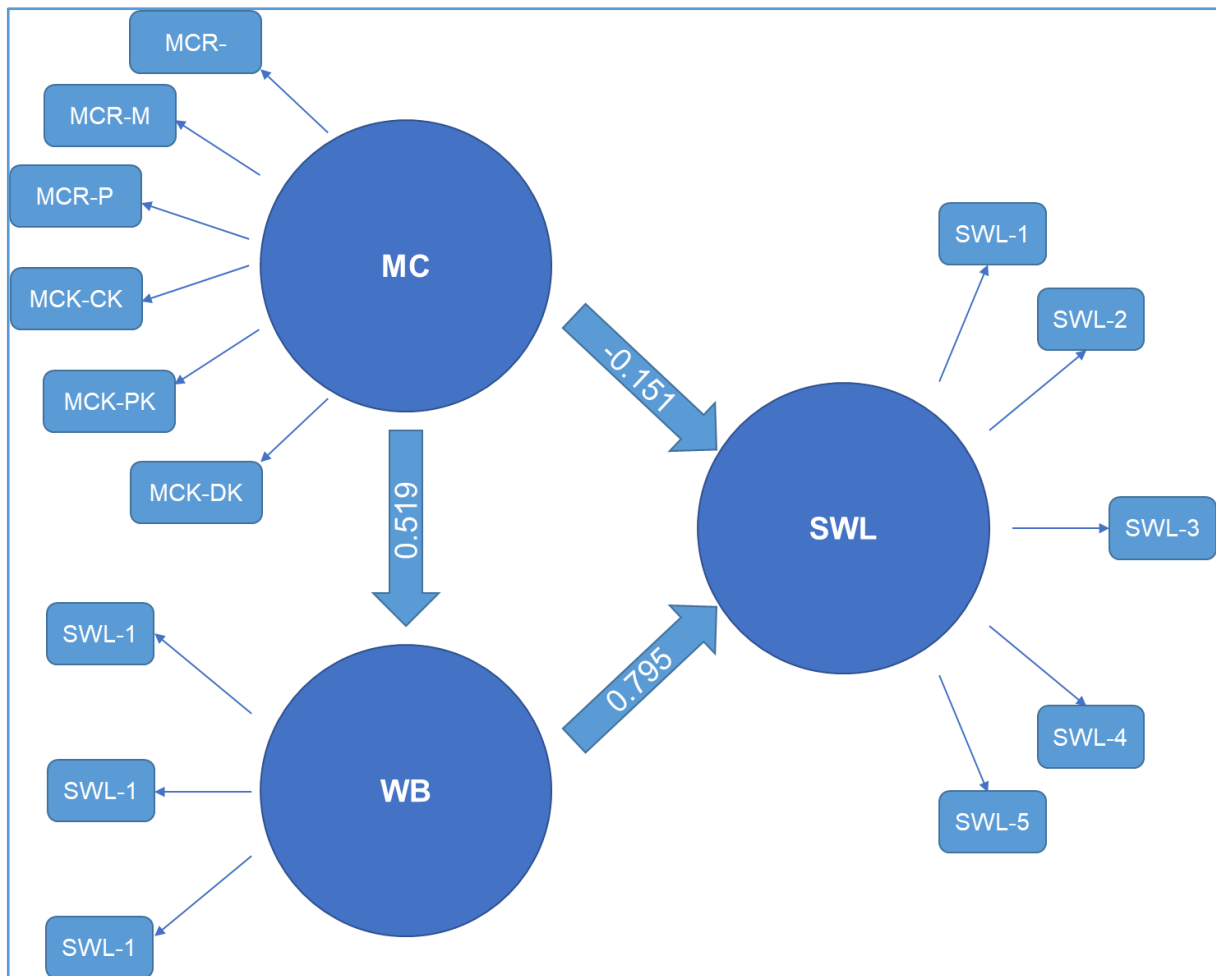


Figure 4-5: Structural equation model of well-being, metacognitive awareness and satisfaction with life

In calculation, the three propositions are supported by the correlations between the constructs measured. In this study, metacognitive awareness and well-being are in association with satisfaction with life. The relationship is not significant between metacognitive awareness and satisfaction with life, although there is a small association between the two constructs metacognitive awareness and satisfaction with life. Metacognitive awareness has a positive relationship with well-being meaning that the teachers' awareness of their metacognition in their private and public sphere, leads to well-being. Well-being shows a significant positive relationship with satisfaction with life, meaning that if teachers in a school for learners with mild intellectual disability are aware of their metacognition awareness, it leads to well-being, and it has an influence on their satisfaction with life in the private and public spheres.

Thus, in this study, all variables correlate with little to no effect size with the biographical information such as age, and teaching experience. Figure 4-5 reveals the structural equation model of well-being, metacognitive awareness, and satisfaction with life.

In particular, the Standardised Regression Weights indicate a strong correlation between metacognitive awareness and well-being (0,519) which seems to mediate satisfaction with life (0,795). There is also a small correlation between metacognitive awareness and satisfaction with life, indicating the important role of well-being in the model. Squared multiple correlations show that well-being, metacognitive awareness, and satisfaction with life has a role in explaining a perceived usefulness of 53.1%. The model (Figure 4-1) suggests that these relationships exist in both theory and practice.

According to Tau et al. (2018, p. 6) "Because the Chi-square test is viewed by some as an overly strict indicator of model fit, given its power to detect even trivial deviations from the proposed model." Tau et al. (2018, pg 6) suggested that the Chi-square test statistics be divided by degrees of freedom as "This model yielded a Minimum Sample Discrepancy divided by Degrees of Freedom (CMIN/DF) value of 4,19. Also, "Interpretation of the size of this value depends to a large extent on the viewpoint of the investigator, but in practice, some interpret ratios as high as 3, 4 or even 5 as still representing a good model fit" (Mueller, 1996). It is however considered good practice to report multiple fit indices, typically from three broad classes (Hancock & Mueller, 2010). Mueller (1996) describes values of above 0,9 as indicative of a good overall fit for a Comparative Fit Index" (Tau et al., 2018, p. 6). A relatively acceptable Comparative Fit Index (CFI) of 0,98 was found for this model while a Root Mean Square Error of Approximation (RMSEA) value of 0,09 with a 90% confidence interval of [0,087; 0,11] was obtained. Furthermore, "Blunch (2008) stated that models with RMSEA values of 0.10 and larger should not be accepted" (Tau et al., 2018, p. 6).

4.8 Summary

In Chapter 4, the author reflected on the main propositions of Chapter 2 and presented a profile of the biographical information of the respondents and reported on the reliability of the measuring instruments. The results overall verified the propositions and indicated the association between well-being, metacognitive awareness, and satisfaction with life. It therefore appears from the results that the three constructs, namely well-being, metacognitive awareness, and satisfaction with life are in a relationship based on their correlations. This indicates that there are other variables that are not yet defined in this study which could explain a further 46.9% of overall satisfaction with life.

To explore the nature of these relationships in-depth, a qualitative approach was followed, as outlined in Chapter 3 of which the findings are presented in the next section. The model is revised and refined in Chapter 6 where the research questions are answered.

Chapter 5 Analysis of the qualitative data of the study

5.1 Background to the chapter

In Chapter 1, it was anticipated that metacognitive awareness of teachers can promote their well-being and satisfaction with life. Research on well-being, metacognitive awareness, and satisfaction with life of teachers was therefore necessary to understand the association between these constructs. In Chapter 2, a literature study was undertaken to conceptualise and describe the constructs of well-being, metacognitive awareness, and satisfaction with life to theoretically define three propositions. The interrelated propositions were employed to give a nuanced understanding of the conceptual overlap between these constructs. In Chapter 3, the convergent parallel mixed method design and the data analyses were implemented to investigate how well-being, metacognitive awareness, and satisfaction with life of teachers are linked. Chapter 4 presents the results for the qualitative research strand of the study and Chapter 5 presents the findings of the qualitative research strand of the study.

In Chapter 5, the propositions were explored from a qualitative perspective. The main purpose was to address the primary research question: *How are well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild Intellectual disability related?*

5.1.1 Qualitative research strand participant biological profile

First, biographical information of the teachers is presented in table format and is then elucidated on to form an image of the profile of the study participants. It is important that the reader is aware of this information so that the analysis of the individual interviews can be considered in context. The 14 participants who were willing to participate in the investigation, represent the teachers (the “who”) at a school for learners with mild intellectual disability.

The following biographical information is provided to present an overview of each participant and includes age, gender, first language, years of teaching experience, and years of experience at a school for learners with mild intellectual disability.

Table 5-1: Biographical information of participants

Participant	Gender	Age	First language	Years of teaching experience	Years of experience at an mild intellectual disability school
A	M	32	Afrikaans	14	10
B	M	46	Afrikaans	23	10
C	M	53	English	28	6
D	M	36	Sesotho	14	11
E	F	33	English	11	7
F	F	43	English	25	5
G	F	53	Afrikaans	32	31
H	F	48	Afrikaans	25	18
I	F	63	Afrikaans	33	12
J	F	46	Afrikaans	18	12
K	F	45	Afrikaans	14	12
L	F	53	Afrikaans	19	13
M	F	26	Afrikaans	3	3
N	F	55	Afrikaans	23	3

The findings, as reflected in Table 5-1, reveal that five participants are older than 53 years, while nine are in the age group of between 26 years and 53 years. This is a representation of the age distribution of teachers teaching at a school for learners with mild intellectual disability in the Gauteng and North-West provinces who participated in this study.

The language of teaching and learning in one school is Sesotho and Zulu in another school. In the other 12 schools, the language of teaching and learning is English. Afrikaans is the mother tongue of 10 teachers, English is the mother tongue of three teachers, while Sesotho is the mother tongue of 1 teacher.

Two teachers with 32 and 33 years of experience in a school for learners with mild intellectual disability represent the longest period of teaching experience while the shortest period of teaching experience is three years. 13 Teachers indicated teaching experiences of more than 10 years. Ten teachers have teaching experience in a school for learners with mild intellectual disability which ranges between five and 18 years.

Teachers teaching at the purposefully selected schools for learners with mild intellectual disabilities in the Gauteng and North-West provinces volunteered to do the research and were prepared to share their experiences about their well-being, metacognitive awareness, and satisfaction with life freely and openly with the researcher. These participants participated in an individual face-to-face interview. Open-ended interview questions were posed to all the participants as discussed in (§3.5.1) and their responses were employed to build a thematic/pattern description related to the three propositions.

In the following sections, three propositions are presented. Examples of quotes from the individual face-to-face interviews were grouped to create narratives that describe the salient personal experiences and in addition exemplify the thematic areas. These narratives are then interpreted in view of the conceptual theoretical framework of the study.

5.2 Categories and themes related to the propositions

The propositions are presented, followed by the discussion of the categories and themes that emerged from the data analysis.

5.2.1 Proposition 1: Hedonic and eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge

Proposition 1 offers an abstract reasoning and theorisation about the possible associations of hedonic and eudaimonic well-being, and metacognitive regulation and knowledge (§2.2.6). Hedonic well-being involves feeling good and content with life (Kesebir, 2018; Kjell et al., 2016; Schwartz & Sortheix, 2018) whereas eudaimonic well-being includes the positive psychological functioning of individuals (Baselmans & Bartels, 2018; Ryff, 2018; Schwartz & Sortheix, 2018). In addition, metacognitive regulation includes the monitoring of one's cognition (Baselmans & Bartels, 2018; Ryff, 2018; Van de Weijer et al., 2018) and metacognitive knowledge includes factors that impacts the performance of individuals (Adagideli et al., 2015).

Joy and spirituality emerged as two categories aligned with the sub-themes of hedonic well-being. A positive outlook and purpose in life, as two categories, corresponded with the sub-theme of eudaimonic well-being.

Furthermore, metacognitive awareness of conditional knowledge and regulation of planning emerged as two categories which showed a relationship with the sub-theme of metacognitive knowledge and regulation of planning. Collectively, these sub-themes seem to associate with the themes of well-being and metacognitive awareness in a school for learners with mild intellectual disability.

Table 5-2: Summary of the categories and themes related to Proposition 1

Themes	Sub-themes	Categories
Well-being	Hedonic well-being	Joy
		Spirituality
	Eudaimonic well-being	Positive outlook
		Purpose in life
Metacognitive awareness	Metacognitive awareness of knowledge	Metacognitive awareness of conditional knowledge
	Metacognitive awareness of regulation	Metacognitive awareness of regulation of planning

Participants’ views related to experiences associated with joy and their experience of joy as an aspect of their well-being, presents set ideas regarding spirituality that influence their hedonic well-being. Therefore, the conceptual theoretical framework as a model of well-being suggests that the main elements of hedonic well-being associate with positive affect (i.e. joy, gratitude and spirituality). Positive affect tends to make participants happier and more content. Participants also voiced an awareness of their positive outlook in life that is essential to experience well-being and their purpose in life which gives them meaning. Meaning in life appears to be an influential predictor of participants’ eudaimonic well-being. Further, the psychological functioning attribute of eudaimonic well-being is evident in participants’ experiences of a positive outlook and purpose in life. An association between joy, gratitude and well-being is confirmed by Toussaint and Friedman (2008). A link is reported between joy, spirituality and well-being as maintained by Myers and Diener (1995), French and Joseph (1999), Francis, Robbins and White (2003), Francis, Tekke and Robbins (2016) and Hiebler-Ragger et al. (2018). Passmore, Howell and Holder (2018) describe a positive outlook as an important aspect towards well-being. The purposefulness of an individual can trigger an upward spiral of positive emotions and well-being (Kruse, Chancellor, Ruberton & Lyubomirsky, 2014).

Participants described how they require conditional knowledge to apply critical thinking and problem-solving skills. Conditional knowledge includes awareness of information of the condition and is seen as essential for teaching (Stürmer & Seidel, 2017).

Participants further revealed application of different teaching strategies to accommodate the learners with mild intellectual disabilities. Such teaching strategies need metacognitive regulation of planning. The metacognitive regulation of planning includes the setting of goals, selecting the appropriate strategies and the outcome of these organising strategies (Efklides, 2008; Jagals, 2015). Planning may include predicting, time and effort allocation, selecting strategies, and developing action plans (Greene & Azevedo, 2009; Meijer, Veenman & van Hout-Wolters, 2006).

The sub-themes of well-being and satisfaction with life as well as metacognitive knowledge and regulation were established throughout participants' responses to the open-ended interview questions. Awareness of the feeling of knowing, or metacognitive awareness, appears to associate with well-being, as one participant claimed: "I don't feel comfortable in a situation that will affect my well-being". This metacognitive awareness of conditional knowledge relates to an objective account of eudaimonic well-being. Furthermore, an account of hedonic well-being and awareness of metacognitive regulation also suggests that, when participants are planning a lesson, as one participant stated when the teacher "can see there is results in learners' work, then I know what I have done is good". As the sub-themes relate to well-being (Arslan, 2018) and metacognitive awareness (Vaquera, Aranda & Sousa-Rodriguez, 2017), they promote the themes supported by the propositions.

The themes of well-being and metacognitive awareness emerged from the sub-themes and categories. Well-being seems encapsulated with the following quote: "I feel accepted and loved by the people around me, and in a much better place which is important for my well-being". In addition, metacognitive awareness on person, task and strategy level was evident in the following statement: "I normally do reflection to see what went wrong and what can I do next time to put it in the right place". As metacognitive awareness of regulation and metacognitive awareness of knowledge play an important role in developing the potential needed to achieve a feeling of well-being (§2.5.1), it can be assured that the Theory of Self-actualisation also applies to proposition 1. To explain, a feeling of acceptance is an indicator of metacognitive awareness of an individual's self-knowledge. Through reflection on one's well-being raises the self to actualise feelings of joy and the awareness of an extraordinary event which inspires the individual to experience well-being. The themes of well-being and metacognitive awareness contribute to an understanding of the relationship between them, as proposed by Proposition 1.

In light of the categories, sub-themes and themes above, the relationship between well-being and metacognitive awareness converges. Proposition 1 is therefore also established in the quotes provided from the interviews with the participants.

Collectively, the sub-themes support the association between well-being and metacognitive awareness, since “the more understanding and support you get from outside factors: your family your friends, the better your well-being”. Metacognitive awareness serves as a gateway to achieve eudaimonic well-being as well as hedonic well-being. In part, Proposition 1’s component of metacognitive awareness also associates with satisfaction with life as suggested in Proposition 2.

5.2.2 Proposition 2: Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life

In addition to Proposition 1, Proposition 2 reflects possible associations between metacognitive awareness and satisfaction with life (§2.5.2). It can be assured that the Theory of Self-transcendence applies to Proposition 2. Metacognitive awareness consists of the dimensions of metacognitive knowledge and metacognitive regulation (Flavell, 1979). Conceptualised metacognitive knowledge is knowledge about cognitive strategies and is regarded as personal and stationery (Jagals, 2015). Metacognitive regulation refers to employing control over one’s own cognitive processing (Greene & Azevedo, 2009; Meijer et al., 2006). In Chapter 2 (§2.5.2), satisfaction with life was conceptualised as the integration between cognitive and affective components on either a subjective or an objective level.

Table 5-3: Summary of the categories and themes related to Proposition 2

Themes	Sub-themes	Categories
Metacognitive awareness	Metacognitive awareness of knowledge	Declarative knowledge
		Conditional knowledge
	Metacognitive awareness of regulation	Regulation of planning
		Regulation of monitoring
Satisfaction with life	Objective	Affective aspects
	Subjective	Cognitive aspects

Participants’ declarative knowledge, a dimension of their metacognitive awareness, seems to play an important role in the affective state of participant’s satisfaction with life (Molero et al., 2017), particularly, in a school for learners with mild intellectual disability. As such, the participants’ knowledge of their affective states seems to have had an influence on their awareness of conditional knowledge (Jayawickreme et al., 2017). This explains perhaps why participants demonstrated mastery of theoretical knowledge of the subjects being taught. The participants skilfully chose methods that include the setting of goals, selecting of appropriate strategies to regulate cognition, as well as the prediction and outcome of organising strategies.

These strategies applied by the participants suggest recollection and reflection on ideas are imperative for planning and fostering awareness. This awareness also relates to metacognitive regulation of monitoring (Diener et al., 2003). A deeper reflection is evident in the observation of participants' strategies and monitoring of their cognition (Little & McDaniel, 2015). The revision of the goals of strategies evident in participant's statements can be referred to as regulation of their cognition and affect.

The sub-themes of metacognitive awareness of knowledge and metacognitive awareness of regulation, as well as satisfaction with life (subjective and objective) were established throughout participants' interview responses. Metacognitive awareness of knowledge appears to associate with satisfaction with life on a subjective or objective level as a participant appealed: "I'm not in control of everything in life and sometimes things just go wrong. So I will say Ok that didn't work and we just have to re-do everything". Further, declarative knowledge and conditional knowledge emerged as two categories aligned with the sub-theme of metacognitive awareness of knowledge. Regulation of planning, regulation of monitoring are two categories which aligned with the sub-theme of metacognitive awareness of regulation. Affective aspects emerged as one category of objective satisfaction with life, while cognitive aspects emerged as one category of subjective satisfaction with life. Collectively these sub-themes associate with the themes of metacognitive awareness and satisfaction with life in a school for learners with mild intellectual disability.

The themes of metacognitive awareness and satisfaction with life emerged from the sub-themes and categories as portrayed in Table 5-3. Metacognitive awareness associated mostly with regulation of cognition, whereas satisfaction with life associated with affect as this quote illustrated: "There are things in my life I would like to change, but on the other hand I would not". Satisfaction with life was confirmed by one participant stating: "I think I would leave it just as it is I can face a [each] day ...with all the challenges... I'm satisfied". These themes contributed collectively to understand the relationship as provided by Proposition 2. The participants' metacognitive awareness of metacognitive knowledge and metacognitive regulation seem to be interrelated with satisfaction with life, subjective and objective.

5.2.3 Proposition 3: Well-being (subjective and objective) leads to satisfaction with life independently (subjective or objective)

Proposition 3 revealed possible associations between well-being (subjective eudaimonic and objective hedonic) and satisfaction with life (subjective and objective) (§2.5.3). The main categorisation of well-being is viewed in terms of hedonic well-being (job satisfaction, social interaction), political conditions, physical health and proficiency (Forgeard et al., 2011).

The subjective eudaimonic categorisation of well-being includes factors such as passion and skills. Satisfaction with life is an indicator of an individuals' objective sense of self-meaning (Ignat & Clipa, 2012). Satisfaction with life is further defined as an individuals' condition of life close to 'the ideal life' which can be maintained as the ultimate goal in life (Erdamar & Demirel, 2016; Sinha & Ram, 2017).

The latter suggests that those participants who claim to be satisfied with life also find meaning in life. Satisfaction with life can be experienced subjectively and objectively (Lintner & Elsen, 2018; Steel, Schmidt, Bosco & Uggerslev, 2018).

Table 5-4: Summary of the categories and themes related to Proposition 3

Themes	Sub-themes	Categories
Well-being	Objective well-being	Job Satisfaction
		Social interaction
	Subjective well-being	Passion
		Skills
Satisfaction with life	Objective satisfaction with life	Meaning of life
	Subjective satisfaction with life	Condition of life

Participants' objective well-being was external and can be depicted by categories such as an individuals' way of living (Austin, 2016). This way of living relates to the participants' conditions of life, amongst others, their social interaction with family, friends and colleagues. Participants' subjective well-being was categorically internally-driven and refers to their awareness of any phenomena that elicits powerful emotions (such as their passion for teaching) and domain-specific satisfaction (such as their beliefs regarding effective teaching skills) as well as their evaluation thereof towards satisfaction with life. This is evident in the literature (Diener & Suh, 1997). Participants' objective satisfaction with life alluded to their degree of overall awareness of their meaning of life, as supported by Myers and Diener (1995). Subjective satisfaction with life refers to the conditions and assets of people's satisfaction with life (Costanza et al., 2007). These categories all align with the sub-themes of objectivity and subjectivity as Table 5-4 illustrates from the findings.

The sub-themes of objective and subjective well-being as well as satisfaction with life were established throughout participants' responses. Objective well-being appears to lead towards objective satisfaction with life according to this statement: "I can see the light in their eyes when they are able to fulfil a simple task it's for me a satisfaction..."

This objective well-being leads towards an objective account of satisfaction with life. Furthermore, an account of subjective well-being also leads toward subjective satisfaction with life.

One participant said: "My well-being is satisfactory. I normally have a positive outlook on life. If you give me lemons, I will make lemon juice or I will make a lemon meringue, even better. So in my case, my greatest fulfilment as a teacher is to be able to get learners to do something especially when it comes to the learners with mild intellectual disability. It is not easy to teach them. But when you teach them something and they are able to do it and they do it well it gives me a lot of satisfaction, gives me a lot of joy." This is confirmed by the subjective well-being maintained in research by Schulte et al. (2015).

It is evident that teachers are experiencing subjective well-being and objective well-being which lead to satisfaction with life. Teachers indicated in their statements that they would not change anything in their lives. These statements indicate that they currently experience satisfaction with life..

The themes of well-being and satisfaction with life emerged from the sub-themes and categories. With regard to *being satisfied with your personal life as well as your professional life*, objective well-being was evident in participants' responses. Objective as well as subjective well-being play an important role towards subjective satisfaction with life (§2.4.2). It can be assured that the Theory of Metacognition applies to Proposition 3, derived from: "My state of well-being or how do I perceive it is about how do you cope, how do you manage, how do you perceive, how do you look at situations how is your emotional level, how is your health, how is your mental state, how well do you control yourself. Having self-control. How well you understand what you are doing and whatever you are doing if you should pick up problems how you handle those things". To explain, as far as objective satisfaction with life is concerned, one of the participants indicated "accepting what I have, what I can and what I can't and living with it gives me that assurance that I'm fine". In addition, subjective satisfaction with life was evident in this statement: "I know that whatever I went to do outside, it was done with a good heart. Those people who received whatever I have given them. Whatever I have done for them, they are happy. They find joy and satisfaction in what I did. I know I'm in the right space. Whether it is at home, whether it's at school. Knowing that I have achieved. I have accomplished. Achievement is the biggest thing that brings satisfaction". The individual experiences satisfaction with life through social interaction, passion, skills, meaning of life and the condition of life, suggesting that well-being leads to satisfaction with life through a mediation of objective and subjective levels.

Proposition 3 is therefore established in the interviews of the participants. The sub-themes support the association between well-being and satisfaction with life as confirmed in this statement: “Since I experience it financially, spiritually.

With my relation to me my fellow teachers with my few friends that I have. I have quality friends not quantity. I believe in that and my job. My relationship with the kids [learners] gives me satisfaction”. Well-being therefore acts as a mediator for satisfaction with life through metacognitive awareness. What follows now is the profile of the themes that emerged from the study in accordance with the three propositions.

This is followed by a summary of the qualitative findings and a model to report on as a summative illustration of the association between well-being, metacognitive awareness and satisfaction with life.

5.3 Profile and summary of the themes

The findings of the experiences of teachers’ well-being, metacognitive awareness, and satisfaction with life is outlined in terms of the conceptual framework of the study. A summary of the profile of the themes is offered in Table 5.5 below.

Table 5-5: Summary of the profile of the themes

Proposition 1: Hedonic and eudaimonic well-being associate with metacognitive awareness of metacognitive regulation and knowledge				
Themes	Sub-themes	Categories	Examples to support proposition	Hz ³
Well-being	Hedonic well-being	Joy	<i>Well-being for me is connected to happiness. Not in your work situation, but also in your home situation</i>	17
		Spirituality		39
	Eudaimonic well-being	Positive outlook		28
		Purpose in life		34
Metacognitive awareness	Metacognitive awareness of knowledge	Metacognitive awareness of conditional knowledge	<i>Making sure I understand and know the people [teachers] around me...to use their [teachers] strong points to my advantage ...makes me happier and makes my personal well-being so much better, because on my own I cannot do everything</i>	15
	Metacognitive awareness of regulation	Metacognitive awareness of regulation of planning		36
Proposition 2: Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediate satisfaction with life				
Metacognitive awareness	Metacognitive awareness of knowledge	Declarative knowledge	<i>I'm happy. I like where I am and what I am doing. I achieved what I wanted to achieve. I have what I want to have</i>	30
		Conditional knowledge		81
	Metacognitive awareness of regulation	Regulation of planning		37
		Regulation of monitoring		63
Satisfaction with life	Objective	Affective aspects	<i>Of all the mistakes I did, I learned great, great lessons. So I won't change it [his/her life]</i>	32
	Subjective	Cognitive aspects		48
Proposition 3: Well-being (subjective and objective) leads to satisfaction with life, whether subjective or objective				
Well-being	Objective well-being	Job Satisfaction	<i>I perceive well-being to be satisfied with life</i>	25
		Social interaction		36
	Subjective well-being	Passion		20
		Skills		47
Satisfaction with life	Objective satisfaction with life	Meaning of life	<i>Well-being is being satisfied with your personal life as well as your professional life.</i>	50
	Subjective satisfaction with life	Condition of life		48

³ This column represents the number of times the category was evident within the data set, indicated here as the frequency of the coded data.

Table 5-4 shows a summary of the qualitative findings in terms of the three propositions through the themes, sub-themes and categories emanating from the interviews. Hedonic and eudaimonic well-being indicated a positive relationship with metacognitive awareness of conditional knowledge and metacognitive awareness of regulation of planning in proposition.

The sub-themes and categories in Proposition 2 revealed that metacognitive awareness of metacognitive knowledge and metacognitive regulation mediate satisfaction with life. Regarding Proposition 3, the findings indicated a relationship between well-being (subjective and objective) and satisfaction with life independently (subjective or objective). These thematic profiles are represented to illustrate the qualitative version of the conceptualised model.

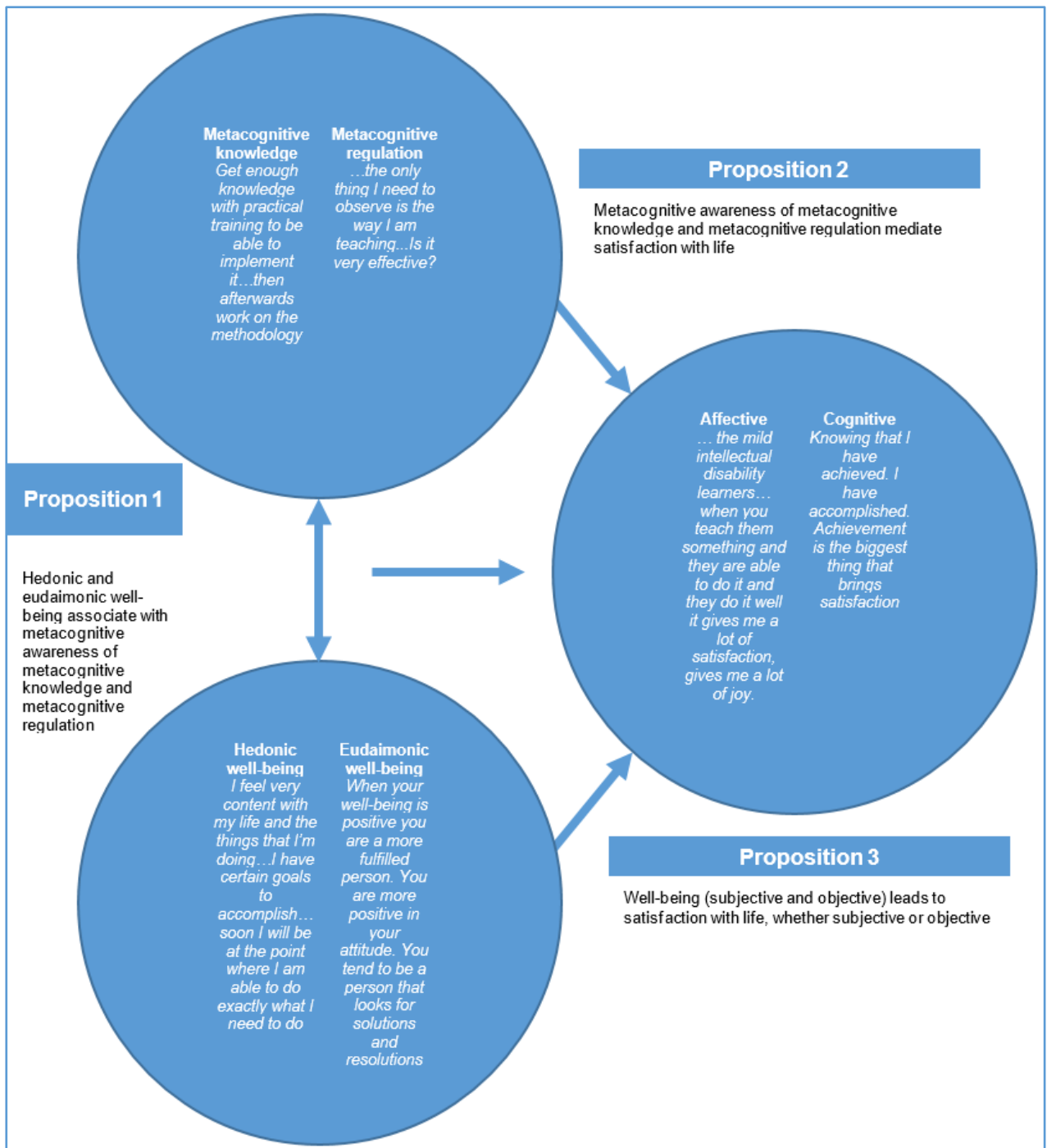


Figure 5-1: Illustration of the association between well-being, metacognitive awareness and satisfaction with life according to the qualitative findings

The statements from the participants indicate the experience of hedonic well-being of participants in terms of how satisfied with life they are. The participants experience eudaimonic well-being when they realise fulfilment can lead to a positive outlook on life.

The latter, contentment, fulfilment and a positive outlook (dimensions of well-being) associate with metacognitive awareness of metacognitive knowledge and metacognitive regulation. Participants

from the various schools for learners with mild intellectual disability declared the experience of metacognitive awareness. The statements of participants' indicate that they need to have knowledge of their subject, topic and contents, before they can implement any strategies. This indication reveals the presence of metacognitive knowledge. Participants also revealed that they monitor their way of teaching in order to be effective. This metacognitive awareness of metacognitive knowledge and metacognitive awareness of metacognitive regulation of participants mediates satisfaction with life. The participants revealed their satisfaction with life which is evident in the joy they experience. The accomplishments of achievements are the participants' criteria of the quality of their life that bring satisfaction. These achievements and joy associate with well-being (subjective and objective) that leads to satisfaction with life.

In Chapter 6, the findings of the quantitative and qualitative research strand, as presented in chapters 4 and 5 are discussed towards constructing a model to explain how well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disabilities are related.

Chapter 6 Summary, discussions and recommendations

6.1 Introduction

The aim of this research was to determine the association between well-being, metacognitive awareness and satisfaction with life. In Chapter 2, an overview of a conceptual model was proposed that conceptualised the constructs of well-being, metacognitive awareness and satisfaction with life. In Chapter 3 a battery of measuring instruments was employed in the form of a booklet for the qualitative research strand of the study, followed by face-to-face interviews for the qualitative research strand of the study.. In relation to the qualitative research strand of the study, the data were provided in a narrative form where extensive quotations from the participants were included to accurately determine teachers' eudaimonic and hedonic well-being, metacognitive awareness, and satisfaction with life in a school for learners with mild intellectual disability. The population was qualified teachers, registered at the South African Council for Educators and included persons of all races, gender and age groups who were literate in English with teaching positions at the fourteen mild intellectual disability schools in the Gauteng and North West Province in South Africa. In both the quantitative and the qualitative research strand of the study, the findings verified the association between the three constructs, namely metacognitive awareness, well-being, and satisfaction with life

Chapter 6 discusses the findings and triangulates the quantitative and qualitative data sets to answer the research questions. First, the findings are contextualised in the conceptual-theoretical framework as indicated in table 6.1. This is followed by a discussion on the limitations and recommendations for future research and a reflection of the researcher's journey.

6.2 Brief overview of the study

In Chapter 1, the focus was directed towards positive psychology in education that would enable teachers to experience well-being in a school for learners with mild intellectual disability. The association between well-being, metacognitive awareness, and satisfaction with life served as a theoretical model to understand teachers' well-being. In Chapter 2, the three theoretical propositions were discussed and steered towards reaching a conceptual framework of the study.

The propositions were outlined to show how the well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disability are related. Chapter 3 presented the research design and methodology that was employed for triangulation of the quantitative and qualitative approach employed in this study.

The three propositions were confirmed in the quantitative results in Chapter 4 which indicated that the three constructs, namely metacognitive awareness, well-being, and satisfaction with life are

in a relationship based on the associations between them. Themes, sub-themes and categories emerged from the qualitative data which confirmed the three propositions. The qualitative data confirmed the association between well-being, metacognitive awareness, and satisfaction with life in Chapter 5.

6.3 The three propositions

Three propositions were developed in this study to indicate the association between the constructs of metacognitive awareness, well-being and satisfaction with life. As a recapitulation, Chapter 2, Chapter 4 and Chapter 5 offer these three propositions to address the conceptual and theoretical nature of these constructs. The propositions are briefly revisited in Table 6-1 in terms of the results and findings of the study.

Table 6-1: Triangulation of the quantitative results and the qualitative findings

Quantitative research strand		Qualitative research strand		
Literature supporting the findings in Chapter 4	Section of the analysis and presentation of the findings in Chapter 4		Section of the analysis and presentation of the findings in Chapter 5	Literature supporting the findings in Chapter 5
<u>Proposition 1:</u>				
Hedonic and Eudaimonic well-being associate with metacognitive awareness of metacognitive regulation and knowledge				
(McLeod, 2018)	4.5.1	<ul style="list-style-type: none"> • Hedonic & eudaimonic well-being • Awareness of conditional knowledge • Awareness of regulation of planning 	<ul style="list-style-type: none"> • 5.2.1 • 5.2.1 • 5.2.1 	Francis et al. (2003); Francis et al. (2016); French and Joseph (1999); Hiebler-Ragger et al. (2018); Myers and Diener (1995) Efklides (2008); Jagals (2015); Stürmer and Seidel (2017) Efklides (2011); Jagals (2015)
<u>Proposition 2</u>				
Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life				
Cikrikci and Odaci (2016) Erdamar and Demirel (2016)	4.5.1	<ul style="list-style-type: none"> • Metacognitive awareness & satisfaction with life. Declarative knowledge • Affective state (satisfaction with life). Conditional knowledge • Cognitive state (satisfaction with life) 	<ul style="list-style-type: none"> • 5.2.2 • 5.2.2 • 5.2.2 	Molero et al. (2017) Jayawickreme et al. (2017) Little and McDaniel (2015)
<u>Proposition 3</u>				
Well-being (subjective and objective) leads to satisfaction with life independently (subjective or objective).				
Forgeard et al. (2011) De Pablos-Pons et al. (2013)	4.5.1	<ul style="list-style-type: none"> • Objective well-being • Subjective well-being • Meaning of life • Condition of life and satisfaction with life 	<ul style="list-style-type: none"> • 5.2.3 • 5.2.3 • 5.2.3 • 5.2.3 	Austin (2016) Diener and Suh (1997) Myers and Diener (1995) Costanza et al. (2007)

6.3.1 Proposition 1

In this study, metacognitive awareness correlated with hedonic and eudaimonic well-being as results revealed in §4.5. Strong correlations between hedonic and eudaimonic well-being (see section 4.5.1) indicated respondents' satisfaction with life, as also supported by McLeod (2018). The following measuring instruments were employed: the *Subjective Happiness Scale*, *Eudaimonic Well-being*, the *Oxford Happiness Questionnaire*, the *Satisfaction with Life Questionnaire*, and the *Metacognitive Awareness Inventory for Teachers*. Similarly, in §5.2.1, the metacognitive awareness of teachers' conditional knowledge and regulation of planning is seen as important for teaching learners with mild intellectual disability as supported by Stürmer and Seidel (2017), Jagals (2015) and Efklides (2008). Metacognitive awareness of participants also relates with the joy, spirituality, positive outlook and their purpose in life that are aspects of teachers' well-being (Francis et al., 2003; Francis et al., 2016; French & Joseph, 1999; Hiebler-Ragger et al., 2018; Myers & Diener, 1995). The well-being of teachers, during the semi-structured interviews, appeared to raise participants' feeling of satisfaction with life. The association between hedonic well-being, eudaimonic well-being, metacognitive awareness of metacognitive regulation and metacognitive knowledge is therefore established in the quantitative results and the qualitative findings of this study.

6.3.2 Proposition 2

Metacognitive awareness of declarative knowledge and conditional knowledge correlated with satisfaction with life. Metacognitive awareness of planning and evaluation also correlated with satisfaction with life as results revealed in (§4.5) in the qualitative research strand of the study. There is a significant association between metacognitive awareness and satisfaction with life as indicated in §4.5.1, also supported by Cikrikci and Odaci (2016). The teachers' monitoring of their metacognitive awareness could lead to positive feelings and satisfaction with life could be achieved (Erdamar & Demirel, 2016). The following measuring instruments confirmed the association between metacognitive awareness and satisfaction with life: the *Satisfaction with Life Scale* and the *Metacognitive Awareness Inventory for Teachers*. Similarly, in §4.2.2, the declarative knowledge of respondents who are teaching in a school for learners with mild intellectual disability was confirmed as essential for their satisfaction with life (Molero et al., 2017). The participants' statements during the semi-structured interviews revealed the impact that their affective state has on the awareness of their conditional knowledge (Jayawickreme et al., 2017). Participants' strategies are evident in the regulation of their cognition as supported by Little and McDaniel (2015). The association between metacognitive awareness of knowledge and metacognitive awareness of regulation, as well as satisfaction with life (subjective and objective) were prevalent in the qualitative research strand of the study.

6.3.3 Proposition 3

The respondents' awareness of their well-being (subjective and objective) demonstrated a correlation between satisfaction with life (subjective or objective) as reported by the measuring instruments in §4.5.1 and as supported by Forgeard et al. (2011). The measuring instruments employed were the *Oxford Happiness Questionnaire* and *Satisfaction with Life Questionnaire*, the *Subjective Happiness Scale* and the *Satisfaction with Life Questionnaire, Eudaimonic Well-being and Satisfaction with Life*. Similarly, participants' statements in the qualitative research strand of the study revealed that they experience objective well-being through their social interaction and their job satisfaction. The way of living relates to the participants' contingency of life as supported by Austin (2016). The passion for teaching and skills needed to teach learners with mild intellectual disability revealed participants' subjective well-being (Diener & Suh, 1997). The participants' experience of meaning in life and their condition of life initiate powerful emotions as supported by Myers and Diener (1995) and Costanza et al. (2007). The meaning and condition of participants' lives lead to objective and subjective satisfaction with life. The participants' statements during the semi-structured interviews confirmed the association between subjective well-being and objective well-being which lead to satisfaction with life.

6.4 Triangulation

The theories of Self-actualisation, Self-transcendence, and Metacognition that relates to the results and findings of the research study were employed. Theories by Trafford and Leshem (2008) supported this research study. The results obtained from the quantitative and the qualitative data were merged into a triangulated interpretation (Bormotova, 2010). The primary and secondary research questions were answered based on the researchers' interpretation of the merged data considering the conceptual theoretical framework. Proposition one, two and three are discussed by providing a summary of the quantitative data and a summary of the qualitative data.

6.4.1 Triangulation towards Proposition 1: Hedonic and Eudaimonic well-being associates with metacognitive awareness of metacognitive regulation and knowledge

Self-actualisation happens when people realise their full potential and are able to express their creativity, pursue knowledge and search for spiritual enlightenment. To be self-actualised entails the desire to give back to society. It seems that the teachers in a school for learners with mild intellectual disability achieve self-actualisation in the classroom.

The peak experience of teachers happens when learners become independent individuals who contribute to the society they live in.

In terms of the Theory of Self-actualisation, Abraham Maslow believed that peak experiences, such as feelings of joy, spirituality, a positive outlook and a purpose in life, lead to self-actualisation. The process of self-actualisation is the teacher's well-being that is the objective of their life and actualisation is the best approach to arrive at that point. The metacognitive awareness and well-being that teachers experience seem to meet the higher level of psychological and physiological needs of teachers in schools for learners with mild intellectual disability. The basic and mental needs of teachers in the current study are therefore fulfilled. The fulfillment of basic and mental needs can lead to self-actualisation which is the approach to satisfaction with life (§2.4.1).

Teachers are experiencing hedonic and eudaimonic well-being and metacognitive awareness of metacognitive regulation and knowledge. The association between hedonic and eudaimonic well-being and metacognitive awareness of metacognitive regulation and metacognitive knowledge were verified in the results in Proposition 1 as supported by Myers and Diener (1995); French and Joseph (1999); Francis et al. (2003); Francis et al. (2016); Hiebler-Ragger et al. (2018); Stürmer and Seidel (2017); Jagals (2015); and Efklides (2008). The correlations between metacognitive regulation of planning, monitoring, evaluating and metacognitive awareness of declarative knowledge, procedural knowledge and conditional knowledge verified in the results, permit teachers to develop their potential that leads to well-being. Through planning, monitoring and evaluating, teachers could reflect on their teaching strategies and methodologies at a deeper level. The reflection on their teaching strategies and methodologies create opportunities to acquire knowledge and resources. The reflection on their declarative knowledge, procedural knowledge and conditional knowledge ensure their well-being. The strong correlation between hedonic and eudaimonic well-being that leads to satisfaction with life of the teachers was confirmed. The current study showed that teachers in schools for learners with mild intellectual disability who reflected on the awareness of their well-being and metacognitive awareness are able to experience satisfaction with life.

Findings in Proposition 1 in the qualitative research strand of the study verified an association between hedonic and eudaimonic well-being and metacognitive awareness of metacognitive regulation and knowledge as supported by McLeod (2018). The metacognitive awareness, according to Compton (2018), serves as a process to achieve well-being (§2.5.1). The positive effect (which emerged in the categories in Proposition 1) that teachers in a school for learners with mild intellectual disability experience, makes them happier and gives them meaning in life. This meaning in life permits these teachers to have a positive outlook and find purpose in life which

leads to an upward spiral of well-being. The conditional knowledge of teachers, confirmed in Proposition 1, indicated planning different teaching strategies. The application of these teaching strategies can accommodate learners with mild intellectual disability. This metacognitive awareness of conditional knowledge and regulation of planning serve as a gateway to achieve hedonic and eudaimonic well-being of teachers. The qualitative results therefore revealed that teachers in a school for learners with mild intellectual disability with an awareness of conditional knowledge and regulation of planning can experience well-being that leads to satisfaction with life.

6.4.2 Triangulation towards Proposition 2: Metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life

The self-transcendence theory suggests that people can feel connected to others, to the self, and to the environment when they experience self-transcendence (Runquist & Reed, 2007). Teachers operate in a teaching environment and interact with their learners and colleagues daily. According to the Theory of Self-transcendence metacognitive awareness of knowledge and regulation, it can lead to the teacher's awareness of their strengths and weaknesses. This awareness of their strength and weaknesses permits the teachers to engage with others as sources of self-transcendence. The intrapersonal dimension of self-transcendence which is a metacognitive awareness of personal capacity in relation to others, assists the teachers to serve and value the learners. Learners are served through planning of teaching strategies to accommodate them. The interpersonal dimension of self-transcendence is evident in teachers' planning. These teachers must plan around the available curriculum that is not standardised for learners with mild intellectual disabilities. The teaching experience of teachers contributes to their transient dimension of self-transcendence. The transpersonal dimension of self-transcendence that requires an awareness of an alternative, an extra-rational or an extraordinary event, inspires the individual to experience well-being. The metacognitive awareness of teachers creates an experience of an enhanced well-being in the school for learners with mild intellectual disability that leads to the development of self-transcendence to satisfaction with life (Austin, 2016).

Results in Proposition 2 confirmed the small correlations in the quantitative research strand of the study. The results report that metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life of the respondents in this study. Erdamar and Demirel (2016) support the findings in the quantitative results and Molero et al. (2017); and Jayawickreme et al. (2017). The teachers are experiencing metacognitive awareness which requires cognitive strategies to meet the need of learners with mild intellectual disability. Conditional knowledge that alludes to the reason for teaching strategies to be employed, was confirmed in the quantitative results of the study.

Conditional knowledge permits teachers to be metacognitive aware of the condition in which they can instruct most successfully. The declarative knowledge of a lack of enough formal educational programmes leads to thorough planning, monitoring and evaluations of teachers and their learners. This planning, monitoring and evaluations in turn leads to knowledge of a proper procedure for teaching strategies. Teachers in this study could reach satisfaction with life through their experience of metacognitive regulations (plan, monitor and evaluate) and metacognitive knowledge.

The qualitative findings in Proposition 2 indicated the association between the teacher's metacognitive awareness of knowledge and metacognitive awareness of regulation with satisfaction with life (subjective and objective) as supported by Cikrikci and Odaci (2016). The metacognitive awareness that was confirmed in the teachers' statements in the qualitative research strand of the study, was declarative and conditional knowledge. The declarative knowledge, which was evident in the statements made by teachers, is an important contributor to their affective state regarding the awareness of conditional knowledge. The awareness of conditional knowledge leads to mastery of theoretical knowledge of the subjects taught in a school for learners with mild intellectual disability. Appropriate strategies to meet the needs of learners were skilfully chosen by these teachers to regulate their cognition through metacognitive awareness of regulation. Metacognitive awareness of regulation signifies the control of cognitive processes. Teachers demonstrated metacognitive regulation during the semi-structured interviews and revealed a deeper reflection of planning of strategies and monitoring of their cognition. Teachers revealed that they would not change anything in their lives during interview responses. This confirmed that teachers experience satisfaction with life on a subjective and objective level.

6.4.3 Triangulation towards Proposition 3: Well-being (subjective and objective) leads to satisfaction with life independently (subjective or objective)

According to the Theory of Metacognition, i.e. to be aware of one's reasoning, is to experience metacognitive awareness (Flavell, 1979). Metacognition can be conceptualised as dimensions of knowledge and regulation as maintained by Lai (2011). Declarative knowledge, conditional knowledge, and procedural knowledge are the three domains of metacognition. Metacognitive regulation can be described as the monitoring of one's cognition (Lai, 2011). Declarative knowledge about the learners' disability permits teachers to know when and why to use teaching strategies that are evident in this study.

The teacher's awareness of the learner's disability and the national curriculum in a school for learners with mild intellectual disability, which is not suitable for these learners (Eksteen, 2009; Moosa, 2014; Viljoen & Rothmann, 2009) lead to their procedural knowledge. This metacognitive

awareness of declarative knowledge, conditional knowledge, and procedural knowledge of teachers leads to their well-being (subjective and objective). This metacognitive awareness in turn leads to their satisfaction with life (subjective or objective). The objective and subjective satisfaction with life is evident in the cognitive and affective aspects of the teachers. This evidence contributed to the understanding that satisfaction with life of teachers in a school for learners with mild intellectual disability includes eudaimonic and hedonic well-being (Costanza et al., 2007).

The correlations (§4.5.1) which supported Proposition 3 and indicated a relationship between the constructs of well-being and satisfaction with life (§5.2.3) as supported by Forgeard et al. (2011) and De Pablos-Pons et al. (2013). The educational needs of learners with mild intellectual disabilities are external. Through metacognitive awareness, teachers can employ the appropriate teaching strategies to meet the needs of learners with mild intellectual disabilities. This metacognitive awareness of teachers can lead to their objective well-being, which is external. Teachers' awareness of their subjective well-being is confirmed in the quantitative research strand of the study. According to research, subjective well-being includes factors such as happiness and satisfaction with life (De Pablos-Pons et al., 2013). Teachers experience subjective well-being (happiness) when they are able to meet the needs of the learners through appropriate teaching strategies. It is evident in the results of the quantitative research strand of this study that the satisfaction with life of these teachers is an indicator of their well-being that includes well-being (subjective and objective).

The association between well-being (subjective and objective) and satisfaction with life (subjective and objective) was revealed in Proposition 3 of the qualitative research strand of the study. The objective well-being of teachers is evident in their social interaction and job satisfaction. The teacher's responses revealed that they experience job satisfaction and interaction with their families and friends. The job satisfaction and social interaction of teachers contribute to their objective well-being which gives them meaning in life. This meaning of life leads to their objective account of satisfaction with life. Teachers' passion for teaching and their beliefs regarding effective skills were revealed in their statements. The passion for teaching and the teaching skills of the teachers lead to subjective well-being as supported by Diener and Suh (1997) and in turn, lead to teachers' subjective account of subjective satisfaction with life. Proposition 3 established that the well-being (subjective and objective) that teachers experience, acts as a mediator for satisfaction with life (subjective and objective) through metacognitive awareness.

6.5 Answering the secondary research questions

The metacognitive awareness of teaching strategies and methodologies of teachers in a school for learners with mild intellectual disability are often overlooked. The metacognitive awareness of teachers can contribute to their well-being which in turn can lead to satisfaction with life. The main aim of the study was to investigate how well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disability are linked. Secondary research questions were formulated to answer the primary question: *How are well-being, metacognitive awareness, and satisfaction with life of teachers who teach in a school for learners with mild intellectual disabilities related?*

The following secondary research questions were employed to answer the primary research question in the quantitative research strand of the study.

- **Secondary question 1:** *What is the nature of the relationship, if any, between hedonic well-being eudaimonic well-being, and metacognitive awareness?*

Correlations in the quantitative research strand of the study, employing Spearman's Rho, revealed the relationship between hedonic and eudaimonic well-being and metacognitive awareness. The well-being of teachers is associated with their metacognitive awareness of teaching strategies. In section 4.2.3., the results reflect those of Blanca et al. (2018) indicating that age and teaching experience contribute to the well-being of teachers, who specifically teach in a school for learners with mild intellectual disability. The correlations therefore confirmed and supported Proposition 1 in the quantitative results. In the qualitative findings, well-being and metacognitive awareness emerged from the sub-themes and categories during the semi-structured interviews. This association between well-being and metacognitive awareness was confirmed through the teachers' responses.

- **Secondary question 2:** *What is the nature of the relationship, if any, between satisfaction with life and metacognitive awareness?*

The results in the quantitative research strand of the study confirmed small correlations that exist between the satisfaction with life scale and metacognitive awareness of declarative knowledge; the satisfaction with life scale and metacognitive awareness of conditional knowledge; the satisfaction with life scale and metacognitive awareness of planning; the satisfaction with life scale and metacognitive awareness of evaluation; the satisfaction with life scale and metacognitive awareness of procedural knowledge; and the satisfaction with life scale and metacognitive awareness of monitoring.

The relationship between satisfaction with life and metacognitive awareness of teachers in a school for learners with mild intellectual disability was confirmed in the quantitative research strand. In the qualitative study, the categories in Proposition 2 corresponded with the sub-themes and themes in table 5.3 that confirmed the associations between metacognitive awareness of metacognitive knowledge and metacognitive regulation, and satisfaction with life.

- **Secondary question 3:** *What is the nature of the relationship, if any, between satisfaction with life and well-being?*

In the quantitative research strand of the study, correlations between *The Oxford Happiness Questionnaire* and the *Satisfaction with Life Questionnaire*; the *Subjective Happiness Scale* and the *Satisfaction with Life Questionnaire*; and eudaimonic well-being and satisfaction with life confirmed the relationship between satisfaction with life and well-being. In the qualitative study, the categories in Proposition 3 corresponded with the sub-themes and themes in table 5.4 that reflected the associations between well-being (subjective eudaimonic and objective hedonic) and satisfaction with life (subjective and objective).

Based on the answers of the secondary research questions, the following model was constructed in light of the primary research question.

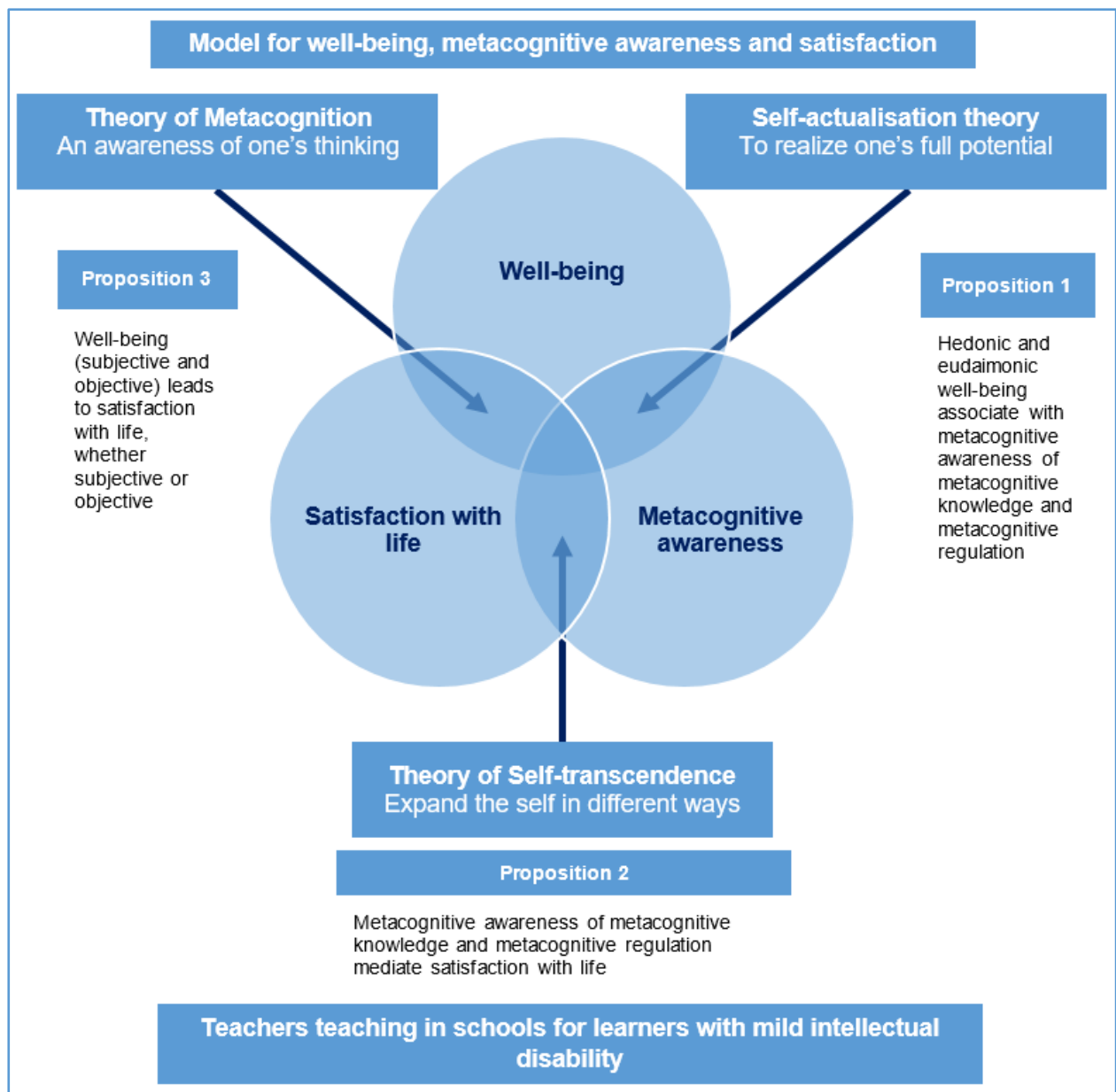


Figure 6-1: Model towards answering the primary research question

The model was developed towards answering the primary research question of this study. What follows now is a narrative of this model.

6.5.1 Narrative of the model

A theoretical model, such as proposed in this study, is defined as the correlations or relationships between the concepts which the model explains. The data that were collected and analysed, using quantitative and qualitative methods, confirmed the three propositions that derived from the conceptual theoretical framework to answer the secondary and primary research questions. The

data analyses confirmed, in particular that hedonic and eudaimonic well-being associate with metacognitive awareness of metacognitive regulation and knowledge (Proposition 1). The theory that explains the association between the constructs in Proposition 1, is the Theory of Self-actualisation (Maslow, 1962). The model serves as a framework to understand the nature of the relationship between the conceptual overlaps of metacognitive awareness, well-being and satisfaction with life. The model further proposes this framework which could be employed to explore the link between these concepts in order to show that teachers' well-being is related to their metacognitive awareness.

According to Maslow (1943), to reach self-actualisation is having reached final psychological development which means that the basic and mental needs of the teachers in a school for learners with mild intellectual disability are fulfilled. The results of the current study indicates that teachers' metacognitive awareness permits them to experience well-being. In line with Proposition 1, this model proposes that the experience of well-being leads to teachers' self-actualisation. Self-actualisation entails the physiological needs, as the highest priority that can be reached. The well-being that teachers are experiencing and confirmed in Proposition 1, leads to metacognitive awareness which mediates satisfaction with life. The metacognitive awareness gives them a broadened perspective on life and allows the teachers to feel connected to their learners, colleagues, and their environment and the latter is an experience of self-transcendence.

The model further illustrates that metacognitive awareness and satisfaction with life are related. The association between metacognitive awareness of metacognitive knowledge and metacognitive regulation that mediate satisfaction with life was also confirmed (Proposition 2). The Theory of Self-transcendence (Maslow, 1970) proposes that metacognitive awareness of metacognitive knowledge and metacognitive regulation mediates satisfaction with life. Through their interaction with the learners and other teachers at the school for learners with mild intellectual disability, teachers involved in this study showed characteristics of self-transcendence as one participant stated, "I almost have everything that I need to be satisfied at work" is evident that teachers who are metacognitively aware of their needs experience satisfaction with life.

The data analyses, quantitative and qualitative, further confirmed that well-being (subjective and objective) leads to satisfaction with life, subjectively or objectively (Proposition 3). An addition to the Theory of Metacognition's explanation (Flavell, 1979), the model suggests that well-being leads to satisfaction with life. Teachers in this study showed to have knowledge about themselves and the learners with mild intellectual disability. This metacognitive awareness of knowledge permits them to employ teaching strategies and methodologies that are applicable to the learners

with mild intellectual disability. The teachers' metacognitive awareness of metacognitive regulation makes them aware of comprehension, task performances and strategies. This metacognitive awareness of teachers leads to their well-being (subjective and objective) that permits them to experience satisfaction with life in a school for learners with mild intellectual disability. In the case of the current research, teachers experience well-being when they are accepted by people around them. For example "...my well-being depends greatly on how my body feels, but also my emotional well-being accepted by people around me knowing that I uhmm I'm socially good".

The model allows educationists to understand the components associated with teachers' well-being and suggests that it should be taken into consideration when designing new curricula. This model for well-being, metacognitive awareness, and satisfaction with life was specifically designed to understand the need of teachers in schools for learners with mild intellectual disabilities. However, its application in main stream or private schools is an open possibility for future research. The affordances of this model include short courses for teachers in these schools and an enhanced understanding of the role of metacognitive awareness in facilitating well-being towards satisfaction with life.

6.6 Contribution of this study

Involvement in this study could ignite respondents and participants awareness of their well-being and, in so doing contribute to the context of the study. The respondents and participants who volunteered to partake in the study had the opportunity to reflect on their own well-being, metacognitive awareness, and satisfaction with life.

The researcher could offer feedback on the standardised questionnaires and interviews conducted at the schools for learners with mild intellectual disability. This feedback can permit the teachers to realise the benefits of teaching through metacognitive awareness and how it can lead to their satisfaction with life. Teachers experienced the benefits this research have for professional development.

Theoretically, this study offers the model to explain the association between the constructs of well-being, metacognitive awareness, and satisfaction with life. Through workshops and short courses offered, the teachers teaching in schools for learners with mild intellectual disabilities can reflect on how to design models for curriculum implementation. Teachers will also experience professional development as an opportunity to expand on the metacognitive awareness and they can develop teaching strategies and methodologies specifically for these learners. An awareness of the characteristics of learners with mild intellectual disability can lead to the use of appropriate teaching strategies and methodologies which in turn can lead to the teachers' satisfaction with

life as one participant stated “Our learners have difficulty reading and writing. So I need to figure out how my children [learners] will be able to grab this [activity]... and then I start planning the activity...When I plan a lesson and I can see there is results in learners’ work, then I know what I have done is good. So I’m satisfied with where I am.”

Methodologically, this study offers research in the three different constructs, namely well-being, metacognitive awareness, and satisfaction with life. Metacognitive awareness is a challenging topic for data collection and analysis in a mixed method approach. It was a challenge to see if the measuring instruments were able to determine the well-being of the teachers and if teachers were willing to be honest during the semi-structured interviews. It was also a challenge to determine the satisfaction with life of teachers in a school for learners with mild intellectual disability.

6.7 Recommendations for further research

For the purpose of this research a model was developed to explore the well-being, metacognitive awareness and satisfaction with life of teachers. Since metacognitive skills can be facilitated (Jagals, 2015), the model implies, metacognitive awareness can lead to teachers’ well-being.

Future study should consider the application of this model for developing short courses for teachers. Future research from both the positivist, interpretivist scientific paradigms should be conducted in schools for learners with severe intellectual disability, schools for learners with profound intellectual disability, as well as mainstream schools.

Mixed method and multi-method studies should be conducted with an in-depth analyses of qualitative and quantitative approaches.

The development of theories and the construction of a model regarding the relationship between well-being, metacognitive awareness, and satisfaction with life of teachers teaching in schools for learners with severe intellectual disability, schools for learners with profound intellectual disability and mainstream schools, specifically in South Africa would offer an opportunity for further research. Theoretical considerations can also be employed to clarify the unique roles and understanding of subjective and objective discourses on satisfaction with life.

6.8 Limitations of the study

The research was only done in the Gauteng Province and the North-West Province in South Africa, specifically in schools for learners with mild intellectual disability.

The results in this study reflect the personal experience of teachers in schools for learners with mild intellectual disability only, therefore, the findings cannot be generalised.

At some of the schools, the researcher could not get all the teachers together for the qualitative research strand of the study, as she had to travel long distances and would arrive at the schools too late in the afternoon.

The principals were provided with the questionnaires who asked each Head of Department to hand out the questionnaires. It was anticipated that the completion of these questionnaires might be demanding for the respondents, and they had the opportunity to complete it at home or in their own time. This was considered to avoid fatigue experienced by respondents, where necessary. The researcher had to travel back to the schools to collect the questionnaires and had to return to the schools numerous times to interview teachers, because elements, such as meetings, played a restrictive role.

6.9 Reflection on my journey as a researcher

I felt unsure and excited embarking on this journey. My passion is to work with learners with learning disabilities and learners' needs always enjoy priority. The teachers' well-being was somehow not acknowledged as one of the important factors of the learning process and therefore, I felt a driving force to investigate the well-being of teachers. I wanted to discover the meaning of life of the teachers in a school for learners with mild intellectual disability. During this journey, I gained a lot of knowledge on the well-being experienced through the metacognitive awareness that can lead to satisfaction of life of these teachers. Through the teachers who took part in the study, I realised that they do experience a sense of well-being. This finding reassured the teachers that they have a passion for teaching learners with mild intellectual disability and they realised that their metacognitive awareness of their teaching strategies ensure success during their teaching, as well as that the absence of a standardised curriculum does not affect their well-being.

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ADDENDUM A: PERMISSION TO CONDUCT PHD RESEARCH STUDY AT THE MID SCHOOLS, GAUTENG EAST DISTRICT



NORTH-WEST UNIVERSITY
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

PO Box 1144

Nigel

1490

18 April 2017

The Director
Gauteng East District Office
Springs

RE: Permission to conduct PhD research study at the MID schools, Gauteng East district

I, L.E Jacobs, am a PhD student enrolled at the North-West University, Potchefstroom Campus. I hereby apply for permission to conduct this research at the MID schools, Gauteng East district.

The title of my research is:

Teachers' well-being, metacognitive awareness and life satisfaction in a mild intellectual disabled school setting

My proposed research will include a sample consisting of the population of South African teachers of all races, gender and age groups, who teach in MID schools. The study seeks to identify well-being, metacognitive awareness and life satisfaction in a MID school setting through the use of questionnaires, interviews and observations of teachers.

I commit myself to the professional code of ethics for researchers which, amongst other aspects, include the following:

- The participation of all research participants is strictly voluntary
- The anonymity and confidentiality of the research participants are protected and guaranteed
- No interference with the general and academic programme of the schools will take place

- Upon completion, the findings of the research will be made available to the Department of Education.

The research is intended for the period between May 2017 and July 2017. If you need any additional information about the research project, you are most welcome to contact me or my supervisors: Dr I Kok (018 299 2143) or Dr D Jagals (018 299 2154).

Your support is highly appreciated.

Yours sincerely

.....

Ms LE Jacobs

Student number: 22585990

Telephone numbers: 0828451584

Jehodia.j@gmail.com

ADDENDUM B: PERMISSION TO CONDUCT PHD RESEARCH STUDY AT THE MID SCHOOLS, GAUTENG EAST DISTRICT



PO Box 1144

Nigel

1490

18 April 2017

The Director
North West District Office

RE: Permission to conduct PhD research study at the MID schools, Gauteng East district

I, L.E Jacobs, am a PhD student enrolled at the North-West University, Potchefstroom Campus. I hereby apply for permission to conduct this research at the MID schools, Gauteng East district.

The title of my research is:

Teachers' well-being, metacognitive awareness and life satisfaction in a mild intellectual disabled school setting

My proposed research will include a sample consisting of the population of South African teachers of all races, gender and age groups, who teach in MID schools. The study seeks to identify well-being, metacognitive awareness and life satisfaction in a MID school setting through the use of questionnaires, interviews and observations of teachers.

I commit myself to the professional code of ethics for researchers which, amongst other aspects, include the following:

- The participation of all research participants is strictly voluntary

- The anonymity and confidentiality of the research participants are protected and guaranteed
- No interference with the general and academic programme of the schools will take place
- Upon completion, the findings of the research will be made available to the Department of Education.

The research is intended for the period between May 2017 and July 2017. If you need any additional information about the research project, you are most welcome to contact me or my supervisors: Dr I Kok (018 299 2143) or Dr D Jagals (018 299 2154).

Your support is highly appreciated.

Yours sincerely

.....

Ms LE Jacobs

Student number: 22585990

Telephone numbers: 0828451584

Jehodia.j@gmail.com

ADDENDUM C: PARTICIPATION POST GRADUATE STUDIES – INFORMED CONSENT



NORTH-WEST UNIVERSITY[®]
YUNIBESITI YA BOKONE-BOPHIRIMA
NOORDWES-UNIVERSITEIT
POTCHEFSTROOM CAMPUS

PO Box 1144

Nigel

1490

18 April 2017

Teacher at MID school

Dear Sir/Madam

RE: PARTICIPATION POST GRADUATE STUDIES – Informed Consent

I, L.E Jacobs, am a PhD student enrolled at the Potchefstroom Campus of the North-West University I intend to collect data for my research study:

Teachers' well-being, metacognitive awareness and life satisfaction in a mild intellectual disabled school setting

I hereby request you to participate in the questionnaires concerning your experiences related to the MID learners.

I pledge to maintain the professional and research ethical codes. This signifies that:

- Your participation in this research remains voluntary and you may, at any time, withdraw from the research
- Your personal information will, at all times, be treated as confidential
- No demands will be made on your work
- Should you be interested, the research findings will be made available to you.

I am planning to conduct this research from May 2017 to July 2017. Should you need any additional information about the research project, you are most welcome to contact me or my supervisor, Dr Illasha Kok (018 299 2143). Would you be so kind as to complete the consent form and provide me with your written consent? Please return the completed consent form to me.

Your input and opinions are crucial to this study, and I shall appreciate your cooperation.

Yours sincerely

Ms LE Jacobs

Student number: 22585990

Telephone numbers: 082 845 1584

Jehodia.j@gmail.com

Dr I Kok (Supervisor)

Work: (018) 299 2143

ADDENDUM D: PERMISSION TO CONDUCT PHD RESEARCH STUDY AT THE SCHOOL



PO Box 1144

Nigel

1490

18 April 2017

Principal

Dear Sir/Madam

RE: Permission to conduct PhD research study at the school

I, L.E Jacobs, am a PhD student enrolled at the Potchefstroom Campus of the North-West University intend to collect data for my research study entitled:

Teachers' well-being, metacognitive awareness and satisfaction with life in a Mild Intellectual Disabled school setting.

The study seeks to identify well-being, metacognitive awareness and satisfaction with life in a MID school setting through the use of questionnaires and interviews.

I commit myself to the professional code of ethics for researchers which, amongst other aspects, include the following:

- The participation of all research participants is strictly voluntary
- The anonymity and confidentiality of the research participants are protected and guaranteed
- No interference with the general and academic programme of the schools will take place
- Upon completion, the findings of the research will be made available to the Department of Education.

I am planning to conduct this research from June 2017 to August 2017. Should you need any additional information about the research project, you are most welcome to contact me or my supervisor, Dr Illasha Kok (018 299 2143). Would you be so kind as to provide me with your written permission?

Your permission is crucial to this study, and I shall appreciate your cooperation.

Yours sincerely

Ms LE Jacobs

Student number: 22585990

Telephone numbers: 082 845 1584

Jehodia.j@gmail.com

Dr. I. Kok (Supervisor)

Work: (018) 299 2143

ADDENDUM E: TITLE AMENDMENT LETTER

FACULTY OF

EDUCATION



7.1.11 TITLE REGISTRATION AND APPOINTMENT OF FUNCTIONARIES:

New Title	<input type="checkbox"/>	Title amendment	<input checked="" type="checkbox"/>	<u>ATTACHMENTS</u>	<i>mark if yes</i>
Functionaries	<input type="checkbox"/>	Functionary amendment	<input type="checkbox"/>	Research proposal	<input type="checkbox"/>
Examiners	<input type="checkbox"/>	Examiner amendment	<input type="checkbox"/>	Keywords	<input type="checkbox"/>
				CV Examiner 1	<input type="checkbox"/>
				CV Examiner 2	<input type="checkbox"/>
Ethics nr	<input type="text"/>	Article format: Yes	<input type="radio"/>	CV Examiner 3	<input type="checkbox"/>
		No	<input type="radio"/>		

First Name and Surname

Student number NRF ORCID

Programme code Date of first registration

Name of degree

Thesis Dissertation Mini-dissertation Formal assignment (music) Classified Please select

TITLE *The new title should be language edited prior to registration*

Student signature (not compulsory)

TITLE AMENDMENT *The amended title should be language edited prior to registration*

Possible date of submission for examination

Functionary type	Title, First Name & Surname	Personnel number or email address if external person	Signatures
Supervisor / Promoter	<input type="text" value="Dr I Kok"/>	<input type="text"/>	<input type="text"/>
Co-Supervisor / Co-promoter	<input type="text" value="Dr D Jagals"/>	<input type="text"/>	<input type="text"/>
Co-Supervisor / Co-promoter	<input type="text"/>	<input type="text"/>	<input type="text"/>
Assistant-Supervisor / Assistant Promotor	<input type="text"/>	<input type="text"/>	<input type="text"/>

Internal / External examiner

First Name & Surname *Personnel nr or email if external person* *Office / Cell number*

External examiner details

Appointed Name & Surname *ID / Date of Birth / Passport number* *Cell number* *Created*

Email address *University number*

External examiner details

Appointed Name & Surname *ID / Date of Birth / Passport number* *Cell number* *Created*

Email address *University number*

Faculty signature **Ronéle van Staden** Digitally signed by Ronéle van Staden Date: 2019.05.24 12:54:32 +02'00'

Meeting minutes reference date

An extract of the minutes to support this document should be made available to HDA

ADDENDUM F: ETHICAL APPROVAL LETTER



Private Bag X6001, Potchefstroom,
South Africa, 2520

Tel: (018) 299-4900
Faks: (018) 299-4910
Web: <http://www.nwu.ac.za>

Research Ethics Regulatory Committee
Tel: +27 18 299 4849
Email: Ethics@nwu.ac.za

ETHICAL APPROVAL LETTER OF STUDY

Based on approval by the Ethics Committee of the Faculty of Education Sciences (ESREC) on 19/07/2018, the North-West University Research Ethics Regulatory Committee (NWU-RERC) hereby approves your study as indicated below. This implies that the NWU-RERC grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Teachers' well-being, metacognitive awareness and satisfaction with life in a Mild Intellectual Disabled school setting.																															
Study Leader/Supervisor/Researcher: Dr I Kok																															
Project team: L Jacobs, Dr D Jagals																															
Ethics number:	<table border="1"><tr><td>N</td><td>W</td><td>U</td><td>-</td><td>0</td><td>0</td><td>4</td><td>4</td><td>6</td><td>-</td><td>1</td><td>7</td><td>-</td><td>A</td><td>2</td></tr><tr><td colspan="3">Institution</td><td colspan="6">Study Number</td><td colspan="2">Year</td><td colspan="4">Status</td></tr></table> <small>Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation</small>	N	W	U	-	0	0	4	4	6	-	1	7	-	A	2	Institution			Study Number						Year		Status			
N	W	U	-	0	0	4	4	6	-	1	7	-	A	2																	
Institution			Study Number						Year		Status																				
Application Type:																															
Commencement date: 2017-05-01	Expiry date: 2018-11-30																														
Risk:	Low																														

Special conditions of the approval (if applicable):

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- The study leader (principle investigator/researcher) must report in the prescribed format to the ESREC:
 - annually (or as otherwise requested) on the progress of the study, and upon completion of the project
 - without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project; and
 - Annually a number of projects may be randomly selected for an external audit.
- The approval applies strictly to the proposal as stipulated in the application form. Would any changes to the proposal be deemed necessary during the course of the study, the study leader must apply for approval of these changes at the ESREC. Would there be deviated from the study proposal without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-RERC via ESREC and new approval received before or on the expiry date.
- In the interest of ethical responsibility, the NWU-RERC and ESREC 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 or the informed consent process;
 - withdraw or postpone approval if:
 - any unethical principles or practices of the project are revealed or suspected;
 - it becomes apparent that any relevant information was withheld from the ESREC or that information has been false or misrepresented;
 - the required annual report and reporting of adverse events was not done timely and accurately; and/ or
 - new institutional rules, national legislation or international conventions deem it necessary.
- ESREC can be contacted for further information or any report templates via Ena.Greyling@nwu.ac.za or 018 299 4656

The ESREC would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the NWU-RERC or ESREC for any further enquiries or requests for assistance.

Yours sincerely

Prof Jako Olivier
Chair NWU Education Sciences Research Ethics Committee

ADDENDUM G: PERMISSION GRANTED FOR RESEARCH GAUTENG



GAUTENG PROVINCE

Department: Education
REPUBLIC OF SOUTH AFRICA

8/4/4/1/2

GDE RESEARCH APPROVAL LETTER

Date:	20 June 2017
Validity of Research Approval:	06 February 2017 – 29 September 2017 2017/146
Name of Researcher:	Jacobs L.
Address of Researcher:	P O Box 1144
	Nigel
	1490
Telephone Number:	082 845 1584
Email address:	jehodia.j@gmail.com
Research Topic:	Teachers' well-being, metacognitive awareness and life satisfaction in a mild intellectual disabled school setting
Number and type of schools:	Fourteen LSEN Schools
District/s/HO	Ekurhuleni North, Gauteng East, Gauteng West, Johannesburg East, Johannesburg South, Johannesburg West, Sedibeng East, Sedibeng West, Tshwane North, Tshwane South and Tshwane West

Re: Approval in Respect of Request to Conduct Research

This letter serves to indicate that approval is hereby granted to the above-mentioned researcher to proceed with research in respect of the study indicated above. The onus rests with the researcher to negotiate appropriate and relevant time schedules with the school/s and/or offices involved to conduct the research. A separate copy of this letter must be presented to both the School (both Principal and SGB) and the District/Head Office Senior

Faith Tshabalala 21/06/2017

1

Making education a societal priority

Office of the Director: Education Research and Knowledge Management

7th Floor, 17 Simmonds Street, Johannesburg, 2001

Tel: (011) 355 0488

Email: Faith.Tshabalala@gauteng.gov.za

Website: www.education.gpg.gov.za

ADDENDUM H: PERMISSION GRANTED FOR RESEARCH NORTH WEST PROVINCE



Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sport Ontwikkeling
Lefapha la Thuto le Tihabololo ya Metsameko
NORTH WEST PROVINCE

1st Floor, East Wing,
Garona Building, Mmabatho
Private Bag X2044,
Mmabatho 2735
Tel.: (018) 388-3432
Fax.: (018) 388-3430

Office Manager: skgositau@nwpg.gov.za

OFFICE OF THE SUPERINTENDENT-GENERAL

Enq: Mr L.H Modisane
Tel no. 018 388 3429

**To: Dr I Kok
Dr D Jagals
North West University Potchefstroom Campus
Faculty of Education**

**From: Dr. I.S. Molale
Superintendent General**

REQUEST TO CONDUCT RESEARCH: MS L E JACOBS

Reference is made to your letter regarding the above matter. The content is noted and accordingly, approval is granted to your kind self to conduct research as per your request, subject to the following provisions: -

- That you contact the relevant District Managers of your target schools about your request and this letter of permission. In this regard you have my consent to contact
Mr B. Monale at 018 388 3383 Ngaka Modiri Molema District
Ms P Mohube at 014 590 4802 Bojanala District
Ms M Thejane at 053 928 0200 Dr Ruth Segomotsi Mompoti District
Mr H Motara at 018 299 8264 Dr Kenneth Kaunda District
- Considering that your research will involve both Educators and Learners, the general functionality of the school should not be compromised by the research process.
- That participation in your project will be voluntary.
- That the findings of your research will be made available to the NW Department of Education & Sports Development upon request.
- That the principle of confidentiality will be observed in its strictest terms in relation to information sourced from such research.

With my best wishes

Thanking you.


**DR. I.S. MOLALE
SUPERINTENDENT-GENERAL**

ADDENDUM I: INTERVIEW SCHEDULE

For the purposes of this study, the researcher developed an interview schedule to guide the interview. The following questions were asked to the participants during the individual interviews:

1. How do you perceive well-being?
2. How would you describe your well-being?
3. According to you what does it mean to be happy?
4. How happy are you with your life at this stage?
5. Describe your health
6. What do you think of doing first when you encounter a new learning material or learning experience?
7. How do you plan your learning objective when you are preparing your lesson?
8. What are your teaching methods/strategies? How and when do you use them?
9. And when you are teaching or doing problem solving what do you do for better learning or a better way of problem solution?
10. How do you control your teaching methods and strategies?
11. When you noticed that your lesson or teaching method was unsuccessful? What is your initial reaction?
12. How do you feel about your life and how would you know that you are satisfied with your life?
13. Would you describe your life as ideal?
14. If you could live your life over. What would you change and why?

ADDENDUM J: CERTIFICATE BY LANGUAGE EDITOR



Words: Language practitioner

Notes: Pianist/Organist

2019-10-17

Certificate

This certificate confirms that the editing of the thesis
**Teachers' well-being, metacognitive awareness and satisfaction with life in a school
for learners with mild intellectual disability**
by Lillian Jacobs
for the degree DPhil Learner Support
at the North-West University
was done by Salome Coertze (Freelance language practitioner).

Qualifications:

BMus Performing Art (UP)
PG HED (Unisa)
BMus Hons (UP)
BA Languages (RAU)
BA Hons in Applied Language Studies (UP)
PG Diploma in Translation (Unisa)
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ADDENDUM K: CERTIFICATE BY TECHNICAL EDITOR



To whom it may concern

This letter is to confirm that Ms LE Jacobs submitted her PhD thesis, *Teachers' well-being, metacognitive awareness and satisfaction with life in a school for learners with mild intellectual disability*, to me for bibliographic control, as well as for the technical formatting of the document according to the prerequisites of the North-West University. I hereby confirm that the final reference list meets the requirements of the APA style of referencing.

Regards



Kirchner van Deventer

23 October 2019