Revealing the emotion lexicon of the Setswana language within the South African Police Service

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COMMENTS

The reader should keep the following in mind:

- The editorial style as well as the references referred to in this mini-dissertation follow the format prescribed by the Publication Manual (5th edition) of the American Psychological Association (APA). This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Potchefstroom Campus) to use APA style in all scientific documents as from January 1999.

- The mini-dissertation is submitted in the form of three chapters, each with its own reference list. The first chapter serves as an introduction to, and an overview of the study. Chapter two consists of a research article. The last (third) chapter contains the conclusions, limitations and recommendations.
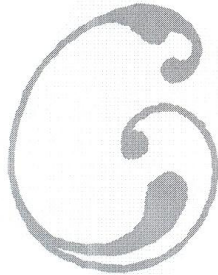
11 November 2009

Hiermee verklaar ek, **me Cecilia van der Walt**, dat ek die taalversorging van die **skripsie** van me **Christelle Fourie** getitel *REVEALING THE EMOTION LEXICON OF THE SETSWANA LANGUAGE GROUP IN THE SOUTH AFRICAN POLICE SERVICE,* behartig het.

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DECLARATION

I, Christelle Fourie, hereby declare that "Revealing the Emotion Lexicon of the Setswana Language Group in the South African Police Service" is my own work and that the views and opinions expressed in this work are those of the author and relevant literature references as shown in the references.

I further declare that the content of this research will not be handed in for any other qualification at any other tertiary institution.

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Christelle Fourie

ACKNOWLEDGEMENTS

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SUMMARY

Title: Revealing the emotion lexicon of the Setswana language within the South African Police Service.

Key Terms: Emotion words, emotion terms, dimensionality, lexicon, prototypicality, emotion theory, police, cross-cultural, Setswana.

Anthropologists claim that people in a variety of human societies differ enormously in how they experience, express and understand emotion (Kalat & Shiota, 2007). Research on emotions, around the world, has become increasingly popular during the past few decades. Emotion is involved in the mainstream of topics in psychology, be it about antecedents, emotional expressions and responses, or about the dimensions underlying the large emotion lexicon (Shaver, Schwartz, Kirson, & O'Connor, 1987).

While the study of emotion is of universal interest, emotions are of special interest for South-Africa. By studying the emotion lexicon of the Setswana culture, an evidence-based intervention program could be implemented by the SAPS, which will be relevant and practical to address emotional needs and support for South African Police members to express their emotions more accurately. This will help to ensure a healthy, productive and motivated police service which is an important contributor to the society (Van der Doef & Maes, 1999). South Africa, a multi-cultural country, with its eleven official languages, makes an exceptional country for studying emotion as presented in different cultures.

The main objective of this study was to investigate emotion and culture in accordance with a literature study, and to identify the different emotion words within the Setswana language group and determine the prototypical emotion words as well as the cognitive structure (different dimensions) of emotion concepts.

A survey design with convenience sampling was used to achieve the research objectives in a series of three phases (studies). The study population for the first (N=154) and third (N=140)

phases consisted of entry level police applicants (students) from the South African Police Services. The study population (*N*=51) of the second phase consisted of Setswana language experts. Free Listing questionnaires, Prototypicality questionnaires and Similarity rating questionnaires were administered. Statistical methods and procedures (Multidimensional Scaling and Descriptive Statistics) were used and Cronbach alpha coefficients were calculated to analyse the results.

Results of the Free Listing task gave a strong indication that basic emotion concepts of joy, sorrow and love readily came to mind in the Setswana group. Most prototypical concepts listed by the Setswana-speaking group were those of: "lela" (cry), "rata" (like), "go tenega" (fed up), "kgalefo" (warning), "lerato" (love), "boitumelo" (joy), "go utlusiswa botloko" (being hurt), "kwata" (anger), "amego maikutlo" (affection), "itumeletse" (elation), "botlhoko" (disappointment) and "itumela" (happiness).

In order to determine the cognitive structure of emotion concepts, a multi-dimensional scaling was performed. A five-factorial solution was created with dimensions of Pleasantness, Yearning, Arousal, and Potency with the last dimension, "Go amega maikutlo", being unique to the Setswana group.

Suggestions were made concerning future studies on the emotion lexicon.

OPSOMMING

Titel: Bekendmaking van die emosie-atlas van die Setswana taalgroep binne die Suid-Afrikaanse Polisiediens.

Sleutelbegrippe: Emosie-woorde, emosie-terme, dimensionaliteit, woorde-atlas, prototipiese, emosie-teorie, polisie, kruiskultureel, Setswana.

Antropoloë verklaar dat mense in 'n verskeidenheid menslike gemeenskappe merkwaardig verskil ten opsigte van die wyse waarop hulle emosies ervaar, uitdruk en verstaan (Kalat & Shiota, 2007). Oor die laaste paar dekades heen het navorsing oor emosie wêreldwyd besonder gewild geraak. Emosie maak deel uit van die hoofstroomnavorsing in sielkunde, hetsy oor die geskiedenis, emosionele uitdrukkings en antwoorde of oor die verskillende dimensies wat die emosiewoordeboek ondersteun (Shaver, Schwartz, Kirson, & O'Conner, 1987).

Daar is 'n universele belangstelling in die studie van emosie maar emosies is van spesifieke belang vir Suid-Afrika. Deur die emosie-woorde te bestudeer kan 'n woorde-atlas ontwikkel word wat kan bydra tot die ontwikkeling van nuwe intervensies vir die Suid-Afrikaanse Polisiediens (SAPD), wat relevant en prakties toegepas kan word om emosionele ondersteuning te bied en te help om emosies beter uit te druk. Dit kan daartoe bydra om 'n gesonde, produktiewe en gemotiveerde polisiediens te ontwikkel wat weer 'n belangrike bydrae tot die gemeenskap kan lewer (Van der Doef & Maes, 1999). Suid-Afrika is 'n multikulturele land met elf amptelike tale, wat die land uitsonderlik maak om emosie binne verskillende kulture te bestudeer.

Die doelstellings van hierdie studie was om emosie en kultuur deur middel van 'n literatuurstudie te konseptualiseer, om die verskillende emosie-terme binne die Setswana taalgroep te identifiseer, om te bepaal wat die prototipiese emosie-woorde binne hierdie taalgroep is en om die kognitiewe struktuur (verskillende dimensies) vir emosie-konsepte te bepaal.

'n Vraelysontwerp met gerieflikheidsteekproeftrekking is aangewend om die navorsingsdoelstellings in 'n reeks bestaande uit drie fases (studies) te bereik. Die studiepopulasie vir die eerste (N=154) en derde (N=140) fase bestaan uit toetredekonstabels (studente) wat aansoek gedoen het om poste in die Suid-Afrikaanse Polisiediens (SAPD). Die studiepopulasie vir die tweede fase bestaan uit taalkundiges (N=51). Vryelys-vraelyste, Prototiperingsvraelyste asook Vergelykingsvraelyste is gebruik. Statistiese metodes en prosedures is gebruik om resultate te analiseer.

Resultate wat uit die vryelys-aktiwiteit verkry is, gee 'n sterk aanduiding dat blydskap, hartseer en liefde die kultuurgroep se basiese emosiekonsepte is.

Die mees prototipiese konsepte soos deur die Setswana-sprekende kandidate gelys, is onder andere huil, hou van, sat vir, waarskuwing, liefde, blydskap, seergemaak, woede, hartlikheid, teleurstelling, uitgelate en om gelukkig te wees.

Om die kognitiewe struktuur van emosie-konsepte te bepaal is 'n multidimensionele skaling gedoen. 'n Vyfdimensionele struktuur is geskep met dimensies van Evaluasie, Verlange, Opwekking, Dominansie en en die laaste dimensie "Go amega maikutlo" wat uniek is tot die Setswana kultuur.

Aanbevelings is aan die hand gedoen met betrekking tot toekomstige navorsing rakende die emosiewoordeboek.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on the cross-cultural comparability of the emotion lexicon of the Setswana language group in South Africa.

Chapter 1 contains the problem statement and a discussion of the research objectives in which the general objective and specific objectives are set out. The research method is explained and finally the division of chapters is described.

1.1   PROBLEM STATEMENT

Research on emotions has become increasingly popular during the past few decades. Everyone knows emotions; we experience them within ourselves and sense them in others (Ekman & Davidson, 1993). Emotions are a daily experience in life, both inside and outside of work. According to Lord and Kanfer (2002), one of the reasons to be interested in human emotions in the workplace is that applied scientists have the ambition to enhance human welfare. Emotion can be seen as central components of human reactions to many types of stimuli. Consequently, emotions can directly cue specific behaviours, as well as indirectly influence behaviour by their effect on physiological, cognitive, or social processes (Lord & Kanfer).

Although emotion knowledge has been widely researched in the world, concepts and approaches vary considerably. Some researchers focus on antecedents, some on emotional expressions and responses, others on self-control of these responses, and still others on the dimensions underlying the large emotion lexicon (Shaver, Schwartz, Kirson, & O'Connor, 1987).

Although everyone experiences emotions, defining it seems difficult. Most may agree that anger, fear, sadness and excitement are strong emotions, but can pain, hunger, alienation and courage be viewed as emotions? (Fehr & Russell, 1984). According to Fehr and Russell (1984), attempts to

define emotions can be traced back at least as far as Plato and Aristotle. In those days the nature of emotions (or passion, as it was then called) was debated by Philosophers and Psychologists. The debate continued and in 1919 Watson said that emotions are behavioural whilst Wenger, later in 1950, said that an emotion is a type of physiological activity. Solomon (1977) argued that emotion is a type of judgment (a mental event), and on the other hand Tomkins (1980) argued that emotions are facial behaviour.

Scherer (2005) points out that the concept of ''emotion'' presents a particularly tricky problem. Even though the term is used very often, to the point of being tremendously fashionable these days, the question ''what is an emotion?'' rarely generates the same answer from different individuals and scientists. Fox and Spector (1999) extended the definition and describe emotion as a psychological construct consisting of cognitive appraisal, physiological activation, motor expression, motivation, behavioural readiness and subjective feelings.

The International Consortium for Cross-Cultural Research on Affect (ICCRA, 2007) maintains that emotions can be characterised as basic human processes of which the main function is to detect events that are relevant for the concerns of the organism and to prepare for appropriate action. Thus emotions present an appealing perspective for studying culture. To discover which events arouse emotions and which specific emotions are aroused by certain events can be of enormous value for revealing the concerns of a culture and the way it interprets the daily environment (ICCRA).

Around the world people can name the emotion being expressed by looking at a photograph (Ekman, Friesen, & Ellsworth, 1982a, 1982b). People from different cultures agree on which emotion usually follows a particular set of abstract antecedents, such as insult, loss, and danger (Boucher & Brandt, 1981; Brandt & Boucher, 1984; Ekman, 1984; Roseman, 1984; Sullivan & Boucher, 1984). Both adults and children can report on typical antecedents of several universal emotions, as well as agree on the resemblance of a varied set of emotions.

Emotions play a central role in individual experience and interpersonal relations, but some people are highly knowledgeable about emotions while others still need to know more about it.

Still, an important question in the literature remains, how many emotions exist and how can emotions be defined? According to Russell (1991), this question can be answered by listing the emotions - anger, fear, shame, envy, embarrassment, happiness and so on. Unfortunately, listing emotions faces some problems, especially in a multicultural society such as that of South Africa. The main issue is not a list of emotions in different languages, but comparability of different emotion concepts in different cultures.

Levy (1984) says it seems that emotion processes in a culture are coded into emotion terms and offer access to culture-specific representations of the emotion domain. The lexical approach assumes that most, if not all, the emotions experienced by members of a cultural group will be encoded in their language; therefore the most basic or important emotions will be encoded in most languages (Church, Katigbak, Reyes, & Jensen, 1998). Clore, Ortony and Foss (1987) describe emotion terms as internal mental conditions with a central focus on affect rather than on cognition or behaviour. The above-mentioned researchers identified the following categories: firstly, the affective-behavioural states (cheerful) and affective-cognitive states (encouraged), secondly the cognitive conditions with cognitive state (certain), cognitive-behavioural states (cautious), thirdly the physical and bodily states (roused, sleepy), and lastly, the external conditions which can be divided into subjective (attractive, trustworthy) and objective (insulted) subcategories (Clore et al.).

The communication between an emotion term used by one group and a term used by another can be studied by means of translation procedures (Fontaine & Poortinga, 2002). Language has a limited vocabulary for emotions (Russell, 1991), and some emotion words only exist in a certain language, but not in another. Therefore emotion words exist that are highly relevant for a specific culture group yet cannot be translated into other languages (ICCRA, 2007). This raises concern for the possibility that different languages recognise different emotions (Russell, 1991), and that translating equivalent emotion words can mean very different things to cross-cultural groups (ICCRA). There are more emotional words than emotional experiences, and this could also be misleading in different cultures (Davidson, 1993). However, Fehr and Russell (1984) point out that the concept "emotion" has an internal structure and can be reliably sorted from better to poorer examples of emotion (prototypicality). This ranking indicates how readily these emotions

will come to mind when asked to list emotions, as well as the probability of it being labelled as an emotion if confronted by the concept.

Self-report structures are essential, especially within cross-cultural studies in investigating the conceptual organisation of emotions (Church, Katigbak, Reyes, & Jensen, 1999). Cross-cultural similarities as well as differences exist across all aspects and dimensions of emotions (Mesquita & Frijda, 1992). A multicultural approach is therefore more credible in establishing universalities, at the same time pinpointing cross-cultural differences that are indeed unique to the culture involved (Herrmann & Raybeck, 1981).

Emotion theories give exceedingly different views regarding emotions. A meaning analysis of emotion words in different languages, based on the componential theory can be used to better describe and understand emotion (Scherer, 2005). The componential emotion theory offers a comprehensive framework to study emotions. According to the componential theory, emotions are fairly synchronized processes consisting of relationships among various components such as appraisals, psycho-physiological changes, expressive behaviours, action-tendency, and subjective experiences that are elicited by specific and relevant situational antecedents (Frijda, 1987; Mesquita, Frida, & Scherer, 1997). The assumption is that emotion words will vary with respect to what type of componential features (appraisal results, physiological symptoms, motor expressions, action tendencies, or feeling qualia) they imply to a speaker of the respective language.

If people use different emotion words to communicate, it seems helpful to differentiate between the respective emotions in a scientific analysis (Fontaine, Scherer, & Roesch, 2006). Scherer (2005) recommended asking speakers of different languages to rate the meaning of emotion words according to the type of appraisal the person is expected to make of the event and its consequences, the response patterns in the different components, the behavioural impact generated, as well as the intensity and duration of the related experience. The advantage of obtaining component profiles for emotion terms is to make comparisons between different cultures, using different emotion words, as well as translating emotion words for intercultural comparative studies (Fontaine et al., 2006).

Interdisciplinary emotion researchers from different cultures recently started developing the componential GRID approach (ICCRA, 2007). According to Fontaine et al. (2006) the componential GRID approach consists of a grid of emotion words by emotion features. Based on cross-cultural emotion literature, a GRID has been constructed consisting of 24 emotion terms and 144 emotion characteristics. The South African GRID-plus project is strongly related to the ICCRA GRID project. In the South African GRID-plus project, eleven different instruments will be constructed – one for each language group. These instruments will be constructed on the basis of extensive qualitative research concerning the emotion lexicon and the emotion characteristics that define the emotion lexicon in each of the language groups (Fontaine et al., 2006).

While the study of emotions is of universal interest because of its central role in the social sciences and humanities, emotions are of special interest for South Africa, both for theoretical and applied reasons. South Africa is a multi-cultural country with eleven official languages; thus making it an excellent example for studying emotions as presented in different cultures. Due to the multi-cultural aspects, different cultures as well as language groups can be found in South African organisations, especially government organisations such as the health sector and the South African Police Service (SAPS).

Policing in South Africa is particularly stressful, keeping in mind the socio-economic and political turmoil and changes of the past thirty years (Gulle, Tredoux, & Foster, 1998). The SAPS have undergone major transformation during the last decade. These transformations and restructuring involved the implementation of the employment equity policy and organisational restructuring that affected the internal harmony among employees (Pienaar & Rothmann, 2005). Job-inherent stressors in the SAPS that are emotionally intense (such as violent injury, pursuit of an armed suspect, and response to a scene involving the death of a child) are very common (Peltzer, 2001). The combination of these stressors induces an unstable situation regarding the mental health of SAPS officials. Workplace counsellors (Employee Health and Wellness Department in the SAPS) are expected to have an understanding of organisational cultures and workplace factors that might impact on an employee's work (Hughes & Kinder, 2007). Cultural and language barriers can impede effective counselling; whilst culture-specific emotional competence measures might help the counselling process in that it helps the counsellor to

identify a client's strengths and weaknesses, as well as feedback on the client's improvement (Ciarrochi & Scott, 2006). It is expected of Police officials to handle emotionally loaded scenes where different cultures and languages come together. Therefore is it important for the police officials to understand and acknowledge their own emotions and behaviour as well as those of other cultures. Descriptive emotion terms, as well as the accompanying behaviour, may differ among cultures. This emphasises the importance of investigating the differences between the unique South African cultures represented in the South African Police Service context.

The focus of this study is firstly to identify the relevant and representative emotion words in the Setswana culture within the SAPS, based on Free Listing of emotions. Secondly, the Prototypicality of emotion words needs to be established in order to understand emotions represented in everyday life within the specific culture context. Lastly, the study will look at the categorisation of the emotion terms for the Setswana culture in the SAPS. Studying the emotion lexicon of different cultures in South Africa could contribute to the development of new interventions for the SAPS officials who find themselves in highly emotionally laden situations with persons from very diverse cultural backgrounds. Therefore is it important that police officials receive cultural-sensitive emotional competence training in which they obtain more insight into emotion processes and their cross-cultural differences and similarities, and learn to deal with them more adequately, in terms of both relations with clients and self-management.

The following research questions can be formulated based on the above-mentioned description of the research problem:
• What are the different and representative emotion words within the Setswana-speaking group in the SAPS?
• What are the relevant and representative prototypical emotion words that have been encoded in the Setswana-speaking group in the SAPS?
• What are the extents to which the emotion words refer to specific positions on each of the emotion features in the Setswana-speaking group in the SAPS?

In order to answer the above research questions, the following research objectives are set.

1.2   RESEARCH OBJECTIVES

The research objectives are divided into general and specific objectives.

1.2.1   General objective

The general objective of this research is to study the prototypicality and meaning of emotion lexicon encoded in the Setswana language group in the SAPS as to generate prototypical emotion words and to identify the manifestation of the emotions for this language in South Africa as well as the categorisation of emotion terms.

1.2.2   Specific objectives

The specific objectives of this research are:
- To ascertain what the relevant and representative emotion words in the Setswana-speaking group in the SAPS are.
- To ascertain what the relevant and representative prototypical emotion words are that have been encoded in the Setswana-speaking group in the SAPS.
- To ascertain the extent to which the emotion words refer to specific positions on each of the emotion features in the Setswana-speaking group in the SAPS.

1.3   PARADIGM PERSPECTIVE OF THE RESEARCH

The intellectual climate and the market of intellectual resources which direct the research include a certain paradigm perspective (Mouton & Marais, 1992).

1.3.1   Intellectual climate

The intellectual climate refers to a collection of beliefs, values and assumptions that do not directly deal with the epistemological views of the scientific research practice because it normally originates in a non-epistemological context.   It refers to the variety of non-

epistemological value systems/beliefs that are underwritten in any given period in a discipline (Mouton & Marais, 1992).

1.3.2 Discipline

This research falls within the boundaries of the behavioural sciences and more specifically Industrial Psychology. Industrial Psychology refers to the scientific study of people within their working surroundings. The above-mentioned implies scientific observation, evaluation, optimal utilisation and influencing of normal and to a lesser degree, deviant, behaviour in interaction with the environment (physical, psychological, social and organisational) as manifested in the world of work (Munchinsky, Kriek, & Schreuder, 2002).

However, to direct the research one must focus on the sub-disciplines of the paradigm to enhance the understanding of the current research project. For this research the two sub-disciplines are Humanism and the Socially-Oriented Psychoanalytical theory.

1.3.3 Meta-theoretical assumptions

Two paradigms are relevant to this research. Firstly, the literature review was done within the Ecological system theory, and secondly, the empirical study is done within the Humanism paradigm and the Socially-Oriented Psychoanalytical theory.

1.3.3.1 Literature review

The Literature review is focused on the Ecological system approach.
By assuming that emotions are a joint function of process, person, context and time the Ecological system theory goes beyond the individual and deterministic approach of emotion (Meyer, Moore, & Viljoen, 2003).

1.3.3.2 Empirical study

The empirical study is focused on the Humanistic and the Socially-oriented psychoanalytical approaches. The Humanistic approach forms part of the person-oriented approaches to psychology. The Humanistic approach serves as a person-centred approach propagated by Carl Rogers (Meyer et al., 2003). Rogers emphasises the study of the individual as a whole and the active role each person plays in actualising his or her own inherent potential. In this regard, Rogers says: "In my experience I have discovered man to have characteristics which seem inherent in his species, and the terms which have at different times seemed to me descriptive of these characteristics are such terms as positive, forward-moving, constructive, realistic and trustworthy." (Kirschenbaum & Henderson, 1990).

Rogers concludes that individuals are not just active role players in their functioning; they can also be trusted to follow a positive course in order to realise their potential and to become the best they can be. He also states that the environment plays no more than a facilitating or inhibiting role in the realisation of the individual's potential.

The ideal Rogers presents to us thus appears to endow the individual with freedom, but in practice it seems that most people are actually influenced by factors that lie outside themselves. However, Rogers emphasises the individual's freedom to change, thereby introducing the possibility that those who function in terms of the conditions of others can become free and can then realise their potential (Meyer et al., 2003). It is therefore important for the SAPS to embrace their members' wellness. Most of the time the police officials are confronted with factors outside themselves, but as Rogers said, "People have the freedom to change and realise their potential."

With the advent of sociology and anthropology as disciplines in their own right towards the end of the nineteenth century, a shift in emphasis came about in psychological thinking. Human beings were no longer regarded purely as individuals but as social beings. Alfred Adler was the first psychoanalyst to give adequate attention to the social dimension of human existence. Karen Horney (1885-1952) added largely to the Socially-oriented psychoanalytical approach. The Socially oriented psychoanalysts emphasise the role of social and cultural factors in the

development of the personality. While the Socially-oriented psychoanalysts do not deny the importance of the unconscious, they turn their attention to the consciousness and its manifestation in a concept of the "self". Regardless of whether the self is seen as an innate potential or as the outcome of both innate and acquired characteristics, the "self" represents the unique individuality of each person for these Socially-oriented psychoanalysts. Karen Horney came to the conclusion that human behaviour is shaped rather by the culture in which a person lives than by biology or sexuality. She also realised that the conflict from which problems arise should be sought in the interaction between the person and his or her environment rather than in opposing forces in the personality, as propounded in Freudian theory. In her opinion, each culture generates its own fears within its members. For example, people who live at the foot of a volcano and are continually under the shadow of death have to deal with fears different to those experienced by people who live near hostile neighbours or in a society which values competition highly (Meyer et al., 2003). This theory is important to this study of emotions, as Karen Horney emphasises that personality is mostly formed by social and cultural factors, as well as the behaviour of a person. It is therefore also of significant value to look at the social and cultural factors when investigating emotion in a specific culture.

1.3.4   Market of intellectual resources

That collection of beliefs that directly involves the epistemological status of scientific statements refers to the market of intellectual resources. The two main types of epistemological beliefs are the theoretical beliefs and the methodological beliefs (Mouton & Marais, 1992).

1.3.4.1 Theoretical beliefs

Theoretical beliefs can be described as all beliefs that can make testable judgments regarding social phenomena. These are all judgments regarding the 'what' and 'why' of human phenomena and it includes all models and theories and all conceptual definitions of the research (Mouton & Marais, 1992).

A. Conceptual definitions

Given below are the appropriate conceptual definitions that are relevant to this research:

Based on the componential emotion theory, Fontaine et al. (2006) hypothesized that *emotion words* in common languages refer systematically to appraisals, psycho-physiological changes, expressive facial, vocal, and gestural behaviour, action tendencies, subjective experiences, and regulation efforts. The assumption is specifically that emotion words will differ with respect to what type of componential features they imply to a speaker of the respective language.

Emotion term is the phrase that is used to refer to a specific emotion. The communication between an emotion term used by one group and a term used by another group can be studied by means of translation procedures (Fontaine & Poortinga, 2002).

Dimensionality can be explained through appraisals that characterise emotions and are represented by means of a limited number of components or dimensions. Each type of appraisal can be described as a unique pattern of such components, or dimension values (Frijda, 1987). It is also defined by Fontaine, Scherer, Roesch, and Ellsworth (2007) as the dimensional space that most economically accounts for the similarities and differences in emotional experience.

Boellstorff and Lindquist (2004) *emotion lexicon* is drawn upon by persons from a cultural group where the latter term means "speakers of the same language" According to Kovecses (2000), and Wierzbicka (1999), language stands in for culture and researchers discover that all speakers of a language share a cognitive structure for emotion.

Prototypicality can be defined as a cognitive structure that specifies the typical ingredients, causal connections, and temporal order for each emotion concept (Russell, 2003).

Since 1993 the traditional view of the *South African Police Service* has changed from that of crime fighters to that of community policing. The movement from the traditional crime-fighting model to a community-based model of policing in South Africa brings about change in the definition of policing. Whereas it used to be a "police force", it is now a "police service" (Kleyn, Rothmann, & Jackson, 2004).

Cross-cultural comparative approaches are of particular significance for the study of emotion, since socio-cultural factors play an important role, as stressed by many writers in psychology, sociology and anthropology. There seem to be relatively clear cultural expectations as to how appropriate particular emotions and particular intensities of emotion are in particular situations,

which type of emotional expression seems to be legitimate and which methods of managing emotion are to be preferred at any one time (Scherer, Summerfield, & Wallbott, 1983).

Setswana is commonly known as Tswana, and it is Botswana's national language. The majority of Tswana or Setswana speakers are, however, found in South Africa. There seems to be a few obstacles when one attempts to learn the language due to the fact that different dialects exist. Wealth is measured among the Setswana speakers by the number of cattle they have in their possession. The world's western ways have penetrated this culture, and this has led to the elimination of the Setswana speaker's traditional clothing (Legere, 1996).

B. Models and theories

A model is seen as a hypothetical description of a complex process (Mouton & Marais, 1992). Mouton and Marais explain that a model, in social sciences, can be defined as a theoretical construct which represents a specific social or psychological process via a set of defined variables and the logical and qualitative (and quantitative) relationships between them. In essence, the model provides a simplified framework to illustrate complex processes.

Mouton and Marais (1992) define a theory as a set of consistent constructs (concepts), definitions and propositions that present a systematic view of phenomena by specifying relations among variables with the purpose of explaining and predicting the phenomena.

This research will be based on the Componential Theory of Emotion (Ellsworth & Scherer, 2003; Fontaine et al., 2006; Frijda, 1987; Van Reekum & Scherer, 1997) which provides the theoretical basis on which the present research relies. The theory particularly focuses on the cognitive component of emotion, demonstrating theoretically and empirically that cognition and emotion are interdependent. Emotional responses are elicited by individuals' subjective evaluation of an event that is relevant to their needs or goals. The ways people appraise an event will determine the emotion they will feel.

This research study is also based on the prototype approach. Rosch (1978) first proposed the prototype approach to categorisation in her writings on "fuzzy categories" in everyday language and cognition (Rosch, Mervis, Gray, Johnson, & Boyes-Braem, 1976). These were categories for which there were no clear "classical" definitions based on necessary and sufficient features. Rosch (1978) points out that these categories can be roughly defined in terms of prototypes and

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central features, and arranged hierarchically according to conceptual levels, which Rosch (1978) labelled superordinate, basic, and subordinate. When Rosch's (1978) approach is applied to the domain of emotions, with emotions being conceptualised as psychological or behavioural "objects", it is possible to conceptualise their mental representations as implicit event prototypes.

1.3.4.2 Methodological beliefs

Mouton and Marais (1992) point out that methodological beliefs can be defined as beliefs that make judgments regarding the nature and structure of scientific research and science. The empirical study is presented within the Humanistic and Socially-oriented psychoanalytical approaches.

1.4   RESEARCH METHOD

This research, pertaining to the specific objectives, consists of two phases, namely a literature review and an empirical study. The results obtained from the research will be presented in an article format.

1.4.1   Phase 1: Literature review

In phase 1 a complete review is done regarding emotion. The sources that will be consulted include: journals, books, articles, internet, media articles and police reports.

1.4.2   Phase 2: Empirical study

The empirical study consists of the research design, participants, measuring instruments and statistical analysis.

1.4.2.1 Research design

A survey design is used to achieve the research objectives (Kepple, Saufley, & Tokunaga, 1992). The survey design has the advantage of obtaining a large amount of information from a large population, Setswana-speaking police members in South Africa. The advantage of utilizing a survey design is that it is economical and the research information can be regarded as accurate (within sampling error). Disadvantages of this design include that it is time and energy consuming (Kerlinger & Lee, 2000).

1.4.2.2 Participants and procedure

The study population of the first phase (Free Listing of emotion terms) consisted of a convenience sample of entry level police students (N=154) from the South African Police Services. The sample included only black Setswana students (100%). The Free Listing questionnaires were used to gather a wide amount of emotion words from the Setswana-speaking group within 10 minutes.

The study population of the second phase (Prototypicality ratings of the Extended English Emotion List) consisted of a convenience sample of Language Experts in the specific Setswana language (N=51). The sample consisted of only black Setswana experts (100%). The Setswana-speaking experts rated the prototypicality for the concept of emotion words.

The study population of the third phase (Similarity Rating Task) consisted of a convenience sample of entry level police students (N=140) from the South African Police Service. The sample consists of only African people (100%). The students were divided into smaller groups of approximately 25 students per group and were asked to complete the Similarity Rating questionnaire.

1.4.2.3 Measuring instruments

Free Listing Questionnaire

The Free Listing questionnaire is utilised as the *first step* in this study. Students are asked to list as many emotion terms they can think of in ten (10) minutes. Terms mentioned at least five times during the Free Listing exercise are accepted and translated into English in order to construct a basic list of English emotion terms (Basic English Emotion List or BEEL). All but one of each set of words formed from the same root (e.g. hate and hatred) is removed. Furthermore, these words are converted into nouns. Terms that are clearly not an emotion are rejected. In order to ensure a comprehensive coverage of the emotion domain, the list of emotion terms are extended in the *second step* with terms translated from the emotion list reported by Shaver et al. (1987). The Indonesian and Dutch emotion lists reported by Fontaine and Poortinga (2002), as well as the 24 prototypical emotion terms (emotion terms from the GRID instrument) commonly used in both emotion research and daily language as reported by Scherer (2005), to construct an Extended English Emotion List (EEEL) which could reasonably be considered emotion words. This representative set (24 GRID terms) is chosen on the basis of (1) frequent use in the emotion literature, (2) consistent appearance in cross-cultural Free-Listing and Prototypicality rating tasks, and (3) self-reported emotion words from a large-scale Swiss household study (Scherer, Wranik, Sangsue, Tran, & Scherer, 2004).

In the *third step* of this study, the EEEL is again translated into the local language in order for native-speaking individuals to rate the prototypicality of each emotion term of the Extended Emotion List. In translating the terms, duplicate terms are removed. The final list of emotion words are rated by native-speaking experts on prototypicality for the concept of emotion.

Prototypicality Questionnaire

The Prototypicality Questionnaire is used within the Setswana language group to rate the emotion terms of the Extended Emotion List on prototypicality for the concept "emotion". Three versions of the prototypicality questionnaire are used where emotion terms are listed in randomised order. Respondents (fifty-one (*N*=51) language experts) are asked to rate the terms

on a 4-point scale. The scales were 1 (*certainly not an emotion*), 2 (*unlikely to be an emotion*), 3 (*likely to be an emotion*), and 4 (*certainly an emotion*).

Similarity Rating Questionnaire

The cognitive structure of emotions is investigated by means of similarity rating of the emotion words in order to conceptualise the cognitive representation of differences and similarity between various emotion terms (Shaver et al., 1987).

The list of prototypical emotion terms are used to draft the Similarity Rating Questionnaire. Emotion terms with the highest average scores based on prototypicality ratings are included. A final list of 80 terms are used to construct the Similarity Rating, largely following the method and procedure by Shaver et al. (1987) with the exception that terms are rated for statistical analysis. The Similarity Rating Questionnaire had to contain the 24 emotion terms (GRID terms) as reported by Scherer (2005) regardless of the average score ratings. Emotion terms are alphabetically listed and then transposed in Excel to combine the emotion terms into 3160 pairs of emotion terms. Using SPSS for Windows, these pairs of emotion terms are randomised. These pairs are then captured into eight (8) versions for the Similarity Rating Questionnaire, each containing 395 pairs of emotion terms. Students are asked to rate these combinations in terms of how closely related they are in meaning in their language. Students have to indicate the relationship in meaning between the emotion terms using an 8-point response scale. The scales were 1 (*completely opposite in meaning (antonyms)*), 2 (*very opposite in meaning*), 3 (*moderately opposite in meaning*), 4 (*slightly opposite in meaning*), 5 (*slightly similar in meaning*), 6 (*moderately similar in meaning*), 7 (*very similar in meaning*) and 8 (*completely similar in meaning (synonyms)*). The instructions furthermore mentioned that they need to remain concentrated and that every pair had to be rated.

1.4.2.4 Statistical Analysis

In the first phase (Free Listing) the questionnaires were screened and captured into an Excel sheet. The frequency of emotion words, number of students that reported each emotion term, ranking of emotion terms per student and average number of emotion terms that were reported,

as well as the median per emotion term were all captured. Emotion terms that were reported five times or more by students were selected in order to compile the Basic English Emotion List or BEEL

In the second phase (Prototypical rating), Cronbach alphas were computed for each of the emotion terms. The scores of participants who reported an alpha score less than 0,40 on the combined score were removed; these participants had some distinctive understanding of the emotion words. The 80 emotion words with the highest average scores (inclusive of the 24 GRID terms as reported by Scherer (2005)) which remained were most prototypical and were retained.

In the third phase (Similarity Rating Task) the analysis included calculating the reliability coefficients of the different students. The second step included a Classical Multidimensional Scaling (CMDS) procedure.

1.5   CHAPTER DIVISION

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

Chapter 1: Research proposal and problem statement.
Chapter 2: Research article: Revealing the emotion lexicon of the Setswana language group in the South African Police Service
Chapter 3: Conclusions, limitations and recommendations.

1.6   CHAPTER SUMMARY

In this chapter the problem statement and research objectives were discussed. The measuring instruments and research method used were explained, followed by a description of how the mini-dissertation is organised.

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CHAPTER 2

RESEARCH ARTICLE

Revealing the emotion lexicon of the Setswana language within the South African Police Service

ABSTRACT

The objectives of this study were to explore the Free Listing, Prototypicality and Similarity of emotion concepts within the Setswana language group. More specifically the study attempts to focus on the emotion structure within the South African Police Service (SAPS). The SAPS has become a truly multicultural institution within the last few years, with police recruits and police officials from all ethnic groups. This study attempts to contribute to the psychological understanding to incorporate all cultures from South Africa. This study is therefore relevant to cross-cultural emotion research, in terms of both methodology and results. A survey design was used to achieve the research objectives utilising availability samples in a series of three phases (studies). Free Listing questionnaires, Prototypicality rating questionnaires as well as Similarity rating questionnaires were used as measuring instruments. The participants (students) of the Free Listing (N=154) and Similarity questionnaires (N=140) consisted of a Setswana-speaking language group that had applied for posts in the SAPS during 2007 and 2009. The participants of the Prototypicality rating questionnaires consisted of native-speaking language experts (N=51). Words with the highest frequency, as listed during the Free-listing task, were joy, sorrow, love, annoyed, happy, cry, hatred and grief. The five prototypical terms with the highest scores in Setswana were cry, like, fed up, warning and love. From the multidimensional scaling (Similarity rating) a five-dimensional structure (Evaluation, Yearning, Arousal, Potency and "Go amega maikutlo") was identified.

OPSOMMING

Die doelstelling van hierdie studie was om die vryelys, prototipe-emosie-terme en die soortgelykheid van emosie-konsepte binne die Setswana taalgroep te ondersoek. Meer spesifiek wil hierdie studie fokus op die Suid-Afrikaanse Polisiediens (SAPD). Die SAPD het in die afgelope paar jaar verander in 'n multikulturele instansie met polisie-offisiers van 'n wye verskeidenheid etniese groepe. Hierdie studie wil bydra tot die sielkundige begrip van die inkorporering van alle kulture in Suid-Afrika. Die studie is daarom relevant vir kruis-kulturele emosie-navorsing in terme van metodologie en resultate. 'n Vraelysontwerp met gerieflikheidsteekproeftrekking is gebruik om die navorsingsdoelstellings in 'n reeks van drie fases (studies) te bereik. Vryelys-vraelyste, Prototipering-vraelyste asook Vergelykingsvraelyste is as meetinstrumente aangewend. Die ondersoekgroepe (studente) vir die Vryelys-(N=154) en Vergelykingsvraelyste (N=140) het bestaan uit 'n groep inheemse moedertaalsprekers wat gedurende 2007 en 2009 aansoek gedoen het om 'n betrekking in die SAPD. Die ondersoekgroepe vir Prototiperingsvraelyste het bestaan uit moedertaalsprekers wat as taalkundiges geag word (N=51). Woorde met die hoogste frekwensie in die Vryelys-taak is vreugde, hartseer, liefde, ergerlikheid, gelukkigheid, huil, haat en rou. Die vyf mees prototipiese woorde is huil, hou van, sat vir, waarskuwing en liefde. Uit die multidimensionele skaling kon daar vir die Setswana groep 'n vyfdimensionele struktuur (Evaluasie, Verlange, Opwekking, Dominansie en "Go amega maikutlo") geïdentifiseer word.

Emotion is often involved in the mainstream of topics in psychology, be it about antecedents, emotional expressions and responses, or about the dimensions underlying the large emotion lexicon (Shaver, Schwartz, Kirson, & O'Connor, 1987). Furthermore, emotions are also involved in every other problem experienced by humanity. One of the most favourite questions to ask in society is: "How do you feel? Even after a sports event the winners are asked, or following a traumatic event, we ask: "How do you feel?" Interests in emotions are therefore constantly expressed (Kalat & Shiota, 2007).

The concept "emotion" is still puzzling most of the emotion researchers, since William James first wrote an article titled "What is an emotion?" in 1884. Today, already a century later, there is still little convergence on an answer. According to Kalat and Shiota (2007), the term "emotion" literally reflects a kind of motion (e-motion), a motion outward. When it first came into common use, the term emotion meant disturbance or turbulence; a thunderstorm was referred to as an emotion of the atmosphere. Today emotion can be explained as turbulent experiences felt by a human being (Kalat & Shiota, 2007). The concept "emotion" is defined as an affective sense or state of consciousness in which the basic human emotions of joy, sorrow, fear, hate, or the like are experienced (Berg & Stein, 1997; Sykes, 2000). Plutchik (1982, p. 551) also defines emotion as "an inferred complex sequence of reactions to a stimulus including cognitive evaluations, subjective changes, autonomic and neural arousal, impulses to action, and behaviour designed to have an effect upon the stimulus that initiated the complex sequence". Throughout the years emotion researchers described different theories and models to get a better understanding of emotion. Further discussion of these models and theories will follow at a later stage in this study.

An emotion word often exists in another language for which no word in the English language exits. For example, the German word "Schadenfreude" which refers to pleasure derived from another's displeasure. Examples such as this one raise the possibility that different languages recognise different emotions (Russell, 1991). If emotions vary from one culture to the next, at least to some extent, it would follow that emotional experience will vary with culture. Therefore differences in the emotion lexicons of different cultures are likely to occur (Averill, 1980; Harre,

1986; Heelas & Lock, 1981; Hochschild, 1983; Lutz, 1980; Short, 1979; Solomon, 1976).This research will focus on the Setswana culture to determine their emotion lexicon.

Different researchers ask different questions concerning emotions, such as whether emotions can be seen as brain modes, actions, action tendencies, reflexes, instincts, attitudes, cognitive structures, motives, sensations, or feelings (Russell, 2003). Furthermore: Are emotions biologically fixed modules, or socially constructed roles? Are emotions discrete categories or bipolar dimensions? Shaver, Wu and Schwartz (1982) maintain that there are at least a few universal patterns of emotion in every culture. In the English language emotions are named such as "anger" and "fear" (Shaver et al.). These specific emotions form part of a folk theory which have long provided predictions and understanding of emotions (Russell, 2003). The question that can be asked is: Is the concept "anger" general, or does it perhaps not exist in some other cultures? If these concepts occur universally, do various equivalents or translations of "anger" mean the same, and do they refer to the same experiences and behaviours? (Shaver et al.). Other aspects of emotion appear to be specific to a particular culture. For example, Ekman (1972) suggested that culture probably has an influence on the rules concerning when to display, when to inhibit, and when to exaggerate emotional expressions. Although there is still no convergence on one clear definition, hints exist of similarities in the categories of emotion language across differed cultures (Russell, 1991). In the literature that follows the Setswana culture will be described to obtain a better understanding of the Setswana culture and emotions.

The emotional side of people is perhaps the most mysterious side to explore and understand (Kalat & Shiota, 2007). Within the field of psychology, clinical psychologists help people with their dysfunctional emotions, whilst cognitive psychologists try to explain to people why they make certain decisions whilst social psychologists provide help with the impact of emotions on relationships with other people. Organisational psychologists have recognised the importance of emotions in the workplace, producing a number of articles (Diener, 1999; Fisher & Ashkanasy, 2000; Larsen, 2000; Rosenberg & Fredrickson, 1998; Weiss, 2001) on emotions and emotions at work. It is therefore clear that in psychology, emotion is an important and challenging issue for both theory and research (Russell, 2003). Research on emotion is of significant value for the workplace. This study will focus specifically on the South African Police Service (SAPS). The

SAPS officials are under enormous emotional stress, and are confronted with different cultures and emotions on a day-to-day basis. Emotion in the workplace will later be discussed in the literature.

Studying emotion in different cultures is especially applicable in a country such as South Africa with a diverse variety of cultures and eleven official languages. If emotional experiences vary with culture and differences do indeed exist in the emotion lexicon of different cultures, as suggested by several researchers, South Africa will be an excellent example in which these concepts can be discovered (Averill, 1980; Harre, 1986; Heelas & Lock, 1981; Hochschild, 1983; Lutz, 1980; Short, 1979; Solomon, 1976). The next session of the research will focus on emotion, as mentioned before.

Emotion

From the beginning of 1991 to the end of 1997, the Journal of Personality and Social Psychology published 359 articles (amounting to 29% of its articles) in which emotion was researched (Alonso-Arbiol et al., 2006). However, it is difficult to extract from this wide base of research a central theory of emotion, since many researchers do not agree on certain critical points. Many theories and models have been established over the years of research invested in emotion, and a selection of them will be discussed in the following paragraphs.

The Basic Emotion Approach

The basic emotion approach suggests that all emotions originate from the limited set of basic emotions. These basic emotions usually refer to emotions such as; *fear, anger, joy, sadness, disgust and surprise* (Agnoli, Kirson, Wu, & Sahver, 1989; Boucher, 1979; Johnson-Laird & Oatley, 1989). The basic emotions approach has influenced cross-cultural emotion research in a variety of ways, for instance the cross-cultural studies of emotion have narrowed the focus of research efforts to the question as to whether emotions are cross-culturally similar or different. It also focused the interest in cross-cultural research on the potential for certain emotions, rather than on their practice in the sense of significance (Agnoli et al., 1989; Boucher, 1979; Johnson-Laird & Oatley, 1989).

In accordance with the basic emotion approach (Johnson-Laird & Oatley, 1989), most languages have limited sets of central emotion-labelling words referring to a small number of commonly occurring emotions. In English, "anger", "fear", "sadness", and "joy" are examples of such words. Many psychologists consider it reasonable to list a limited set of "basic emotions". That is emotions that are totally different from each other, with emotion experiences that would be "blends" of the basic emotions. The question thus arises as to whether "sadness" and "anger", for example, are also fundamentally different or simply reflect different proportions of the same ingredients (Agnoli et al., 1989; Boucher, 1979; Johnson-Laird & Oatley, 1989).

Chemists established that gold is an element by failing in repeated attempts to produce it from other kinds of metal. The chemists demonstrated that water is a compound, because one can make it by combining oxygen with hydrogen. Unlike chemistry, basic emotions cannot be identified from repeated experiments containing the same ingredients; thus one part of fear and one of anger cannot be combined in a test tube to determine whether or not the result is a basic emotion. Psychologists therefore need to identify basic emotions by other methods than repeated experimentation. As a result, five popular criteria for basic emotions are considered (Ekman, 1992; Johnson-Laird & Oatley, 1989; Lazarus, 1991; Shaver et al., 1987). Criterion 1; A basic emotion should be universal within human species. Criterion 2; A basic emotion must facilitate a functional response to a specific, prototypical life event or "antecedent. Criterion 3; A basic emotion should be evident early in life. Criterion 4: If an emotion is basic, people should have a built-in way of expressing it, such as through facial expressions or tone of voice. It should also include similarity across cultures. As the fifth and probably most persuasive criterion is that each primary emotion should have its own physiological basis (Kalat & Shiota, 2007).

Socially constructed emotions
An alternative approach to explaining "basic" emotions is that emotions are "socially constructed". That is, the way emotions are described and perceived based on the narratives a culture tells about human feelings (Neimeyer, 1995). For example, the English word "anger" may represent a combination of physical feelings such as high blood pressure, yelling and a certain facial expression, but another language may lack a word for these feelings. This symbolises that what one learns from one's culture is what one considers to be food or beauty.

One may learn from his/her culture exactly what constitutes anger, fear and sadness (Kalat & Shiota, 2007). Applying the social-construction idea to emotions suggests that one learns from people around one what emotions to feel, how to express them, and how to interpret other people's expressions. In contrast to the social construction idea of emotions, Lazarus (1991) states that the ways in which people appraise an event will determine the emotion they feel. The appraisal process provides great behavioural flexibility to humans, as it is linked to their capability to learn from experiences, and adapting, by judging what is harmful or what is beneficial (Lazarus).

The Componential Emotion Theory

Many researchers view emotions as multicomponential phenomena (Frijda, 1986; Lang, 1977; Lazarus, 1991; Ortony & Turner, 1990; Scherer, 1984), rather than assuming homogeneous emotional states. These authors emphasise the central importance of emotion processes consisting of simultaneous changes in several different components. The emotion process can be defined as "a complex of changes in different subsystems of the organism's functioning". In an emotion, these subsystems (the components) are differentially elicited, and therefore to some degree change independently of each other (Frijda, 1986; Lang, 1977; Lazarus, 1991; Ortony & Turner, 1990; Scherer, 1984).

Based on the componential emotion theory, Fontaine, Scherer, and Roesch (2006) hypothesized that emotion words in common languages refer systematically to appraisals, psycho-physiological changes, expressive facial, vocal, and gestural behaviour, action tendencies, subjective experiences, and regulation efforts. The assumption is specifically that emotion words will differ with respect to what type of componential features (appraisal results, physiological symptoms, motor expressions, action tendencies, or feeling qualia) they imply to a speaker of the respective language. If speakers and listeners reliably use different emotion words to communicate about different componential profiles, it seems useful to distinguish between the respective emotions in scientific analysis (Fontaine et al., 2006).

An interdisciplinary group of emotion researchers from different cultures recently started on this research program, labelled the componential GRID approach (Fontaine et al., 2006).

Studying the meaning of emotion words through a componential emotion approach

The componential GRID approach consists of a grid of emotion words by emotion features. In total there are 24 emotion words which were representative of and relevant for both emotion research and daily language use of emotion words. Six emotion components have been used, namely appraisals, psycho-physiological changes, expressions (face, voice, gestures), action tendencies, subjective experiences, and regulation of expression and experiences (Fontaine et al., 2006).

In South Africa a GRID-plus project is strongly related to the GRID project. As in the GRID project, the aim is to reveal the meaning structure of the emotion domain in the eleven official languages of South Africa. The South African GRID-plus project aims to develop eleven different instruments for each language group. Obtaining extensive component profiles for emotion terms has the advantage of rendering the comparison of work done in different cultures, using different emotion words (Fontaine et al., 2006). The question can then be posed as to whether or not distinguishable groups of emotion terms can be identified and whether there is correspondence across cultural populations in this respect.

Dimensionality of emotions

Appraisals that characterise emotions are represented by means of a limited number of components or dimensions. Each type of appraisal can be described as a unique pattern of such components, or dimension values (Frijda, 1987). Researchers differ as to which components or dimensions should be distinguished to establish the underlying dimensional space that most economically accounts for the similarities and differences in emotional experience, and there has been considerable disagreement about the number and nature of the dimensions that provide an optimal framework for studying emotions (Fontaine, Scherer, Roesch, & Ellsworth, 2007).

There are many ways to explain these dimensions; one way is to propose that all emotional experiences vary along a continuum from pleasant to unpleasant or from approach to avoidance. Another way is to collect results and then analyse them with a method called multidimensional scaling (Kalat & Shiota, 2007).

Multidimensional scaling could be explained by considering colours (Kalat & Shiota, 2007). Suppose showing people various pairs of colours and asking them to rate how similar or different they look, the results might be that they might rate two shades of purple as very similar, purple and blue as somewhat similar, but purple and green as less similar. Applying this approach to emotion, researchers offer people various emotion-related words and ask them to rate the degree of similarity among their emotions. Afraid and tense, for example, could be somewhat similar, but exited and bored should be less similar (Russell, 1980).

Russell (2003) later developed the "circumplex model" (Figure 1) in which the emotions form a circle. In the circle emotions close to each other can be seen as similar and likely to be confused with each other, or even experienced at the same time, while emotions on opposite sides of the circle are likely to be perceived as opposites or at least as very different. In this model, dimensions range from arousal to lack of arousal (sleepiness), and the other range from pleasure to displeasure (or misery). By using this model, depression, for example, could be seen as a combination of arousal and misery.
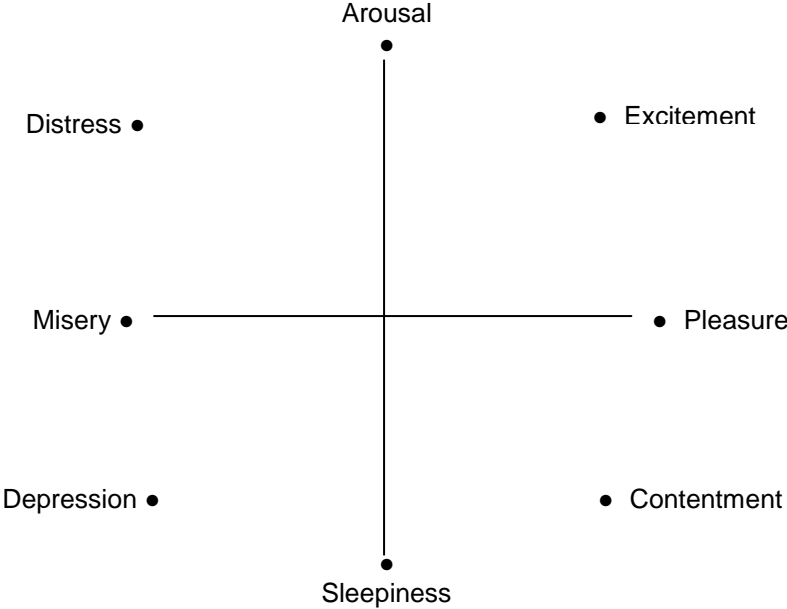
Figure 1. Circumplex model by Russell, 1980.

In the research of Fontaine et al. (2007) (done on three languages), four dimensions were needed to satisfactorily represent similarities and differences in the meaning of emotion words. These dimensions are evaluation-pleasantness, potency-control, activation-arousal, and unpredictability. These dimensions were identified on the basis of the 144 features representing the six components of emotions: appraisals of events, psycho-physiological changes, motor expressions, action tendencies, subjective experiences and emotion regulation.

Prototype theory

Rosch (1978) first proposed the prototype approach to categorisation in her writings about "fuzzy categories" in everyday language and cognition (Rosch, Mervis, Gray, Johnson, & Boyes-Braem, 1976). These were categories for which there were no clear "classical" definitions based on necessary and sufficient features. These categories can be roughly defined in terms of prototypes and central features, and arranged hierarchically according to conceptual levels, which Rosch (1978) called superordinate, basic, and subordinate. When Rosch's (1978) approach is applied to the domain of emotions, with emotions being conceptualised as psychological or behavioural "objects", it is possible to conceptualise their mental representations as implicit event prototypes. Emotion categories can be arrayed hierarchically, in terms of superordinate, basic, and subordinate levels. To the extent that different languages and cultures create different emotion category systems, people in those cultures who use those languages should make different intuitive judgements in social situations, which might occasionally lead to different understandings and social outcomes. The prototype theory addresses the question as to whether emotion might not be better understood from the prototype point of view. One property of a prototypically organised concept is that some of its instances are better examples of that concept than others (Russell & Ward, 1982).

According to Fehr and Russell (1984), prototypicality can be better understood through the following example: if the word "red" were to be considered, people could think of a true red, an orangish-red, and then a purplish red. Although the orange-red or the purplish-red could still be labelled with the term red, they are not as good examples of red, not as clear as true red. The same could be true for emotions, to discover which experiences or feelings are good or poor examples of emotion (Fehr & Russell).

The prototypicality of emotion words need to be established in order to understand emotions within a specific cultural context (Church, Katigbak, Reyes, & Jensen, 1998). To determine the impact of culture on emotions, one needs to look at how emotions are encoded in the indigenous languages within a specific culture.

The term emotion is not universal and even if the word exists in different cultures and different languages, the possibility still exists that the word covers slightly different phenomena (Russell, 1991). To best understand the structure and meaning of the category emotion, the prototypicality of words that refer to affective states for that category should be studied (Russell, 1991). A prototype analysis in particular promotes an understanding of the basic features of an emotion if one assumes that emotions are multi-componential (Scherer, 1984), that there are no necessary and sufficient features for membership in the category (Fehr & Russell, 1984), and that indeed the graded structure of the category can vary across situations, and across culture (Barsalou, 1999).

As seen above there are indeed a variety of different models and theories to describe emotion. All the above theories and models are used in this study to better understand and explore the structure of emotion in the Setswana language group. For purposes of this study it would also be of significant value to investigate the concept "emotion lexicon" of a specific language- or cultural group. Thus in order to identify the emotional structure of the Setswana-speaking group, the emotion lexicon must be investigated.

Emotion Lexicon

The relationship between emotions and emotion words can be viewed in two different ways (Frijda, Markam, Sato, & Wiers, 1995). One can assume that words (emotion words) exist that dictate the way things are seen; or one can assume that things (emotions) exist that are given names and thus have words assigned to them (Frijda et al.).

Emotions are internal states that cannot be measured directly and therefore emotion psychologists should study the indirect indicators of emotional states and their representational processes (Niedenthal et al., 2004). One indicator of an emotion is the word an individual uses

to label it. The use of an emotion concept, on the other hand, involves a re-experience of the state itself (Niedenthal et al.). On recognising a word, the cognitive system activates the simulator for the associated concept to simulate a possible referent (Barsalou, 1999). This possible referent could be the state or part of the state denoted by an emotion word, such as a physical-muscular response that is associated with that state. If the sensory states that are the experience of emotion constitute their meaning, then something can be learnt about emotion from an analysis of the referent of emotion words.

Language, in a broad sense, can be viewed as being done (performed); thus it is commonly understood that people "have" emotions". This can take place extra-linguistically (e.g. by facial expressions, body postures and proximity) and in terms of linguistic (lexical and syntactic) forms (Caffi & Janney, 1994; Fiehler, 1990). Language and emotion are two parallel systems in use, and their relationship exists in that one system (emotions) impacts on the performance of the other (language) (Bamberg, 1997). Language in a way refers to, and therefore "reflects", objects in the world. Among them the emotions languages have emotion terms, and people across the world engage in talk about the emotions (Bamberg, 1997). However, it remains unspecified whether emotions are "real" objects in the world such as behaviours or whether they are "internal" psychological states or processes (Bamberg, 1997). Therefore if language is a means of making sense of emotions, it can be used as a starting point to explore the world of emotions in different languages.

Languages differ in the size and range of their emotion vocabularies. In a review of the cross-cultural literature on emotion lexicons, Russell (1991) cited work that reported 2000 emotion words in English (Wallace & Carson, 1973), 1501 in Dutch (Hoekstra, 1986), and 750 emotion words in Taiwanese Chinese (Boucher, 1979). According to Schrauf and Sanchez (2004) it is unclear to what extent any individual speaker of a language may be expected to know the entire lexicon. Thus, while Wallace and Carson (1973) reported 2000 English emotion words, they suggested that only 10% of these could reasonably be found in the vocabulary of the average English speaker.

Russell (1991) concludes that different cultures categorise emotion differently. Not only do the boundaries of domains (emotion lexicon) differ, but also the categorisation within the domains. Therefore is it clear that one promising framework for the understanding of emotion complexity is the study of emotions through any particular culture (Alonso-Arbiol et al., 2006).

Culture and Emotion

Anthropologists claimed that people in a variety of human societies differed profoundly in how they experienced, expressed, and value emotion. The anthropologists' emphasis on cultural differences led to the idea of the social construction of emotion, or the ways in which societies create culture-specific ways of thinking about, experiencing, and expressing emotion. Culture also sets standards for how openly you can display your emotions, for example, whether it is acceptable to cry in public, or how much pride you can show before it seems rude or like bragging (Kalat & Shiota, 2007; Neimeyer, 1995).

Anthropologist Richard Shweder (1993) suggests that "culture consists of meanings, conceptions, and interpretive schemes that are activated, constructed, or brought on line through participation in normative social institutions and practices (including linguistic practices) giving shape to the psychological processes in individuals in a society". To attain some clarity on whether all aspects of emotions are the same for all human beings, or whether some are only common to members of a certain culture, researchers such as Buck (1988), Ekman (1984), Izard (1977), Panksepp (1998), Plutchik (1982) and Tomkins (1984) anticipate that emotions are universal, while others like Averill (1980), Levy (1984), and Solomon (1976) anticipate that emotions are more culture specific. The ability to communicate emotion via facial expression is part of human biological heritage (Darwin, 1965), and the same facial expressions are associated with particular emotions in widely different cultures (Ekman, Friesen, & Ellsworth, 1972). Such communication, however, could be an aspect of emotion learned along with language and other cultural ways (Birdwhistell, 1970; Leach, 1972). Culture probably influences emotions and rules exist concerning when to inhibit, and when to express emotions in different cultures (Ekman, 1972).

The following question can be raised: Since emotions are universal or culture specific, at which stage do universal aspects of emotions become culturally specific? A culture with fewer words than the English language with its 2000 emotion words could recognise and even discuss an emotion without having a word for it. A culture with no word for "embarrassment" could say: "the way you feel when you have made a mistake and others are staring at you." Thus to study cultural differences, one place to begin is to examine the emotions identified by one language and not by another (Kalat & Shiota, 2007; Russell, Lewicka, & Nitt, 1989).

The emotion research field needs more studies conducted in different cultures, based on languages with different historical roots, with a more extensive database, so that the issues of universality versus difference and cultural specificity can be studied and evaluated (Ekman, 1992; Wierzbicka, 1999). This study aims to contribute to this line of research by studying the Setswana culture.

The Setswana Culture

South Africans have been referred to as the "rainbow nation", a title which epitomises the country's cultural diversity. The 2007 Census (Figure 2), describes South Africa as a nation of over 47-million people of diverse origins, cultures, languages and beliefs. Africans are in the majority at just over 38-million, comprising 79.6% of the total population. The white population is estimated at 4.3-million (9.1%), the coloured population at 4.2-million (8.9%) and the Indian/Asian population at just short of 1.2-million (2.5%).
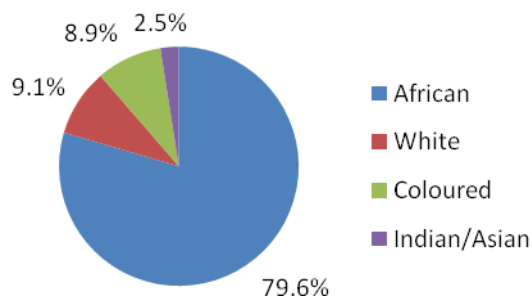
Figure 2. Census, 2007. (Statistics South Africa, 2007).

While more than three-quarters of South Africa's population is black African, this category is neither culturally nor linguistically homogenous (Statistics South Africa, 2007). There are eleven official languages in South Africa; nine of the country's eleven official languages are African, reflecting a variety of ethnic groupings which nonetheless have a great deal in common in terms

of background, culture and descent. South Africa's eleven languages are Afrikaans (13,3%), English (8,2%), isiNdebele (1,6%), isiXhosa (17,6%), isiZulu (23,8%), Sepedi (9,4%), Sesotho (7,9%), Setswana (8,2%), siSwati (2,7%), Tshivenda (2,3%) and Xitsonga (4,4%) (Statistics South Africa, 2007).

South Africa therefore forms the ideal context in which the impact of culture on emotions can be investigated, especially with its diversity and eleven official languages (ICCRA, 2007). In a multicultural context one cannot help but wonder how emotion plays a role in the work situation. The conclusion can be drawn that in order to develop sound theories or to develop and implement interventions for different cultures and languages, it is important for comprehensive research to be done on emotion in the workplace.

This study is conducted on Setswana-speaking students of the SAPS. Setswana is commonly known as Tswana, as it is Botswana's national language (Legere, 1996). Setswana is related to other Sotho languages and has a wide variety of dialects due to the fact that the language is spoken in different areas of South Africa. The majority of Setswana speakers are found in South Africa, with the most Setswana speakers (67,8%) in the North West province. Setswana speakers in Gauteng are 17,4%, Free State (5,2%), Northern Province (2,0%), Mpumalanga (2,3%), Northern Cape (5,0%) and Western Cape (0,1%) (Legere, 1996).

Emotion and organisational behaviour
During the past two decades, significant advances have been made in understanding the structure and role of emotions in human behaviour (Lord & Kanfer, 2002). Industrial and Organisational (I/O) psychologists have recognised the importance of such progress for understanding workplace behaviour, and published various articles on emotions and emotions at work (Diener, 1999; Fisher & Ashkanasy, 2000; Larsen, 2000; Rosenberg & Fredrickson, 1998; Weiss, 2001). Job satisfaction, leadership, group processes, employee reactions to organisational justice, and emotional labour in the workplace are only a few of the areas in which basic research on emotions in the workplace has been done (Barsade, 2007; Lord & Kanfer, 2002).

A reason to be interested in human emotions in the workplace is that applied scientists have the ambition to enhance human welfare (Lord & Kanfer, 2002). Emotions are central components of human reactions to many types of stimuli. Consequently emotions can directly cue specific behaviours, as well as indirectly influence behaviour by their effect on physiological, cognitive, or social processes. For these reasons, attempts to transform behaviours in organisations to more effective patterns may require that emotions also be transformed. Organisational interventions are often utilised to establish this.

It is well known that positive and negative emotions exist. Negative emotions regularly have strong associations with specific types of negative behaviour. Nevertheless, positive emotions, for example "joy", promotes play, which helps to build physical, social, and intellectual skills. Positive emotions promote a number of important organisational processes, such as skill building, creativity, effective social relations, organisational commitment, and collective orientations (Fossum & Barrett, 2000).

Emotion is a dynamic process, triggered by a specific object or event, during an interaction with the environment or with others, limited in its duration, having specific action tendencies and behavioural consequences which may vary, depending on the intensity of the emotion felt (Scherer, 1984). These behavioural consequences in turn impact on the relationship one has with others, as others will react according to the signals they perceive (Frijda & Mesquita, 1994).

Certain emotions share similar patterns of appraisal, including action tendencies and behavioural consequences; thus it is posited that these emotions can be grouped into classes (Tran, 2004). The following four classes can be distinguished. The first group is Achievement emotions (for example pride, elation, joy and satisfaction) which occur in situations where people have a sense of accomplishment, personally or professionally, and a desire to celebrate successes with others. Approach emotions (for example relief, hope, interest and surprise) occur in situations where people are attentive, alert, exploring, wanting to learn and looking forward to the future. The third group, Resignation emotions (for example sadness, fear, shame and guilt) occur in situations where people suffer some kind of a loss, personally (death of a parent, loss of a friend or lover) or professionally (loss of a job, restructuring of one's company, loss of colleagues, or financial drawback). The last group, Antagonistic emotions (for example envy, disgust, contempt

and anger), occur in situations where people think they have been harmed, morally or physically, and that the cause of this harm is unfair (Tran, 2004).

In essence, emotions are tightly intertwined with every aspect of life. This does not only occur at the psychological level, but also seems to occur at the collective level, where emotions are either shared or transmitted from one individual to another within a group (Tran, 2004).

Emotion and decision-making

In the decision-making literature, emotion is described in theoretical terms (anger, shame, guilt, anxiety and elation). It appears that anger may play a negative role in decision-making teams, and may have the potential to deteriorate relationships between team members. This is confirmed by research addressing the role of anger in negotiations: Partners with a high anger level do not want to work with each other again in the future (Allred, Mallozzi, Matsui, & Raia, 1997) or reject alternatives offered, especially if the deal is considered unfair or humiliating (Pillutla & Murnighan, 1996).

Anxiety appears to deteriorate working relations, to inhibit team members' participation in the decision activities, to narrow decision-makers' attention, and to slow down the decision-making process. Shame or guilt appears to provide information to decision-makers that their decisions might need to be revised, for example if they would turn out to be too unethical, or too risky. Elation appears to lead to hasty decision-making, where alternatives or information might be overlooked (Tran, 2004).

Clearly, there are many theoretical and practical reasons for being interested in emotions at work and South African work places make an ideal setting for understanding workplace behaviour and emotion due to its multicultural nature. Furthermore, the Police Service is a setting where police officials are faced with emotionally laden situations in which the structure of emotion could be explored.

Emotions in the SAPS

Police members have a responsibility towards the community to maintain safety and security, while having to cope with numerous changes in the workplace. Apart from the historic changes that have taken place in the SAPS since 1994, which involved downsizing and affirmative action, the service also experienced major changes during the past few years such as restructuring of the personnel complement from area level to station level (Ntshingila, 2006).

Police members are part of an occupational group that runs the risk of being involved in stressful and traumatic situations. This includes being frequently exposed to situations of abuse, including exposure to victims of serious accidents and hostages, riot control, violent confrontations, failed resuscitation attempts, and assistance disasters (Dussich, 2003; McCaslin et al., 2006). Members of the SAPS are often called upon to make sacrifices in order to ensure the safety of the community. These sacrifices include working long hours, working away from home and under difficult conditions (Pruis, 2006). Due to these stressful and traumatic situations, occupational stress has been recognised as an important occupational health problem. Occupational stress contributed to a significant part of medical boardings, health care costs and absenteeism. It is generally accepted that prolonged or intense stress can have a negative impact on an individual's mental and physical health (Jones & Bright, 2000).

South Africa has one of the highest crime rates and violence worldwide and the South African Police Service has been reported to be one of the most stressed police organisations in the world (Cornelius, 2006). Police members, in particular, are exposed to psychological stress, trauma and the danger coupled with the availability of firearms (Anshel, 2000; Nel & Burgers, 1998; Violanti, 1997). Media reports have revealed that South African police members are experiencing extremely high levels of stress and trauma (Otto, 2002). Police officials are usually the first at scenes of murder, suicides or accidents and the last to leave, and the reality of death or injury is often witnessed. This results in police officials suffering from conditions such as severe post traumatic stress, obsessive compulsive disorder, major depression, panic attacks and suicide ideation as well as ill health (Cornelius, 2006; Otto, 2002).

The SAPS is a government organisation with a diversity of people. The Police culture is often referred to, which is in essence a sub-culture in which each and every member brings to the

organisation attributes of his or her own culture (Roberg, Crank, & Kuykendall, 2000). A productive, motivated and healthy police service is an important contributor to the stability and resulting economic growth and development of the country. Investigating and addressing aspects that could influence police members' effectiveness in areas that could impact on the standard of their services is of great importance, including their well-being (Van der Doef & Maes, 1999).

Above-mentioned demands place a unique requirement on the police members' ability to express and deal with emotions; therefore making the SAPS an ideal population for studying the emotion lexicon and prototypicality of emotions. By studying these concepts in the SAPS, both emotion researchers and the police members will benefit from the data obtained.

A problem within the police is that police officials have insufficient emotional competence to deal with clients, crime scenes, and the impact these have on one's own emotional functioning. Moreover, SAPS employees have to function in a highly multicultural environment, although there is little or no knowledge concerning the way the various ethno-cultural groups differ from one another in South Africa.

Knowledge on the various ethno-cultural groups is highly needed to set up well-founded psychological intervention programs, to evaluate their effectiveness in the different cultural contexts, and to adjust them where needed.

The present study will generate knowledge concerning cultural similarities and differences in emotions. The information will be of great value to professionals who deal with people in a multicultural context. This study can also be seen as the ground work that is being done to assist future studies to develop an evidence-based intervention program that can be implemented by the Employee Health and Wellness (EHW) service of the SAPS. (The EHW unit is the sole provider of employee assistance services to the SAPS personnel). The aim of this research is to study the prototypicality and meaning of the emotion lexicon of the Setswana people. Future studies can then develop a program to make police officials more knowledgeable about the role of emotions in their professional work and about how emotions are different and similar between the ethno-cultural groups of South-Africa. After the training, police officials should be able to evaluate the

emotional meaning of situations and would also be cultural sensitive towards each other and their emotions.

METHOD

Research design

A survey design was used to achieve the research objectives (Kepple, Saufley, & Tokunaga, 1992). The survey design has the advantage of obtaining a large amount of information (Free Listing of emotion words) from a large population (Setswana-speaking South African Police Students). It is economical and the research information can be regarded as accurate (within sampling error). Disadvantages of this design include that it is time and energy consuming (Kerlinger & Lee, 2000).

The research will subsequently be presented in three (3) independent phases. Firstly, the Free Listing, then the Prototypicality rating and lastly, the Similarity sorting of the emotion terms.

Phase 1: Free Listing

Participants

The study population of the first phase (Free Listing of emotion terms) consisted of a convenience sample of entry level police students from the SAPS training college in Pretoria (*N*=154). Table 1 presents some of the characteristics of the students.

Table 1

Characteristics of the students of the Free Listing exercise (N=154)

Item	Category	Frequency	Percentage
Gender	Male	96	62,3
	Female	58	37,7
Age	18-27	104	67,5
	28-37	50	32,5

Language	Setswana	154	100
Province	Eastern Cape	1	0,7
	Gauteng	20	13
	Limpopo	1	0,7
	Mpumalanga	5	3,2
	Northern Cape	1	0,7
	North West	126	81
Education level	Grade 12	138	89,6
	Certificate / Short Diploma	11	7,1
	3-year Diploma / Degree	3	1,9
	Post graduate	1	0,6

The study population included only black police students (100%) and consisted of the Setswana culture group. In terms of gender, 62,3% (*n=96*) were men and 37,7% (*n=58*) were women. Sixty seven comma five per cent (67,5%) of the group were between ages 18 and 27, whilst 32,5% were between 28 and 37 years old. Eighty one per cent of the students are from the North West Province. The entry-level qualification for the police is grade 12, and for 89,6% of the group this was their highest qualification, whilst 9,6% had further tertiary qualifications.

Measuring instrument

This study focused on identifying the relevant and representative emotion words in a specific indigenous language group whereas future research needs to focus on the relevant and representative features for each emotion component (such as appraisals, action tendencies, subjective experiences, et cetera) encoded in that language group. Free Listing questionnaires were utilised where police students were requested to list as many emotion terms they could think of within ten (10) minutes.

Procedure

For the Free Listing questionnaire, students were requested to list as many emotion terms they could think of within 10 minutes. The questionnaire is developed in a way that poses one question, which is to write as many emotion words as possible on the spaces provided. Only

emotion words were accepted, and sentences of feelings, or stories describing their feelings were not used. The test battery was administered in English on separate occasions at the Police College in Pretoria on Setswana-speaking groups which consisted of police students who had been recruited for the basic training programme of the SAPS in January 2007. Students were able to respond (list emotion terms) in their mother tongue. The students were tested in groups consisting of a maximum of 300 students. A standardised procedure was followed by qualified psychologists and psychometrists in order to administer the test battery. Ethical aspects of the research were discussed with the students. Each student had his or her own desk and chair as well as the required stationery. The auditorium was properly lit and ventilated. The supervised and controlled test session lasted 15 minutes.

Statistical analysis

During the first phase (Free Listing), the questionnaires were screened and those in Setswana were used to capture the emotion words into an Excel sheet. Only the emotion words were captured but no sentences or repeated words per questionnaire. A macro was developed for the Excel sheet, calculating the frequency of emotion words, number of students that reported each emotion term, ranking of emotion terms per student and average number of emotion terms reported, as well as the median per emotion term. Emotion terms reported five times or more by students were selected in order to compile the Basic English Emotion List or BEEL

RESULTS

Emotion words which were reported five times or more by the students were selected in order to compile the Basic English Emotion List or BEEL. Table 2 reports the emotion terms reported five times or more by the students. Responses were captured resulting in a list of 2094 words or phrases of which only 108 words or phrases had a frequency higher than five. One-thousand nine-hundred and eighty-six (1986) words or phrases had a frequency less than five and were deleted.

Table 2

Emotion terms (reported five times or more)

Setswana			Setswana		
Original Setswana Emotion Response	**English**	**Frequency of Participants that Reported the Emotion**	**Original Setswana Emotion Response**	**English**	**Frequency of Participants that Reported the Emotion**
boitumelo	joy	109	dikeledi	tearful	7
kutlobotlhoko	sorrow	88	keletso	advise	7
lerato	love	73	lesego	luck	7
tenega	annoyed	43	manganga	stubborn	7
itumela	happy	40	monate	nice	7
lela	cry	38	ngala	strike/dessert	7
letlhoo	hatred	34	sematla	stupid	7
botlhoko	grief	30	thapelo	prayer	7
maikutlo	emotions	23	thusa	assistance	7
gopola	remembering	22	tlhokomelo	cared for/look after	7
khutsafalo	sadness	22	nnete	truth	8
letshogo	panic	22	tshepa	trust	8
galefa	enraged	21	tshoga	panic	8
eletsa	wish	20	bodutu	loneliness	7
kwata	anger	20	bokamoso	future	7
pelo	heart	20	didimala	quiet	7
tshega	laugh	20	tshaba	afraid	7
ditlhong	shame	19	tshwenyega	worry	7
setshego	laughter	19	boitshwarelo	forgiveness	6
tlhompha	respect	19	bolwetsi	illness	6
mona	jealous	17	katlego	success	6
selelo	tearful	16	kgalefo	warning	6
boikgogomoso	proudness	14	kgopolo	remembrance	6
opela	singing	14	kopano	get together	6
kagiso	peace	13	leboga	thankful	6
boikokobetso	humble	12	maitsholo	etiquette	6
makala	amazed	12	matsetseleko	perfection	6
motlotlo	tale/chat	12	mosa	merciful	6
maikemisetso	determination	11	phegelo	breathless	6
swaba	wither	11	rapela	pray	6
bosula	evil	10	rata	like	6
kamogelo	acceptance	10	robala	sleep	6
kotsi	accident	10	tshabo	fear	6

lapile	weary	10	tshega	laugh	6
lefu	death	10	tsiboga	arouse	6
tisa	serious	10	boammaruri	amazement	5
tlhakatlhakano	confused	10	dirafala	happening	5
lapa	tiredness	9	kgatelelo	oppress	5
maitseo	manners	9	kgatlego	interested	5
pelotelele	patient	9	kgotlelela	strive	5
tidimalo	silence	9	lenyalo	wedding	5
tirisano mmogo	cooperation	9	maikarabelo	responsibility	5
tlalalana	anxiety	9	makgakga	naughty	5
tlhoafalo	missed/miss someone	9	maswabi	disappointment	5
tlotlomatsa	praise	9	moa	breathless	5
tswelelopele	progress	9	molemo	kind	5
tumelano	agreeable	9	pelonomi	kind	5
boikobo	sincerity	8	pelotshweu	good heart/hearted	5
boineelo	surrender	8	sotliwa	abuse	5
bonolo	polite	8	tapisego	weariness	5
bontle	beauty	8	tlhaloganya	understanding	5
botlhale	wisdom	8	tlhobaela	restless	5
kgakgamalo	amazement	8	utlwela	overhear	5

According to Table 2, the emotion words which most readily came to mind as examples of "emotion" by the Setswana-speaking students were emotions of joy, emotions of sorrow and emotions of love.

Phase 2: Prototypicality Rating

Participants

The study population in the second phase (Prototypicality ratings of the Extended English Emotion List) comprised a convenience sample of Language Experts in the Setswana language from different occupations (*N*=51).

Table 3

Characteristics of the participants of the Prototypicality Rating Exercise (N=51)

Item	Category	Frequency	Percentage
Gender	Male	20	39,2
	Female	31	60,8
Age	18 – 27	26	51
	28 – 37	14	27,5
	38 – 47	8	16
	48+	3	6
Province	North West	51	100

The sample included only black people (100%) from the North West Province. In terms of gender, 39,2% (*n=20*) are men and 60,8% (*n=31*) are women. Fifty one per cent (51%) of the group are between the ages of 18 and 27, with 27,5% between 28 and 37 years of age, and 16% between ages 38 and 47. Six per cent (6%) of the group are older than 48 years.

Measuring instrument

The Prototypicality questionnaires were used to rate the emotion terms of the Extended Emotion List on prototypicality for the concept of emotion. Three versions of the Prototypicality Questionnaire were used where emotion terms were listed in randomised order. Scales ranging from *certainly not an emotion* (1) to *certainly an emotion* (4) were used.

Procedure

The prototypical rating questionnaires, which were compiled from the Basic English Emotion List was used to rate the prototypicality for the concept of emotion words. Three different versions of the prototypicality questionnaires were used where emotion terms were listed in randomised order. Scales ranging from *certainly not an emotion* (1) to *certainly an emotion* (4) were used. Ethical aspects of the research were discussed with the participants. The test battery was administered by native-speaking language experts on various occasions based on availability.

Statistical analysis

Cronbach's alphas were computed for each of the emotion terms. Participants who reported an alpha score less than 0,40 on the combined score were removed; these participants had some distinctive understanding of the emotion words. The 80 emotion words with the highest average scores (inclusive of the 24 GRID terms as reported by Scherer (2005)) which remained were most prototypical and were retained.

RESULTS

Table 4 presents the original list of the top 80 most prototypical Setswana emotion words, as well as the English translations, and the average scores of the prototypicality rating of each term. This list was extended with the 24 terms used in the GRID instrument to yield 80 terms.

The emotion terms ranked as the twelve (12) most prototypical words for the Setswana group were: "lela" (cry), "rata" (like), "go tenega" (fed up), "kgalefo" (warning, feel chagrined, livid), "lerato" (compassion, love), "boitumelo" (joy), "go utlusiswa botloko" (being hurt), "kwata" (anger), "amego maikutlo" (affection), "itumeletse" (eleation), "kutlwiso botlhoko" (disappointment), "itumela" (happiness).

The twelve (12) least prototypical words from the list generated in the Free Listing task were: "tshwarega" (apprehension), "sleep" (robala), "patlego" (longing), "tenego" (irritation), "ponelopele" (anticipation), "suthisitse" (moved), "bokamoso" (future), "lehalahala" (emptiness), "makabe" (rage), "tsamaya" (leave), "motsaralano" (zest), "ko ntlheng" (edginess).

Table 4

Mean prototypicality ratings of emotion words

Setswana	English	*M*	Setswana	English	*M*
lela	cry	3,76	bosula	evil	2.24
rata	like	3,62	makala	surprise	2.19
go tenega	fed up	3,52	leso	death	2.19

	warning, feel chagrined,		maikutlo	emotions	2.19
kgalefo	livid	3,43	kgatlegelo	envy	2.19
lerato	compassion, love	3,38	takatso	fervour	2.19
boitumelo	joy	3,29	boitshwarelo	forgiveness	2.19
go utlusiswa botloko	being hurt	3,24	lakatso	inclination	2.19
kwata	anger	3,19	bonolo	tenderness	2.19
amego maikutlo	affection	3,19	go itshepa thata	euphoria, optimism, trust	2.14
itumeletse	elation	3,19	itshoka	sullenness, sulkiness	2.14
kutlwiso botlhoko	disappointment	3,14	swabisa	disgust	2.10
itumela	happiness	3,10	boikokobetso	humble	2.10
kgotsofalo	satisfaction	3,10	kagiso	peace	2.10
thabo	delight	3,10	bolousolosetse	vengefulness, threaten	2.10
tlalelo	anxiety	3,05	boikgogomoso	pride	2.05
go feta selekano	frenzy	3,05	motho o lerato	gaiety	2.05
letshogo	shock, panic	3,05	go fela matla	impotence	2.05
kutlobotlhoko	sadness	3,00	go itsela ko tlase/go inyatsa	insecurity	2,05
tsebetsebe	frustration	3,00	go nagana ka selo thata	obsession	2,05
letshabo	fear	2,95	pelotelele	patient	2,05
takatso tsa thobalano	lust	2,95	katlego	success	2,05
go amega maikutlo	sentimentality	2,95	sesa maikutlo	calmness	2,00
letlhoo	hatred	2,86	motlotlo	chat	2,00
tshulafallo	despair	2,86	mona	jealous	1,90
ngala	abandonment	2,86			
kgatelelo ya maikutlo le tlhal	stress	2,76	motshego	amusement	1,90
lakatsa	hope	2,71	borega	boredom	1,90
tlhobaela	restless	2,71	go se monate	displeasure	1,90
kgatelelo	depression	2,67	kgatliso	gloom	1,90
bogale	ire	2,67	kgatlego	interested	1,86
monate	pleasure	2,62	molato	guilt	1,29
ditlhong	shame	2,62	teko	contempt	1,24
go sa rate	dislike, scorn	2,62	tenego	irritation	0,71
boitshepo	confidence	2,52			
tshaba	afraid	2,48			

kgopolo gae	homesickness	2,48	
setshego	laugh	2,48	
keletso	craving	2,43	
molapo	exhaustion	2,38	
makala	amazement, awe	2,33	
go sa kgotsofale	dissatisfaction	2,33	
bodutu	loneliness, bored	2,33	
go sa phutuloge	uneasiness	2,33	
tshwabiso	humiliation	2,29	
amogelo	submission	2,29	
leboga	thankful	2,29	
eletsa	wish	2,29	

Phase 3: Similarity Rating Task

Participants

The study population of the third phase (Similarity Rating Task) consisted of a convenience sample of entry level police students (*N*=140) from the South African Police Service Training College.

Table 5

Characteristics of the students of the Similarity Rating Task (N=140)

Item	Category	Frequency	Percentage
Language	Setswana	140	100
Gender	Male	90	64,3
	Female	50	35,7
Age	18-28	105	75
	29+	35	25
Province	Free State	5	3,6
	Gauteng	68	48,6
	Limpopo	3	2,1
	Mpumalanga	1	0,7

	North West	72	51,4
Education level	Grade 12	127	90,7
	Further tertiary education	13	9,3

The sample only included black police students (100%) from the SAPS. In terms of gender, 64,3% (*n=90*) are men and 35,7% (*n=50*) are women. Seventy-five per cent (75%) of the group are between ages 18 and 29, whilst 25% are older than 29 years. Most of the applicants come from the North West (51,4%) and Gauteng (48,6%) Province. The entry-level qualification for the police is grade 12, and for 90,7% of the group, this is their highest qualification, while 9,3% have further tertiary qualifications.

Measuring instruments

The cognitive structure of emotions was investigated by means of similarity rating of the emotion words in order to conceptualise the cognitive representation of differences and similarities between various emotion terms (Shaver et al., 1987). The list of prototypical emotion terms were used to draft the Similarity Rating Questionnaire. Emotion terms with the highest average score ratings, based on prototypicality, were included to construct a final list of 80 terms. The list were used to construct the Similarity Rating Questionnaires and had to contain the 24 GRID terms as reported by Scherer (2005), regardless of the average score ratings.

Emotion terms were alphabetically listed and then transposed in Excel to combine the emotion terms into 3160 pairs of emotion terms. Using SPSS, these pairs of emotion terms were randomised. Pairs were then captured into eight (8) versions for the Similarity Rating Questionnaire, each containing 395 pairs of emotion terms. Respondents were requested to rate these combinations in terms of how closely related they are in meaning in their language. Respondents had to indicate the relationship in meaning between the emotion terms using an 8-point response scale. The scales were 1 (*completely opposite in meaning (antonyms)*), 2 (*very opposite in meaning*), 3 (*moderately opposite in meaning*), 4 (*slightly opposite in meaning*), 5 (*slightly opposite in meaning*), 6 (*moderately similar in meaning*), 7 (*very similar in meaning*) and 8 (*completely similar in meaning (synonyms)*). The instructions mentioned that they need to remain concentrated and that every pair had to be rated.

Procedure

The list of prototypical emotion terms were used to draft the Similarity Rating Questionnaire. Emotion terms with the highest average score ratings, based on prototypicality, were included to construct a final list of 80 terms. The list was used to construct the Similarity Rating Questionnaires and had to contain the 24 GRID terms as reported by Scherer (2005), regardless of the average score ratings.

Emotion terms were alphabetically listed and then transposed in Excel to combine the emotion terms into 3160 pairs of emotion terms. Using SPSS, these pairs of emotion terms were randomised. Pairs were then captured into eight (8) versions for the Similarity Rating Questionnaire, each containing 395 pairs of emotion terms. Students were requested to rate these combinations in terms of how closely related they are in meaning in their language. Students had to indicate the relationship in meaning between the emotion terms using an 8-point response scale. The scales were 1 (*completely opposite in meaning (antonyms)*), 2 (*very opposite in meaning*), 3 (*moderately opposite in meaning*), 4 (*slightly opposite in meaning*), 5 (*slightly opposite in meaning*), 6 (*moderately similar in meaning*), 7 (*very similar in meaning*) and 8 (*completely similar in meaning – synonyms*). The test battery was administered at the Police College in Pretoria on a group consisting of police students who had been recruited for the basic training programme of the SAPS 2009 entry-level intake. Students of the various language groups were divided into smaller groups of approximately 25 each as several classrooms were used in order to administer the tests. A standardised procedure was followed by qualified psychologists and psychometrists in order to administer the test battery. Ethical aspects of the research were discussed with the students. The instructions to the test were given to each classroom group individually.

Statistical analysis

The first step in the analysis included calculating the reliability coefficients of the different students who completed the eight (8) different versions of the similarity questionnaires for the Setswana language group. Based only on individuals who had an item total correlation above 0,30 the average similarity rating for each pair of emotion terms was computed. The second step

included a Classical Multidimensional Scaling (CMDS) procedure which typically results in systematic ordering of emotion words around specific dimensions. According to Russell (1991), the first dimension is always on evaluation or pleasantness (positive to negative dimension). Other dimensions which often emerge (Osgood, May, & Miron, 1975) are power, potency or dominance (strong to weak emotions mainly related to anger, fear and sadness), arousal or activation (active-passive or high-low emotions which are mainly related to emotions of fear and anger to sadness) and lastly, a dimension related to emotions of unpredictability (surprise terms to other terms).

Multidimensional Scaling allows for the representation of emotion words as points in a space, with the distance between two points representing dissimilarly in sorting (Borg & Groenen, 1997; Davison, 1983; Kruskal & Wish 1978). These analyses were carried out with PROXSCAL of SPSS. By means of an iterative procedure, PROXSCAL computes the coordinates in such a way that there are minimal deviations between the (optimally transformed) dissimilarities (= the ordinal information in the data) and the distances in the geometrical representation (= distances generated by the MDS). PROSCAL minimizes the normalized raw stress which is computed as the proportion of squared distances that are not accounted for by the observed dissimilarities. This badness of fit or stress measure ranges from 0 to 1, with 0 meaning that all observed dissimilarities are accounted for by the distances in the geometrical representation and 1 meaning that the observed dissimilarities are not accounted for at all by the distances in the geometrical representation. A lower normalised raw stress measure as preferred.

RESULTS

The reliabilities for the Setswana group are reported in Table 6 on the eight (8) similarity questionnaires.

Table 6

Reliability table of the results of the eight Similarity Rating Questionnaires for the Setswana language Group

Similarity Questionnaire	Reliabilities with respondents with all item correlations of at least 0,30 (α)
Similarity Questionnaire 1 (n=17)	0,89
Similarity Questionnaire 2 (n=15)	0,89
Similarity Questionnaire 3 (n=18)	0,79
Similarity Questionnaire 4 (n=13)	0,80
Similarity Questionnaire 5 (n=20)	0,88
Similarity Questionnaire 6 (n=18)	0,87
Similarity Questionnaire 7 (n=19)	0,88
Similarity Questionnaire 8 (n=20)	0,91

*Cronbach alpha did not increase after removing item-total correlations with values less than 0.30

Inspection of Table 6 shows that acceptable Cronbach alpha coefficients were obtained for all the scales. All the alpha coefficients were higher than the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994). The scores on the Similarity Questionnaires are therefore normally distributed. It therefore appears that all the measuring instruments have acceptable levels of internal consistency. It should, however, be noted that no respondents with item-total correlation lower than 0,30 have been removed. If the item-total correlations with a value of less then 0,30 were removed the Cronbach alpha did not increase.

The Classical Multidimensional Scaling (CMDS) procedure report normalized raw stress for the Setswana group, with a solution in one up to five dimensions was respectively 0,25; 0,10; 0,06; 0,04 and 0,03. The final dimensionality was decided upon based on the interpretability of the representation. The full five dimensional representations could be well interpreted. An explanation of the different dimensions is given in the footnote of Table 7.

Table 7

Coordinates of the Setswana emotion terms on the five dimensions

Setswana	English	Dimension				
		1	2	3	4	5
boitumelo	joy	**0,679**	-0,076	0,210	-0,042	-0,098
katlego	success	**0,639**	-0,144	-0,230	-0,131	0,175
lerato	compassion, love	**0,614**	-0,014	-0,015	0,243	-0,080
itumeletse	elation	**0,614**	0,004	0,043	-0,065	-0,194
rata	like	**0,578**	0,191	-0,052	0,113	-0,112
itumela	happiness	**0,573**	-0,171	0,035	-0,200	-0,085
kgatlego	interested	**0,570**	0,151	-0,148	-0,140	-0,309
kagiso	peace	**0,539**	-0,170	0,142	0,328	-0,293
thabo	delight	**0,535**	-0,158	0,016	-0,236	-0,334
setshego	laugh	**0,521**	-0,097	0,096	-0,449	-0,185
kgatlegelo	envy	**0,520**	0,220	-0,129	-0,276	0,133
monate	pleasure	**0,491**	0,172	-0,049	-0,438	-0,209
motho o lerato	gaiety	**0,483**	-0,233	0,323	0,122	-0,321
kgatliso	gloom	**0,447**	-0,156	-0,283	-0,352	-0,273
bonolo	tenderness	**0,425**	-0,050	0398	0,424	0,009
amogelo	submission	**0,398**	-0,368	0,168	0,382	-0,005
go se monate	displeasure	**-0,569**	0,073	-0,090	0,024	-0,024
tshwabiso	humiliation	**-0,560**	-0,287	-0,109	-0,045	0,230
leso	death	**-0,555**	-0,062	0,314	-0,023	-0,351
swabisa	disgust	**-0,547**	-0,338	0,088	-0,014	0,277
kutlwiso botlhoko	disappointment	**-0,546**	-0,149	0,028	0,252	-0,002
bosula	evil	**-0,544**	-0,094	-0,278	-0,105	0,265
tshulafallo	despair	**-0,533**	0,099	-0,199	-0,145	-0,209
tenego	irritation	**-0,527**	-0,082	-0,280	0,051	-0,255
lela	cry	**-0,505**	0,043	0,174	0,225	-0,219
ngala	abandonment	**-0,483**	-0,049	-0,300	-0,059	-0,385
go tenega	fed up	**-0,479**	-0,198	-0,228	0,195	-0,265
kwata	anger	**-0,464**	-0,175	-0,318	0,155	-0,264
kgatelelo	depression	**-0,446**	0,348	0,161	-0,258	0,145
go utlusiswa botloko	being hurt	**-0,440**	-0,189	0,038	0,184	-0,321
go sa phutuloge	uneasiness	**-0,397**	0,241	0,184	-0,289	0,040
go fela matla	impotence	**-0,387**	0,378	0,384	0,146	0,098
kutlobotlhoko	sadness	**-0,380**	0,031	0,234	0,106	-0,413
kgatelelo ya maikutlo le tlhal	stress	**-0,361**	0,220	0,074	0,338	-0,025

go nagana ka selo thata	obsession	-0,081	**0,623**	0,115	0,022	-0,140
kgopolo gae	homesickness	-0,007	**0,622**	0,013	0,241	-0,243
takatso tsa thobalano	lust	0,346	**0,555**	-0,234	0,323	0,179
malapo	exhaustion	0,106	**0,539**	-0,014	0,011	**0,539**
keletso	craving	0,348	**0,526**	-0,291	-0,102	0,198
takatso	fervour	0,380	**0,514**	-0,279	-0,061	0,034
lakatso	inclination	0,313	**0,496**	-0,391	-0,094	0,039
lakatsa	hope	0,308	**0,485**	-0,405	-0,108	0,094
eletsa	wish	0,275	**0,469**	-0,455	0,096	0,002
tsebetsebe	frustration	-0,215	**0,445**	0,364	-0,346	-0,074
bodutu	loneliness, bored	-0,379	**0,415**	-0,168	0,357	0,049
maikutlo	emotions	0,003	**0,273**	0,029	0,237	-0,245
bogale	ire	-0,292	**-0,628**	-0,311	0,113	-0,006
leboga	thankful	0,358	**-0,613**	0,100	-0,122	0,230
bolousolosetse	vengefulness, threaten	-0,130	**-0,568**	-0,340	0,045	0,392
motlotlo	chat	0,446	**-0,491**	0,240	-0,252	0,010
boitshepo	confidence	0,419	**-0,449**	-0,075	0,296	0,274
kgalefo	warning, feel chagrined, livid	-0,361	**-0,376**	-0,333	0,005	-0,297
tshaba	afraid	-0,226	-0,074	**0,596**	-0,248	0,305
letshogo	shock, panic	-0,295	-0,018	**0,551**	-0,287	-0,111
letshabo	fear	-0,109	0,047	**0,546**	-0,409	0,155
kgotofalo	satisfaction	0,197	-0,111	**0,541**	-0,169	-0,352
go itsela ko tlase/go inyatsa	insecurity	-0,163	0,171	**0,531**	-0,098	0,480
ditlhong	shame	-0,082	0,019	**0,466**	-0,079	0,583
tlhobaela	restless	-0,209	0,423	**0,447**	-0,106	-0,301
boikokobetso	humble	0,281	-0,072	**0,441**	0,391	0,247
molato	guilt	-0,360	-0,260	**0,394**	0,286	0,377
go feta selekano	frenzy	0,195	-0,236	**-0,557**	0,129	-0,038
go sa kgotsofale	dissatisfaction	-0,280	0,337	**-0,508**	0,013	0,118
boikgogomoso	pride	0,062	-0,432	**-0,504**	-0,340	0,252
go sa rate	dislike, scorn	-0,362	-0,208	**-0,425**	-0,295	0,164
itshoka	sullenness, sulkiness	0,089	-0,052	-0,003	**0,686**	0,215
pelotelele	patient	0,289	-0,076	-0,053	**0,579**	0,273
boitshwarelo	forgiveness	0,219	-0,293	0,407	**0,494**	0,055
borega	boredom	-0,323	0,071	-0,233	**0,466**	0,265
go itshepa thata	euphoria, optimism, trust	0,384	-0,319	-0,371	**0,408**	0,154
sesa maikutlo	calmness	-0,083	-0,020	0,074	**0,373**	-0,321
makala	amazement, awe	-0,126	-0,106	0,169	**-0,680**	0,226
letlhoo	hatred	-0,375	-0,135	-0,321	**-0,534**	-0,010
mona	jealous	-0,238	-0,034	-0,444	**-0,504**	0,365

motshego	amusement	0,366	-0,161	0,149	**-0,443**	-0,372
makolo	surprise	0,162	-0,182	0,059	-0,269	**0,668**
molopo	exhaustion	0,106	**0,539**	-0,014	0,011	**0,539**
amego maikutlo	affection	-0,181	0,104	-0,125	0,127	**-0,433**
go amega maikutlo	sentimentality	-0,192	-0,067	-0,022	0,096	**-0,430**
tlalelo	anxiety	-0,313	-0,287	0,105	-0,308	**-0,407**

Dimension 1: Pleasantness (or evaluation) dimension with pleasant emotions as opposed to unpleasant emotion terms. Dimension 2: Yearning dimension. Dimension 3: Arousal (or activation) dimension. Dimension 4: Power (or potency) dimension. Dimension 5: "Go amega maikutlo".

Findings indicate that for the Setswana group, a five-factorial solution was created where some of the dimensions were the same as in the GRID. The first dimension presented as a Pleasantness (or evaluation) dimension opposing pleasant to unpleasant emotion terms. The second dimension presented as a Yearning dimension with terms referring to emotions of longing. The third dimension presented as an Arousal (or activation) dimension. Here, anxiety terms were opposed to sadness terms. The fourth dimension, Power (or potency) opposing anger/pride terms to sadness/fear terms. The fifth and final dimension "Go amega maikutlo" refers to an event or happening which seems to be a typical Setswana dimension that was not yet recognised before in the Western Culture. This dimension "go amega maikutlo" can be seen as a cultural specific finding. After obtaining these results, a focus group of Tswana speaking students (n=7) were asked to describe this dimension. The group indicated that this dimension is a truly unique Tswana term which could best be described as an event that happened and action needs to be taken.

DISCUSSION

The aim of this research was to study the prototypicality and meaning of the emotion lexicon encoded in the Setswana language group in the SAPS, and to generate prototypical emotion words and to identify the manifestation of the emotions for this language in South Africa, as well as the categorisation of emotion terms.

South Africa is home of eleven official language groups and just as many cultural groups resulting in an environment rich in diversity and cultural differences (Statistics South Africa, 2007). Therefore, in order to investigate the cognitive emotion structure within a cultural group, it is necessary to firstly select the emotion terms that present emotions in the group concerned. For the selection of such terms, the prototype approach was used (Fehr & Russell, 1984; Shaver et al., 1987) based on the highest frequency of terms listed during a Free Listing task.

In this study, the words with the highest frequency, as listed during the Free Listing task, were "boitumelo" (joy), "kutlobotlhoko" (sorrow), "lerato" (love), "tenega" (annoyed), "itumela" (happy), "lela" (cry), "letlhoo" (hatred) and "botlhoko" (grief). The results of the Free Listing task indicated that for 154 students, basic emotions of happiness, sadness and love were emotions which most readily come to mind in the Setswana-speaking group. This list of basic-level emotions corresponds roughly with emotion theorists' lists of basic or primary emotions which are *fear, anger, joy, sadness, disgust and surprise* (Bretherton & Beeghly, 1982; Ekman, 1984; Epstein, 1984; Izard, 1977).

The results of the Prototypicality rating task yielded an ordering of terms where terms with high scores clearly belong to the emotion domain. For instance, the twelve (12) most prototypical terms in Setswana were : "lela" (cry), "rata" (like), "go tenega" (fed up), "kgalefo" (warning, feel chagrined, livid), "lerato" (compassion, love), "boitumelo" (joy), "go utlusiswa botloko" (being hurt), "kwata" (anger), "amego maikutlo" (affection), "itumeletse" (elation), "kutlwiso botlhoko" (disappointment), and "itumela" (happiness).

The reason for choosing the number twelve (12) is that this is the number of emotion words analysed by Frijda and colleagues (Frijda et al., 1995; Van Goozen & Fridja, 1993) in studies of six European countries (Belgium, France, Switzerland, Italy, The Nederlands, England and Turkey), three Asian countries (Japan, Surinam and Indonesia), and Canada, allowing to compare the results. In all the countries words related to happiness and sadness appeared among the top 12, and words related to love, anger and fear appeared as well. In the present study "fear" is not mentioned in the top twelve. Additional concepts were mentioned in only a few places (crying, laughter, jealousy, longing, excitement, surprise, disgust, pity, boredom, pride, shame,

confusion and stress), and of these the most popular, crying and laughter (which is also present in the top 12 prototypical terms in this study), could be considered emotion-related behaviours (Alonso-Arbiol et al., 2006). With the exception of fear, the results of the prototypical terms are closely related to the five basic-level categories obtained in the American and Indonesian studies: love, happiness, anger, sadness, and fear (Alonso-Arbiol et al., 2006).

The Classical Multidimensional Scaling (CMDS) procedure was used to compute the similarity between two emotion terms or emotion concepts. The resulting structures can be compared to determine what each reveals concerning the organisation of emotion knowledge within each language group.

Results of the Similarity Sorting and CMDS indicated that normalised raw stress was reported. A five dimensional representation could be well interpreted for the Setswana group and was decided upon, based on the interpretability of the representation. This five-factorial solution is in a way similar to that of the GRID (Scherer, 2005) with the first dimension being Pleasantness (or evaluation) dimension opposing pleasant to unpleasant emotion terms e.g. joy (boitumelo) versus sadness (kutlobotlhoko). However, the second dimension is one that was not recognised in the GRID, but could be a dimension true to the Setswana-speaking people which includes the emotion theme of Yearning or longing emotion terms e.g. homesickness (kgopolo gae) and craving (keletso). The third dimension is clearly an Arousal (or activation) dimension with anxiety terms e.g afraid (tshaba) and fear (letshabo) being separated from sadness terms, e.g. shame (ditlhong) and guilt (molato). The fourth dimension being a Power (dominance or potency) dimension opposing anger/pride terms for e.g. hatred (letlhoo) to sadness/fear terms for e.g. sulkiness (itshoka). The fifth dimension "Go amega maikutlo" is a new one which is truly a unique Setswana dimension. The dimension is a typical noun word in Setswana which forms part of their culture and for which there is no English term. This dimension was further explored and confirmed by a focus group of Tswana speaking students. The group indicated that this dimension could best be described as an event or happening; something happened, now there is a confrontation, it is 'in your face' and you have to deal with it.

Emotion lexicon

A way to study emotions is to examine the emotions identified by one language and not by another (Russell et al., 1989). More research based on studies conducted in different cultures with languages that have different historical roots is, however, necessary. This will allow the issue of universality versus difference and cultural specificity to be evaluated (Wierzbicka, 1999). It is known that some cultures have fewer words than the English language (Russell et al.), while some cultures could recognise and even discuss an emotion without having a word for it. In this Setswana study it was found that the last dimension in the Similarity Rating Task "Go amega maikutlo" is an example of a culture (the Setswana culture) that have a word "go amega maikutlo" that is not directly translatable in the English language. It is a word (emotion) that is true to the Setswana culture that describes a feeling applicable to their language and culture, thus an emotion that could be cultural specific.

Culture

One promising framework for the understanding of emotion complexity is the study of emotion through any particular language and culture (Alonso-Arbiol et al., 2006). In this study the Setswana language and culture was used and it unravelled quite a few interesting facts concerning the complexity of their emotions. This could be seen in the light of the two new dimensionalities (Yearning and "Go amega maikutlo") that were identified through the Similarity Rating Task not previously observed through the Western Cultures.

Emotion and organisational behaviour

Certain emotions share similar patterns of appraisal, including action tendencies, and behavioural consequences; thus it is posited that these emotions can be grouped in classes (Tran, 2004). The following four classes can be distinguished. The first group is Achievement emotions (for example pride, elation, joy and satisfaction) which occur in situations where people have a sense of accomplishment, personally or professionally, and a desire to celebrate successes with others. Approach emotions (for example relief, hope, interest and surprise) occur in situations where people are attentive, alert, exploring, wanting to learn and looking forward to the future. The third group, Resignation emotions (for example sadness, fear, shame and guilt) occur in situations where people suffer some kind of a loss, personally (death of a parent, loss of a friend

or lover) or professionally (loss of a job, restructuring of one's company, loss of colleagues, or financial drawback). The last group, namely Antagonistic emotions (for example envy, disgust, contempt and anger) occur in situations where people think they have been harmed, morally or physically, and that the cause of this harm is unfair (Tran). Those four classes are also recognisable in the results of the Similarity Ratings of this study, namely Achievement emotions (joy, pride, elation and satisfaction); Approach emotions (hope, interest and surprise); Resignation emotions (sadness, fear, shame and guilt) and Antagonistic emotions (envy, disgust and anger).

South African Police Service

As mentioned before, police officials are faced with demands that place a unique burden on their ability to express and deal with emotions. By studying the emotion lexicon and prototypical words of the Setswana culture, the Setswana words with the highest frequency were revealed, namely "boitumelo" (joy), "kutlobotlhoko" (sorrow), "lerato" (love), "tenega" (annoyed), "itumela" (happy), "lela" (cry), "letlhoo" (hatred) and "botlhoko" (grief), as well as the most prototypical words "lela" (cry), "rata" (like), "go tenega" (fed up), "kgalefo" (warning, feel chagrined, livid), "lerato" (compassion, love), "boitumelo" (joy), "go utlusiswa botloko" (being hurt), "kwata" (anger), "amego maikutlo" (affection), "itumeletse" (eleation), "kutlwiso botlhoko" (disappointment), and "itumela" (happiness). A new dimension unique to their language and culture was also revealed; "go amega maikutlo". This can be used in future studies to develop interventions for the police to equip the police officials in different cultural groups to understand their own emotions as well as those of other culture groups.

LIMITATIONS AND RECOMMENDATIONS

With regard to the limitations of the present study, the following can be delineated. Firstly, this study was conducted on a unique study population, namely Setswana-speaking police students of South Africa. The results may not have been representative of all the Setswana-speaking South Africans due to the likelihood of different dialects. Secondly, human error could be a possibility as language translators were used in this study to translate the terms from Setswana to English and back again. Care should therefore be taken to interpret the intended meaning of the emotion

terms when translated. Thirdly, very little scientific information on the Setswana language group is available in the literature, which hampered the attempt to develop a holistic view on this culture. Research such as this study could, however, add to the little existing information of Setswana emotion words.

The present findings suggest that future research on the culture of the Setswana-speaking groups are warranted, as very little information on the customs and traditions of this culture are available in the literature. A more diverse population from different industries across South Africa should be included in future research.

Results obtained from this study, as well as future studies on emotions across cultures within South Africa, can also be compared with European and other Western samples, as well as with results obtained from the GRID study in order to create a unique South African GRID.

The results could also lead to a better understanding of cultural similarities and differences in emotions. This study as well as future research will benefit the SAPS who will have access to culture-sensitive training for emotional competence (consisting of culture-sensitive training material, a manual for instructors, and a workbook for members). Moreover, psychological assessment instruments can be developed through which the effectiveness of the training can be measured. The SAPS sees it as an important future device to proactively increase the function and well-being of the employees in the SAPS.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This chapter comprises conclusions regarding the literature review and the empirical study in accordance with the specific objectives. The limitations of the research are discussed and recommendations made for the organisation and future research.

3.1 CONCLUSIONS

The general objective of this research was to study the prototypicality and meaning of the emotion lexicon encoded in the Setswana language group in the SAPS, and to generate prototypical emotion words and to identify the manifestation of the emotions for these languages in South Africa as well as the categorisation of emotion terms.

The "bottom-up" approach was used to investigate the cognitive emotion structure of the Setswana-speaking group. The "bottom-up" approach process first started by identifying the specific emotion terms used by the Setswana-speaking group. This was done by identifying the highest frequency terms as provided by the SAPS students. The free-listing task provided many emotion terms. This was further scaled down by using the prototype approach. According to Fehr and Russell (1984) as well as Shaver, Schwartz, Kirson, and O'Conner (1987), this prototype approach is necessary to identify the emotions which are true representations of typical emotion terms specifically used by a culture group.

Consequently it was found that identifying the cognitive structure of emotion terms across different culture groups would be useful to identify the similarities (or differences) "in meaning" between the same emotion terms of different culture/language groups.

The *first objective* of this research was to ascertain what are the relevant and representative emotion words in the Setswana-speaking group in the SAPS. With language being sensitive to cultural dynamics, one needs to understand emotions as they are represented in everyday life

within a specific cultural context (Church, Katigbak, Reyes, & Jensen, 1998). Words with the highest frequency, as listed during the Free-Listing task, by the Setswana-speaking students were, for example, "boitumelo" (joy), "kutlobotlhoko" (sorrow), "lerato" (love), "tenega" (annoyed), "itumela" (happy), "lela" (cry), "letlhoo" (hatred) and "botlhoko" (grief).

The results for the Free Listing task indicated that basic emotions of happiness, sadness and love were those which most readily come to mind for the SAPS students.

The *second objective* of this research was to ascertain what the relevant and representative prototypical emotion words are that have been encoded in the Setswana-speaking group in the SAPS. The prototype approach to emotion knowledge promises to contribute in several ways to the understanding of emotion representation in everyday life and has therefore been used in this study. The prototype approach furthermore provides a means of integrating findings concerning cross-cultural similarities and differences in emotion concepts in order to determine what the most typical emotion words are, as well as what the similarity between various pairs of terms are.

The results of the prototypicality rating task generated an ordering of terms where terms with high scores clearly belong to the emotion domain. The five most prototypical terms in Setswana were for instance: "lela" (cry), "rata" (like), "go tenega" (fed up), "kgalefo" (warning, feel chagrined, livid), and "lerato" (compassion, love).

In comparison with the most prototypical Setswana emotion terms, the following table shows the most prototypical words for the Afrikaans, Sepedi, Tshivenda, and Xitsonga -speaking groups (Du Toit, 2008; Nicholls, 2008) in South Africa:

Table 8

The five most prototypical words of the Setswana-, Afrikaans-, Sepedi-, Tshivenda- and Xitsonga-speaking groups in South Africa

Setswana	Afrikaans	Sepedi	Tshivenda	Xitsonga
Cry	Rage	Loneliness / emptiness / glumness	Wrath	Shock
Like	Fear	Restlessness	Suspicion	Doubt
Fed up	Anger	Unhappiness / displeasure	Sinfulness	Humiliation
Livid	Hate	Compassion / moved / pitifulness	Fondness	Shyness
Love	Sadness	Tired	Insecurity	Exuberance

The *third objective* of this research was to ascertain the extent to which the emotion words refer to specific positions (dimensions) on each of the emotion features in the Setswana-speaking group in the SAPS. According to Russell (1991), structural analyses, factor analysis and multidimensional scaling of emotion terms typically result in two or three dimensions. In the present study, linguistic and cognitive variances as well as cultural specificity was found for some of the emotion terms.

A five-dimensional representation could be well interpreted for the Setswana group and was decided upon on the basis of the interpretability of the representation. This five-factorial solution is in a way similar to that of the GRID (Scherer, 2005) with the *first* dimension being pleasantness (or evaluation) dimension opposing pleasant to unpleasant emotion terms.

The *second* dimension, however, is a dimension that was not recognised in the GRID, but could be a dimension true to the Setswana-speaking people which include the emotion theme of yearning or longing emotion terms. Longing can be defined as a secondary emotion, as a blend of the primary emotions of love and sadness (Holm, 2001). Longing is often an unnoticed emotion, although most human beings have experienced longing, it is seldom mentioned in the scientific emotion literature. Longing can be considered a blend of love and sadness (Shaver et al,. 1987). The synonym for longing is yearning which is described by Kemper (1987) as a blend of depression and happiness. The Oxford Advanced learner's Dictionary (1994) defines longing (p. 735) as an "intense desire" and yearning (p. 1485) as either a "strong desire or tender longing". Therefore the dimension Yearning compromise powerful emotions such as love, happiness, sadness, and depression.

The *third* dimension is clearly an arousal (or activation) dimension with anxiety terms being separated from sadness terms.

The *fourth* dimension being a power (dominance or potency) dimension opposing anger/pride terms to sadness/fear terms.

The *fifth* dimension is a new cultural specific finding for the Setswana language. The dimension "Go amega maikutlo" refers to an event or happening. The focus group tried to explain it by saying it is something that happened, something that faces one and one have to act upon it. The dimension which is described as "go amega maikutlo" is a typical noun word in the Setswana language and is part of their culture. As mentioned before emotion words can exist in a language

for which no word in the English language exists (Russell, 1991). In this case the fifth dimension "Go amega maikutlo" was revealed in the Setswana language for which no English name can be given to exactly describe the dimension as the Setswana people experience it.

Fontaine, Scherer, Roesch, and Ellsworth (2007) found in their study of the comparison between three European languages that more than two dimensions are necessary for the representation of the space of emotion. This research study yielded five dimensions instead of the expected four, it is therefore sufficient to be a true representation of the emotion structure of the Setswana group.

In comparison with these dimensions of the Setswana emotion terms, Nicholls (2008) found the following dimensions for the Sepedi-, Tshivenda- and Xitsonga-speaking groups and Du Toit (2008) for the Afrikaans group in South Africa:

Table 9

The dimensions of the Setswana, Afrikaans, Sepedi, Tshivenda and Xitsonga-speaking groups in South Africa

Dimension	Setswana	Afrikaans	Sepedi	Tshivenda	Xitsonga
1	Evaluation	Evaluation	Evaluation	Evaluation	Evaluation
2	Yearning	Activation	Power	-	Power
3	Activation	Power	Unexpectedness	Power	Activation
4	Power	-	Activation	Activation	Unpredictability
5	"Go amega maikutlo"	-	-	-	-

For the Afrikaans and Tshivenda-speaking groups, only three dimensions emerged. Both the Sepedi and Xitsonga groups revealed four dimensions. The GRID also showed four dimensions, namely Evaluation, Potency, Activation and Unpredictability (Fontaine et al., 2007). It is clear from these comparisons that there is indeed a difference between the cognitive emotion structures of these culture groups within South Africa.

Therefore if this information is to be used to develop a training program for the SAPS, it is important to take into account all the dimensions that emerged from these studies.

3.2 LIMITATIONS

The present research is not without limitations. The following limitations with regard to this study were identified:

The results of this study may not be representative of all Setswana-speaking South Africans due to the convenience sampling that only included representatives, recruited as Police officials during the 2007 and 2009 intake. The Setswana-speaking community is also a large community with sub-cultures which have divergent cultural beliefs and dialects. As a result, their experiences are viewed differently due to tribalism. It would therefore not be appropriate to generalise the results deduced from the data as applicable to all Setswana-speaking people.

Language was also a problem for the researcher. Translating and understanding the questionnaires in Setswana and not knowing whether the Setswana words were correctly translated, were difficult and were experienced as limitations.

There was the risk of misrepresenting the questions due to the inability to find an appropriate word in Setswana, although English words explained it gracefully. There were also limitations due to the fact that there were fewer Setswana words than English words to express emotions in Setswana which complicated the translation process.

With regard to the literature study, very little scientific information of the Setswana culture in South Africa could be generated, as very few studies have previously been done on this culture. This implies that the researcher was unable to present a holistic view on the respective language or cultural group concerned as it is embedded in South Africa.

3.3 RECOMMENDATIONS

3.3.1 Recommendations for future research

An extension of the current approach is suggested with more extensive research on the Setswana culture in South Africa, as very little information on the customs and traditions of this culture are available in the literature.

Future research could focus on the yearning dimension as well as the last dimension "Go amega maikutlo" to distinguish whether or not it is just specific for the Setswana culture or does it exist in other cultures as well. This could lead to very valuable information concerning cross-cultural research.

Future research on the concept of emotion among South African cultures should preferably rely on alternative methods to establish individual or group differences in the meanings of emotion concepts. One firstly has to determine the core affect which describes moods and emotions in its simplest form (Russell, 1991) in order to establish a unique South African componential emotion GRID consisting of a representative sample of emotion words and emotion features. Ideally, this should be a replication of the Geneva GRID (Scherer, 2005) with culture-relevant material (words and features).

3.3.2 Recommendations for the organisation

When a South African GRID is completed for South Africa, an evidence-based intervention program can be developed for the SAPS. The aim of this training program is to make police officials more educated concerning the role of emotions in their work and to be knowledgeable about the emotions of South African ethno-cultural groups. Following the training, police officials should be able to evaluate the emotional meaning of situations more accurately; they should also be more aware of their own emotional reactions and those of the public.

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