

# **Mental health and individual and organisational outcomes of managers in the agricultural sector:**

## **A latent profile analysis**

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## Remarks

The reader is reminded of the following:

- The editorial style in the first and last chapters of this mini-dissertation follows the format prescribed by the Programme in Industrial Psychology of the North-West University (Vaal Triangle Campus).
- The referencing, as well as the writing style, used in this mini-dissertation ensures full compliance with prescriptions by the American Psychological Association (APA). This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Vaal Triangle Campus) to use APA in all scientific documents and publications.
- This mini-dissertation is submitted in the form of a research article. The editorial style specified by the *South African Journal of Industrial Psychology* is used in the second chapter.

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## Declaration by researcher

I, Molandri Möller, hereby declare that “**Mental health and individual and organisational outcomes of managers in the agricultural sector: A latent profile analysis**” is my own work and that both the views and the opinions expressed in this mini-dissertation are my own and those of the authors as referenced in the text and indicated in the reference lists.

I, furthermore, declare that this work will not be submitted to any other academic institution for qualification purposes.

A handwritten signature in dark ink, appearing to read 'Molandri Möller', is centered within a light gray rectangular box.

Molandri Möller

March 2019

## **Declaration of language editor**

I hereby declare that I language-edited the content of the mini-dissertation “Mental health and individual and organisational outcomes of managers in the agricultural sector: A latent profile analysis” by Molandri Möller. I am an accredited editor with the South African Translators’ Institute (SATI Member No.: 1000193).

Yours sincerely

A handwritten signature in dark ink, appearing to read 'Hendia Baker', is written over a horizontal dashed line.

Hendia Baker

11 March 2019

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## Summary

**Title:** Mental health and individual and organisational outcomes of managers in the agricultural sector: A latent profile analysis

**Key terms:** mental health, job satisfaction, organisational citizenship behaviour, intention to leave, well-being, managers in the agricultural sector, latent profile analysis

The work environment is an environment that influences an individual's mental health. There is a growing awareness of the role of work in promoting or hindering mental health and well-being. Well-being at work places the emphasis on the probability of what an employee could achieve if he or she were supported by the organisation. Therefore, organisations must focus on creating a positive work environment that will allow an employee to flourish and function optimally for the benefit of the employee and the organisation. Constructs such as job satisfaction, organisational citizenship behaviour, and intention to leave could be related to mental health and have an impact on managers' work environment.

Mental health can be defined as a state of health such as illness, possibly indicated by a series of symptoms that are present at a specific time. Mental health consists of emotional, social, and psychological well-being. Keyes describes mental health according to three distinctive profiles, namely, languishing, moderate mental health, and flourishing. Managers in the agricultural sector may experience individual and organisational outcomes differently.

The purpose of this study was to identify mental health profiles for managers in the agricultural sector and to determine how profiles differed with respect to job satisfaction, organisational citizenship behaviour, and intention to leave. A cross-sectional research method was used to collect the data. A convenience sample ( $n = 507$ ) of managers in the agricultural sector was used. A biographical questionnaire, the Mental Health Continuum – Short Form, the Job Satisfaction Scale, the Organisational Citizenship Behaviour Scale, and the Turnover Intention Scale were administered. Confirmatory factor analysis and latent profile analysis were used to analyse the data.

The results indicated that four mental health profiles for managers in the agricultural sector could be extracted: languishing, moderately languishing, moderately flourishing, and flourishing. The results showed significant differences between the mental health profiles of managers and job satisfaction, organisational citizenship behaviour, and intention to leave. Managers in the agricultural sector with different mental health profiles might experience job satisfaction, organisational citizenship behaviour, and intention to leave differently. Furthermore, the results indicated that this study challenged Keyes's dual-continuum model and suggested a four-factor model for mental health.

Recommendations for future research were made.

# **CHAPTER 1**

## **INTRODUCTION**

This mini-dissertation explores mental health and individual and organisational outcomes of managers in the agricultural sector by using latent profile analysis.

In this chapter, the problem statement is formulated. The general and specific research objectives of the study are highlighted. The research design and method are explained, and then an overview of the chapters is provided.

### **1.1 Problem statement**

The work environment is one of the core environments that influence individuals' mental health (Diener, Oishi, & Lucas, 2003). Organisations are becoming more aware of the role of work that contributes positively or negatively to mental health (Ryan & Deci, 2000). Well-being in a work environment places strong emphasis on what the employee could achieve when supported by the organisation (Ramlall, 2004). Organisations must create a work environment to enhance a state of satisfaction and happiness. A positive work environment can allow employees to flourish and function optimally for their own benefit and that of their organisations (Tehrani, Humpage, Willmott, & Haslam, 2007). "In a high involvement-high commitment work environment" (Swart & Rothmann, 2012), constructs such as job satisfaction, organisational citizenship behaviour, and intention to leave need research attention (Diedericks & Rothmann, 2014). These constructs could be related to the mental health of employees and have an impact on their work environments (Bergh & Theron, 2012).

Well-being can be studied through the use of various models. Positive mental health is a state of well-being in which the individual grasps his or her capabilities, can cope with the pressures of life, can work efficiently, and can contribute to the community (World Health Organization, 2004). The traditional conceptualisation of mental health as two extremes (from mental illness to mental health) on a continuum has been questioned (Ryff et al., 2006). In this study, well-being is studied from the perspective of the Mental Health Continuum (Keyes, 2002), which classifies well-being on a continuum from languishing to

flourishing as measured by the Mental Health Continuum – Short Form (MHC-SF). The MHC-SF consists of 14 items derived from Ryff's model of psychological well-being (Ryff, 1989), Keyes's model of social well-being (Keyes, 1998), and Bradburn's affect balance scale (Bradburn, 1969). Keyes (2005, 2013) anticipated a dual-continuum model of mental health that could be defined as not merely positive mental health, but as the absence of mental disorder, with the presence of positive qualities.

Mental health has been conceptualised and measured as a subjective experience (Headey, Kelly, & Wearing, 1993; Keyes, 2002). Subjective well-being is the evaluation of an individual's life. Such an evaluation can be both affective and cognitive (Diener, 2000). The MHC-SF consists of three scales that measure emotional well-being, psychological well-being, and social well-being.

Emotional well-being is the presence of positive emotions and overall satisfaction with life (Diener, Suh, Lucas, & Smith, 1999). It is, furthermore, a dimension of subjective well-being and is defined as the emotional quality of everyday experiences – the positive affect and the negative affect that make one's life pleasant or unpleasant (Diener, 1984; Kahneman & Deaton, 2010). Emotional well-being consists of three dimensions, namely, life satisfaction, positive affect, and negative affect (Rothmann, 2013).

Psychological well-being entails aspects of individuals' psychological functioning (Ryff, 1989). This type of well-being is comprised of six dimensions: self-acceptance (the positive evaluation of oneself and one's past life), personal growth (self-development and continued growth as an individual), purpose in life (an individual's belief that his or her life is purposeful and meaningful), environmental mastery (an individual who has the capacity to manage life effectively), autonomy (having a good sense of self-determination), and positive relations with others (having quality relationships with others) (Ryff & Keyes, 1995).

Keyes (1998) developed the concept of social well-being as "the appraisal of one's circumstance and functioning in society". He identified five dimensions that could be seen as covering social well-being: social acceptance (the understanding of society through specific characteristics and qualities of different individuals in a generalised category), social contribution (the estimate of an individual's social value in society; this estimate

includes the belief that the individual is a vital member of society, or a value-adding individual), social actualisation (the evaluation of the potential and the path of society), social coherence (the observation of the quality, organisation, and operation of society; it includes knowledge and awareness of the world), and social integration (evaluating the quality of an individual's relationship to society and the community) (Keyes, 1998). The term 'social well-being' refers to how well the individual functions in his or her social life as a member of a larger society (Keyes, 1998).

Orpana, Vachon, Dykxhoorn, McRae, and Jayaraman (2016) agree with Keyes's proposed model and confirm the validity of the three-factor model of positive mental health, consisting of emotional, psychological, and social well-being. Factor analysis revealed that the MHC-SF had a three-factor structure of emotional, psychological, and social well-being as found in studies done in the US, Iran, and South Africa (Keyes, 2002; Keyes et al., 2008; Rafiey et al., 2017).

Keyes's (2007) research supports a two-continuum model consisting of mental health and mental illness. The first continuum indicates the presence or absence of positive mental health. The second continuum indicates the presence or absence of symptoms of mental illness (Keyes, 2007). The MHC-SF can, thus, be used to diagnose the mental health of people on a continuum varying from flourishing to languishing (Keyes, 2002). The absence of positive mental health in an organisation impairs the individual's ability to execute specific roles in a social environment and can be associated with emotional suffering (Keyes, 2000). A study was conducted using a variable-centred approach with regard to the validity and reliability of the MHC-SF (Ekehammar & Akrami, 2003). Person-centred approaches have not been used in any research on the MHC-SF, nor has latent profile analysis. These types of analysis can be performed at an item level and can also contribute to research at a dimensional level (Stanley, Kellermanns, & Zellweger, 2017). This could be advantageous in gaining a greater understanding of the influence of each dimension on individuals in an organisation (Marsh, Lüdtke, Trautwein, & Morin, 2009).

There is a notable difference between variable-centred approaches and person-centred approaches (Ekehammar & Akrami, 2003). Firstly, a variable-centred approach accepts that participants from a specific sample are drawn from a particular population and that a particular set of averaged parameters can be estimated from the population (Meyer &

Morin, 2016). In contrast to a variable-centred approach, a person-centred approach refrains from making assumptions and reflects about the possibility that the sample may mirror numerous subpopulations portrayed by various parameters (Meyer & Morin, 2016). Person-centred approaches have been used with latent profile analysis in the past to provide clear classification criteria rather than traditional cluster analysis (Wu et al., 2017). A person-centred approach aims to categorically classify individuals, assuming that the group is a heterogeneous sample (Von Eye & Bogat, 2006). There has been interest in using person-centred approaches to understand the structure of the mental health continuum. In this study, the focus is on latent profile analysis (LPA). A person-centred approach creates a perspective of mental health in a quantitative manner, which requires combinations of multiple mental health profiles. In this study, a person-centred approach assists in the identifying of the dimensions examined in the mental health continuum. In particular, we considered emotional, social, and psychological well-being. By adopting a person-centred approach this study aims to identify different mental health profiles of managers in the agricultural sector and examine how these are associated with individual and organisational outcomes.

Creating mentally healthy workplaces starts with understanding and commitment at a senior level. Fostering good working conditions begins with looking at how the culture of the workplace and work organisation impact on the well-being of all employees. Managers have a key role to play in supporting an organisational culture that promotes positive mental health. Having a manager who flourishes can assist employees to better cope with work-related stress or mental ill health. Various individual and organisational outcomes might be related to the mental health of managers (Levecque, Anseel, De Beuckelaer, Van der Heyden, & Gisle, 2017). It is essential to identify that there is a need to create a link between individual and organisational outcomes on the MHC-SF. Individual and organisational outcomes can be used to provide evidence of the reliability and validity of the mental health profiles identified in the study, and it is important for the organisation to know that there are certain implications mental health profiles may have for individual and organisational outcomes. This study investigates the relationship between the mental health of managers and individual and organisational outcomes such as job satisfaction, organisational citizenship behaviour, and the intention to leave (Le Roux & Rothmann, 2013).

Job satisfaction is regarded as an individual outcome and can be defined as an individual's positive attitude towards his or her job (Katsikea, Theodosiou, Perdakis, & Kehagias, 2011). Bowling, Eschleman, and Wang (2010) indicate that mental health can be associated with levels of job satisfaction with frequent experiences of positive emotions. Job satisfaction is a specific job attitude relating to the reaction an individual has either to his or her work overall or to specific facets of the job (Judge & Kammeyer-Mueller, 2012).

Organisational outcomes consist of organisational citizenship behaviour and intention to leave. Organisational citizenship behaviour (OCB) can be defined as the employee's behaviour that can contribute more to the organisation than what the job requires. OCB has five dimensions, namely, helping (altruism), loyalty, advocacy, functional participation, and obedience in the job (Diedericks & Rothmann, 2014). Organ (1988) identified five distinct dimensions of OCB: altruism (helping others), conscientiousness (complying with norms), civic virtue (keeping up to date with important matters in the organisation), courtesy (taking into consideration the effect it might have on others, prior to taking action), and sportsmanship (managing small matters internally). In this study we will only focus on altruism, conscientiousness, civic virtue and courtesy. Intention to leave is defined as mental decisions regarding the choice between an individual's attitudes regarding a job and the stay-or-leave decision (Masemola, 2011). The intention to leave is the antecedent of the actual turnover (Cohen, Blake, & Goodman, 2016). Krausz, Koslowsky, Shalom, and Elyakim (1995) found that the intention to leave could be a predictor of leaving. Kar and Misra (2013) view turnover intention as a type of withdrawal behaviour that is associated with under-identification with work. They, furthermore, emphasise turnover intention is a type of employee behaviour that can be linked to unsatisfying work or working environment. They, furthermore, stress intention to leave are a sensible and thoughtful willingness to leave their current organisation and can be seen as the last resort to change their working circumstances.

A person-centred approach to mental health seems to be valuable; yet studies only focus on the effects of different types of well-being on individual and organisational outcomes from a latent profile analysis perspective (Gartstein et al., 2017). Keyes (2002) developed a procedure to classify individuals as flourishing, languishing, or moderate in terms of well-being. This study evaluates mental health and its relationship to individual and organisational outcomes through an evidence-based approach (latent profile analysis).

Following the example of Wang and Wang (2013), it was decided to conduct the latent profile analysis on item level. It also evaluates whether there is a difference in terms of profiles regarding individual and organisational outcomes.

Based on the above research problem and the literature review, the following questions were formulated:

- How are mental health and its relationships to individual and organisational outcomes conceptualised in the literature?
- Which mental health profiles can be identified from the responses to the 14 questions of the MHC-SF?
- How do the three categories of well-being (according to Keyes, 2005) compare to the profiles identified through latent profile analysis?
- Are different mental health profiles associated with individual outcomes (job satisfaction) and organisational outcomes (organisational citizenship behaviour and intention to leave)?

This study contributes to the literature on mental health and individual outcomes, as well as organisational outcomes, by employing person-centred analysis. Although Keyes (2002) identified three types of well-being (that is, flourishing, moderate, or languishing people), he did not use person-centred analysis to obtain this result. In the current study, the aim was to determine whether this approach could result in specific profiles to classify the well-being of managers. Additionally, this study links different types of well-being to individual and organisational outcomes.

## **1.2 Research objectives**

The research objectives were divided into general and specific objectives.

### **1.2.1 General objective**

The objective of this study was to investigate whether different latent mental health profiles existed and whether these profiles were related to individual (that is, job satisfaction) and



organisational (that is, organisational citizenship behaviour and intention to leave) outcomes.

### **1.2.2 Specific objectives**

The specific objectives of this research project were to:

- conceptualise mental health and its relationship to individual and organisational outcomes from the literature;
- identify mental health profiles of managers in the South African context;
- compare the three categories of well-being (according to Keyes, 2005) to the profiles identified through latent profile analysis; and
- investigate the relationships between mental health profiles, on the one hand, and job satisfaction, organisational citizenship behaviour, and intention to leave, on the other hand.

## **1.3 Research design**

### **1.3.1 Research approach**

A quantitative research approach was used in the study. De Vos, Strydom, Fouché, and Delport (2011) define quantitative research methods as an effort to increase objectivity and take a broad view of findings from data. Such methods are typically interested in prediction. The advantage of using a quantitative research approach is that the findings from the data can be generalised to the specific population (Polit & Beck, 2010).

A cross-sectional research design was used. This is a type of observational study that analyses data collected from a population at a specific point in time (De Vos et al., 2011). Cross-sectional design implies that many participants' responses are acquired at a particular time (Salkind & Rainwater, 2003). The specific design that was used in this study was questionnaires that were used to describe a sample in relation to proportions or percentages. A convenience sample usually consists of respondents who are available and of as many respondents as the researcher requires (De Vos et al., 2011). A person-centred approach was used in this study.

### **1.3.2 Research method**

The research method consisted of a literature review and an empirical study. The results are presented in the form of a research article. The next paragraph focuses on literature that was relevant to the empirical study.

### **1.3.3 Literature review**

In Phase 1, a complete literature review regarding mental health was done. Articles that were published between 2000 and 2019 that were relevant to the study were obtained and used. Use of older articles and book sources relevant to the constructs and topic was limited. The resources that were used to conduct the literature review were comprised of published articles from databases such as *Google Scholar*, *Google Books*, *ProQuest*, *SA ePublications*, *JSTOR*, and *EBSCOhost*. Keywords used as search terms were mental health, emotional well-being, social well-being, psychological well-being, job satisfaction, organisational citizenship behaviour, intention to leave, and latent profile analysis. Additional textbooks were also used, where applicable.

The following journals were studied: *South African Journal of Industrial Psychology*, *Journal of Occupational and Organizational Psychology*, *South African Journal of Business Management*, *South African Journal of Psychology*, *Journal of World Business*, *Journal of Health and Social Behavior*, *Journal of Personality and Social Psychology*, *South African Journal of Higher Education*, *International Journal of Psychology*, *Canadian Journal of Marketing Research*, *American Psychological Association*, *Personality and Individual Differences*, *Journal of Organizational Behavior*, *Journal of Clinical Psychology*, *Social Psychology Quarterly*, *Journal of Positive Psychology*, *Journal of Applied Psychology*, and *Journal of Vocational Behavior*.

### **1.3.4 Research participants**

Eight agricultural companies participated in the study, the sample was ( $n = 507$ ), and the number of participants differed from various agricultural organisations ranging from small to large organisations. The organisations included formal secondary agricultural organisations, fertiliser producers to the agricultural sector, and fruit packaging companies.

Males represented 80.1% of the total sample. As far as race was concerned, whites dominated the sample with 89.7%, followed by Africans at 3.2%, Coloureds at 5.7%, and Indians at 1%. A total of 92.7% of the participants were Afrikaans-speaking, and English and African languages were at 4.1% and 3.2%, respectively. With regard to education, 38.3% of the participants had a Grade 12 level of education, 9.1% a technical college qualification, 12.4% diplomas, 20.5% university degrees, and 19.7% postgraduate degrees. A total of 47.1% of the participants were at middle management level, while 33.1% were at junior management level, 14.6% at senior management level, and 5.1% at executive level. Finally, 68.2% of the participants were married or living with a partner, with children.

### **1.3.5 Measuring instruments**

The following instruments were used:

A self-developed *biographical questionnaire* was employed to determine and measure the biographical characteristics of the participants, such as year of birth, gender, race, language, and culture.

A second instrument used was the *Mental Health Continuum – Short Form* (MHC-SF; Keyes, 2002). The MHC-SF consisted of 14 items covering the three subscales of emotional well-being (three items; for example, ‘How often did you feel happy?’), social well-being (five items; for example, ‘How often did you feel that you belonged to a community?’), and psychological well-being (six items; for example, ‘How often did you feel good at managing the responsibilities of your daily life?’). Each item represented a feeling of well-being, of which the frequency in the last month was rated (1 = *never* to 6 = *every day*). Total scores were computed for emotional well-being, social well-being, and psychological well-being. The Cronbach’s alpha coefficient for MHC-SF was .89 (Westerhof & Keyes, 2010).

The *Job Satisfaction Scale* (JSS; Rothmann, 2010) was employed to measure job satisfaction. Three items measured how satisfied individuals felt with their jobs (for example, ‘I feel fairly satisfied with my present job’ and ‘I find real enjoyment in my

work'). Response options ranged from 1 (*totally disagree*) to 5 (*totally agree*). The Cronbach's alpha coefficient for the JSS was .84 (Diedericks, 2012).

The *Organisational Citizenship Behaviour Scale* (OCBS; Rothmann, 2010) was utilised to measure organisational citizenship behaviour. The OCBS consisted of nine items, five of which measured altruism and conscientiousness ('I give up time to help co-workers who have work or non-work problems') and four of which measured civic virtue and courtesy ('I take action to protect the organisation from potential problems'). Response options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). The Cronbach's alpha coefficients for the two scales were .78 (altruism and conscientiousness) and .80 (civic virtue and courtesy) (Diedericks, 2012).

The *Turnover Intention Scale* (TIS; Sjöberg & Sverke, 2000) was used to measure the intention to leave. The TIS consisted of three items. An example of an item is 'If I were completely free to choose, I would leave this job'. Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). The TIS reported a Cronbach's alpha coefficient of .83 (Sjöberg & Sverke, 2000).

### **1.3.6 Research procedure**

The research project was evaluated and accepted by the Ethics Committee of the North-West University (Vaal Triangle Campus). The participants were provided with a consent form confirming that the information obtained in the research study would be used for research purposes only. The research process included the explanation of the research study, how the results were used and furthermore, the researcher explained, that the process was voluntary and anonymous. Participants had the opportunity to ask questions prior to participating in the research study. The researcher outlined specific roles and responsibilities for both, researcher and participant.

### **1.3.7 Statistical analysis**

Latent profile analysis (LPA) was used to identify groups (that is, latent classes) with different configurations of mental health. The goal of this approach was to identify groups of individuals who were similar to one another, but different from people in other groups

(Magidson & Vermunt, 2002; Muthén & Muthén, 2007). LPA is a model-based technique that classifies individuals based on likelihoods, where a probability that a specific individual belongs to a particular group is provided (Orpinas, Raczynski, Peters, Colman, & Bandalos, 2015). Measurement models were only used for mental health variables according to item-level analysis. SPSS 25.0 (IBM Corp., 2018) was used to prepare the data for analyses in Mplus and to analyse cross-tabulations. LPA was conducted by using Mplus Version 8.2 (Muthén & Muthén, 2018). This study used the lowest Bayesian information criterion (BIC), Akaike information criterion (AIC), and the sample-size adjusted BIC (ABIC) values to compare the different models. Entropy was used to determine the quality of the classification of the LPA, values closer to 1 indicates a good classification of the profiles (Pastor, Barron, Miller, & Davis, 2007). Criteria such as the Lo-Mendell-Rubin (LMR LR) test, the adjusted LMR LR (ALMR) test, as well as the bootstrapped likelihood ratio test (BLRT), were used in Mplus Version 8.2 (Muthén & Muthén, 2018) to test the number of classes in a mixture analysis. Confirmatory factor analysis (CFA) and exploratory structural equation modelling (ESEM) was used to test the measurement models of individual and organisational outcomes in this study. Fit indices such as the chi-square statistic, standardised root mean residual (SRMR), root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), and comparative fit index (CFI) was used to assess model fit (Marsh, Morin, Parker, & Kaur, 2014).

SPSS 25.0 was used to analyse the data (IBM Corp., 2018). Descriptive statistics was performed to describe the data. Relationships between the variables were identified by using Pearson correlation coefficients. This study made use of point estimate of scale reliability opposed to alpha coefficients by using confirmatory factor analysis (CFA). To determine scale reliability a cut-off value of .70 was used (Raykov, 2009).

In exploratory applications of LPA, the number of latent groups is not known a priori (Orpinas et al., 2015). Thus, this study compared models with increasing numbers of latent groups to find an appropriate model resulting in the number of classes that fit the data the best. No single criterion existed to determine the best solution. Instead, models were compared based on interpretability, theory, and statistical criteria (Marsh et al., 2009). Parsimony (that is, adequately accounting for the complexity of the data using the fewest latent classes) was a goal in selecting a model here (Orpinas et al., 2015). In conjunction with LPA this study made use of the BCH method. The BCH method avoids shifts in latent

profiling. The BCH method uses a weighted multiple group analysis, where the groups correspond to the latent profiles, and thus the class shift is not possible because the classes are known and therefore this study will utilise the BCH method.

Latent profile analysis and the BCH approach were used to assess the relationship between mental health profiles and individual and organisational outcomes.

#### **1.4 Ethical considerations**

Ethical approval was obtained before data collection in the agricultural organisations, as was ethical permission for the use of the data. In the consent letter that was distributed to all the managerial employees in the agricultural organisations, the researcher explained to the participants that the study was voluntary, the roles and responsibilities of the researcher and of the participants involved in the study, and the purpose and objectives of the study. Written consent was obtained from each participant prior to his or her participation in the study. This consent stated that the information obtained during the study would be utilised for research purposes only. Any concerns or questions the participants might have could be raised prior to giving consent to participate. Confidentiality and anonymity (where applicable) were assured by making use of number identification and not names and surnames (De Vos et al., 2011; Struwig & Stead, 2001). The ethical consideration was to not cause harm to participants and to also ensure that the dignity and rights of all participants were protected.

#### **1.5 Chapter division**

The chapters in this mini-dissertation are presented as follows:

- Chapter 1: Introduction
- Chapter 2: Research article
- Chapter 3: Conclusions, limitations, and recommendations

## **1.6 Chapter summary**

This chapter provided a discussion of the problem statement as well as research objectives. The research method and measuring instruments were explained, followed by a brief overview of the chapters to follow.

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## **CHAPTER 2**

### **RESEARCH ARTICLE**

## **Mental health and individual and organisational outcomes of managers in the agricultural sector: A latent profile analysis**

### **ABSTRACT**

**Orientation:** Mental health represents a syndrome of symptoms of subjective well-being characterised by the absence of mental disorder and the presence of flourishing. Person-centred analysis is a valuable tool to investigate mental health profiles, which could be linked to work and organisational outcomes.

**Research purpose:** The purpose of this study was to identify latent profiles for managers in agricultural organisations based on 14 items of the Mental Health Continuum – Short Form to compare these latent profiles to three categories of well-being (Keyes, 2005) and to investigate how these profiles differed in terms of job satisfaction, organisational citizenship behaviour, and intention to leave.

**Motivation for the study:** Research regarding different mental health profiles could contribute to a better understanding of job satisfaction, organisational citizenship behaviour, and intention to leave of managers in agricultural organisations.

**Research design, approach, and method:** A survey was used for a sample ( $n = 507$ ) of managers from agricultural organisations in South Africa. A biographical questionnaire, the Mental Health Continuum – Short Form, the Job Satisfaction Scale, the Organisational Citizenship Behaviour Scale, and the Turnover Intention Scale were administered.

**Main findings:** Four mental health profiles were identified, namely, languishing, moderately languishing, moderately flourishing, and flourishing. These profiles provide a classification of mental health by dividing the moderately flourishing profile (Keyes, 2005) into two profiles. Significant differences were found between the job satisfaction, organisational citizenship behaviour, and intention to leave of the four profiles.

**Practical implications:** Classifying the mental health of managers in terms of four rather than three profiles leads to a better understanding of job satisfaction, organisational citizenship behaviour, and intention to leave.

**Contribution/value-add:** The results of this study contribute to scientific knowledge of the association between different latent mental health profiles, on the one hand, and job satisfaction, organisational citizenship behaviour, and intention to leave, on the other hand.

**Keywords:** mental health, well-being, job satisfaction, organisational citizenship behaviour, intention to leave, latent profile analysis

## Introduction

There is a growing awareness of the role and effects of the psychosocial health of individuals in the work environment (Levecque, Anseel, De Beuckelaer, Van der Heyden, & Gisle, 2017). The psychosocial health of individuals could have an impact on their work-related attitudes and behaviours (Ramlall, 2004). Therefore, both individuals and organisations can benefit from creating a positive work environment that promotes the psychosocial health of individuals (Spreitzer & Hwang, 2019; Tehrani, Humpage, Willmott, & Haslam, 2007). Keyes (2002, 2005, 2007) found empirical support for two continuums of psychosocial health. One continuum represents *mental ill-health*, and the other represents *mental health*. This study focuses on the mental health continuum (MHC), which varies from flourishing to languishing (Keyes, 2002, 2005).

According to Keyes (2007), mental health represents a syndrome of symptoms of subjective well-being characterised by the absence of mental disorder and the presence of flourishing. Subjective well-being is defined as individuals' evaluations of their feelings and functioning (Keyes & Annas, 2009). Flourishing individuals experience high levels of emotional, psychological, and social well-being; they show enthusiasm for life and are actively and productively involved. In contrast, languishing individuals are mentally unhealthy (although without diagnosable mental disorders) and experience low levels of emotional, psychological, and social well-being. Such individuals report emptiness, stagnation, and despair (Keyes, 2002). Moreover, Keyes and Haidt (2003) showed that languishing might be present even among individuals who could be perceived as successful in work and life.

According to Strümpfer, Hardy, De Villiers, and Rigby (2009), mental illness, languishing, and flourishing are not stable or permanent conditions. Individuals could move from languishing to flourishing, or vice versa, due to both subjective and external conditions. Various personal and social experiences could affect individuals' movement upwards or downwards along the languishing-flourishing continuum. Factors such as self-directed work experiences, participation in socially valued decision-making, coaching, training, and development might contribute to flourishing. Negative work experiences from which people cannot escape (for example, violence, injury, discrimination, and unemployment) could result in languishing. However, such experiences are not irreversible. Therefore,

languishing individuals might move towards flourishing, depending on the person and environmental factors.

### **The Mental Health Continuum**

Keyes (2002) classified well-being on a continuum from languishing to flourishing as measured by the Mental Health Continuum – Short Form (MHC-SF). Mental health can be defined as a set of behavioural indicators of positive feelings and functioning in life and an indicator of an individual's well-being (Keyes, 2013). The MHC derived from the theoretical concept of positive mental health as a comprehensive positive state consisting of a set of positive symptoms of emotional, psychological, and social well-being (Keyes, 2002, 2005).

Emotional well-being refers to overall life satisfaction and positive affect. As a dimension of subjective well-being, it refers to the emotional quality attached to well-being. It is the positive affect that makes an individual experience pleasurable and unpleasurable life experiences (Keyes & Annas, 2009). Psychological well-being is comprised of six dimensions (Ryff, 1989; Ryff & Keyes, 1995), namely, self-acceptance (the positive evaluation of oneself and one's past life), personal growth (self-development and continued growth as an individual), purpose in life (an individual's belief that his or her life is purposeful and meaningful), environmental mastery (an individual who has the capacity to manage life effectively), autonomy (having a good sense of self-determination), and positive relations with others (having quality relationships with others). The term 'social well-being' refers to how well the individual functions in his or her social life as a member of a larger society (Keyes, 1998). Social well-being includes five dimensions (Keyes, 1998), namely, social acceptance (the understanding of society through specific characteristics and qualities of different individuals in a generalised category), social contribution (the estimate of an individual's social value in society; this estimate includes the belief that the individual is a vital member of society or a value-adding individual), social actualisation (the evaluation of the potential and the path of society), social coherence (the observation of the quality, organisation, and operation of society; it includes knowledge and awareness of the world), and social integration (evaluating the quality of an individual's relationship to society and the community).



## **Mental Health: Associations with Individual and Organisational Outcomes**

Keyes (2007) argued that the languishing-flourishing continuum was related to occupational functioning: “Adults who were diagnosed as completely mentally healthy functioned superior to all others in terms of the fewest workdays missed, fewest half-day or less cutbacks of work ...” (Keyes, 2007, p. 100). Bowling, Eschleman, and Wang (2010) found that the subjective well-being of employees might affect individual and organisational outcomes. Various studies have linked mental health to individual and organisational outcomes of employees (Spreitzer & Hwang, 2019; Strümpfer et al., 2009). One type of outcome can be described as a personally linked measure: it allows one to describe how one feels about one’s work (that is, job satisfaction). Another type of outcome can be described as consisting of organisation-linked variables: they represent one’s reactions to the organisation and other people in the organisation.

### *Job Satisfaction*

Job satisfaction refers to the attitude individuals have to their jobs, resulting from an evaluation of its facets (Kianto, Vanhala, & Heilmann, 2016; Robbins, Judge, Odendaal, & Roodt, 2009). Job satisfaction entails a positive and approving attitude to the job, whereas a negative and disapproving attitude to the job indicates job dissatisfaction (Janssen & Van Yperen, 2004). Employees with positive affect and life satisfaction (which are dimensions of the emotional component of flourishing) are likely to experience a high level of job satisfaction (Wright, Cropanzano, & Bonett, 2007).

Oerlemans and Bakker (2018) found that subjective well-being was positively associated with job satisfaction. Katsikea, Theodosiou, Perdakis, and Kehagias (2011) define job satisfaction as a positive emotional state stemming from the appraisal of an individual’s job. Research (Arthaud-Day, Rode, Mooney, & Near, 2005; Russell, 2008) showed that subjective well-being indices correlated with higher levels of job satisfaction. Recent research by Bowling et al. (2010) examined the relationship between subjective well-being and job satisfaction. They offered the spillover hypothesis, suggesting that experiences in one or more life domains had similar effects on other domains.

### *Organisational Citizenship Behaviour*

Organisational citizenship behaviour (OCB) is defined as intended employee behaviour that leads to improved organisational functioning (Dalal & Carpenter, 2018). According to Organ (1988), OCB can be defined as work-related behaviours of individuals that are optional and not related to the formal organisational remuneration and compensation system and that may promote the effective functioning of the organisation. Research suggests that OCB fits into two categories. The first category is made up of behaviours that have an indirect impact on the organisation, but are directed at individuals. The second category consists of behaviours that have an impact on the balance of the social exchange between employees and the organisation and that are directed at the organisation (Lee & Allen, 2002; Williams & Anderson, 1991). Williams and Anderson (1991) viewed OCB in two dimensions. They divided OCB into two dimensions: (1) behaviours directed at specific individuals in the organisation, such as altruism and conscientiousness; and (2) behaviours concerned with benefitting the organisation, such as civic virtue and courtesy. Diedericks and Rothmann (2014) study shows that individuals who show an indication of emotional well-being, psychological well-being, and social well-being individuals seem to exhibit OCB.

### *Intention to Leave*

Tett and Meyer (1993) defined intention to leave as the determined and deliberate intent of resigning from an organisation. This term refers to the probability of an employee staying or leaving an organisation and can be a predictor of turnover (Chan & Mai, 2015). A high turnover rate results in increased recruiting and selection, as well as training and development, of employees (Cloutier, Felusiak, Hill, & Pemberton-Jones, 2015). Lambert and Hogan (2009) state the importance of intention to leave rather than focusing on actual turnover. They are of the view that organisations need to clearly understand the reasons why employees would have the intention to leave the organisation; after that, the organisation could lower actual turnover. Organisations need to emphasise the importance of creating mentally healthy work environments where employees can build relationships and trust with managers, which could lead to lower turnover (Armstrong, 2006; Spreitzer & Hwang, 2019).

## **The Current Study**

Well-being has increasingly been studied from a person-centred (in contrast with a variable-centred) perspective (see Basson & Rothmann, 2018; Van der Vaart, De Witte, Van den Broeck, & Rothmann, 2018). Variable-centred approaches investigate associations between variables and assume a homogenous sample. Person-centred approaches attempt to categorise and classify individuals into distinct groups, assuming a heterogeneous sample (Meyer & Morin, 2016; Von Eye & Bogat, 2006). Because different elements of mental health are examined, it is possible that varying combinations of mental health could be revealed using person-centred approaches that would otherwise be masked when using variable-centred approaches.

Person-centred analysis can be performed at item or dimensional levels. This could be advantageous in gaining a greater understanding of the influence of each dimension on individuals in an organisation (Marsh, Lüdtke, Trautwein, & Morin, 2009). There are notable differences between variable-centred and person-centred approaches. A variable-centred approach acknowledges that all people from a sample are drawn from a distinct population and that a distinct value of parameters can be estimated (Meyer & Morin, 2016). In contrast with a variable-centred approach, a person-centred approach refrains from making assumptions and considers the possibility that the sample might reflect multiple subpopulations characterised by different sets of parameters (Meyer & Morin, 2016). Person-centred approaches have been used with latent profile analysis in the past to provide clear classification criteria rather than traditional cluster analysis (Wu et al., 2017).

Keyes (2002) developed a procedure to classify individuals as flourishing, languishing, or moderate based on the responses of individuals to 14 items. Although Keyes (2002) identified three types of well-being profiles (that is, flourishing, moderate, or languishing people), he did not use person-centred analysis to obtain this result. Person-centred approaches and, specifically, latent profile analysis of the items of the MHC-SF have only been used in one study (see Nieman, 2019). Using a person-centred approach to identify mental health profiles in a sample of industrial psychologists in South Africa, Nieman (2019) reported three profiles, namely, languishing, moderately mentally healthy, and flourishing. Significant differences between the three mental health profiles and experiences

of work-role fit and work engagement were found. The person-centred approach might result in latent profiles that are useful in optimising the potential of managers.

A research gap exists regarding mental health profiles for managers using a person-centred approach. Managers with different profiles may experience job satisfaction, OCB, and intention to leave differently. Mental health profiles need to be investigated to assist the agricultural sector in attracting and retaining managers. The purpose of this study was, therefore, to identify latent profiles for managers in agricultural organisations based on 14 items of the Mental Health Continuum – Short Form in order to compare these latent profiles to the three categories of well-being identified by Keyes (2005) and to investigate how these profiles differ in terms of job satisfaction, OCB, and intention to leave.

## **RESEARCH DESIGN**

### **Research Approach**

A quantitative cross-sectional survey-based research design (Creswell, 2014) was used in this study. A cross-sectional design was selected, as it applies to studying various outcomes and determining frequencies (Mann, 2003).

### **Participants**

The sample of this study was comprised of 507 managers in the agricultural sector. The characteristics of the participants are reported in Table 1.

Table 1

*Characteristics of Participants (n = 507)*

Item	Category	Frequency	Percentage
Gender	Male	406	80.1
	Female	101	19.9
Race	White	455	89.7
	African	16	3.2
	Coloured	29	5.7
	Indian	5	1.0
	Other	2	0.4
Home language	Afrikaans	470	92.7
	English	21	4.1
	African	16	3.2
Education	Grade 12	194	38.3
	Technical college diploma	46	9.1
	Technikon diploma	63	12.4
	University degree	104	20.5
	Postgraduate degree	100	19.7
Job level	Executive management	26	5.1
	Senior management	74	14.6
	Middle management	239	47.1
	Junior management	168	33.1

The majority of the participants were male (80.1%), Afrikaans speaking (92.7%), and white (89.7%). With regard to education, the majority of participants had a Grade-12-level education (38.3%) and were at a middle management level (47.1%).

### Measuring Instruments

The following measuring instruments were used in the empirical study:

A biographical questionnaire was used to gather information regarding gender, race, home language, education, job level, and marital status.

The *Mental Health Continuum – Short Form* (MHC-SF; Keyes, 2002) was used to measure emotional, social, and psychological well-being. The MHC-SF consisted of 14 items to measure emotional well-being (three items), psychological well-being (six items), and social well-being (five items). Items were rated using a six-point scale varying from 1 (*never*) to 6 (*every day*). The MHC-SF has shown high internal consistency ( $> .80$ ) and discriminant validity (Keyes, 2009). The three-factor structure of the MHC-SF has been confirmed in studies in the USA (Keyes, 2009) and South Africa (Keyes et al., 2008).

The *Job Satisfaction Scale* (JSS; Rothmann, 2010) was used to measure job satisfaction. The JSS consisted of three items that measured the individual's satisfaction with his or her work (for example, "Most days I am enthusiastic about my work"). Responses ranged from 1 (*totally disagree*) to 5 (*totally agree*) for each question. The reliability of the JSS was .84.

Organisational citizenship behaviour was measured by the *Organisational Citizenship Behaviour Scale* (OCBS; Rothmann, 2010). The OCBS consisted of nine items, five of which measured altruism and conscientiousness (for example, "I give up time to help co-workers who have work or non-work problems") and four of which measured civic virtue and courtesy (for example, "I take action to protect the organisation from potential problems"). Response options ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). The Cronbach's alpha coefficients for the two scales were .78 (altruism and conscientiousness) and .80 (civic virtue and courtesy).

The *Turnover Intention Scale* (TIS; Sjöberg & Sverke, 2000) was used to measure the intention to leave. The TIS consisted of three items (for example, "If I were completely free to choose, I would leave this job"). Response options ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). The Cronbach's alpha coefficient for the TIS was .83.

## **Research Procedure**

The Ethics Committee of the North-West University evaluated and accepted the research project. The ethics number is NWU-HS-2018-0136. Permission was obtained from the selected agricultural companies to distribute electronic questionnaire links to the selected sample employees. The participants were provided with a consent form stating that the information obtained via the research would be used for research purposes only. The research process, as well as ethical considerations, was explained to the participants. They were given an opportunity to ask questions and raise concerns about the project before considering participation. The roles and responsibilities of all the parties involved were outlined. Participation in the project was voluntary and anonymous.

## **Statistical Analysis**

Latent profile analysis (LPA) in Mplus 8.2 (Muthén & Muthén, 2018) was used to determine the different mental health profiles that fit the data (Geiser, 2010; Wang &

Wang, 2012). To estimate the LPA model, several steps were followed: firstly, the optimal number of latent profiles was determined; secondly, the latent profile classification was examined; in the third place, the latent profiles were labelled; and lastly, latent profile membership was predicted. A series of models with an increasing number of latent profiles were tested. A model was retained when there was a significant improvement from the reference model to this model with more profiles.

The models were evaluated according to the lowest Bayesian information criterion (BIC), Akaike information criterion (AIC), and the sample-size adjusted BIC (ABIC) values, comparing the different models. These information criteria were used to compare the different models on a descriptive basis. According to Geiser (2010), the model with the smallest value of information criterion (AIC, BIC, and ABIC) is desired. BIC is well known to determine the number of classes that will be used (Geiser, 2010). Entropy is a measure used for the quality of classification in latent profile analysis; values range from 0 to 1, 1 indicating good classification (smaller than .60 is not acceptable) (Geiser, 2010). The Lo-Mendell-Rubin (LMR LR) test (Lo, Mendell, & Rubin, 2001), the adjusted LMR LR (ALMR) test, as well as the bootstrapped likelihood ratio test (BLRT) (Wang & Wang, 2012), were used in Mplus to test the number of classes in a mixture analysis. The quality of class membership was indicated by posterior class membership probabilities and the entropy values.

It was necessary to consider the average latent class assignment probabilities for individuals assigned to each class (Geiser, 2010). These are important indicators of the quality of a latent profile solution. Values close to 1 on the main diagonal of the classification matrix indicate high reliability of the classification (Geiser, 2010). High values on the main diagonal of the matrix mean that individuals, on average, are classified with high certainty in their most likely latent profile. Moderate to low values indicate that there is high uncertainty of the profile assignment, on average. Values on the main diagonal should be larger than .80 for a good solution.

Measurement models of individual and organisational outcomes were tested using confirmatory factor analysis (CFA) and exploratory structural equation modelling (ESEM) in Mplus 8.2 (Muthén & Muthén, 2018). The maximum likelihood estimation with robust standard errors (MLR) was used. In CFA, measures that fail to meet the recommended

goodness-of-fit guidelines are regarded as worthless. Yet, few psychological measures consistently comply with these benchmarks (Howard, Gagné, Morin, & Forest, 2018). According to Howard et al. (2018), methodologists question the independent cluster model (ICM) constraints inherent in CFA, in which cross-loadings between items and non-target factors are assumed to be exactly zero. Exploratory factor analysis (EFA), an alternative technique to assess the structure of a multidimensional instrument, allows for the estimation of cross-loadings, but has been criticised for being data-driven and unsuited for confirmatory studies. ESEM (Aspourov & Muthén, 2009), a recently developed technique, allows for the combination of CFA and EFA in a single model.

To assess model fit, the following fit indices were used: the chi-square statistic (the test of absolute fit of the model), standardised root mean residual (SRMR), root mean square error of approximation (RMSEA), Tucker-Lewis index (TLI), and comparative fit index (CFI) (West, Taylor, & Wu, 2012). For TLI and CFI values to be acceptable, scores higher than .90 are required, while values larger than .95 indicate excellent fit. Both RMSEA and SRMR values lower than 0.08 indicate a close fit between the model and the data. To compare alternative measurement models, the Akaike information criterion (AIC) and Bayesian information criterion (BIC) were used in addition to other fit indices. The AIC, which is a comparative measure of fit, is meaningful when one estimates different models. The BIC indicates model parsimony (Kline, 2010). The lowest AIC and BIC indicate the best-fitting model.

The descriptive statistics and cross-tabulations were computed using the SPSS 25.0 program (IBM Corp., 2018). Descriptive statistics were calculated to describe the data. Pearson correlation coefficients were used to identify the relationships between the variables. Point estimates of scale reliability (rather than alpha coefficients) were computed using confirmatory factor analysis (CFA) (see Raykov, 2009). A cut-off value for scale reliability of .70 (Raykov, 2009) was used.



## Results

### Latent Profile Analysis

A latent profile analysis (LPA) with Mplus 8.2 (Muthén & Muthén, 2018) was carried out on group participants based on their responses to the 14 items of the MHC-SF. The fit indices are reported in Table 2.

Table 2

*Comparison of Different Latent Profile Analysis Models*

Model	AIC	BIC	ABIC	LMR LR test <i>p</i> -value	ALMR LR test <i>p</i> -value	BLRT <i>p</i> -value
1-class LPA	21,998.23	22,116.63	22,027.76	n/a	n/a	n/a
2-class LPA	19,984.99	20,166.82	20,030.33	.00**	.00**	.00**
3-class LPA	19,342.46	19,587.71	19,403.61	.00**	.00**	.00**
4-class LPA	19,160.26	19,468.94	19,237.23	.19	.19	.00**
5-class LPA	19,009.32	19,381.43	19,102.11	.16	.16	.00**

AIC, Akaike's information criterion; BIC, Bayesian information criterion; ABIC, Adjusted Bayesian information criterion, LMR LR, Lo-Mendell Rubin test; (ALMR LR), Adjusted Lo Mendell Rubin test; BLRT, the bootstrapped likelihood ration test

\*\*  $p < .01$

Profile 1 had the following fit indices: Akaike information criterion (AIC) = 21,998.23; Bayesian information criterion (BIC) = 22,116.63; and sample-size adjusted BIC (ABIC) = 22,027.76. The fit indices showed significantly better fit for Profile 2 compared with Profile 1 ( $\Delta$ AIC = 2,013.24;  $\Delta$ BIC = 1,949.81;  $\Delta$ ABIC = 1,997.43). The LMR LR ( $p < .01$ ),

ALMR ( $p < .01$ ), and BLRT ( $p < .01$ ) for Profile 2 were also statistically significant. Regarding the fit of the three-profile model, the fit indices showed significantly better fit compared with Profile 2 ( $\Delta AIC = 642.53$ ;  $\Delta BIC = 579.11$ ;  $\Delta ABIC = 828.72$ ). The LMR LR ( $p < .01$ ), ALMR ( $p < .01$ ), and BLRT ( $p < .01$ ) for Profile 3 were also statistically significant. The fit indices showed significantly better fit for Profile 4 compared with Profile 3 ( $\Delta AIC = 182.20$ ;  $\Delta BIC = 118.77$ ;  $\Delta ABIC = 166.38$ ). The LMR LR ( $p > .01$ ) and ALMR ( $p > .01$ ) were not statistically significant, but the BLRT ( $p < .01$ ) for Profile 4 was statistically significant. Regarding the fit of the five-profile model, the fit indices showed significantly better fit compared with Profile 2 ( $\Delta AIC = 150.94$ ;  $\Delta BIC = 87.51$ ;  $\Delta ABIC = 135.12$ ). The LMR LR ( $p < .01$ ), ALMR ( $p < .01$ ), and BLRT ( $p < .01$ ) for Profile 3 were also statistically significant.

The quality of the latent profile relationship was investigated using entropy values. Profile 2 had an entropy value of .91, the Profile 3 entropy value was .88, that for Profile 4 was .85, and for Profile 5, the entropy was .84, indicating a good classification (Wang & Wang, 2012).

To determine the number of latent profiles, five models with different numbers of latent profiles were estimated and compared, starting with a single class model and increasing the number of profiles one at a time. The comparison of the latent profile analysis models are reported in Table 2. The Akaike's information criterion (AIC) (19160.26), Bayesian information criterion (BIC) (19468.944) and the sample size adjusted BIC (ABIC) (19237.23) values of 4-class LPA indicated the best fit.

Next, the average latent class assignment probabilities for individuals assigned to each class were inspected (see Table 3).

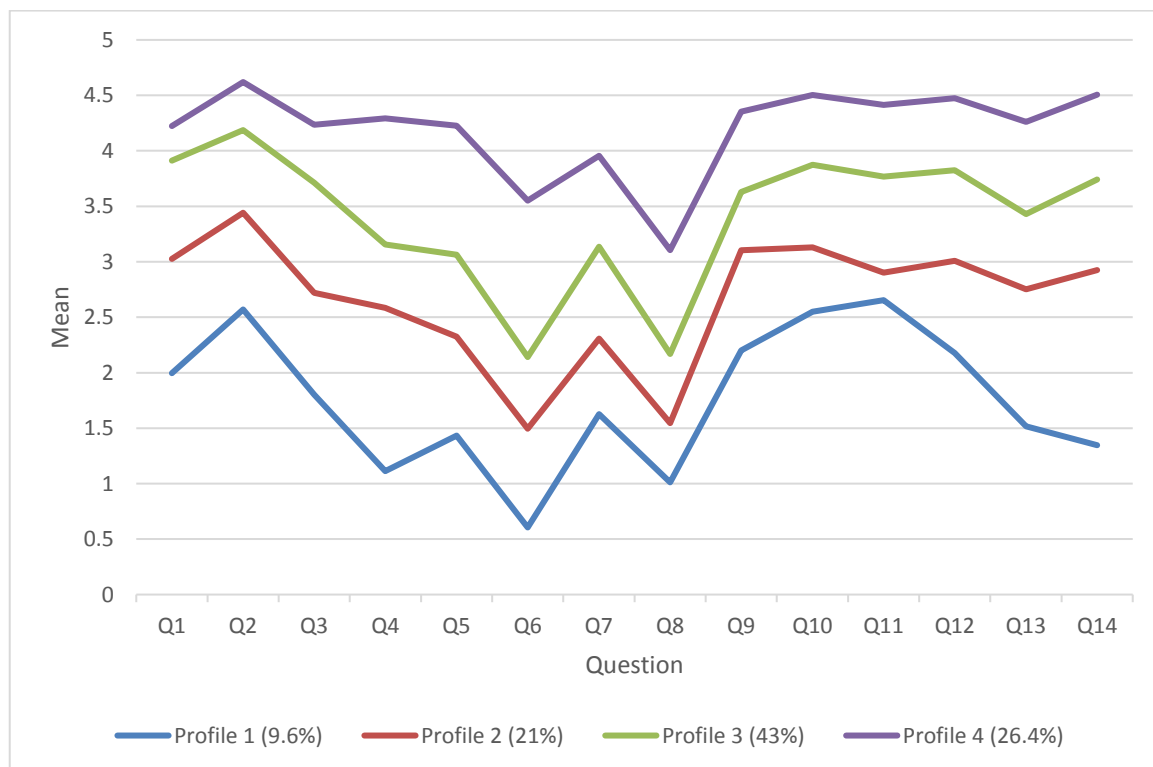
Table 3

*Average Latent Profile Probabilities for Most Likely Latent Profile Membership (Row)  
by Latent Profile (Column)*

	1	2	3	4
1	<b>.97</b>	.03	.00	.00
2	.03	<b>.89</b>	.08	.00
3	.00	.04	<b>.91</b>	.06
4	.00	.00	.07	<b>.93</b>

Table 3 shows high values on the main diagonal of the matrix. Therefore, individuals, on average, were classified with high certainty into their most likely latent profile.

Profiles were labelled based on their means for the 14 items of the MHC-SF. Profile 1 (languishing) had the lowest mean score and was comprised of 9.6% of the participants. Profile 2 (moderately languishing) obtained below-average scores and was comprised of 21% of the sample. Profile 3 (moderately flourishing) obtained the highest mean scores and consisted of 43% of the sample. Lastly, Profile 4 (flourishing) obtained a high mean score and consisted of 26.4% of the sample. The four latent profiles are illustrated in Figure 1.



1. happy	8. that the way our society works makes sense to you (social coherence)
2. interested in life	9. that you liked most parts of your personality (self-acceptance)
3. satisfied	10. good at managing the responsibilities of your daily life (environmental mastery)
4. that you had something important to contribute to society (social contribution)	11. that you had warm and trusting relationships with others (positive relations)
5. that you belonged to a community (like a social group, or your neighbourhood) (social integration)	12. confident to think or express your own ideas and opinions (autonomy)
6. that our society is becoming a better place for people like you (social actualization)	13. that you had experiences that challenged you to grow and become a better person (personal growth)
7. that people are basically good (social acceptance)	14. that your life has a sense of direction or meaning to it (purpose in life)

*Figure 1. Four latent profiles based on 14 items of the MHC-SF*

Social well-being seemed to be an overall problem in the profiles; specifically, individuals did not feel that society was becoming a better place for people such as them (social actualisation, Q6), and the way that society worked did not make sense to these individuals (social coherence, Q8).

The characteristics of the four mental health latent profiles are discussed next. Note that the experiences of specific elements of mental health were rated over the last three months before the survey was done.

**Profile 1 – Languishing (9.6%).** Individuals in Profile 1 experienced emotional well-being about once a week. They felt happy (Q1) and satisfied with life (Q3) about once a week and experienced interest in life (Q2) more than once a week. Concerning social well-being, individuals in this profile once or twice felt that they had something important to contribute to society (Q4, social contribution), that they belonged to a community (Q5, social integration), and that people were basically good (Q7, social acceptance). Once or twice (and even less), they felt that society was becoming a better place for them (Q6, social actualisation) and that the way society worked made sense (Q8, social coherence). With regard to psychological well-being, about once a week, individuals in Profile 1 felt that they liked most parts of their personalities (Q9, self-acceptance), that they were good at managing the responsibilities of their daily lives (Q10, environmental mastery), and that they had warm and trusting relationships with others (Q11, positive relations). However,

three elements of psychological well-being, namely, autonomy (Q12), personal growth (Q13), and purpose in life (Q14), were experienced less often than once a week.

**Profile 2 – Moderately languishing (21%).** Concerning emotional well-being, individuals in Profile 2 felt happy (Q1) and satisfied with life (Q3) about two or three times a week, although they felt interest in life (Q2) slightly more often than that. Regarding social well-being, slightly more than once a week, individuals felt that they had something important to contribute to society (Q4, social contribution), that they belonged to a community (Q5, social integration), and that people were basically good (Q7, social acceptance). Less than once a week, they felt that society was becoming a better place for them (Q6, social actualisation) and that the way society worked made sense (Q8, social coherence). With regard to psychological well-being, two to three times a week, individuals in this profile felt that they liked most parts of their personalities (Q9, self-acceptance), that they were good at managing the responsibilities of their daily lives (Q10, environmental mastery), that they had warm and trusting relationships with others (Q11, positive relations), that they were confident to think or express their ideas and opinions (Q12, autonomy), that they had experiences that challenged them to grow and become better people (Q13, personal growth), and that their lives had a sense of direction or meaning to it (Q14, purpose in life).

**Profile 3 – Moderately flourishing (43%).** With regard to emotional well-being, individuals in Profile 3 felt happy (Q1) and interested in life (Q2) almost every day, but felt satisfied with life (Q3) about two to three times a week. Concerning social well-being, two to three times a week, these individuals felt that they had something important to contribute to society (Q4, social contribution), that they belonged to a community (Q5, social integration), and that people were basically good (Q7, social acceptance). About once a week, they felt that society was becoming a better place for them (Q6, social actualisation) and that the way society worked made sense (Q8, social coherence). Regarding psychological well-being, almost every day, individuals in Profile 3 felt that they liked most parts of their personalities (Q9, self-acceptance), that they were good at managing the responsibilities of their daily lives (Q10, environmental mastery), that they had warm and trusting relationships with others (Q11, positive relations), that they were confident to think or express their ideas and opinions (Q12, autonomy), that they had experiences that challenged them to grow and become better people (Q13, personal growth), and that their lives had a sense of direction or meaning to it (Q14, purpose in life).

**Profile 4 – Flourishing (26.4%).** Regarding emotional well-being, individuals in Profile 4 felt happy (Q1), interested in life (Q2), and satisfied with life (Q3) every day (or almost every day). In terms of social well-being, almost every day, these individuals felt that they had something important to contribute to society (Q4, social contribution), that they belonged to a community (Q5, social integration), and that people were basically good (Q7, social acceptance). However, about two to three times a week, they felt that society was becoming a better place for them (Q6, social actualisation) and that the way society worked made sense (Q8, social coherence). With regard to psychological well-being, every day (or almost every day), individuals in Profile 4 felt that they liked most parts of their personalities (Q9, self-acceptance), that they were good at managing the responsibilities of their daily lives (Q10, environmental mastery), that they had warm and trusting relationships with others (Q11, positive relations), that they were confident to think or express their ideas and opinions (Q12, autonomy), that they had experiences that challenged them to grow and become better people (Q13, personal growth), and that their lives had a sense of direction or meaning to it (Q14, purpose in life).

### **Validation of the Three-Class Categorisation of the MHC-SF**

To flourish in life, individuals must experience high levels on *one* of the three measures of emotional well-being and *six* of the 11 measures of positive functioning (social and psychological well-being; Keyes, 2002). Individuals who are languishing experience low levels of well-being. Languishing can be perceived by individuals as feeling “empty”, “hollow”, and “a void” (Keyes, 2002). To measure languishing, an individual must display low levels on *one* of the three symptoms of emotional well-being and low levels on *six* of the 11 symptoms of positive functioning (social and psychological well-being) (Keyes, 2002). Individuals who are moderately mentally health are neither flourishing nor languishing in life (Keyes, 2002).

Table 4 shows cross-tabulations among the significant associations in Keyes’s model against this study’s latent profile analysis for managers in the agricultural sector. A Pearson chi-square value of 405.95 ( $df = 6, p < .0001$ ) was obtained for the cross-tabulation of the four latent profiles identified in this study and the MHC diagnosis (as suggested by Keyes, 2005). Table 4 shows that individuals who languish are predicted well by Profile 1 (that is,

100% of the individuals who languished according to the MHC diagnosis were correctly predicted). Moreover, 98.5% of the individuals who flourished (according to the MHC diagnosis) were correctly classified into Profile 4. Significantly, 116 individuals who were flourishing based on the MHC diagnosis were classified into Profile 3.

Table 4

*Cross-Tabulation for Keyes's Three-Category Classification Compared with Four Latent Profiles*

Variable	Statistic	Languishing	Moderate	Flourishing	Total
Languishing (LP1)	Count	15	33	0	48
	Expected count	1.4	23.3	23.3	48.0
	% within MHC latent profile	31.3	68.8	0.0	100.0
	% within MHC diagnosis	100	13.4	0.0	9.5
Moderately languishing (LP2)	Count	0	107	1	108
	Expected count	3.2	52.4	52.4	108.0
	% within MHC latent profile	0.0	99.1	0.9	100.0
	% within MHC diagnosis	0.0	43.5	0.4	21.3
Moderately flourishing (LP3)	Count	0	104	116	220
	Expected count	6.5	106.7	106.7	220.0
	% within MHC latent profile	0.0	47.3	52.7	100
	% within MHC diagnosis	0.0	42.3	47.2	43.4
Flourishing (LP4)	Count	0	2	129	131
	Expected count	3.9	63.6	63.6	131.0
	% within MHC latent profile	0.0	1.5	98.5	100
	% within MHC diagnosis	0.0	0.8	52.4	25.8



## Association between Latent Profiles and Individual and Organisational Outcomes

Next, the associations between the four latent profiles and individual and organisational outcomes as auxiliary variables were investigated.

### *Testing measurement models*

Two measurement models were tested: Model 1 – an ICM-CFA model, and Model 2 – an ESEM model. Table 5 presents the goodness-of-fit indices and information criteria associated with each of the estimated models.

Table 5

### *Goodness-of-Fit Statistics and Information Criteria*

Model	$\chi^2$	df	TLI	CFI	RMSEA		SRMR	AIC	BIC	ABIC
ICM-CFA	326.23*	113	0.90	0.92	0.06*	[0.053, 0.069]	0.05	22739.01	22980.03	22799.11
ESEM	174.44*	74	0.93	0.96	0.03	[0.027, 0.037]	0.02	22634.96	23040.90	22736.19

$\chi^2$ , chi-square statistic; *df*, degrees of freedom; TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardised root mean square residual; AIC, Akaike information criterion; BIC, Bayesian information criterion; ABIC, sample-size adjusted BIC

\*  $p < .01$

The ICM-CFA showed marginally acceptable fit. In contrast, the ESEM solution provided very good representation of the data according to all indices and provided better representation than the ICM-CFA solutions based on lower scores on the information criteria and a substantial improvement on the goodness-of-fit indices: ESEM versus ICM-CFA –  $\Delta\text{CFI} = +.04$ ;  $\Delta\text{TLI} = +.03$ ;  $\Delta\text{RMSEA} = -.03$ ). Furthermore, the 90% confidence intervals for the RMSEA showed no overlap between the CFA and ESEM solutions, indicating a high degree of differentiation between competing models.

Inspecting the loadings and cross-loadings, the overall size of the factor loadings of the items on their target factors remained similar in the ICM-CFA (job satisfaction:  $\lambda = .44$  to  $.79$ ; mean =  $.67$ ; OCB: altruism and conscientiousness:  $\lambda = .58$  to  $.74$ ; mean =  $.67$ ; OCB:

civic virtue and courtesy:  $\lambda = .65$  to  $.81$ ; mean =  $.73$ ; intention to leave:  $\lambda = .29$  to  $.85$ ; mean =  $.65$ ) and ESEM (job satisfaction:  $\lambda = .35$  to  $.75$ ; mean =  $.60$ ; OCB: altruism and conscientiousness:  $\lambda = .54$  to  $.75$ ; mean =  $.65$ ; OCB: civic virtue and courtesy:  $\lambda = .37$  to  $.85$ ; mean =  $.67$ ; intention to leave:  $\lambda = .02$  to  $.77$ ; mean =  $.51$ ), showing well-defined factors corresponding to a priori expectations. In the ESEM solution, target factor loadings were systematically higher than cross-loadings, which were very small in most cases (job satisfaction:  $|\lambda| = -.31$  to  $.26$ ; mean =  $.08$ ; OCB: altruism and conscientiousness:  $|\lambda| = -.11$  to  $.28$ ; mean =  $.09$ ; OCB: civic virtue and courtesy:  $|\lambda| = -.08$  to  $.17$ ; mean =  $.07$ ; intention to leave:  $|\lambda| = -.14$  to  $.11$ ; mean =  $.08$ ). One cross-loading was higher than  $.30$ : Item 3 of intention to leave (“If I have my own way, I will be working for this organisation one year from now”) cross-loaded on job satisfaction at  $-.31$ . Item 3 was removed from the analysis. The ESEM model without Item 3 (measuring intention to leave) was tested again. This model showed a significant improvement in fit (compared to the model that included Item 3):  $\Delta AIC = 1,520.44$ ;  $\Delta BIC = -1,545.81$ ;  $\Delta ABIC = -1,526.77$ .

#### *Descriptive statistics, reliabilities, and correlations*

The descriptive statistics, reliabilities, and Pearson correlations of the distal variables are reported in Table 6.

Table 6

#### *Descriptive Statistics, Reliabilities, and Pearson Correlations of the Distal Variables*

Variable	$\rho$	Min.	Max.	Mean	<i>SD</i>	1	2	3
Job satisfaction	.80	1.00	5.00	3.83	0.58	-	-	-
OCB: altruism	.80	1.00	6.00	3.58	1.07	.11*	-	-
OCB: civic virtue	.82	1.00	6.00	4.62	0.96	.53**	.52**	-
Intention to leave	.82	1.00	5.00	1.96	0.87	-.63**	.06	-.36**

\*  $p < .05$

\*\*  $p < .01$

Table 6 shows that acceptable reliability coefficients higher than  $.70$  (Raykov, 2009) were obtained for the four scales that measured job satisfaction, OCB: altruism and conscientiousness, OCB: civic virtue and courtesy, and intention to leave. Above-average mean scores were obtained for job satisfaction and OCB: civic virtue and courtesy, while an average mean score was obtained for OCB: altruism and conscientiousness. The mean score

for intention to leave was below average. The correlations in Table 6 show that job satisfaction is strongly and positively related to OCB: civic virtue and courtesy, and negatively related to intention to leave. Furthermore, OCB: altruism and conscientiousness is strongly and positively related to OCB: civic virtue and courtesy. Finally, OCB: civic virtue and courtesy is moderately and negatively related to intention to leave.

#### *Latent profiles and distal outcomes*

In a direct approach where auxiliary variables are included in the mixture model, the latent profile variable may have an undesirable shift in the sense that it is not just measured by the original latent profile indicator variables, but also by auxiliary variables. Therefore, the automatic BCH approach for estimating the mean of a distal continuous outcome across latent profiles (Asparouhov & Muthén, 2014; Bakk & Vermunt, 2016) was used in this study. The latent profile model was estimated using the 14 indicator variables of the MHC-SF. The means of the auxiliary variables were estimated across the different classes with the BCH method to avoid shifts in determining the latent profile analysis. The BCH method makes use of weighted multiple-group analysis to identify where the groups correspond to the latent profiles, and a shift in the classes is not possible because the profiles are known (Asparouhov & Muthén, 2014). Results using the BCH method can be seen in Table 7.

Table 7

*Equality Tests of Means Across Profiles Using Posterior Probability-Based Multiple Imputations with Three Degrees of Freedom for the Overall Test and One Degree of Freedom for the Pairwise Tests*

Job satisfaction			OCB – altruism and conscientiousness		
	Mean	SE		Mean	SE
Languishing	-.61	.08	Languishing	-.29	.12
Moderately languishing	-.23	.06	Moderately languishing	-.15	.08
Moderately flourishing	.07	.03	Moderately flourishing	.00	.06
Flourishing	.29	.04	Flourishing	.23	.08
Chi-square tests					
	$\chi^2$	$p$		$\chi^2$	$p$
Overall test	153.11	.000**	Overall test	18.86	.000**
Profile 1 vs. 2	14.92	.000**	Profile 1 vs. 2	0.93	.336
Profile 2 vs. 3	22.68	.000**	Profile 2 vs. 3	2.04	.153
Profile 2 vs. 4	64.66	.000**	Profile 2 vs. 4	11.36	.001**
Profile 1 vs. 3	69.77	.000**	Profile 1 vs. 3	5.07	.024*
Profile 1 vs. 4	112.00	.000**	Profile 1 vs. 4	13.73	.000**
Profile 3 vs. 4	20.37	.000**	Profile 3 vs. 4	5.05	.025*
OCB – civic virtue and courtesy			Intention to leave		
	Mean	SE		Mean	SE
Languishing	-.68	.13	Languishing	.80	.12
Moderately languishing	-.36	.08	Moderately languishing	.29	.08
Moderately flourishing	.07	.05	Moderately flourishing	-.11	.04
Flourishing	.43	.06	Flourishing	-.34	.05
Chi-square tests					
	$\chi^2$	$p$		$\chi^2$	$p$
Overall test	111.93	.000**	Overall test	104.00	.000**
Profile 1 vs. 2	3.66	.056	Profile 1 vs. 2	12.10	.001**
Profile 2 vs. 3	20.22	.000*	Profile 2 vs. 3	18.28	.000**
Profile 2 vs. 4	71.38	.000**	Profile 2 vs. 4	43.81	.000**
Profile 1 vs. 3	26.73	.000**	Profile 1 vs. 3	51.20	.000**
Profile 1 vs. 4	57.02	.000**	Profile 1 vs. 4	74.22	.000**
Profile 3 vs. 4	21.66	.000**	Profile 3 vs. 4	9.52	.002**

\*  $p < .05$

\*\*  $p < .01$

The results in Table 7 show that statistically significant differences exist between the job satisfaction ( $\chi^2 = 153.11$ ,  $p < .001$ ), OCB: altruism and conscientiousness ( $\chi^2 = 18.86$ ,  $p < .001$ ), OCB: civic virtue and courtesy ( $\chi^2 = 111.93$ ,  $p < .001$ ), and intention to leave ( $\chi^2 = 104.00$ ,  $p < .001$ ) of different well-being profiles. As far as job satisfaction is concerned, Table 7 shows that statistically significant differences exist between Profiles 1 and 4 ( $\chi^2 =$

112.00,  $p < .001$ ), 1 and 3 ( $\chi^2 = 69.77$ ,  $p < .001$ ), as well as 2 and 4 ( $\chi^2 = 64.66$ ,  $p < .001$ ). However, statistically significant differences also exist between the job satisfaction of Profiles 1 and 2 ( $\chi^2 = 14.92$ ,  $p < .001$ ), 2 and 3 ( $\chi^2 = 22.68$ ,  $p < .001$ ) as well as 3 and 4 ( $\chi^2 = 20.37$ ,  $p < .001$ ).

Concerning OCB: altruism and conscientiousness, Table 7 shows that statistically significant differences exist between Profiles 1 and 4 ( $\chi^2 = 13.73$ ,  $p < .001$ ), 2 and 4 ( $\chi^2 = 11.36$ ,  $p < .001$ ), 3 and 4 ( $\chi^2 = 5.05$ ,  $p < .025$ ), as well as 1 and 3 ( $\chi^2 = 5.07$ ,  $p < .024$ ). Regarding OCB: civic virtue and courtesy, Table 7 shows that statistically significant differences exist between Profiles 2 and 4 ( $\chi^2 = 71.38$ ,  $p < .001$ ), 1 and 4 ( $\chi^2 = 57.02$ ,  $p < .001$ ), 1 and 3 ( $\chi^2 = 26.73$ ,  $p < .001$ ), 3 and 4 ( $\chi^2 = 21.66$ ,  $p < .001$ ), and 2 and 3 ( $\chi^2 = 20.22$ ,  $p < .001$ ). For intention to leave, Table 7 shows that statistically significant differences exist between Profiles 1 and 4 ( $\chi^2 = 74.22$ ,  $p < .001$ ), 1 and 3 ( $\chi^2 = 51.20$ ,  $p < .001$ ), 2 and 4 ( $\chi^2 = 43.81$ ,  $p < .001$ ), 2 and 3 ( $\chi^2 = 18.28$ ,  $p < .001$ ), 1 and 2 ( $\chi^2 = 12.10$ ,  $p < .001$ ), and 3 and 4 ( $\chi^2 = 9.52$ ,  $p < .002$ ). The mean factor scores for the four distal variables are presented in Figure 2.

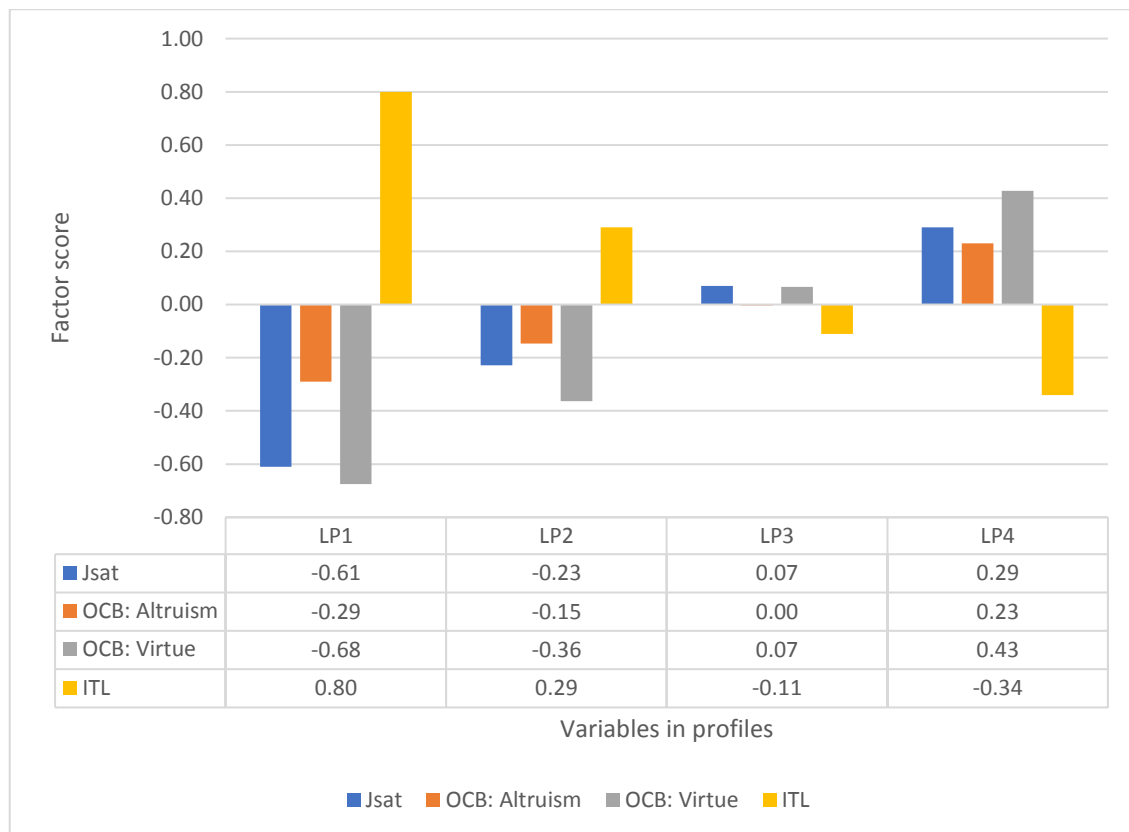


Figure 2. Mean scores of four latent profiles on individual and organisational outcomes

Figure 2 shows that individuals in latent Profile 1 (languishing) obtained higher scores on intention to leave and lower scores on job satisfaction, OCB: altruism and conscientiousness, and OCB: civic virtue and courtesy. Individuals in latent Profile 4 (flourishing) obtained low scores on intention to leave and high scores on job satisfaction, OCB: altruism and conscientiousness, and OCB: civic virtue and courtesy.

## Discussion

The purpose of this study was to identify latent profiles for managers in agricultural organisations based on 14 items of the MHC-SF, to compare these latent profiles to three categories of well-being identified by Keyes (2005), and to investigate how these profiles differed in terms of job satisfaction, organisational citizenship behaviour, and intention to leave. The results showed that four profiles could be extracted, namely, languishing, moderately languishing, moderately flourishing, and flourishing. Two latent profiles that were identified through the person-centred approach were almost entirely associated with two categories of mental health (namely, languishing and flourishing) distinguished by Keyes (2002, 2007). However, this study showed that the moderately mental health category split into two profiles when a person-centred approach was used. Statistically significant differences were found between the job satisfaction, OCB, and intention to leave of the four mental health profiles.

Latent profile analysis indicated four mental health profiles for managers in the agricultural sector. A total of 9.6% of the managers were languishing, 21% were moderately languishing, 43% were moderately flourishing (43%), and 26.4% were flourishing.

*Languishing* managers infrequently (once or twice over a period of three months) felt happy and satisfied with life, although they experienced interest in life more than once a week. They infrequently (once or twice over a period of three months) experienced elements of social well-being (social contribution, social integration, social acceptance, social actualisation, and social coherence). Although they experienced self-acceptance, environmental mastery, and positive relationships once a week, they infrequently (less than once a week over a period of three months) experienced autonomy, personal growth, and purpose in life. Emotionally, languishing managers were unhappy and dissatisfied with their lives. Socially, they felt disconnected from their communities. Psychologically, they

lacked self-direction, continued growth, and focus. These managers experienced statistically significant lower job satisfaction, lower organisational citizenship behaviour (on both dimensions), and higher intention to leave than all other mental health profiles, except for the moderately languishing group.

*Moderately languishing* managers felt happy and satisfied with life about two or three times a week, although they felt interested in life more frequently. They experienced social contribution, social integration, and social acceptance less frequently (about once a week over a period of three months). Less than once a week, they even felt that society was becoming a better place for them and that the way society worked made sense. Two to three times a week, these managers felt that they liked most parts of their personalities, that they were good at managing the responsibilities of their daily lives, that they had warm and trusting relationships with others, that they felt confident to think or express their ideas and opinions, that they had experiences that challenged them to grow and become better people, and that their lives had a sense of direction or meaning to it. Emotionally, these managers (compared to those who languished) felt happier and more satisfied with, and interested in, life. Socially, they infrequently functioned well. A possible theme of their social functioning is disillusionment: they felt that society was not becoming a better place for them and that the way society worked did not make sense. Psychologically, they frequently (two to three times a week over a period of three months) functioned well. These managers experienced statistically significant lower job satisfaction and civic virtue and courtesy (OCB), as well as higher intention to leave, than moderately flourishing and flourishing managers. They also experienced statistically significant less altruism and conscientiousness (OCB) than flourishing managers.

*Moderately flourishing* managers were happy and interested in life almost every day. However, they less frequently (about two to three times a week) felt satisfied with their lives and functioned socially well (in terms of social contribution, social integration, and social acceptance). Two other elements of social well-being – social actualisation and social coherence – were experienced less frequently (once a week). Regarding psychological well-being, they reported that they were functioning psychologically well almost every day. These managers experienced statistically significant lower job satisfaction and civic virtue and courtesy (OCB), as well as higher intention to leave, than flourishing managers. They

also experienced statistically significant less altruism and conscientiousness (OCB) than flourishing managers.

*Flourishing* managers were happy, interested and satisfied with life most of the time. They frequently experienced high social contribution, social integration and social acceptance. Although they experienced social actualisation and social coherence, they did so less frequently. Individuals who flourish were functioning psychologically well on a daily basis. These managers experienced statistically significant job satisfaction levels, altruism and conscientiousness (OCB), civic virtue and courtesy (OCB). They also experienced a statistically significant low level of intention to leave.

The results showed that social well-being (compared to emotional and psychological well-being) was less frequently experienced in all profiles. Social well-being entails the individual's perception of his or her circumstances and fit into the functioning of society (Keyes, 1998). The results showed that social well-being in this sample were problematic overall, specifically in terms of social actualisation and social coherence. Managers felt that their society was not becoming a better place for them to function in and that they struggled to grasp how society worked. Low social well-being has an impact on the functioning of employees in the organisation (Harari, 2018). Organisations need to create a work environment for people to experience more cohesion, which can enhance their mental health (Keyes, 1998).

According to the results, 100% of the managers who were classified as languishing based on the categorical diagnosis of Keyes (2002) also formed part of the languishing profile identified through latent profile analysis. A total of 13.4% of the individuals classified under an MHC diagnosis of moderate mental health were also classified as languishing (based on the person-centred analysis). Based on the findings of this study, the three-category classification of languishing, moderate mental health, and flourishing (Keyes, 2002) is questioned. The results showed that 43.5% of the individuals classified by the MHC diagnosis as moderately mentally healthy were moderately languishing. According to the MHC diagnosis, 42.3% of the individuals are classified within Keyes's moderate mental health, and 47.2% of MHC diagnoses are classified as flourishing, although both of these fall into a moderately flourishing profile.



## **Limitations and Recommendations**

This study had various limitations. Firstly, a cross-sectional design was used, which implies that the causality of relationships could not be tested. Common method variance perceives a relationship between variables that can be attributed to certain factors other than the intended constructs, although a cross-sectional design can be used for establishing covariance, chronological procedure, ruling out of alternatives, and establishing an explanatory mechanism (Spector, 2019). Secondly, it was impossible to use random sampling in this study. All available managers in the specific agricultural organisations were targeted for inclusion in the study. Therefore, the findings cannot be generalised to all agricultural organisations in South Africa. Furthermore, the results cannot be generalised to other jobs or organisations. In the third place, common method variance could limit the value of the findings of this study. Future studies should move beyond self-report questionnaires and include ratings of participants by others.

The relationship between mental health profiles and different individual and organisational outcomes should be studied in other contexts and with larger samples. Future studies could focus on the MHC diagnosis and a new statistical framework examining the MHC. The focus in future studies could also be on designing appropriate interventions for individuals with different mental health profiles. Future research should be done in an international context to generalise results for managers, as this study focused only on managers in the agricultural sector.

## **Conclusion**

In this study, four distinctive mental health profiles were extracted for managers in the agricultural sector. Keyes (2002) proposed a dual-continuum model, namely, languishing, moderate mental health, and flourishing. This study challenged Keyes's (2002) model and identified four mental health profiles, namely, languishing, moderately languishing, moderately flourishing, and flourishing. Statistically significant differences were found between the four mental health profiles and job satisfaction, organisational citizenship behaviour, and intention to leave. This study produced significant results that could be valuable for organisations to consider when exploring the mental health of managers in the agricultural sector.

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## **CHAPTER 3**

### **CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS**

The purpose of this chapter is to describe the conclusions drawn from this study, indicate possible limitations, and offer recommendations regarding the results of the study of mental health and individual and organisational outcomes of managers in the agricultural sector through latent profile analysis.

#### **3.1 Conclusions**

The overarching objective of this study was to investigate whether different latent mental health profiles existed and whether these profiles were related to individual (that is, job satisfaction) and organisational (that is, organisational citizenship behaviour and intention to leave) outcomes.

To satisfy the first specific objective of this study, mental health was conceptualised as an evolving condition based on the concept of a ‘syndrome’. Mental health can be a state of health such as disease, which can be indicated when an individual experiences a set of symptoms at a specific time and when this pattern of symptoms corresponds to distinctive cognitive and social functioning. Mental health consists of three types of well-being, namely, emotional well-being, social well-being, and psychological well-being.

Emotional well-being can be described as the presence of positive emotions and an overall experience of satisfaction with life (Bradburn, 1969). Emotional well-being is a dimension of subjective well-being and can be seen as the emotional quality an individual experiences daily – the positive affect and the negative affect that make an individual’s life pleasant or unpleasant (Diener, Suh, Lucas, & Smith, 1999).

Keyes (1998) defined social well-being as considering an individual’s circumstances and his or her functioning in a society. Social well-being consists of the following dimensions: social coherence, social actualisation, social integration, social acceptance, and social contribution.

Psychological well-being can be experienced when individuals function well in their society, can build trusting relationships with others, strive to develop themselves into better individuals, have a clear goal in life, and shape their environment to satisfy their needs (Ryff, 1989). Psychological well-being consists of self-acceptance, positive relations with others, personal growth, purpose in life, environmental mastery, and autonomy.

Research suggested that flourishing of individuals had an impact on individual and organisational outcomes such as job satisfaction, OCB, and intention to leave (Diedericks, 2012). Ultimately, employees who were functioning well emotionally, psychologically, and socially were more satisfied with their jobs, they were more inclined to OCB, and they had a lower intention to leave their organisations (Saks, 2006).

The second specific objective was to identify mental health profiles in a sample of managers in the agricultural sector. According to Keyes et al. (2008), to flourish, individuals had to experience certain characteristics of emotional well-being (at least one of the dimensions), as well as social well-being and psychological well-being (at least six of these dimensions), on a daily basis or almost every day. Languishing individuals reported that they experienced at least one of the dimensions of emotional well-being and at least six of the symptoms of social and psychological well-being almost never or once or twice during a specific time. Keyes (2002) proposed a dual-continuum model of mental health. The model involved languishing (at one end of the continuum), moderate mental health, and flourishing (at the opposite end of the continuum). Therefore, this study used latent profile analysis (LPA) to identify the mental health profiles of managers.

The results of this study showed that four mental health profiles of managers could be extracted, as opposed to Keyes's proposed dual-continuum model. The mental health profiles extracted were as follows: languishing, moderately languishing, moderately flourishing, and flourishing. According to the findings, individuals who were classified under the moderately mentally healthy profile had to be split into two separate profiles, namely, moderately languishing and moderately flourishing, due to a lack of positive functioning dimensions (social and psychological well-being) or a lack of experience of these. Based on the results, the data revealed that a minority of managers (9.6%) were grouped under languishing; these individuals experienced low levels of emotional and social well-being. For the moderately languishing profile, 21% of individuals fell under this



profile; these individuals experienced average levels of emotional well-being, below-average scores of social well-being, and moderate levels of psychological well-being. The majority of managers (43%) could be grouped as moderately flourishing. Individuals in this group experienced above-average emotional well-being and moderate levels of social well-being, and they were psychologically well. Lastly, 26.4% of individuals flourished and could be considered mentally healthy.

The third specific objective of this study was to compare the three categories of well-being to the profiles identified in the latent profile analysis.

*Languishing* – these individuals displayed low levels on two of the three symptoms of emotional well-being. Individuals did not seem to be happy, but showed some interest in life, although they did not seem to be satisfied with life in general. Languishing individuals experienced low levels of social well-being. They might not experience the feeling that they contributed to their society (social contribution) and rarely believed in positive change in their community (social actualisation). These individuals struggled to understand what was happening in society (social coherence). Individuals in the languishing profile experienced some sense of belonging to their community (social integration) and occasionally had a positive attitude to difficulties in life (social acceptance). Regarding psychological well-being, individuals seemed to experience a positive attitude to past and present aspects of their lives (self-acceptance) and showed some skill in managing certain complexities in their environment (environmental mastery). Languishing individuals seldom had trusting and personal relationships with others (positive relations). They seemed to lack a self-driven attitude (autonomy), seldom worked on self-development (personal growth), and did not have clear goals and beliefs in life (purpose in life).

*Moderately languishing* – individuals in this profile experienced happiness and showed interest in life, but seemed to be less satisfied with their lives. These individuals experienced low levels of social actualisation (they struggled to believe that their environment could reach its full potential) and social coherence (they did not fully understand the functioning of society). Moderately languishing individuals felt that they had something to contribute to society (social contribution) and that they belonged in their society (social integration). They, furthermore, believed that people were good (social acceptance). These individuals were relatively psychologically well. Moderately

languishing individuals somewhat accepted their past and had a positive attitude to their present environment (self-acceptance), they had a sense of direction and often experienced meaning in life (purpose in life), they experienced some sense of self-direction with regard to their work ethic (autonomy), and when applicable, they would be able to function in complex environments (environmental mastery). Yet moderately languishing individuals struggled to build and maintain trusting relations with others (positive relations with others), and personal development might not be a priority for these individuals (personal growth).

*Moderately flourishing* – managers in this profile experienced frequent levels of happiness and interest in life, although they were satisfied with life less frequently. These individuals functioned well with regard to contributing to their environment and adding some value to their environment (social contribution) and experienced a sense of belonging in their environment (social integration). When others might be struggling, moderately flourishing individuals acknowledged this and made a positive contribution by offering to help or assist them (social acceptance). Social actualisation (believing that their environment could reach its full potential) and social coherence (struggling to actively understand how society worked) were experienced less frequently. These individuals were psychologically well with regard to having a positive attitude of acceptance towards themselves in the present as well as in the past (self-acceptance). They had goals and were working to achieve these in order to lead a meaningful life (purpose in life). Moderately flourishing individuals were self-directed learners and created more opportunities for learning (autonomy), they had the ability to build positive and trusting relationships with others (positive relations with others), and they were adaptable in new and complex environments (environmental mastery). Such individuals strived for personal development less frequently compared to individuals who flourished.

*Flourishing* – flourishing individuals experienced high levels of happiness and interest in life and seemed to be satisfied with their life overall. Individuals in this profile experienced high levels of social contribution (knowing their actions positively contributed to the environment), believed they belonged in their society (social integration), approached others with a positive attitude, and recognised when others were experiencing difficulties (social acceptance). They also experienced social actualisation (believing that society could change into a positive environment) and social coherence (understanding what was

happening in society), but less frequently. Flourishing individuals had a positive outlook on their present life and accepted their past (self-acceptance), were goal driven, and believed that they had meaning in life (purpose in life). They had a self-directed work ethic and were driven to excel in life (autonomy). Furthermore, flourishing individuals knew how to build trusting relationships with others (positive relations with others), had the ability to function in complex and unfamiliar environments (environmental mastery), and strived for personal development and growth (personal growth). Flourishing individuals were emotionally, socially, and psychologically well.

The fourth objective of this research study was to investigate whether there was a relationship between the four mental health profiles and individual and organisational outcomes. The results indicated that there were statistically significant differences between the four mental health profiles and job satisfaction. The profiles showed significant differences between managers, ranging from languishing, to moderately languishing, to moderately flourishing, and to flourishing. Managers experienced different levels of job satisfaction, ranging from low job satisfaction to experiencing high job satisfaction. This implied that flourishing managers experienced higher levels of job satisfaction compared to those managers who languished.

The research study was used to determine a statistically significant difference in organisational citizenship behaviour, specifically related to the individual. Constructs contributing to individual organisational citizenship behaviour were altruism and conscientiousness. Statistically significant differences were found between the four mental health profiles and organisational citizenship behaviour (altruism and conscientiousness). The profiles showed significant differences between managers who languished and those who flourished, managers who were moderately languishing and those who were flourishing, moderately flourishing and flourishing managers, and languishing managers and moderately flourishing managers. However, there were no statistical differences between the languishing and moderately languishing and the moderately languishing and moderately flourishing profiles. This showed those individuals who were languishing, moderately languishing, moderately flourishing, and flourishing experienced different levels of altruism and conscientiousness in their job and organisation.

The findings determined statistically significant differences between the languishing, moderately languishing, moderately flourishing, and flourishing profiles and organisational citizenship behaviour, specifically towards the organisation. Constructs contributing to organisational citizenship behaviour focusing on the organisation were civic virtue and courtesy. The results indicated that there was no statistical difference between the languishing and moderately languishing profiles. Individuals who languished, moderately languished, moderately flourished, and flourished experienced civic virtue and courtesy in the organisation.

The results showed that there were statistically significant differences between the four mental health profiles and intention to leave. Languishing and moderately languishing individuals were more likely to have the intention to leave their organisations than moderately flourishing and flourishing individuals, who were less likely to leave their organisations.

In conclusion, the findings of this study showed that four different mental health profiles could be identified for managers in the agricultural sector, using Keyes's (2002) mental health model as basis. This study, however, also challenged Keyes's (2002) dual-continuum mental health model and proposed that four mental health profiles suited the data best, namely, languishing, moderately languishing, moderately flourishing, and flourishing. There were statistically significant differences between the four mental health profiles and job satisfaction, organisational citizenship behaviour, and intention to leave.

### **3.2 Limitations of the research**

This study had various limitations. A cross-sectional design was used, which could be seen as the first limitation, for the reason that no causal relationship could be tested. Common method variance observed the relationship between variables, as well as their attributes, and certain factors and constructs. A limitation of the cross-sectional design was that there might be temporary factors that preferred specific measures and served as sources of the common method of variance (Spector, 2019). Future studies could benefit from using cross-sectional design, but would have to consider using common method variance.

Secondly, random sampling could not be used. The sample of this study consisted of managers in agricultural organisations in South Africa. The focus was on these managers due to the fact that the agricultural sector was a challenging environment in which to work because of the external stress factors that these managers had to face, not only from an organisational perspective, but also from an economic perspective. Findings could, therefore, not be generalised to other organisations in South Africa (Swart & Rothmann, 2012).

In the third place, future studies should move beyond self-report questionnaires, as a multi-method data source approach could be used to provide the opportunity to explore the in-depth experiences of mental health and individual and organisational outcomes in greater detail. Various data collection methods could be used, for example, interviews and focus groups involving the different mental health profiles identified, to extract greater insight into mental health profiles of managers. The use of a multi-method data source approach would clearly allow for a distinction between the experiences of job satisfaction, OCB, and intention to leave according to the mental health profiles of managers.

Lastly, latent profile analysis was a more systematic method to assess different profiles than the more subjective criterion used by Keyes. It was necessary to relate the outcomes to latent profiles to ensure that meaningful differences existed between the profiles. Statistical considerations are one set of criteria to form latent profiles. However, the proof for the value of the profiles is that outcomes differ among different profiles.

### **3.3 Recommendations**

Based on the results of this study, recommendations can be made both for solving the research problem and for future research in the field.

#### **3.3.1 Recommendations to solve the research problem**

This research study identified four unique mental health profiles for managers in the agricultural sector as opposed to Keyes's dual-continuum model for mental health. The focus was on the differences in the mental health profiles in terms of job satisfaction, organisational citizenship behaviour, and intention to leave. In the first place, the study

provided evidence that job satisfaction, OCB, and intention to leave influenced the languishing, moderately languishing, moderately flourishing, and flourishing profiles differently as far as mental health experiences were concerned. Languishing and moderately languishing individuals experienced less job satisfaction than moderately flourishing and flourishing managers, who did experience job satisfaction. A recommendation for agricultural organisations would be to design interventions specifically focusing on job satisfaction, OCB, and retaining managers in the organisation.

Secondly, this study provided an understanding of the different mental health profiles of managers in the agricultural sector and how these profiles differed with regard to job satisfaction, OCB, and intention to leave. More in-depth research could be conducted into different mental health profiles of managers, in general, in South Africa.

In the third place, managers had different mental health profiles, which led to their experiences of job satisfaction, OCB, and intention to leave being different. Therefore, further research could be done into mental health profiles and other individual and organisational outcomes. Organisations need to stress the importance of understanding the different mental health profiles and implement appropriate interventions to enhance the mental health of managers in organisations.

### **3.3.2 Recommendations for future research**

The findings of this study regarding the four mental health profiles of managers in the agricultural sector, namely, languishing, moderately languishing, moderately flourishing, and flourishing, require further investigation. This was the first study to focus on mental health profiles of managers working in the agricultural sector and their different experiences of job satisfaction, OCB, and intention to leave. Future research could focus on mental health, the differences between mental health profiles, and the influence of the differences.

As managers in the agricultural sector with different mental health profiles experienced different levels of job satisfaction, OCB, and intention to leave, future studies could focus on designing and developing specific interventions to enhance levels of job satisfaction and OCB and to lower intention to leave.

Furthermore, future research could be conducted into various managerial groups to generalise results, as this study only focused on managers working in the agricultural sector in South Africa.

### **3.4 Chapter summary**

This chapter summarised the findings of the research study, addressed possible limitations of the study, and made suggestions for future research.

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