

**Measuring the GRID in the Sepedi, Xitsonga and Tshivenda
language groups in the South African Police Service**

E. Rauch

Mini-dissertation submitted in partial fulfilment of the requirements for the degree Magister
Commercii in Industrial Psychology at the North-West University (Potchefstroom Campus)

Study Leader: Prof. C. S. Jonker

Assistant Study Leader: Prof. D. Meiring

Potchefstroom

November 2009

COMMENTS

The reader should keep the following in mind:

- The editorial style as well as the references used 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 the APA style in all scientific documents as from January 1999.
- The mini-dissertation is submitted in the form of three (3) chapters, consisting of the following: an introductory chapter, a second chapter (having a research article as content), as well as a concluding chapter. Each chapter of the mini-dissertation has its own reference list.

ACKNOWLEDGEMENTS

For the strength, love, knowledge and determination, I thank my Creator

I would also like to express my sincere appreciation to the following people who made the completion of this mini-dissertation possible:

- For his tireless patience, encouragement, love, understanding and assistance with the assessments and data, I thank my fiancé Trevor
- For her belief in my capabilities, encouragement and unconditional love, my mother and life-mentor, Miems
- For their unconditional love, moral support, prayers and patience with my decrease in faith at times, my precious family
- My supervisor, Prof. Cara Jonker for her kindness, motivation, guidance and support
- My supervisor, Prof. Deon Meiring, for his patience, motivation, advice and time
- Prof. Johnny Fontaine of the University of Ghent for his guidance and the statistical wrap-up
- All the respondents who participated in this study

TABLE OF CONTENTS

	Page
List of Tables	v
List of Figures	vi
Summary	vii
Opsomming	x

CHAPTER 1: INTRODUCTION

1.1	Problem Statement	11
1.2	Research Objectives	16
1.2.1	General Objective	17
1.2.2	Specific Objectives	17
1.3	Paradigm Perspective of the Research	17
1.3.1	Intellectual Climate	18
1.3.2	Discipline	18
1.3.3	Meta-theoretical Assumptions	19
1.3.3.1	Literature Review	19
1.3.3.2	Empirical Study	19
1.3.4	Market of Intellectual Resources	20
1.3.4.1	Theoretical Beliefs	20
1.3.4.2	Methodological Beliefs	27
1.4	Research Method	28
1.4.1	Literature Review	28
1.4.2	Research Design	28
1.4.3	Participants	29
1.4.4	Measuring Instruments	29
1.4.5	Statistical Analysis	30
1.5	Research Procedure	30
1.6	Division of Chapters	31
1.7	Chapter Summary	31
	References	32

**CHAPTER 2: RESEARCH ARTICLE: MEASURING THE GRID IN THE
SEPEDI, XITSONGA AND TSHIVENDA LANGUAGE GROUPS IN THE SOUTH
AFRICAN POLICE SERVICE**

38

CHAPTER 3: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

3.1	Conclusions	82
3.2	Limitations	85
3.3	Recommendations	86
3.4	References	88

LIST OF TABLES

Table	Description	Page
1	Relationship between the functions and components of emotion	49
2	Characteristics of the Sepedi group of the GRID instrument exercise	55
3	Characteristics of the Xitsonga group of the GRID instrument exercise	56
4	Characteristics of the Tshivenda group of the GRID instrument exercise	57
5	Reliability table of the results of the six GRID questionnaires for the Sepedi group	60
6	Inter-rater reliability table of the results of the six GRID questionnaires for the Xitsonga group	62
7	Reliability table of the results of the six GRID questionnaires for the Tshivenda group	63
8	Component loadings of the 142 items of the GRID instrument for the Sepedi group	64

LIST OF FIGURES

Figure	Description	Page
1	Scatter plot of the GRID instrument components for the Sepedi group	67
2	Three-dimensional scatter plot representing the 24 emotion terms of the GRID for the Sepedi group	76

SUMMARY

Title: Measuring the GRID in the Sepedi, Xitsonga and Tshivenda language groups in the South African Police Service.

Key Terms: Emotion words, emotion terms, emotion components, dimensionality, lexicon, prototypicality, emotion theory, GRID, police, cross-cultural, Sepedi, Xitsonga, Tshivenda.

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 for both theoretical and applied reasons.

South Africa, with its eleven official languages, is a true multicultural society with extreme differences in terms of culture, acculturation, and socio-economic status. Cultural frameworks differ substantially between ethno-cultural groups, and clarification of the differences between cultural frameworks can counter interpretation biases that could result in daily frictions and major conflicts. Additional fundamental cross-cultural research on emotional differences between cultural groups, together with the generation of a mutual understanding of the different cultural frameworks, makes these frameworks explicit and facilitates the incorporation of these frameworks into daily communication and interaction processes.

The objectives of this research were to determine what the emotion structure of the Sepedi, Xitsonga and Tshivenda languages groups within a sample of Sepedi-, Xitsonga- and Tshivenda-speaking participants is, and how it compares with the European Emotion Structure. Furthermore this research aimed to establish the emotion structure and the relevant and representative features for each emotion component (such as appraisals, action tendencies, and subjective experiences) that have been encoded in a sample of Sepedi-, Xitsonga- and Tshivenda-speaking participants.

Likewise it was deemed necessary to verify (a) the extent to which the emotion words refer to specific positions on each of the emotion features of these language groups and (b) the extent of similarity or dissimilarity between emotion experiences of the Sepedi, Xitsonga and Tshivenda groups in the SAPS, as well as to compare the meaning structure between a

“bottom-up” and a “top-down” (as conducted in Nicholls’ research in 2008) approach between Sepedi-, Xitsonga- and Tshivenda-speaking participants.

A survey design with convenience sampling was used to achieve the research objectives. The study population ($n=390$) consisted of Sepedi-, Xitsonga- and Tshivenda-speaking entry-level police applicants from the South African Police Service (SAPS). The Sepedi, Xitsonga and Tshivenda GRID questionnaires were administered. Statistical methods and procedures (multidimensional scaling and descriptive statistics) were used and Cronbach's alpha coefficients were determined to analyse the results. Results of this study on the Sepedi, Xitsonga and Tshivenda cultural groups indicated the extraction of a two-factor model within the Sepedi group. Due to the extremely low reliability analyses of the Xitsonga and Tshivenda language groups’ data, a reliable scale analysis and the meaning structures of these two groups could not be determined. The low reliabilities could be attributed to the direct language translation of the questionnaire and the assessment may not have captured the full understanding of the items in the GRID instrument.

Results of this study for the Sepedi language group corresponded well with the results found in the study for the Sepedi group conducted by Nicholls (2008) on the emotion lexicon on the Sepedi, Xitsonga and Tshivenda language groups in South Africa. The Nicholls study (2008) indicated the extraction of a three-dimensional structure (evaluation, arousal, dominance) and a four-factor loading (positive emotion, sadness, fear, anger) for the Sepedi-speaking language group. In comparison, this research presented the extraction of a two-dimensional structure (evaluation and arousal) and a two-factor loading (positive emotion and sadness). Emotion concepts of the Sepedi group indicated that basic emotion concepts (love, joy, anger, sadness, fear, and surprise) readily came to mind in both Nicholls’ (2008) and this study. Emotion concepts listed by the Sepedi group could be interpreted as emotion words associated with social, personality or environmental aspects and may be related to negative evaluation, dominance and/or aggression.

Recommendations for future research were made.

OPSOMMING

Titel: Meting van die GRID in die Sepedi-, Xitsonga- en Tshivenda-taalgroepe in die Suid-Afrikaanse Polisie.

Sleutelwoorde: Emosiewoorde, emosie-terme, emosiekomponente, dimensionaliteit, terme, prototipikaliteit, emosieteorie, GRID, polisie, kruiskultureel, Sepedi, Xitsonga en Tshivenda.

Terwyl die studie van emosies van universele belang is as gevolg van die sentrale rol wat dit in die sosiale wetenskappe speel, geniet emosies besondere belangstelling in Suid Afrika vir beide teoretiese en praktiese redes.

Suid Afrika, met sy elf amptelike tale, is 'n ware multikulturele gemeenskap met uiterste verskille ten opsigte van kultuur, akkulturasie en sosio-ekonomiese status. Kulturele raamwerke verskil aansienlik tussen etno-kulturele groepe, en die opheldering van die verskille tussen kulturele raamwerke kan vooroordeel wat op interpretasie berus en wat daaglikse wrywing en groot konflikte tot gevolg het, help teëwerk. Bykomende fundamentele kruiskulturele navorsing oor die verskille tussen emosionele verskille tussen kulturele groepe, tesame met die ontwikkeling van 'n gemeenskaplike begrip van die verskillende kulturele raamwerke, maak dus hierdie raamwerke duidelik en fasiliteer die inkorporering van hierdie raamwerke in alledaagse kommunikasie en interaksieprosesse.

Die doelstellings van hierdie studie was om die emosiestruktuur van die Sepedi-, Xitsonga- en Tshivenda-taalgroepe binne 'n steekproefgroep Sepedi-, Xitsonga- en Tshivenda-sprekende deelnemers te bepaal, en hoe dit met die Europese Emosiestruktuur vergelyk. Hierdie navorsing het verder gepoog om die emosiestruktuur en die relevante en verteenwoordigende kenmerke vir elke emosiekomponent (soos skattinge, aksieneigings en subjektiewe ervarings) wat gekodeer is in 'n steekproefgroep Sepedi-, Xitsonga- en Tshivenda-sprekende deelnemers, vas te stel.

Terselfdertyd is dit nodig geag (a) om die mate waartoe die emosiewoorde na spesifieke posisies op elk van die emosiekenmerke in die Sepedi-, Xitsonga- en Tshivenda-sprekende groepe verwys en (b) om die mate van gelyksoortigheid of ongelyksoortigheid tussen emosie-ervaringe tussen die Sepedi-, Xitsonga- and Tshivenda-groepe in die Suid-Afrikaanse

Polisiediens (SAPD) te bevestig, en laastens om die betekenisstruktuur tussen 'n "van onder na bo"- en 'n "van bo na onder"-benadering (soos in Nicholls se navorsing in 2008 gedoen) tussen Sepedi-, Xitsonga- en Tshivenda-sprekende deelnemers vas te stel.

Die onderskeie GRID-vraelyste vir die Sepedi-, Xitsonga- en Tshivenda-taalgroepe is met 'n gerieflikheidssteekproeftrekking gebruik om die navorsingsdoelstellings te bereik. Die studiepopulasie ($n=390$) bestaan uit kandidate wat aansoek gedoen het vir poste in die SAPD. Statistiese metodes en prosedures (multidimensionele skalering asook beskrywende statistiek) is gebruik. Cronbach alpha-koeffisiënte is bereken om die resultate te analiseer. Die resultate van hierdie studie op die Sepedi, Xitsonga and Tshivenda kulturele groepe het op die ekstraksie van 'n tweefaktor-model binne die Sepedi-groep gedui. As gevolg van die baie lae betroubaarheidsanalises van die Xitsonga- en Tshivenda-taalgroepe se data kon 'n betroubare skaalanalise en die betekenisstruktuur van hierdie twee groepe nie vasgestel word nie. Die lae betroubaarhede kan toegeskryf word aan die direkte vertaling van die vraelys en die toetsing mag dalk nie die volle betekenis van die items in die GRID-instrument vasgevang het nie.

Die resultate van hierdie studie vir die Sepedi-taalgroep korrespondeer goed met die resultate vir die Sepedi-groep soos gedoen deur Nicholls (2008) op die emosieleksikon op die Sepedi-, Xitsonga- and Tshivenda-taalgroepe in Suid-Afrika. Die Nicholls-studie (2008) het op die ekstraksie van 'n driedimensionele struktuur (evaluasië, opwekking, en dominansië) en 'n vierfaktor-lading (positiewe emosië, hartseer, vrees, en woede) vir die Sepedi-sprekende taalgroep gedui. Op sy beurt het hierdie navorsing op die ekstraksie van 'n tweedimensionele struktuur (evaluasië en opwekking) en 'n tweefaktor-lading (positiewe emosië en hartseer) gedui. Emosiekonsepte van die Sepedi-groep dui daarop dat basiese emosiekonsepte (liefde, geluk, kwaad, hartseer, vrees en verrassing) redelik maklik herroep word in beide Nicholls se studie (2008) en hierdie studie. Emosiekonsepte soos gelys deur die Sepedi-groep mag geïnterpreteer word as emosies wat geassosieer word met sosiale, persoonlikheids- of omgewingsaspekte en mag verder verband hou met negatiewe evaluasië, dominansië en/of aggressië.

Aanbevelings vir toekomstige navorsing is aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on the cross-cultural comparability of the emotion lexicon of the Sepedi, Xitsonga and Tshivenda language groups in the South African Police Service.

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 the division of chapters given.

1.1 PROBLEM STATEMENT

Emotions are a part of our everyday existence, and a familiar concept experienced within ourselves and sensed in others (Ekman & Davidson, 1993). It is a response to events and situations that we come across and a cause of our responses (Fox & Spector, 2002).

Concepts of and approaches to emotions vary greatly in spite of the research conducted on emotion knowledge worldwide, and determining a commonly acceptable definition for the concept of emotion remains a challenge. In an attempt to pinpoint the true concept of emotion, some researchers have focused 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).

Philosophers such as Aristotle, Descartes and Spinoza defined emotions in terms of sets of perceptions, evaluations and desires (Frijda, 1987). Watson (1919) furthermore defined emotions as a behavioural phenomenon, while Wenger (1950) is of the opinion that emotion is a type of physiological activity.

Fehr and Russell (1984) view the concept of emotion as an internal structure which consists of happiness, love, anger, fear, awe, respect, and envy in addition to a range of other emotions, while Lazarus (1991), conversely, views emotions as complex, patterned, organismic reactions to how we think we are progressing in our lifelong efforts towards survival, prosperity and achievement of personal goals. Organismic in this context means

emotions involving the biological, psychological and social arenas of a person. Solomon (1977), on the other hand, argues that emotion is a type of judgment (a mental event), while Tomkins (1980) is of the opinion that emotions are primarily facial behaviour.

Scherer (2005) agrees that defining what emotions are, distinguishing them from other affective states or traits, and measuring them in a purposeful and all-encompassing manner has been a challenge in the social and behavioural sciences over a significant length of time. The answer to what emotions are rarely generates agreement amongst individuals and social and behavioural scientists (Scherer, 2005). In the component process model framework, Scherer (1987, 2001) views emotion as an event of unified, analogous changes in the states of all or most of the five organismic subsystems in reaction to the assessment of an external or internal stimulus event of importance to the foremost concerns of the organism. Scherer (2005) categorised the emotion components as the cognitive component (appraisal), neurophysiological component (bodily symptoms), the motivational component (action tendencies), motor expression component (facial and vocal expression), and the subjective feeling component (emotional experience).

The International Consortium for Cross Cultural Research on Affect (ICCRA, 2007) characterises emotions as the basic human processes which focus on detecting events that are relevant for the concerns of the organism, and prepare for appropriate action. Emotions thus present an appealing perspective for studying culture, and to discover which events arouse emotions and which specific emotions are aroused by certain events, could hold enormous value in revealing the concerns of a culture and the way it interprets the daily environment (ICCRA, 2007).

Although emotion is a familiar concept to most of us, a key research question is whether or not all emotions are experienced, expressed and represented similarly across cultural borders (Nicholls, 2008). 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). These researchers report that 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. Seeing that emotions play a central role in individual experience and interpersonal relations, some people are highly knowledgeable about emotions while others still need to acquire a

greater understanding thereof. Russell (1991) is of the opinion that this question can be answered by listing emotions, such as anger, fear, shame, envy, embarrassment, and happiness. The identification and listing of emotions does however pose some problems, and the main issue is comparability of different emotion concepts in different cultures (Russell, 1991).

Russell (1991) states that language has a limited vocabulary for emotions, and that some emotion words only exist in a certain language, but not in another. Furthermore according to the International Consortium for Cross Cultural Research on Affect (2007) there are emotion words that exist and are highly relevant for a specific culture group, but yet cannot be translated into other languages. 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 across cultural groups (ICCRA, 2007). Davidson (1993) is of the opinion that there are more emotion words than emotional experiences, and that it could be misleading in different cultures.

Emotion events consist of the immersed and synthetic perception of an emotionally meaningful world or of oneself as emotionally meaningful (Frijda, 2005). Meaning is composed of perceived qualities which represent appraisal and action readiness, and that body information is central for all emotion experience, but not central in all emotion experience (Frijda, 2005). The feeling experienced in a body in a specific state is only representative of a detached and analytic self-focused awareness (Frijda, 2005).

Emotion terms are defined as internal mental conditions with a central focus on affect rather than on cognition or behaviour (Clore, Ortony, & Foss, 1987). These researchers identified the various states of emotions, that is the affective-behavioural states (cheerful), affective-cognitive states (encouraged), cognitive conditions with cognitive state (certain), cognitive-behavioural states (cautious), the physical and bodily states (aroused, sleepy) and lastly the external conditions which can be divided into subjective (attractive, trustworthy) and objective (insulted) subcategories (Clore et al., 1987).

Shaver et al. (1987) is of the opinion that the cognitive structure of emotions can, within a cultural group, be conceptualised as the cognitive representation of similarities and dissimilarities between emotion terms. Russell (1991) stated that a function of taking a cross-

cultural perspective towards the meaning of the word emotion is to raise the question of whether different cultures agree on the meaning of emotion, and that evidence exists that the concept of emotion is widespread, if not universal.

Fontaine, Poortinga, Setiadi, and Markam (2002) conceptualised cross-cultural variations in the cognitive representation of emotions. The researchers are of the opinion that one can distinguish between emotion terms (linguistic), representation of facets of emotion processes and states in terms of cognitive similarities, differences between emotion terms (representational), and emotion processes and states themselves (internal). Furthermore, the correspondence or absence thereof between an emotion term utilised by one group and a term utilised by another group could be studied by means of translation procedures. Conclusions would be made on whether or not a pair of terms proves translation equivalence, and would depend on whether agreement could be reached about the translation of emotional terms (Brislin, 1980, 1986). Other reasons for translation non-equivalence are the possibility of pervasive differences between cultural groups pertaining to which aspects are represented in the cognitive structure of emotions (representational differences), or that it could be that cultural context influences emotion processes, which is not only incidental, but extensive (Mesquita & Frijda, 1992).

According to Levy (1984) 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, of the emotions experienced by members of a cultural group will be encoded in their language and that the most basic or important emotions will be encoded in most languages (Church, Katigbak, Reyes, & Jensen, 1998).

It is therefore essential to determine the semantic equivalence for the emotion lexicon across cultures. According to Fehr and Russell (1984), the concept of 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 one is asked to list emotions, as well as the probability of it being labelled as an emotion if confronted by the concept. According to Church, Katigbak, Reyes and Jensen (1999), self-report structures are essential, especially within cross-cultural studies, in investigating the conceptual organisation of emotions. 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).

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 for both theoretical and applied reasons. South Africa, with its eleven official languages, is a true multicultural society with extreme differences in terms of culture, acculturation, and socio-economic status, and in order for members of previously disadvantaged groups in South Africa to fully participate in the social, political, and economical life of the country, it is pivotal for people from the different ethnic groups to live and work together in mutual understanding.

Cultural frameworks differ substantially between ethno-cultural groups, and clarification of the differences can counter interpretation biases that could result in daily frictions and major conflicts. The creation of a descriptive knowledge base about which emotional events people typically experience in the different cultural groups and how these emotional events are precisely experienced, is of utmost importance. The creation of this knowledge base will be used as the basis for fundamental cross-cultural emotion research as well as as a source for the construction of a culture-sensitive assessment instrument and the emotional competence training in the SAPS (with the potential of implementation in other sectors). This knowledge base is thus pivotal to set up well-founded psychological intervention programs, to evaluate their effectiveness in the different cultural contexts, and to adjust them where needed. Research is required to investigate and contribute towards sustainable academic competence development in the domain of cross-cultural psychology.

These challenges can be progressively met by conducting additional fundamental cross-cultural research on emotional differences between cultural groups, and to create a mutual understanding of the different cultural frameworks, making these frameworks explicit, and incorporating them into the daily communication and interaction processes.

The problem we are thus faced with is whether emotions are homogeneous in all aspects across different cultures, and this research will investigate the extent to which the meaning of a number of emotion terms of three South African language groups are similar to its European English counterparts, to examine the higher-order structure (across all features), the

structure per component, and the position of the range of emotion terms within each of these structures for the Sepedi, Xitsonga and Tshivenda language groups.

The focus of this study is firstly to determine what the emotion components and the relevant and representative features for each emotion component that have been encoded in the Sepedi, Xitsonga and Tshivenda language groups (three of the African non-Indo-European languages) in the SAPS are. Secondly, this research will aim to investigate the extent to which the emotion words refer to specific positions on each of the emotion features needs to be verified in order to understand emotions represented in everyday life within a specific cultural context. Lastly, the study will look at verifying the similarities and differences in the emotion experiences which manifests from the results from the GRID.

The following broad research questions can be formulated based on the above-mentioned description of the research problem:

- What is the emotion structure of the Sepedi, Xitsonga and Tshivenda language within a sample of Sepedi-, Xitsonga- and Tshivenda-speaking participants and how does it compare with the European Emotion Structure?
- What are the relevant and representative features for each emotion component (such as appraisals, action tendencies, and subjective experiences) that have been encoded in a sample of Sepedi-, Xitsonga- and Tshivenda-speaking participants?
- What is the extent to which the emotion words refer to specific positions on each of the emotion features with the Sepedi-, Xitsonga- and Tshivenda-speaking participants?
- What is the extent of similarity or dissimilarity between emotion experiences of the Sepedi, Xitsonga and Tshivenda groups in the SAPS?
- What is the meaning structure comparison between a “bottom-up” approach and a “top-down” approach between Sepedi-, Xitsonga- and Tshivenda-speaking participants?

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 present study's general objective is to investigate, by means of the GRID approach, to which extent 24 emotion terms in Sepedi, Xitsonga and Tshivenda language groups have the same meaning as their European English counterparts. The higher-order structure (across all features), the structure per component, and the position of the 24 emotion terms within each of these structures for the Sepedi, Xitsonga and Tshivenda language groups will also be investigated, by means of a “top-down” approach. A comparison will be made with the meaning structure study conducted by Nicholls (2008), where a “bottom-up” approach was followed.

1.2.2 Specific objectives

The specific objectives of this research are:

- To ascertain what the emotion components in the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the SAPS are.
- To ascertain what the relevant and representative features for each emotion component (such as appraisals, action tendencies, subjective experiences) that have been encoded in the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the SAPS are.
- To ascertain the extent to which the emotion words refer to specific positions on each of the emotion features in the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the SAPS.
- To determine the similarities and differences in the emotion experiences based on the results evident from the GRID.
- To make a comparison on the emotions meaning structure between the “bottom-up” and “top-down” GRID approach between the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the SAPS.

1.3 PARADIGM PERSPECTIVE OF THE RESEARCH

The research is directed by a particular paradigm perception that includes the intellectual climate and the market of intellectual resources (Mouton & Marais, 1996).

1.3.1 Intellectual climate

The intellectual climate means the convictions, assumptions and principles which are excluded from the pragmatic goals of the scientific research practice. In social science research, the intellectual climate is inclusive of ideas in relation to the nature of social reality (Mouton & Marais, 1996).

1.3.2 Discipline

This research falls within the boundaries of the behavioural sciences and more specifically Industrial Psychology. Schultz and Schultz (1986) describe Industrial Psychology as the application of methods, facts and ideology of psychology towards humans at work. Guion (1965) defines Industrial Psychology as the scientific study of the relationship between humans and the realm of work, while Blum and Naylor (1968) argue that it is the application of psychological facts and principles to the problems relating to people operating within the context of industry.

Industrial psychology can furthermore be defined as the systematic study of human behaviour, and the application of knowledge to address problematic issues in a work-related framework. According to Muchinsky (2005) applied Industrial Psychology concerns itself with utilising knowledge obtained from scientific inquest into solving problems in the realm of work.

Components of Industrial Psychology, as a discipline, include career psychology, organisational psychology, personnel psychology, psychometrics, consumer behaviour and ergonomics (Joubert, 2006).

The sub-disciplines of Industrial Psychology that are relevant to this research are Organisational Psychology and Psychometrics.

Gibson, Invaneceovich, and Donnelly (1991) define Organisational Psychology as the study of human behaviour, attitudes and performance within an organisation, by making use of the

theory, methods and principles from psychology in order to obtain knowledge about individual perceptions, ideals and learning capacities.

Psychometrics concerns itself with the study of the theory and technique of psychological measurement which includes the measurement of knowledge, abilities, attitudes, and personality traits (State University, 2008a). Pivotal concepts in test theory are reliability and validity, which can be defined respectively as measuring an aspect on a consistent basis, while measuring what is suppose to be measured (State University, 2008b).

1.3.3 Meta-theoretical assumptions

Two paradigms are related to this research. Firstly, the literature review is done within the systems theory, and secondly the empirical study is done within the positivistic and functionalistic paradigms.

1.3.3.1 Literature review

The systems theory can be defined as a school of thought which emphasises the prioritising of and relationship between the parts or fundamentals of an individual, which connect them as a whole (Comte, 1994). The general systems theory is viewed by Plug, Louw, Gouws & Meyer (1997) as an approach to the study of systems such as individuals or groups. These systems can be characterised by the following aspects: (1) a universal structure common to all systems, whereas content differences may occur, (2) a hierarchy formed by all systems and an increase in complexity, and (3) the interdependency of components which impacts on the entire system.

1.3.3.2 Empirical study

Neuman (1997) argued that the positivistic paradigm is based on the hypothesis that knowledge is obtained through the awareness of the laws of human conduct through use of quantitative data. Hypothesis testing can be employed to make improvements and predictions and recommendations (Neuman, 1997). Positivism is an idealistic school of thought based on the premise that facts are applicable to evident phenomena (Plug et al., 1997). In psychology,

positivism is associated with approaches which emphasise objective, empirical and operational methods (Joubert, 2006).

Plug et al., (1997) state that the functionalistic paradigm calls attention to the description of psychological phenomena units in terms of relationships which return service to enhance human adjustment and continued existence.

1.3.4 Market of intellectual resources

Mouton and Marais (1996) describe the market of intellectual resources as the compilation of convictions that provide the epistemic status of scientific statements.

There are two major types of beliefs which can be identified: theoretical beliefs and methodological beliefs.

1.3.4.1 Theoretical beliefs

Mouton and Marais (1996) describe theoretical beliefs as descriptive and interpretative explanations which relate to aspects of human behaviour, including statements of hypotheses, typologies, models or theories.

The elements of theoretical beliefs will be discussed in terms of the concepts, theories and models used within this research study.

A. Conceptual definitions

The relevant conceptual definitions from the literature review are detailed below:

- **Emotion words:** It is of great significance to determine what emotion words mean across languages and cultural groups, and whether universalities and culture-specificities exist in the meaning of emotion words (Fontaine, Luyten, de Boeck, Corveleyn, Fernandez, Herrera, Ittzes, & Tomcsanyi, 2006a). Language is receptive to cultural dynamics, and the prototypicality of emotion words can contribute towards the understanding of emotions commonly represented within a specific cultural context (Church et al., 1998). Rowe

(2005) emphasised the importance of identifying emotions in order to communicate purposefully in a diverse society. In having the knowledge of the emotion lexicon across diverse cultures, an attempt can be made to regulate one's emotions or the emotions of others (Salovey & Mayer, 1990).

- **Emotion terms:** Emotion terms are the prototypical words that can be identified for a specific language. Shaver et al., (1987) argued that the emotions' cognitive structures contained by a certain cultural group present differences and similarities between emotion terms. Such similarity of emotion terms across different language groups does not, however, mean that they are comparable (Russell, 2003). Shaver et al., (1987) and Russell (1991) are of the opinion that cross-cultural similarity are at more conceptual levels, and that it therefore impacts on conversion of emotion terms across cultures.
- **Emotion components:** Scherer (2005) is of the opinion that emotions should be viewed as a set of processes which involves five different component aspects or components: personal feeling, cognition, face and body behaviour or expression, action tendencies, and neurological processes. Individual emotions would thus ascribe their uniqueness to the sub-functions they are intended to provide and to their typical physiological implementation (De Sousa, 2007).
- **Dimensionality:** Watson and Tellegen (1985) explain that as many as eleven factors are anticipated to clarify the structure of emotions, but that a two-dimensional constitution is however extensively advocated at this time. The dimensions are generally defined as a pleasantness-unpleasantness dimension (joyful, glad versus gloomy, distressed) and an arousal dimension (excited, anxious versus tranquil, heavy-eyed). A two-dimensional circumplex model of emotion terms is described by Russell (1980, 1983). It associates exceptionally high or low values on one dimension with middling values on the second dimension. According to Averill (1975) and Bush (1973) the occurrence of a third dimension (power or authority) is a usual phenomenon. Mehrabian (1980) suggests that all three dimensions are required and necessary and adequate to sufficiently describe emotional states.
- **Lexicon:** Generally speaking this can be defined as meaning dictionary, glossary or wordlist. One needs to have a comprehensive understanding of emotions or knowledge of the emotion lexicon of different cultures, in order to attempt to control or direct one's own emotions or those of others (Salovey & Mayer, 1990). Research into the emotion lexicon and the meaning thereof is logical and of theoretical importance, as it will permit

the significant classification of emotions in terms of basic emotion prototypes through hierarchical categorisation of expressed emotion types (Shaver et al., 1987; Watson & Clark, 1997) within a South African multicultural domain.

- **Prototypicality:** According to Fehr and Russell (1984), the concept of emotion has an internal structure and can be reliably ordered from better to poorer examples of emotion (prototypicality). This ranking indicates how readily these emotions will come to mind when one is asked to list emotions, as well as the likelihood of it being labelled as an emotion if confronted by the concept. Shaver et al., (1987) define prototypicality as the primary level of classification of emotion words as used by most humans. It refers to the grading of emotion words, for example how effortless the word “goodness” is thought of, or what the likeliness is that it would be characterised as an emotion (Fehr & Russell, 1984). Prototypicality with regard to emotion words thus refers to what one will deem to be the clearest occurrence of emotion (Russell & Feldman Barrett, 1999).
- **Emotion theory:** Emotion theories aim to determine the role and nature of emotions in the human life. The componential emotion theory views emotions as fairly synchronised processes consisting of relationships among various components, such as appraisals, psychophysiological changes, expressive behaviours, action–tendency, and subjective experiences that are elicited by explicit and appropriate situational antecedents (Frijda, 1986; Mesquita, Frijda, & Scherer, 1997). Ekman differentiates between emotions such as happiness, surprise, fear, anger, sadness, disgust/contempt and interest, and Ekman and Friesen (1971) recommend that for these basic emotions, discrete general expression patterns exist.
- **GRID:** The GRID measuring instrument identifies the transition of universals into culture-specificities in the semantic fields of emotion across linguistic and cultural groups, and is constructed based on extensive emotional and cross-cultural literature. In South Africa eleven different instruments are constructed, one for each language group. The GRID instruments for the Sepedi, Xitsonga and Tshivenda cultural groups consist of 24 emotion terms and 142 emotion characteristics. The 142 emotion characteristics refer to the different emotion components of the emotion domain. Participants are asked to evaluate to what extent each emotion characteristic can be inferred when an emotion term is used in their own cultural group. Each word is rated on a number of emotion features from the evaluation category, physical experience of the emotion, expressions, action tendencies, subjective feeling, the regulation of emotion, and general aspects of the

emotion. This research will investigate, by means of the GRID approach, to which extent the 24 emotion terms in the Sepedi, Xitsonga and Tshivenda language groups have the same meaning as their European English counterparts. The higher-order structure (across all features), the structure per component, and the position of the 24 emotion terms within each of these structures for the Sepedi, Xitsonga and Tshivenda language groups will also be investigated, by means of a “top-down” approach.

- **Police:** The South African Police Service has been exposed to significant reorganisation and restructuring following the end of the Apartheid regime. Peltzer (2001) reports that job-inherent stressors in the South African Police Service which significantly impact individuals on an emotional basis (such as violence and/or responding to an incident of a child’s death) are common. An unstable situation relating to the SAPS officers’ mental health is induced by a combination of these stressors. The effects of stress could, hypothetically, be moderated by the significance of social support, specifically referring to emotional support and attitudes to expressing emotions (Stephens, Long, & Miller, 1997).
- **Cross-cultural:** Cross-cultural research has indicated that few emotions have inter-translatable terms and collectively decipherable expressions (De Sousa, 2007). Ekman (1989) defines universally recognisable expressions of emotions as happiness, sadness, fear, anger, surprise, and disgust. According to De Sousa (2007) other emotions are not so easily identifiable cross-culturally, and some expressions are as confined as dialects. A schedule of basic universal and cross-cultural emotions has been created by a number of researchers (Scherer, 2005). Plutchik (1994) states that fear and anger appears frequently on the schedule with unhappiness or synonyms thereof appearing on all but two schedules.
- **Sepedi, Xitsonga and Tshivenda:** Sepedi, Xitsonga and Tshivenda are three of the Black non-Indo-European languages (out of the eleven official languages) found in South Africa. Sepedi, also known as Northern Sotho or Sesotho sa Leboa, is spoken in the provinces of Limpopo, Gauteng and Mpumalanga (Nicholls, 2008), and to a lesser extent in Botswana. Tshivenda is the language of the Venda group, and is spoken mainly in northern Limpopo, in an area bordering the country of Zimbabwe (Nicholls, 2008). Xitsonga, also known as Shangaan, is spoken in eastern Limpopo and Mpumalanga, areas near the border of the country of Mozambique, as well as in southern Mozambique and south-eastern Zimbabwe (Statistics South Africa, 2004). It is pivotal, in today’s

increasingly globalising arena, to determine and assess the emotion lexicon and prototypicality thereof if one can suppose that descriptive emotion terms vary across cultures (Church et al., 1999; Kitayama & Markus, 1991; Kitayama, Markus, & Kurokawa, 2000; Mesquita et al., 1997; Shipper, Kincaid, Rotondo, & Hoffman, 2003).

B. Models and theories

A model aims to classify and propose relationships (Mouton & Marais, 1996), whereas theories specify the relationships between variables to explicate human behaviour in a particular population (Huysamen, 1993).

The following models and theories are relevant to this research:

- *Appraisal theory*

The idea of appraisal was introduced into psychology by Arnold (1960). It is characterised as the practice through which a situation's significance for a person is determined (De Sousa, 2007). Appraisal provides ascendance to appeal or dislike, and emotion is equated with an experience of predisposition towards everything spontaneously appraised as positive or advantageous, or away from everything spontaneously appraised as a negative felt tendency toward anything intuitively appraised as good (beneficial), or away from anything intuitively appraised as negative or detrimental (Arnold, 1960). Lazarus (1991) argues that appraisals are both essential and sufficient for emotion. He views the uniqueness of certain emotions being solely determined by the patterns of appraisal providing existence to them (De Sousa, 2007). Frijda (1993) argues the systematic projection of appraisal patterns on emotion categories, and the strong relationship between specific patterns of appraisal and specific emotion labels. According to Scherer, Schorr and Johnstone (2001), emotions are reliably concurrent with patterns of intricate appraisals. Appraisal theories take a functional approach to emotion, in that appraisals lead to reactions (De Sousa, 2007). Appraisal therefore accounts for arousal and other emotion components, such as valence, action readiness, and physiological arousal (Frijda, Kuipers, & Ter Schure, 1989).

- *The componential emotion theory*

This theory focuses on dynamic multicomponential processes that are triggered by specific situational antecedents. The prototypicality of emotion words should be recognised in a definite cultural context if emotions frequently represented in a culture are to be understood (Church et al., 1998). Classifying emotions are comparable to event coding, due to emotion classification being based on culturally shared concepts and meanings (Mesquita & Frijda, 1992). The prototype theory refers to the most elementary level of classification of emotion words as used by everyday people (Shaver et al., 1987). Russell and Feldman Barrett (1999) argue that various types of a similar emotion contain various degrees of enjoyment and activation. Prototypical emotional episodes thus differ in the extent of specific dimensions, such as evaluation, potency, and activity (Russell & Feldman Barrett, 1999; Osgood, 1969 as cited in Scherer, Dan & Flykt, 2006). Scherer (1986) argues that studies have proven the diverse cultural norms for the expression and displaying of emotions, as well as the social regulation thereof. Fontaine et al., (2002) suggest that emotion relating to situational circumstances and the synchronised activity it causes in each of the components of emotion should be researched. This will include the appraisal, action tendency, subjective feelings, expression, and regulation components.

South Africa is a multicultural society with eleven official languages. Establishing the emotion lexicon with regard to prototypes across the different language groups is thus pivotal in gaining an understanding of cross-cultural differences and similarities (Church et al, 1999; Kitayama & Markus, 1991; Kitayama et al., 2000; Mesquita et al., 1997; Shipper et al., 2003).

- *Action-tendency theory*

The behavioural view of emotion originated with Frijda (1986; Frijda & Mesquita, 1994) who argued that behaviour in terms of emotions stem from action readiness or tendency. Emphasis is placed on potential behaviour and this theory's central theme is that emotion carries a readiness to perform in a universal manner, rather than being related to specific behaviours (Frijda, 1986). Frijda (1986) states that emotion experience contains the conscious reflections of four main non-conscious mechanisms of the process of emotions (affect, appraisal, action readiness, and arousal). The awareness of experiencing emotional objects determines how emotions are experienced (Frijda, 1986). Emotion

experience, in its most typical form, contains perception of the world or of oneself permeated by meanings and manifested as perceived felt qualities (dangerous, upset, attractive, powerless) (Frijda, 1986). Experience follows the motivational states that outlast that which evoked them and for initiating and executing non-automatic actions (Frijda, 1986). It also gives cause to the development of non-homeostatic concerns and for a coherent representation of the “self” (Frijda, 2005). Frijda (1987) states that action readiness modes bear information applicable to differentiation between emotions and the type of appraisal that would elicit the readiness. Cognitive appraisals and action readiness modes thus discriminate between major emotion classes and between emotions and non-emotional states (Frijda, 2005).

- *Current–affect theory*

Russell (1991) is of the opinion that emotion words are significant as emotion classification may influence consequential cognitive processes. Various traditions have foreseen the universality of categories into which emotions are divided (Russell, 1991). Studies of a variety of lexicons, conclusions made about emotion from facial expressions, and dimensions inherent in comparative judgements of emotion cannot direct us on how people categorise emotions (Russell, 1991). Russell (1991) also suggests that people of diverse cultures and languages categorise emotions differently, and that emotions are culture-specific. Russell (1991) concludes that a significant similarity exists in emotion categories across diverse cultures and languages. Situational antecedents play a role in defining emotion concepts (Russell, 1991). Studies on the psychological depiction of emotion, for instance, provide corresponding proof that English emotion concepts are differentiated by their situational antecedents (Conway & Bekerian, 1987; Doré & Kirouac, 1986; Harrison, 1986).

- *Expression–regulation theory*

Ekman and Friesen (1969) are of the opinion that facial expressions of emotion are universal and inconsistent from a cultural point of view. Studies have shown that socially acquired display rules for controlling facial expressions in a variety of contexts are a main cause of cultural disparity in facial expression (Ekman & Friesen, 1969). Ekman, Friesen, O’Sullivan, Diacoyanni-Tarlatzis, Krause, Pitcairn, Scherer, Tzavaras, Chan, Heider, LeCompte, Ricci-Bitti, and Tomita (1987) suggest the independence of cross-cultural

agreement from selecting one emotion for every expression, that the most prevalent facial expression of an emotion is not exclusive to the cross-cultural agreement, and that cross-cultural agreement is not limited to the type of emotion displayed in a facial expression, but inclusive of the relative strength of expressions of the same emotion. Ekman et al., (1987) state that the emotion dissimilarity could be contributed to more similarities amongst some emotions in emergence, and semantic connotations or “non-reliable idiosyncracies” in the samplings of expressions. Proof of cultural dissimilarities in intensity judgments has been found (Ekman et al., 1987). Many sources of cultural differences in the interpretation of facial expression could be removed if (1) a facial expression is taken out of a specific social perspective, (2) concurrent speech, vocal clues, and body actions are ignored, (3) an expression in a photograph is frozen and attention is forced to it, and (4) by requesting judgements by a separate and detached observer (Ekman et al., 1987).

1.3.4.2 Methodological beliefs

Methodological beliefs are described as the views concerned with the nature of social science and scientific research (Joubert, 2006). Traditions practised within the ideology of the social sciences include positivism or phenomenology and methodological models such as the quantitative or qualitative model (Mouton & Marais, 1996).

The empirical study is presented within the functionalistic and positivistic frameworks. Neuman (1997) views positivism within the social sciences as a structured means of combining deductive reasoning with experimental interpretations of human behaviour. The purpose of this is to ascertain and authenticate a set of probabilistic causal laws, which could be used to predict universal patterns of human activity (Neuman, 1997).

Empirical evidence will be gathered by means of following a quantitative approach which will include statistical analysis. Such analyses are characterised by the measurement of objective facts, focusing on variables, seeking reliability and disregarding beliefs (Neuman, 1997).

The research methodology followed within this study is described below.

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 Literature Review

The literature review will include a review of emotion and the emotion lexicon and the prototypicality thereof. The sources which will be consulted include articles, books, journals, and previous research conducted which is currently in print.

1.4.2 Research Design

The research can be classified as both descriptive and explorative. Descriptive research statistically identifies patterns or trends in a situation, and can assist in generating hypotheses on which further research may be based. Descriptive statistics can be utilised to review the data on a numerical or graphical basis and to describe the sample (State University, 2008b). Inferential statistics model patterns in the data which accounts for randomness, and draw inferences about the larger population (State University, 2008b).

Neuman (1997) defines explorative research as the ‘research into an area that has been studied and in which a researcher wants to develop initial ideas and a more focused research question’. The main objective of explorative research is the expansion and elucidation of ideas in addition to formulating questions and hypotheses for more defined exploration at a later stage (Struwig & Stead, 2004).

A survey design is used to achieve the research objectives. The survey design is suitable for the descriptive function as relationships between variables are examined (Shaughnessy & Zachmeister, 1997). The survey design has the advantages of obtaining a substantial amount of information from a large population of Sepedi-, Xitsonga- and Tshivenda-speaking entry-level SAPS recruits in South Africa, is economical, and the research information can be regarded as accurate (within sampling error) (Nicholls, 2008). This research design can, however, be time- and energy-consuming (Kerlinger & Lee, 2000).

1.4.3 Participants

The study population will consist of a convenience sample of entry-level recruits ($n=390$) from the South African Police Service. The availability sample will include a sample of Sepedi-, Xitsonga-, and Tshivenda-speaking recruits from the Pretoria training college. The sample will only include black groups (100%), consisting of Sepedi-, Xitsonga-, and Tshivenda-speaking candidates.

1.4.4 Measuring Instruments

The measuring battery consists of a South African componential emotion GRID questionnaire in the Sepedi, Tshivenda, and Xitsonga languages, which includes a representative sample of 24 emotion words.

GRID Measuring Instrument

The GRID instrument was originally developed and applied in a Westernised culture, and we now have the opportunity to use the converted non-Westernised version of this instrument in South Africa.

The GRID measuring instrument is used to describe the meaning of different emotion words in the Sepedi, Xitsonga and Tshivenda language groups. The instrument has been constructed based on extensive emotional and cross-cultural literature. In South Africa eleven different instruments are constructed, one for each language group.

The original GRID instrument has undergone a translation process, in that it has been translated from English into, for example, Sepedi, back-translated from Sepedi into English, and the two English versions (the original and last versions) compared with each other for accuracy in interpretation. The same process was followed for the Xitsonga and Tshivenda GRID instruments, and has now been completed for all three language groups.

The South African GRID for the Sepedi, Xitsonga and Tshivenda language groups consists of 24 emotion terms and 142 emotion characteristics. The 142 emotion characteristics refer to

the different emotion components of the emotion domain. A paper and pencil survey method is used to collect the data. Participants receive a paper copy of the translated GRID assessment and complete the GRID instrument on a separate answering sheet provided. Participants rate all 24 emotion words on all 142 emotion terms.

Participants are asked to evaluate to what extent each emotion characteristic can be inferred when an emotion term is used in their own cultural group. For each emotion word, the experience of the emotion feature must be given on a rating scale from (1) extremely unlikely to (9) extremely likely.

1.4.5 Statistical Analysis

The reliability of the pattern per emotion word on 142 emotion features will firstly be calculated. Furthermore the Cronbach's alpha with the 142 emotion features as the observations, in addition to the participants that rated the emotion words as variables (or the inter-rater reliability which evaluates the reliability across the participants), will be computed. Participants who have a very idiosyncratic understanding of the word, and who have a total word correlation of lower than 0,20, will be removed. A GRID consisting of 24 emotion words by 142 emotion features will then be calculated by averaging the scores across all participants that are retained after step one.

1.5 RESEARCH PROCEDURE

Ethical aspects and the purpose of the research are discussed with the participants. The Sepedi, Xitsonga and Tshivenda versions of the GRID is administered in each of the named languages to Sepedi-, Xitsonga- and Tshivenda-speaking groups in paper-based versions, on five separate occasions at the Police College in Pretoria. These groups consist of police applicants who have been recruited for the basic training programme of the SAPS in January 2009. The instructions to the test are given to all the participants in their mother tongue (Sepedi, Xitsonga or Tshivenda), and three examples are completed (on an interactive basis) with each group to ensure a firm understanding of the nature of the questions. Respondents are able to respond to the items in the questionnaire in their mother tongue. Respondents are tested in three groups consisting of a maximum of thirty five recruits per group per assessment event. A standardised procedure is followed by qualified psychologists, language

experts and a Master's degree student in order to administer the test battery. Each respondent is seated at a desk and is equipped with the necessary stationery. The auditorium is properly lit and ventilated. The supervised and controlled test session lasts between 90-180 minutes.

1.6 DIVISION OF CHAPTERS

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

Chapter 1: Introduction, problem statement and objectives.

Chapter 2: Research article: Measuring the GRID on the Sepedi, Xitsonga and Tshivenda language groups in the South African Police Service.

Chapter 3: Conclusions, limitations and recommendations.

1.7 CHAPTER SUMMARY

This chapter discussed the problem statement and the motivation for the research was discussed. The purpose of the research was formulated, the methodology of the research outlined and the methods used for the statistical analysis described. A brief overview of the chapters followed.

REFERENCES

- Arnold, M. (1960). *Emotion and personality*. New York: Columbia University Press.
- Averill, J. R. (1975). A semantic atlas of emotional concepts. *JSAS Catalogue of Selected Documents in Psychology*, 5, 330.
- Blum, M., & Naylor, J. (1968). *Industrial psychology: Its theoretical and social foundation*. New York: Harper and Row.
- Boucher, J. D., & Brandt, M. E. (1981). Judgment of emotion: American and Malay antecedents. *Journal of Cross-Cultural Psychology*, 12, 272-283.
- Brandt, M. E., & Boucher, J. D. (1984). *Judgments of emotions from antecedent situations in three cultures*. Paper presented at the meeting of the International Congress of Cross-Cultural Psychology, Acapulco, Mexico.
- Brislin, R. W. (1980). Translation and content analysis of oral and written material. In H. C. Triandis & J. W. Berry (Eds.), *Handbook of cross-cultural psychology*, 1, 389-444. Boston: Allyn and Bacon.
- Brislin, R. W. (1986). The wording and translation of research instruments. In W. J. Lonner & J. W. Berry (Eds.), *Handbook of cross-cultural psychology*, 137-164. Newbury Park: CA: Sage.
- Bush, L. E., II. (1973). Individual differences in multidimensional scaling of adjectives denoting feelings. *Journal of Personality and Social Psychology*, 25, 50-57.
- Church, A. T., Katigbak, M. S., Reyes, J. A. S., & Jensen, S. M. (1998). Language and organisation of Filipino emotion concepts: Comparing emotion concepts and dimensions across cultures. *Cognition and Emotion*, 12(1), 63-92.
- Church, A. T., Katigbak, M. S., Reyes, J. A. S., & Jensen, S. M. (1999). The structure of affect in a non-western culture: Evidence for cross-cultural comparability. *Journal of Personality*, 67(3), 505-534.
- Clore, G. L., Ortony, A., & Foss, M. A. (1987). The psychological foundations of the affective lexicon. *Journal of Personality and Social Psychology*, 53, 75-76.
- Comte, A. (1988). *Introduction to positive philosophy*. Indianapolis, IN: Hackett Publishing Company.
- Conway, M. A., & Bekerian, D. A. (1987). Situational knowledge and emotions. *Cognition and Emotion*, 1, 145-191.
- Davidson, R. J. (1993). Parsing affective space: Perspectives from neuropsychology and psychophysiology. *Neuropsychology*, 7, 464-475.

- De Sousa, R. (2007). Emotion. Stanford Encyclopedia of Philosophy. Metaphysics Research Lab., CSLI, Stanford University.
- Doré, E. Y., & Kirouac, G. (1986). Reliability of accuracy and intensity judgments of eliciting situations of emotions. *Canadian Journal of Behavioral Science*, 18, 92-103.
- Ekman, P. (1984). Expression and the nature of emotion. In K. S. Scherer & P. Ekman (Eds.), *Approaches to emotion*, 319-343. Hillsdale, N J: Erlbaum.
- Ekman, P. (1989). The argument and evidence about universals in facial expressions of emotion. In H. Wagner & A. Manstead (Eds.), *Handbook of social psychophysiology*, (pp. 143-164). New York: Wiley.
- Ekman, P., & Davidson, R. J. (1993). Voluntary smiling changes regional brain activity. *Psychological Science*, 4, 342-345.
- Ekman, P., & Friesen, W. V. (1969). The repertoire of nonverbal behaviour: Categories, origins, usage, and coding. *Semiotica*, 1, 49-98.
- Ekman, P., & Friesen, W. V. (1971). Constants across cultures in the face and emotion. *Journal of Personality and Social Psychology*, 17, 124-129.
- Ekman, P., Friesen, W. V., O'Sullivan, M., Diacoyanni-Tarlatzis, I., Krause, R., Pitcairn, T., Scherer, K., Tzavaras, A., Chan, A., Heider, K., LeCompte, W. A., Ricci-Bitti, P. E., & Tomita, M. (1987). Universals and cultural differences in the judgments of facial expressions of emotion. *Journal of Personality and Social Psychology*, 53(4), 712-717.
- Fehr, B., & Russell, J. A. (1984). Concept of emotion viewed from a prototype perspective. *Journal of Experimental Psychology: General*, 113(3), 468-486.
- Fontaine, R. J., Luyten, P., de Boeck, P., Corveleyn, J., Fernandez, M., Herrera, D., Ittzes, A., & Tomcsanyi, T. (2006a). Untying the Gordian knot of guilt and shame: The structure of guilt and shame reactions based on situation and person variation in Belgium, Hungary and Peru. *Journal of Cross-Cultural Psychology*, 37(3), 273-292.
- Fontaine, R. J., Poortinga, Y. H., Setiadi, B., & Markam, S. S. (2002). Cognitive structure of emotion in terms of Indonesia and the Netherlands. *Cognition and Emotion*, 16(1), 61-86.
- Fox, S., & Spector, P. E. (2002). Emotions in the workplace. The neglected side of organisational life (Ed.), *Human Resource Management Review*, 12, 167-171.
- Fredrickson, B. L. (2003). Positive emotions and upward spirals in organisations. In K. S. Cameron, J. E. Dutton & R. E. Quinn (Eds.), *Positive Organisational Scholarship: foundations of a new discipline* (pp. 163-175). San Francisco: Berrett-Koehler Publishers, Inc.
- Frijda, N. H. (1986). *The emotions*. Cambridge: MA, University Press.

- Frijda, N. H. (1987). Emotion, cognition, structure and action tendency. *Cognition and Emotion*, 1(2), 115-143.
- Frijda, N. H. (1993). The place of appraisal in emotion. In N. H. Frijda (Ed.), *Appraisal and beyond: The issue of cognitive determinants of emotion* (pp. 357-387). Hove, UK: Lawrence Erlbaum Associates Ltd.
- Frijda, N. H. (2005). Emotion experience. *Cognition and Emotion*, 19, 473-497.
- Frijda, N. H., Kuipers, P., & Ter Schure, L. (1989). Relations between emotion, appraisal and emotional action readiness. *Journal of Personality and Social Psychology*, 57, 212-228.
- Frijda, N. H., & Mesquita, B. (1994). The social roles and functions of emotions. In S. Kitayama & H. R. Markus (Eds.), *Emotion and culture: Empirical studies of mutual influence* (pp. 51-87). Washington, DC: American Psychological Association.
- Gibson, J. L., Ivancevich, J. M. & Donnelly, J. H., Jr. (1991). *Organizations: Behaviour, structure, processes*. Boston, MA: Irwin.
- Guion, R. M. (1965). *Personnel testing*. New York: McGraw-Hill
- Harrison, R. H. (1986). The grouping of affect terms according to the situations that elicit them: A test of a cognitive theory of emotion. *Journal of Research in Personality*, 20, 252-266.
- Herrmann, D. J., & Raybeck, D. (1981). Similarities and differences in meaning in six cultures. *Journal of Cross-Cultural Psychology*, 12(2), 194-206.
- Huysamen, G. K. (1993). *Metodologie vir die sosiale en gedragswetenskappe*. Halfway House: Southern Boekuitgewers.
- ICCRA. (2007). Ongoing research studies by the Swiss Center for Affective Sciences. Retrieved January 25, 2008, from <http://iccra.net/ICCRA>.
- Joubert, S. (2006). *Emotion work and wellbeing of human resource service workers within a petro-chemical organisation*. Unpublished master's dissertation, North-West University, Potchefstroom Campus, Potchefstroom.
- Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of behavioural research* (4th ed.). Fort Worth, TX: Harcourt College.
- Kitayama, S., & Markus, H.R. (1991). Culture and the self: Implications for cognition, emotion and motivation. *Psychological Review*, 98(2), 224-253.
- Kitayama, S., Markus, H. R. & Kurokawa, M. (2000). Culture, emotion, and well-being: Good feelings in Japan and the United States. *Cognition and Emotion*, 14(1), 93-124.
- Lazarus, R. S. (1991). *Emotion and adaptation*. New York: Oxford University Press.

- Levy, R. I. (1984). The emotions in comparative perspective. In K. R. Scherer & P. Ekman (Eds.), *Approaches to emotion* (pp. 397-412). Hillsdale, NJ: Erlbaum.
- Mehrabian, A. (1980). *Basic dimensions for a general psychological theory*. Cambridge, MA: Oelgeschlager, Gunn and Hain.
- Mesquita, B., & Frijda, N. H. (1992). Cultural variations in emotions: A review. *Psychological Bulletin*, 112, 179-204.
- Mesquita, B., Frijda, N. H. & Scherer, K. R. (1997). Culture and emotion. In: J. W. Berry, P. R. Dasen & T. S. Saraswathi (Eds.), *Handbook of cross-cultural psychology: Basic Processes and Human Development* (pp. 255-297). Boston, MA: Allyn and Bacon.
- Mouton, J. E., & Marais, H. C. (1996). *Basic concepts in the methodology of the social sciences*. Pretoria: HSRC Publishers.
- Muchinsky, P. M. (2005). *Psychology applied to work* (8th ed.). Wadsworth Publishing Company.
- Neuman, W. L. (1997). *Social research methods: Qualitative and quantitative approaches*. Needham Heights, MA: Allyn & Bacon.
- Nicholls, T. (2008). *Emotion lexicon in the Sepedi, Xitsonga and Tshivenda language groups in South Africa: The impact of culture on emotion*. Unpublished master's dissertation, North-West University, Potchefstroom Campus, Potchefstroom.
- Origins and background, definition of measurement in the social sciences, instruments and procedures, theoretical approaches: Psychometrics. (2008a). State University. Retrieved October 15, 2008, from <http://encyclopedia.stateuniversity.com/pages/17965/psychometrics.html>
- Origins and background, definition of measurement in the social sciences, instruments and procedures, theoretical approaches: Statistics. (2008b). State University. Retrieved October 15, 2008, from <http://encyclopedia.stateuniversity.com/pages/21224/statistics.html>
- Peltzer, K. (2001). Stress and traumatic symptoms among police officers at a South African police station. *Acta Criminologica*, 14, 52-56.
- Pienaar, J. & Rothmann, S. (2005). Suicide ideation in the South African Police Service. *South African Journal of Psychology*, 35(1), 58-72.
- Plug, C., Louw, D. A., Gouws, L. A., & Meyer, W. F. (1997). *Verklarende en vertalende sielkundewoordeboek*. Johannesburg: Heineman.
- Plutchik, R. (1994). *The psychology and biology of emotion*. Harpercollins College Div.

- Roseman, I. J. (1984). Cognitive determinants of emotion: A structural theory. In E. Shaver (Ed.), *Review of personality and social psychology*, 5, 11-36. Beverly Hills, CA: Sage.
- Rowe, D. (2005). The meaning of emotion. *Journal of Health Organization and Management*, 19, 290-296.
- Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39, 345-356.
- Russell, J. A. (1983). Pancultural aspects of the human conceptual organization of emotions. *Journal of Personality and Social Psychology*, 45, 1281-1288.
- Russell, J. A. (1991). Culture and the categorization of emotions. *Psychological Bulletin*, 110, 426-450.
- Russell, J. A. (2003). Core affect and the psychological construction of emotions. *Psychological Review*, 110(1), 145-172.
- Russell, J. A., & Feldman Barrett, L. (1999). Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. *Journal of Personality and Social Psychology*, 76, 805-819.
- Salovey, P., & Mayer, J. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185-211.
- Scherer, K. R. (1986). Asking about emotional experiences: Rationale and methods. In K.R. Scherer, H.G. Wallbott & A.B. Summerfield (Eds.), *Experiencing emotion: A cross-cultural study* (pp. 3-27). Cambridge: Cambridge University Press.
- Scherer, K. R. (1987). Toward a dynamic theory of emotion: The component process model of affective states. *Geneva Studies in Emotion and Communication*, 1, 1-98.
- Scherer, K. R. (2001). Appraisal considered as a process of multi-level sequential checking. In K.R. Scherer, A. Schorr, & T. Johnstone (Eds.). *Appraisal Processes in Emotion: Theory, Methods, Research* (pp. 92-120). Oxford University Press, New York.
- Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information*, 44, 695-729.
- Scherer, K. R., Dan, E. S., & Flykt, A. (2006). What determines a feeling's position in affective space? A case for appraisal. *Cognition and Emotion*, 20(1), 92-113.
- Scherer, K. R., Schorr, A., & Johnstone, T. (2001). *Appraisal processes in emotion: Theory, methods, research*. Oxford: Oxford University Press.
- Shaver, P., Schwartz, J., Kirson, D. & O'Connor, C. (1987). Emotional knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology*, 52(6), 1061-1086.

- Schultz, D. P. & Schultz, S. E. (1986). *Psychology and industry today: An introduction to industrial and organizational psychology*. New York: Macmillan Publishing Company.
- Shaughnessy, J. J. & Zechmeister, E. B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill.
- Shipper, F. M., Kincaid, J. F., Rotondo, D. M., & Hoffman, R. C. (2003). A cross-cultural exploratory study of linkage between emotional intelligence and management effectiveness. *International Journal of Organizational Analysis, 11*(3), 171-193.
- Solomon, R. C. (1977). *The passions: Garden City*. Anchor Press.
- Statistics South Africa (2004). *Census 2004: Key results*. Retrieved November 13, 2008, from <http://statssa.org.za>.
- Stephens, C., Long, N. & Miller, I. (1997). The impact of trauma and social support on posttraumatic stress disorder: A study of New Zealand police officers. *Journal of Criminal Justice, 25*(4), 303-314.
- Struwig, F. W., & Stead, G. B. (2004). *Planning, designing and reporting on research*. Pearson Education, South Africa.
- Sullivan, B. N., & Boucher, J. D. (1984). *Commonalities of meaning in antecedents to emotions across cultures*. Paper presented at the meeting of the International Congress of Cross-Cultural Psychology, Acapulco, Mexico.
- Tomkins, S. S. (1980). Affect as amplification: Some modifications in theory. In R. Plutchik & M. Kellerman (Eds.), *Emotions: Theory research and experience, 1*, 141-187. New York. Academic Press.
- Watson, J. B. (1919). *Psychology from the standpoint of a behaviourist*. Philadelphia: Lippincott.
- Watson, D. & Clark, L. A. (1997). Measurement and mismeasurement of mood: Recurrent and emergent issues. *Journal of Personality Assessment, 68*(2), 267-296.
- Watson, D., & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98*, 219-35.
- Wenger, M. A. (1950). Emotions as visceral actions: An extension of Lange's theory. In M. L. Reymert. (Eds.), *The second International Symposium on feelings and emotions* (pp. 3-10). New York: McGraw-Hill.

MEASURING THE GRID IN THE SEPEDI, XITSONGA AND TSHIVENDA LANGUAGE GROUPS IN THE SOUTH AFRICAN POLICE SERVICE

ABSTRACT

The objectives of this study were to explore the similarity of emotion concepts within the Sepedi, Xitsonga, and Tshivenda language groups in relation to their Western equivalents, and to compare the findings of the meaning structure of these language groups with a recent study (Nicholls, 2008) conducted by means of a “bottom-up” approach. This study is relevant for 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 single study. The Sepedi, Xitsonga, and Tshivenda GRID questionnaires were used as a measuring instrument. The participants of this study ($n=390$) consisted of native speakers who had applied for positions in the South African Police Services (SAPS) during 2008 and 2009. From the factor analysis and the multidimensional scaling a two-dimensional structure (evaluation and arousal) was extracted for the Sepedi-speaking language group. The reliability analyses of the Xitsonga and Tshivenda language groups’ data were however extremely low, and a reliable scale analysis and the meaning structures of these two groups could therefore not be determined. The low reliabilities could be attributed to the direct language translation of the questionnaire and the assessment may not have captured the full understanding of the items in the GRID instrument.

OPSOMMING

Die doelstelling van hierdie studie was om die soortgelyktheid van emosiekonsepte binne die Sepedi-, Xitsonga- en Tshivenda-taalgroepe in verhouding tot hul Westerse eweknieë te ondersoek, en om die bevindinge van die betekenisstruktuur van hierdie taalgroepe te vergelyk met ‘n onlangse studie (Nicholls, 2008) waar ‘n “onder-na-bo”-benadering gebruik is. Hierdie studie is relevant vir kruiskulturele emosienavorsing in terme van beide metodologie en resultate. ‘n Vraelysontwerp met gerieflikheid-steekproeftrekking is gebruik om die navorsingsdoelstellings in ‘n enkele studie te bereik. Die Sepedi, Xitsonga en Tshivenda GRID-vraelyste is gebruik as ‘n meetinstrument. Die ondersoekgroepe vir hierdie studie ($n=390$) het bestaan uit ‘n groep moedertaalsprekers wat aansoek gedoen het vir betrekkinge in die Suid-Afrikaanse Polisiediens (SAPD) gedurende 2008 en 2009. Uit die faktoranalise en multidimensionele skalering kon daar vir die Sepedi-groep ‘n tweedimensionele struktuur (evaluasie en opwekking) onttrek word. Die betroubaardheidsanalises van die Xitsonga- en Tshivenda-taalgroepe was egter geweldig laag en ‘n betroubaarheid-skaalanalise en die betekenisstrukture van hierdie twee taalgroepe kon dus nie vasgestel word nie. Die lae betroubaarhede kan toegeskryf word aan die direkte vertaling van die vraelys, en die toetsing mag dalk nie die volle begrip van die items in die GRID-instrument vasgevang het nie.

Introduction

The role of emotions has its central and fundamental part in the nature of one's existence and plays a vital role in how one adjust one's behaviour towards others, the characteristics of one's decisions, and its influence on one's ideas or values (Gratch & Marsella, 2004). The importance of emotion research is evident in civilisation's need to understand how individuals act and to plan for times where intense emotions are experienced, such as being equipped to deal with disaster (Silverman, 2002), interpreting the beliefs and meaning of emotion in diverse cultural groups by means of tutoring and dialogue systems (for instance sensitivity training on the dissimilar meaning of emotions across diverse cultural groups), and the prominent role emotion plays in wielding social influence (Gratch & Marsella, 2004).

Regardless of the vast accumulated amount of research conducted in the field of emotions (for instance Fehr & Russell, 1984; Scherer, 2005; Parkinson, 1995; Lazarus, 1991; Fontaine, Scherer, Roesch, & Ellsworth, 2007) and on the numerous components of emotions, researchers' efforts towards achieving consensus on what emotion really is, still continues. Kleinginna and Kleinginna (1981) offered their definition of emotion as an intricate set of associations amid individual and intentional features, which are interceded by neural or hormonal structures. These associations consequentially lead to emotional experiences, such as feelings of arousal or disapproval, cause cognitive processes (such as appraisals and labeling processes), encourage extensive physiological regulation to affecting conditions, and result in behaviour that are at times meaningful, purpose-driven and adaptive (Kleinginna & Kleinginna, 1981).

Salovey, Kokkonen, Lopes, and Mayer (2004) are of the opinion that emotions can be adaptive, purposeful and helpful, and that the function of emotions concentrates on awareness, systemises remembrance, assists individuals to construe social situations, and prompts appropriate behaviour. Emotion researchers, such as Frijda (1994), Izard (1991), Roseman (1984) and Scherer (1984a) conversely describe emotion as an intricate phenomenon concerning diverse organismic subsystems, that is personal feeling, cognition, face and body behaviour or expression, action tendencies, and neurological processes – also evident in the component process model framework (Scherer, 2000).

Furthermore, opinions remain divided between schools of thought concerned with the universal versus the relativistic nature of emotions. Universalists, on the one hand, are of the opinion that emotions are physically driven methods characteristic to the human race (Herrmann & Raybeck, 1981; Izard, 1994; Kitayama & Markus, 1991). Relativists conversely believe emotions are closely joined with the collective and cultural contexts in which they materialise, and that the intrinsic underpinnings only performs a contextual function (Nicholls, 2008). According to Fontaine, Poortinga, Setiadi and Markram (2002) relativistic descriptions of emotions are primarily founded on explanatory studies within a culture group, whereas universalistic research has a propensity to describe further facts founded on methods and motivations derived from a particular culture.

Taking into account the cultural diversity of the eleven official language groups in South Africa, emotion research frequently neglects to consider the culture specific aspects in the research of emotions. National legislation (Section 8 of the Employment Equity Act No 55 of 1998, Government Gazette, 1998) consequently prohibits the use of psychological assessments and measurements unless methodologically proven to be valid, reliable, and non-biased across various cultural groups. In order therefore to limit the collective Western culture-specific qualities and characteristics of some assessments, and to ensure its cultural fairness, representativity, reliability, and validity, it is crucial to verify the legitimacy of psychological assessments used in South Africa (Nicholls, 2008).

It is thus pivotal, in today's increasingly globalising arena, to determine and assess the emotion lexicon and prototypicality thereof if one can suppose that descriptive emotion terms vary across cultures (Church, Katigbak, Reyes, & Jensen, 1999; Kitayama & Markus, 1991; Kitayama, Markus, & Kurokawa, 2000; Mesquita, Frijda, & Scherer, 1997; Shipper, Kincaid, Rotondo, & Hoffman, 2003). In this regard the componential emotion theory (Scherer, 1984a) proves its capability to research the different emotion components by focusing on dynamic multicomponential processes that are triggered by specific situational antecedents.

In the component process model framework, Scherer (1987, 2001) views emotion as an event of unified, analogous changes in the states of all or most of the five organismic subsystems in reaction to the assessment of an external or internal stimulus event of importance to the foremost concerns of the organism. Scherer (2005) argues that due to the invariable progression and intrinsic uncertainty of language groupings, in concert with the diversity

between respective languages, cultures and individuals, it has become increasingly complex to describe fundamental operational theories in the general, consistent and synchronised approach which is generally needed by a methodical logical view. The component process model categorises emotion components as the cognitive component (appraisal), the neurophysiological component (bodily symptoms), the motivational component (action tendencies), the motor expression component (facial and vocal expression), and the subjective feeling component (emotional experience) (Scherer, 2005). Scherer (2004) also emphasises the autonomous role the principal components play, and that these components (which are coerced by appraisal) are correspondent to each other in order for a specific emotion to be produced through an emotional episode. Cross-cultural similarities and 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).

This research will thus aim to achieve an understanding of the emotion structure of the three South African cultural groups in relation to its European English counterparts, and to examine the higher-order structure (across all features), the structure per component, and the position of the range of emotion terms within each of these structures for the Sepedi, Xitsonga and Tshivenda language groups. In the remainder of the literature review the importance of emotion research will be emphasised, the question as to what emotions are will be attended to, and different components of emotions will be argued. A cross-cultural view on the study of emotions will also be presented and the componential emotion theory will be considered as a multicomponential theory in the study of emotions.

The importance of emotion research

Nicholls (2008) is of the opinion that amid languages' sensitivity to cultural dynamics the necessity exists to ascertain the prototypicality of emotion words, which will facilitate the comprehension of everyday life emotions within a particular cultural framework. The hierarchical status and cluster analysis of emotion terms from the viewpoint of the prototype theory framework does, according to Nicholls (2008), present itself with particular concerns in the analysis of the emotion lexicon within different South African cross-cultural language groups. Studying the emotion lexicon and the meaning thereof will contribute to the

significant description of emotions in terms of fundamental emotion models through hierarchical categorisation of articulated emotion categories (Shaver, Schwartz, Kirson, & O'Connor, 1987; Watson & Clark, 1997) within a multicultural realm such as South Africa.

What is emotion?

As stated earlier, the component process model structure defines emotion as an event of organised, coordinated transformations in the conditions of each or the majority of the five organismic subsystems in reaction to the appraisal of a peripheral or inner motivational event as applicable to the foremost concern of the individual (Sander, Grandjean, & Scherer, 2005). Essentially the confines of the real meaning of emotion are, according to Russell and Feldman Barrett (1999), exceedingly nebulous, and emotions cannot be categorised in a particular methodical cluster, due to the vast continuum of actions.

The intricate theory of emotion entails numerous components such as cognitive, biological, and behavioural actions, and impetus processes and individual occurrences (Russell, 1991; Scherer, Ellsworth, Poortinga, Dasen, Fontaine, & Breugelmans, 2005). According to Sander et al., (2005) emotion is actually reticent for the episodes in which numerous organismic subsystems are coordinated to generate an adjusted response to an occurrence that is deemed as essential to the person's interests. Emotion is therefore a multifarious progression based on interaction between diverse mechanisms, following the appraisal of internal or external motivation (Du Toit, 2008).

Emotion components

Scherer (1987), from a componential emotion theory perspective, is of the opinion that emotion's cognitive component is associated with the appraisal of impetus actions in terms of the value and incongruity recognition, and the assessment of the survival probability. Scherer (1987) further states that the energy provision for behavioural action, the inner environment, and the instruction of the organismic system all relate to the neurophysiological component, while the bearing and preparation of particular action tendencies relate to the motivational component. The expressive component is equivalent to the contact of effect and meaning, while likeness and observation can be associated with the subjective feeling component (Scherer, 1987). Dissimilar features or components of emotion are explicitly focused towards

the examination of particular purpose (Scherer, 1987). It is, however, important to note that researchers from different paradigms use dissimilar emotion components in studying the meaning and nature of emotions.

Culture and Emotion

In an attempt to fully comprehend emotions and to come to a conclusion about the cross-cultural comparability of emotional experience and the ideology of fundamental emotions, it has been researched at length by scientists over an extended period of time (Church, Katigbak, Reyes, & Jensen, 1998, Church et al., 1999; Claassen, 1997; Herrmann & Raybeck, 1981; Izard 1994; Mesquita et al., 1997; Russell, 2003). Scherer (1984b) and Frijda (1987) describe emotional experiences as specific categories of cognitive structures where the correlation among appraisal structure of the motivation or situation, physiological component of activation or action readiness, are vital in recognising emotions, and hence extend beyond the meaning and terms of a language. Whereas some virtues of emotional experiences might be ethnically explicit, other emotional experiences might be universal and implicit to others (Du Toit, 2008). Mesquita and Frijda (1992) and Mesquita et al., (1997) believe that particular collective concerns or actions, such as the demise of one's significant others, denunciation, contention or disagreement, which form the basis for emotional apprehension across diverse cultures, may vary in response. According to Du Toit (2008) earlier research verified the existence of some universal features of emotion in cultures, namely action readiness, particular emotional reactions, and emotion regulation.

Shaver et al., (1987) believe that the variation and likenesses between emotion terms are evident within a particular cultural group's cognitive structure of emotions, and that correspondence of emotion terms across various language factions do not necessarily imply that they are equal (Russell, 2003). Nicholls (2008) argues that when emotion terms are translation-equivalent, verification of cognitive equivalence can not necessarily be inferred. Shaver et al., (1987) and Russell (1991) propose that evidence suggests cross-cultural similarity at more conceptual levels, and that this aspect thus impacts the conversion or translation of emotion terms across cultures (Nicholls, 2008).

Both parallels and dissimilarities exist in the classification of emotion words between diverse cultures (for example Russell, 1991 and Wierzbicka, 1999), and to obtain a real image of the

theory of the emotion lexicon of a particular language or cultural group, the six emotion components of the emotion component theory should be taken into account (such as Scherer, 2005; Fontaine et al., 2002).

In research conducted by Fehr, Russell, and Ward (1982) and Fehr and Russell (1984) exclusive dependence was placed on the emotion lexicon's correlation with judgement categories, which consequently assumed that emotion terms are similar across all cultures. Following the latter research, it is thus apparent that the inherent emotion lexicon within cultural language groups in South Africa is inaccurate (Church et al., 1999; Kitayama & Markus, 1991; Kitayama et al., 2000; Mesquita et al., 1997; Shipper et al., 2003).

Previous research relating to the different cultural norms for emotion expression and exhibition (known as social regulation), implies dissimilar regulations in the way various cultures standardise, demonstrate, and communicate emotions (Scherer, 1986a). Social regulation is however not limited to open expression or emotional experience, demonstration and standardisation which are evident and clear to others, but is also an internal process which is regulated by a number of internalised norms or rules with regard to the suitability of experiencing and articulating specific emotions in particular situations (Scherer, 1986a). The internal process also encompasses physiological stimulation, individual beliefs, and one's self image (Scherer, 1986a), and is of great significance in the multicultural work context of South Africa for the purpose of facilitating the conscious realisation of these differences (Du Toit, 2008), and consequently aid interaction between different cultural groups.

Mesquita and Frijda (1992) concluded that the most acknowledged feature of disparity between cultures is emotion regulation. Various cultures associate different values or principles with events, and the standards for encouraging or evading emotional events, or what is considered socially desirable vary between cultures (Mesquita et al., 1997). Scarantino (2005) argues that every culture has a number of elicitors which are exclusive to that specific culture, and that the divergence in the nature of emotion could be attributed to a variety of material settings, such as values, affluence and the physical environment. Furthermore, Scarantino (2005) states that similar emotions exhibited by various antecedents in diverse cultures, or the method by which individuals consider or appraise emotion-causing events, are culturally explicit to some degree, and will influence the regularity of the occurrence of particular emotions in specific cultures.

The cognitive component of emotion, as emphasised in the componential theories of emotion (Ellsworth & Scherer, 2003; Frijda, 1987; Lazarus, 1991; Roseman, 1984; Roseman, Antoniou, & Jose, 1996; Scherer, 1984a; Scherer, 1988; Scherer, 1999; Smith & Ellsworth, 1985; VanReekum & Scherer, 1997), hypothetically and empirically indicate that cognition and emotion are interdependent (Tran, 2004). Furthermore Du Toit (2008) argues that divergence between cultures with regard to emotional predisposition may be caused by changes in cognitive features, such as transformations in ideas or principles, due to the important role one's ideas play in manipulating one's emotions.

Emotions in South Africa

South Africa, with its eleven official languages and a diverse cultural framework, not only provides us with the opportunity to investigate the emotion lexicon with regard to prototypes across different cultural groups (which is vital to obtain sufficient insight into the cross-cultural resemblances and dissimilarities) (Church et al, 1999; Kitayama & Markus, 1991; Kitayama et al., 2000; Mesquita et al., 1997; Shipper, et al., 2003), but also enables us to study the relationship and dissimilarity in emotion expression of the Sepedi, Xitsonga and Tshivenda language groups in a methodological examination.

Following the limited amount of research conducted on these native groups in terms of emotions, and in order to facilitate the understanding of the local groups used in this research, a conceptual outline of the Sepedi, Xitsonga and Tshivenda groups are of the essence. Sepedi, Xitsonga and Tshivenda are three of the Black non-Indo-European languages (out of the eleven official languages) found in South Africa. 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). Sepedi, also known as Northern Sotho or Sesotho sa Leboa, is spoken in the province of Limpopo, Gauteng and Mpumalanga (Nicholls, 2008), and to a lesser extent in Botswana. Tshivenda is the language of the Venda group, and is spoken mainly in northern Limpopo in an area bordering the country of Zimbabwe (Nicholls, 2008). Xitsonga, also known as Shangaan, is spoken in eastern Limpopo and Mpumalanga in areas near the border of the country of Mozambique, as well as in southern Mozambique and south-eastern Zimbabwe (Statistics South Africa, 2004).

Emotions in the organisational context

Research into emotions could not only account for the cross-cultural differences in behaviour, but according to Nicholls (2008) places emphasis on the primary matter of universals and culture-specifics in emotions from a South African perspective. Emotion research thus investigates how the dimensionality domain is contextualised and compares the components of emotions across different cultures.

Nicholls (2008) also argues that research into the universality and culture-specifics of emotion would present an enhanced analysis of culture's impact on emotions, and that it can contribute towards a pragmatic conclusion about the suitability of specific psychological assessment on emotion across a cultural diverse country such as South Africa. Fredrickson (2003) is furthermore of the opinion that an individual's understanding of positive emotions has the potential to resonate through and across other colleagues and their interpersonal dealings with consumers, and positive emotions may also stimulate optimal organisational performance, thus facilitating organisational prosperity.

Furthermore, the study of emotions could also enable scientists to further expand cultural appropriate emotional proficiency mechanisms and appraisal tools (Nicholls, 2008). In the light of the diverse meanings of emotions, and that cultural features have not continuously been taken into account in the research of emotions, the study of emotions is of particular importance to applied psychology within the South African context, as it is pivotal to establish the true dimensionality and sphere of emotion terms across selected cultural or language groups (Oatley, 2004; O'Connor & Little, 2002).

Emotions in the South African Police Service (SAPS)

Finn (1997) is of the opinion that policing is generally deemed to be amongst one of the most demanding professions, and is related to excessive rates of marital disparity, alcohol abuse, suicide and other emotional and wellbeing problems. According to Evens and Coman (1992) police officers have a predisposition towards dealing with their circumstances and emotions unsuccessfully, that they are prone to being cynical and emotionally removed, and decline to share their emotional responses to occupational stressors with their significant others.

South Africa, in comparison to 90 other countries, measure disappointingly high on the prevalence of violence (for instance assault, murder, robbery and rape) (Interpol, 2000). The SAPS is a conflict-prone organisation and has moreover undergone a considerable amount of transformation and often fall victim to societal distrust, effective level of policing, and constant exposure to scenes of violence and crime (Kleyn, Rothmann & Jackson, 2004). The combination of all these factors might contribute to depression, anxiety, negative mood states and suicide ideation (Stokols, 2003).

Lazarus (1991), in his cognitive appraisal approach, is furthermore of the opinion that personal differentiation exists in categorizing circumstances as intimidating or nonviolent. He is of the opinion that constructive and unconstructive reactions could transpire concurrently as an outcome of an identical stressor, and that in an effort to cope one would then center one's attention on either the reaction to the stressor or the stressor itself (Lazarus, 1991).

By reason of the nature of police officers work in dealing with physical danger, authority, hazardous contact, being confronted with the unknown, long working hours (Stephens & Long, 2000), and frequent organisational change, challenges in career development and promotional prospects, strained financial circumstances, the work environment and poor support structures (Roosendaal, 2002), individuals experience a great amount of stress in the South African Police Service.

The Componential Emotion Theory/Model

The componential emotion theory offers a universal structure to research emotions, and in the quest to obtain clarification about the meaning of emotion within different cultural groups within the diverse South African society, the componential emotion theory can be drawn on. The componential emotion approach assumes that emotion words in everyday language refer methodically to appraisals, psychophysiological changes or physical sensations, motor expressions or meaningful facial, vocal, and gestural behavior, action tendencies, subjective experiences or feelings, and emotion regulation (Fontaine, Scherer & Roesch, 2006).

According to Scherer and Ellgring (2007), componential appraisal theories have been created to arrest the vivid and intricate characteristics of the emotion endured by individuals in all the secondary structures of emotion, for instance cognition, impetus, physiological effects, and motor expressions. The componential theory is also believed to have incorporated diverse emotion hypotheses in Western emotion psychology (Du Toit, 2008). Nonetheless, this theory creates a platform to work from, and is fundamental for cross-cultural emotion study due to its universal construction and non-specific hypothesis (Fontaine et al., 2002), while Fehr and Russell (1984) proclaim that the theory of emotion can be positively implied from the prototypical viewpoint, due to its “matter of degree” (p. 464).

Table 1 below illustrates that in the componential emotion theory, emotions is regarded as a hypothetical concept that encompasses five mechanisms which are parallel to five unique functions (Sander et al., 2005).

Table 1

Relationships between the functions and components of emotion, and the organismic subsystems that subserve them

Emotion function	Emotion component	Organismic subsystem (and major substrata)
Evaluation of objects and events	Cognitive component (appraisal)	Information processing (CNS)
System regulation	Neurophysiological component (bodily symptoms)	Support (CNS, NES, ANS)
Preparation and direction of action	Motivational components (action tendencies)	Executive (CNS)
Communication of reaction and behavioural intention	Motor expression component (facial and vocal expression)	Action (SNS)
Monitoring of internal state and organism-environment interaction	Subjective feeling component (emotional experience)	Monitor (CNS)

Note: CNS = central nervous system; NES = neuro-endocrine system; ANS = autonomic nervous system; SNS = somatic nervous system. The organismic subsystems are theoretically postulated functional units or networks (from Sander et al., 2005).

Scherer (1987) states that a close similarity is realised between the functions of emotions, namely the appraisal stimulus events in terms of their importance to the person's well-being, the control of the internal milieu to plan the organism for accomplishment, the launching of explicit intentions and achievement or action tendency, the appearance and communication of effect and objectives, the observation of and centering attention on modifications in individualistic states), and the components and characteristics of emotion as hypothesised by the majority of prominent academics (as reviewed in Kleinginna & Kleinginna, 1981).

Frijda (1993) explains that appraisal indicates the cause of circumstances in eliciting various emotions, and the differences between emotions. The process of appraisal is defined as a particular event that sources an explicit emotion in particular circumstances (Frijda, 1993). The role of appraisal is therefore to function as the connection between emotional reactions to external events and inner objectives and beliefs (Smith & Lazarus, 1993). Frijda, Kuipers and Ter Schure (1989) emphasise the accountability of appraisal for arousal and emotion components such as valence, action readiness, and physiological arousal. Furthermore, Frijda (1993) verify the correlation between particular prototypes of appraisal and specific emotion labels, and the methodical projection of appraisal patterns onto emotion categories.

According to Aue, Flykt and Scherer (2007), an individual will initially appraise events based on a sequence of chronological stimulus appraisal verifications, which are concerned with the appropriate recognition of an incident (consisting of originality, inherent pleasantness, and goal significant confirmations). These verifications concern the significance recognition of an occurrence, its inferred judgement, a person's probable survival fortitude, and the normative meaning appraisal of the occurrence (Aue et al., 2007). The outcome of every verification should, in theory, alter the status of every other organismic subsystem towards the adjustment to the occurrence (Aue et al., 2007). These authors are also of the opinion that a blueprint of an emotional response is consequently deemed as the collective product of every appraisal-driven situational variation, in addition to the subsequent response and advanced exchanges between the subsystems. Such reactions could set in motion alterations of the continuing

appraisals (see Scherer, 1984b, 1986b, 2001), and the effect of a single appraisal is frequently reliant on the information produced by an earlier evaluation (Aue et al., 2007). The appraisal of the existing survival probability necessitates facts pertaining to the extent of goal encouragement and the necessity of an effect as a contribution (Aue et al., 2007).

Appraisal thus compels the modelling of the reaction in the importance of transformation (Scherer, 2005). Ellsworth and Smith (1988) and Lazarus (1991) state that the appraisal process supplies liveness to individual behaviour as it is connected to humans' ability to discover, adjust and assess detrimental and valuable knowledge gathered from experiences. Furthermore, Tran (2004) is of the opinion that the norms or customs that are associated with a respective culture and the kind of emotions connected to certain items or objects, play a role in which emotions are experienced.

Although cultures might share similar emotions, Du Toit (2008) is of the opinion that a significant disparity may exist in its importance. Furthermore, Du Toit (2008) also states that the parallel situational appraisal by dissimilar cultures could suggest that these cultures experience similar emotions, and highlights the collective link between evaluation patterns and emotions. Mesquita and Ellsworth (2001) conversely argue that correspondence on some elements of emotion does not, however, exclude variations on other appraisal dimensions.

According to Keltner and Haidt (1999) emotions and their appearance or expression also play interpersonal roles. In the event of expression of anger, for instance, lowering the brows in synchronisation while raising the upper eyelids, generate an evident, stern expression which can, without difficulty, induce reactions in others (Matsumoto, Yoo, & Chung, 2007). Dimberg and Ohman (1996) state that irate faces induce trepidation, while Marsh, Ambady and Kleck (2005) point out that avoidance-related conduct or actions in individuals who observe this are made possible.

According to Scherer (2005) the motor expression element of emotion strongly impacts on communication, and may also include significant corollaries for human relationships. A range of research studies conducted on motor expressions across various cultures, as reported by Ekman (1999), were performed with participants from 21 literate countries, such as Africa, Argentina, Brazil, Chile, China, England, Estonia, Ethiopia, France, Germany, Greece, Italy, Japan, Kirghizistan, Malaysia, Scotland, Sweden, Indonesia (Sumatra), Switzerland, Turkey

and the USA (Ekman, Sorenson & Friesen 1969, Izard, 1971; Niit & Valsiner, 1991; Boucher & Carlson, 1980; Ducci, Arcuri, Georgis, & Sineshaw, 1982; McAndrew, 1986; Ekman, Friesen, O'Sullivan, Diacoyanni-Tarlatzis, Krause, Pitcairn, Scherer, Tzavaras, Chan, Heider, LeCompte, Ricci-Bitti, & Tomita, 1987). During each of these experiments, pictures of happiness, anger, fear, sadness, disgust and surprise were used, in addition to other expressions specific to the particular study (Tran, 2004). Tran (2004) considers the fact that these studies were only conducted on literate cultures as problematic, and is of the opinion that cultural segregation facilitates erudition of visual demonstration of emotions (for example in movies), during which time individuals learn what some expressions signify. This would then mean that these expressions could either be imported into a culture or individuals in a specific cultural group would become capable to identify with them (Tran, 2004).

In order to obtain explicit evidence pertaining to theory of the emotion lexicon of a particular language or traditional group, all (six) of the above mentioned emotion components should be investigated (for example Scherer, 2005; Fontaine, et al., 2002). Tran (2004) argues that some expressions are culture-specific and ethnographic evidence supports general elicitors, expressions and behavioural propensity for a range of emotions, such as anger, fear, surprise, joy, sadness, and disgust (Tran, 2004). Other evidence suggests there is a small number (possibly six or eight) of core emotions that are inimitably related to a particular facial expression (Izard, 1990).

Action tendencies have, according to Scherer (2005), a lasting impact on emotion ensuing conduct, and frequently disrupt the continuing action progression in addition to producing novel objectives and strategies. Frijda and Mesquita (1994) suggest that behaviour in emotion originates from action readiness or tendency, and highlights probable behaviour versus behaviour as such.

Salovey et al., (2004) conversely state that emotions have the express power to elicit behaviour or apply circuitous influence (through interceded means such as impetus or cognition). Any resultant emotion and the way it is experienced is dependent on the manner in which an individual appraises an event (Nicholls, 2008). Frijda is of the opinion that emotion is accompanied with a readiness to act in a common manner and is not unavoidably

related to specific behaviours, and that action tendency could, in favour of social reasons, be concealed by further behaviour (Tran, 2004).

According to Scherer (1986a) several internalised norms are associated with the suitability of understanding and articulating emotions (including physiological arousal and subjective feelings) in particular circumstances. It is also suggested that by reason of the existing modest dissimilarities among cultural groups, the verbal and non-verbal reactions to emotional circumstances, the shared meaning and structure of the self and that of emotional experiences, emotion regulation and direction, and the individual assessment of conditions produced, be reviewed (Kitayama & Markus, 1991; Scherer, Wallbott, Matsumoto, & Kudoh, 1988; Shipper et al., 2003).

Emotions play a pivotal role in leading interpersonal studies (Frijda & Mesquita, 1994; Keltner & Kring, 1998; Shiota, Campos, Keltner, & Hertenstien, 2004). According to Butler, Lee, and Gross (2007) emotions' variability and the resulting influence on the relationship are expected to be a shared purpose of the participants' personal regulatory efforts and the traditional meaning structures during interpersonal relations. A form of emotion regulation, namely emotion suppression or inhibition, engrosses the reticence of emotional expression for the reason that it has been associated to apparent social or collective outcomes (Butler et al., 2007). Gross and Levenson (1993, 1997) argue that emotion restraint necessitates the dynamic decline of meaningful emotion activities even as the person is emotionally motivated, and that it is not simply a deficiency in expression per se, but a dynamic effort to restrain the expressive component of an emotional reaction (Butler et al., 2007). Furthermore, the findings of recent research conducted by Butler et al., (2007) verified that cultural standards expect variations in both the occurrence and role of customary inhibition, in addition to the extent of unconstructive or negative emotion related with it.

Scherer (1986a) affirms that previous research conducted verified that various cultural norms exist for the expression and exhibition of emotions, such as social regulation. Social regulation, otherwise known as display rules, is defined as the containment of emotions and the repression of the associated response pattern, and frequently varies among cultures (Scherer, 1986a).

According to Averill (1980) emotions accomplish outcomes on a shared level in that it resolves inconsistency between norms which standardise human conduct or social roles in society. Individual social life is intricate in nature and can be attributed to the inconceivable range of ideas, emotions, and conduct that humans may accomplish or employ, and social convolution or complexity is, according to Matsumoto et al., (2007), particularly accurate in numerous cultures due to the nature of the societies in which human beings exist.

Parkinson (1995) and Griffiths (2003, 2004) conversely argue that emotions realise individual outcomes through social transactions. The latter approach, according to Tran (2004), highlights the intentional characteristics of emotions, but Tran (2004) questions whether all resulting social roles aimed at resolving social differences are in fact emotions. Tran (2004) argues that the social role of a police officer, for example, consists of a general predetermined set of reactions intended towards societal conflict resolution, and does not necessarily constitute an emotion, and can also be interpreted as a passion in that it is considered to be a transient role rather than an action (Averill, 1980). Emotions interpreted as passions are of great importance to differentiate between social roles, for example that of a police officer versus social roles, for example anger (Tran, 2004).

METHOD

Research design

A survey design will be used to achieve the research objectives. The survey design is suitable for the descriptive function as relationships between variables are examined (Shaughnessy & Zachmeister, 1997). The survey design has the advantage of obtaining a substantial amount of information from a large population of Sepedi-, Xitsonga- and Tshivenda-speaking entry-level SAPS recruits in South Africa. The advantage of utilising 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).

The research will now be presented in a singular study of measuring the GRID for the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the South African Police Service.

GRID measuring instrument

Participants

The study population for this study consisted of a convenience sample of entry-level South African Police Service employees ($n=390$) from the Sepedi ($n=142$), Xitsonga ($n=125$) and Tshivenda ($n=123$) language groups. Table 2, 3 and 4 presents some of the characteristics of the participants.

Table 2

Characteristics of the Sepedi-speaking GRID instrument participants

Item	Category	Frequency	Percentage
Ethnicity	Black	142	100,0
Language	Sepedi	142	100,0
Gender	Male	77	54,2
	Female	65	45,8
Age	19-27	91	64,1
	28-36	45	31,7
	Missing values	6	4,2
Province	Gauteng	112	78,9
	Limpopo	22	15,5
	Mpumalanga	5	3,5
	Missing values	3	2,1
Highest Qualification	Grade 12	4	2,8
	Advanced schooling	104	73,2
	University/College training	23	16,2
	Missing values	11	7,7

The sample included only African (100%), Sepedi-speaking ($n=142$) participants, of which 54,2% ($n=77$) were men and 45,8% ($n=65$) were women. Sixty four comma one percent of the group were between the ages of 19 and 27, and 31,7% were between 28 and 36 years of age. The largest part of the group (78,9%) originated from the Gauteng province, while 15,5% and 3,5% were from Limpopo and Mpumalanga provinces respectively. The entry-level qualification for the police is Grade 12, and for 2,8% of the group this was their highest

qualification. Seventy three comma two percent had further education and training, and 16,2% had tertiary qualifications.

Table 3

Characteristics of the Xitsonga-speaking GRID instrument participants

Item	Category	Frequency	Percentage
Ethnicity	Black	125	100,0
Language	Xitsonga	121	96,8
	Sepedi	2	1,6
	Tshivenda	1	0,8
	Missing values	1	0,8
Gender	Male	40	32,0
	Female	83	66,4
	Missing values	2	1,6
Age	19-27	69	55,2
	28-36	50	40,0
	Missing values	6	4,8
Province	Gauteng	6	4,8
	Limpopo	101	80,8
	Mpumalanga	16	12,8
	North-West	2	1,6
Highest Qualification	Grade 12	2	1,6
	Grade 12 and professional training	6	4,8
	Advanced schooling	111	88,8
	University/College training	4	3,2
	Missing values	2	1,6

The sample included only African (100%) participants of which 96,8% were Xitsonga-speaking ($n=121$) participants. Thirty two percent were men and 66,4% ($n=83$) were women. Fifty five comma two percent of the respondents were between the ages of 20 and 27, and 40% were between 28 and 36 years of age. The largest part of the group (80,8%) originated from the Limpopo province, while 12,8% were from Mpumalanga, 4,8% from Gauteng and 1,6% from the North-West Province. The entry-level qualification for the police is Grade 12, and for 1,6% of the group this was their highest qualification. Four comma eight percent of the group had Grade 12 and professional training, while 88,8% had further education and training and 3,2% had tertiary qualifications.

Table 4

Characteristics of the Tshivenda-speaking GRID instrument participants

Item	Category	Frequency	Percentage
Ethnicity	Black	123	100,0
Language	Tshivenda	120	97,6
	Setswana	1	0,8
	English	2	1,6
Gender	Male	61	49,6
	Female	62	50,4
Age	19-27	82	66,7
	28-36	39	31,7
	Missing values	2	1,6
Province	Gauteng	8	6,5
	Limpopo	114	92,7
	Mpumalanga	1	0,8
Highest Qualification	Grade 12	1	0,8
	Grade 12 and professional training	3	2,4
	Advanced schooling	76	61,8
	University/College training	42	34,1
	Missing values	1	0,8

The sample of only African (100%), Tshivenda-speaking ($n=120$) participants consisted of 49,6% ($n=61$) males and 50,4% ($n=62$) females. Sixty-six comma seven percent of the group were between the ages of 19 and 27, and 31,7% were between 28 and 36 years of age. The largest part of the group (92,7%) ($n=114$) originated from the Limpopo province, while 6,5% ($n=8$) originated from the Gauteng province, and 0,8% ($n=1$) were from the Mpumalanga province. The entry-level qualification for the police is Grade 12, and for 0,8% of the group this was their highest qualification. Two comma four percent had Grade 12 and professional training, while 61,8% had further education and training and 34,1% had tertiary training.

Measuring Instrument

For this study, six respective versions of the Sepedi, Xitsonga and Tshivenda GRID instruments each were used. The English GRID instrument was translated into each of these

African languages by means of the translation/back-translation procedure (Fontaine et al., 2007). According to Fontaine et al., (2006) the GRID approach presents a benchmark for examining the conversion of emotion terms transversely between cultural groups, and that its transparent standard increases its auspiciousness for cross-cultural research. The GRID consists of paper-based questionnaires composed of 24 emotion terms and 142 emotion features for each of the above-named African languages, and the emotion terms are prototypical terms generally used in both emotion research and daily language (Fontaine et al., 2007). Selection criteria used to determine the representative set included the recurrent use in emotion literature (Fontaine et al., 2007), in addition to the prevalent appearance of the emotion terms as determined in the free-listing, prototypicality and similarity of emotion concepts study of these language groups by Nicholls (2008).

Procedure

The GRID was administered at the Police College in Pretoria on groups which consisted of police applicants who had been recruited for the basic training programme of the SAPS 2009 entry-level intake. Ethical aspects and the purpose of the research were discussed with the participants, and participants contributed to the research on a voluntary basis. The tests were administered during five sessions over a period of several months.

The Sepedi-speaking group was accommodated in the first two sessions, the Tshivenda-speaking participants during the third and fourth, and the Xitsonga group during the fourth and fifth sessions. Each session assessed twelve emotion words (of a set of 24) in terms of 142 emotion features. The participants were requested to rate each emotion using a nine-point scale ranging from extremely unlikely (1) to extremely likely (9) by inferring when a person from their cultural group uses the emotion term to describe an emotional experience (Fontaine et al., 2007). The general phrase used within each section of the questionnaire started with "If a person in your cultural group uses the following emotion words to describe an emotional experience, how likely is it that the person experienced an event (that occurred suddenly)?" Each respondent was provided with a GRID questionnaire and corresponding numbered answering sheet and requested to rate four emotion terms for that feature before proceeding to the next feature (Fontaine et al., 2007).

Respondents of the various language groups were divided into three smaller groups of approximately nineteen to thirty five participants per group per assessment event. Groups were divided into classrooms where the tests were administered in a highly controlled fashion. A semi-standardised procedure was followed by qualified psychologists and language experts, in addition to a psychometrist and a Master's degree student in order to administer the test battery. The instructions for the test were given to each group individually. The completion of the respondents' biographical data section was facilitated by the psychologists, language experts, a psychometrist, and a Master's degree student. Three examples of the GRID were practiced on an interactive basis with the respondents to ensure that instructions and the nature of the questions were clear to all participants.

The first group of every assessment event commenced approximately at 09:00 with instructions provided to the first classroom of a particular language's respondents. Instructions to the second, third, fourth, fifth and sixth (where relevant) were provided in 20-40 minute intervals. Some respondents appeared to become agitated approximately 75 minutes into the assessment, and upon processing of the questionnaires it was noted that some questions were not answered by the respondents. Each respondent was seated on a chair at a desk, and was provided with the necessary stationery to administer the test. The classrooms were properly lit and ventilated. The semi-controlled test session lasted for approximately 90-180 minutes.

Statistical Analysis

The reliability of the pattern per emotion word on 142 emotion features was firstly calculated. Furthermore the Cronbach's alpha with the 142 emotion features as the observations, in addition to the participants that rated the emotion words as variables (or the inter-rater reliability which evaluates the reliability across the participants), was computed. Participants who have a very idiosyncratic understanding of the word, and who have a total word correlation of lower than 0,20, were removed. A GRID consisting of 24 emotion words by 142 emotion features was subsequently calculated by averaging the scores across all participants that were retained after step one.

Results

The inter-rater reliabilities for the GRID instruments of each of the Sepedi, Xitsonga and Tshivenda language groups are reported in tables 5, 6 and 7 respectively.

Table 5

Inter-rater reliability table of the results of the Sepedi GRID instrument

Emotion term (Sepedi)	Emotion term (English)	Cronbach's alpha with all respondents	Number of respondents	Cronbach's alpha with respondents with item-total correlations of at least .20	Number of respondents with item-total correlations of at least .20
Pefelo	Anger	0,80	25	-0,00	19
Tlalelo	Anxiety	0,66	24	0,43	15
Kwišwa bohloko	Being hurt	0,82	26	0,36	18
Kwelobohloko	Compassion	0,69	24	0,55	16
Lenyatšo	Contempt	0,70	24	0,26	16
Kgotsofalo	Contentment	0,75	22	0,59	11
Hloboga	Despair	0,37	21	0,07	3
Tshwabo	Disappointment	0,84	24	0,22	17
Tenega	Disgust	0,76	24	0,54	18
Letšhogo	Fear	0,82	24	0,52	20
Go ba le letswalo	Guilt	0,78	25	0,07	18
Lethabo	Happiness	0,51	21	0,04	9
Lehloyo	Hate	0,51	22	0,38	7
Kgahlego	Interest	0,86	26	0,35	21
Go šišimišega	Irritation	0,44	21	0,09	6
Mona	Jealousy	0,66	26	0,43	14
Lethabo	Joy	0,90	24	0,37	21
Lerato	Love	0,81	25	-0,02	20
Monate	Pleasure	0,84	24	0,57	20
Boikgogomošo	Pride	0,74	26	0,51	19
Manyami	Sadness	0,65	22	0,47	10
Maswabišadihlong	Shame	0,37	21	0,03	5
Kgatelelo ya monagano	Stress	0,72	25	0,04	14
Makalo	Surprise	0,50	22	0,33	7

Inspection of Table 8 shows that acceptable Cronbach's alpha coefficients were obtained for the majority of the scales. Most alpha coefficients were higher than the guideline of $\alpha > 0,70$ (Nunnally & Bernstein, 1994). Most scores on the GRID are therefore normally distributed. It therefore appears that the GRID instrument has acceptable levels of internal consistency for the Sepedi language group.

It was, however, found unfeasible to improve the reliabilities by removing participants with an item correlation of less than 0,20. Next a scree plot was computed which indicated that two factors should be extracted. However, the third and fourth factors were not clearly interpretable and so it was decided to extract only two factors.

Scree Plot

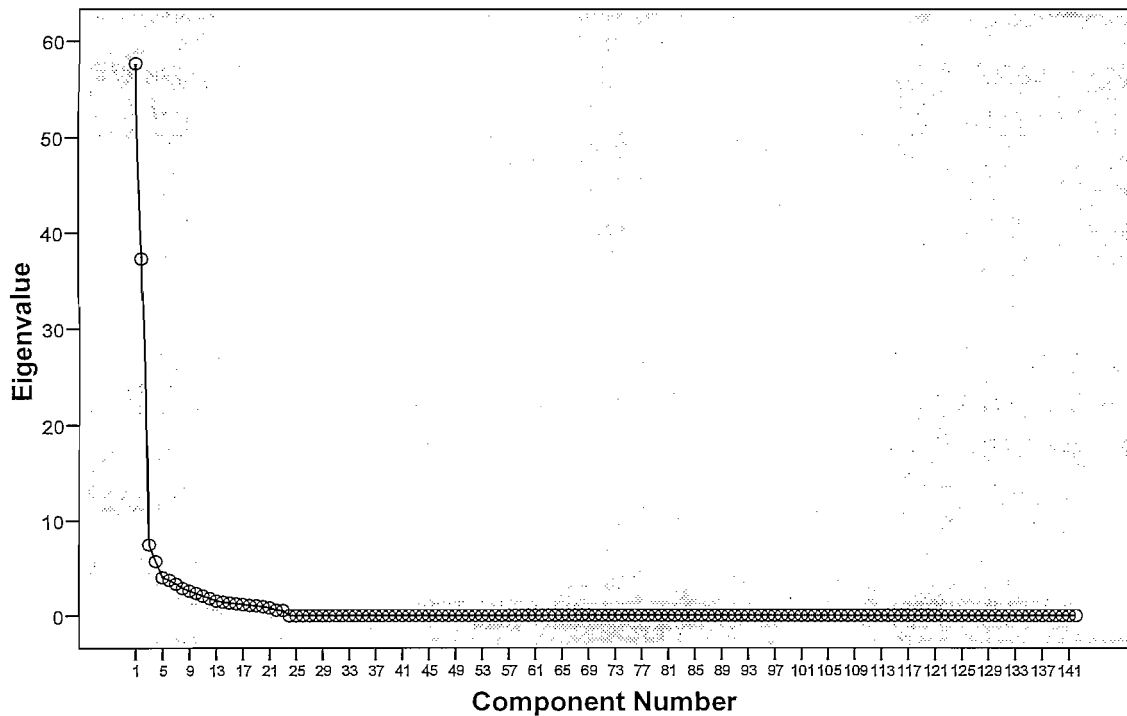


Figure 1. Scatter plot of the Sepedi GRID instrument components

Table 6

Inter-rater reliability table of the results of the Xitsonga GRID instrument

Emotion term (Tshivenda)	Emotion term (English)	Cronbach's alpha with all respondents	Number of respondents	Cronbach's alpha with respondents with item-total correlations of at least .20	Number of respondents with item-total correlations of at least .20
Nhlundzuko	Anger	0,16	23	0,14	0
Nchavo	Anxiety	0,09	20	0,03	0
Ku vaviseka	Being hurt	-0,12	20	-0,07	0
Nchavelelo	Compassion	0,07	20	0,06	0
Leswi nga lavekiki	Contempt	-0,07	20	0,14	1
Eneriso	Contentment	0,62	30	0,42	11
Ntikeriwa	Despair	0,06	21	0,02	3
Karhateka	Disappointment	-0,05	20	0,06	0
Xihlamariso	Disgust	0,05	20	-0,13	1
Chuwa	Fear	0,06	20	-0,11	2
Nandzu	Guilt	0,20	23	0,11	3
Ntsako	Happiness	0,38	21	0,36	7
Rivengo	Hate	0,31	30	0,18	3
Ntsakelo	Interest	0,33	20	0,34	3
Nyangatseko	Irritation	0,00	21	-0,10	1
Mavondzo	Jealousy	-0,02	20	-0,13	2
Ntsako	Joy	-0,04	20	0,14	0
Rirhandu	Love	0,43	23	0,33	4
Ntsakelo	Pleasure	0,15	20	0,06	1
Manyunyu	Pride	0,30	20	0,47	3
Khunguvanyeka	Sadness	0,38	30	0,23	3
Vusiwana	Shame	-0,00	21	0,04	1
Ntshikelelo	Stress	-0,02	23	0,15	1
Xihlamariso	Surprise	0,28	30	0,10	2

Due to the exceptionally low reliabilities, it was decided not to conduct further statistical analysis on the Xitsonga language group.

Table 7

Inter-rater reliability table of the results of the Tshivenda GRID instrument

Emotion term (Tshivenda)	Emotion term (English)	Cronbach's alpha with all respondents	Number of respondents	Cronbach's alpha with respondents with item-total correlations of at least .20	Number of respondents with item-total correlations of at least .20
Mbiti	Anger	0,15	20	0,02	3
Nyofho	Anxiety	0,27	18	0,12	1
U vhai swa	Being hurt	0,21	22	0,00	2
Pfelovhutungu	Compassion	-2.82	18	-1,00	0
Nyadza	Contempt	0,36	19	0,08	2
Fushea	Contentment	0,59	22	0,00	7
Dinaleya	Despair	0,67	22	0,29	12
Shoniswa	Disappointment	0,32	19	0,14	3
Nyala	Disgust	0,05	18	-0,00	3
Nyofho	Fear	0,31	19	0,30	3
Shoniswa	Guilt	0,05	20	0,04	0
Dakalo	Happiness	0,87	22	0,50	17
Vhenga	Hate	0,62	22	0,00	10
Dzangalelo	Interest	0,65	22	-0,07	11
Sinyasa	Irritation	0,69	22	0,27	13
Vivho	Jealousy	0,01	22	-0,07	1
Dakalo	Joy	0,46	19	-0,04	5
Lufuno	Love	0,37	20	0,09	3
Dakalo	Pleasure	0,37	18	0,14	3
Dihudza	Pride	0,60	22	0,00	12
Tungufhala	Sadness	0,59	22	0,20	8
Thavhisa thoni	Shame	0,60	22	0,18	10
Mutsiko	Stress	0,27	20	0,15	2
Tshimangadzo	Surprise	0,45	22	0,02	5

Due to the exceptionally low reliabilities, it was decided not to conduct further statistical analysis on the Tshivenda language group.

In order to decrease the dimensionality of the emotion sphere, a Principal Component Analysis (PCA) was used (Fontaine et al., 2007). Such analysis locates the dimensions of

greatest inconsistency in the data set, and characterises each observation by its coordinates alongside each of these proportions (Fontaine et al., 2007). A two-dimensional result was selected following an analysis of the eigenvalues ($> 1,00$) and the scree plot. Two factors could be extracted, which accounted for 66,8% of the total variance. A principal component analysis with a varimax rotation was then performed on the 142 items. The interpretation of the two components (dimensions) is based on their relationship with the 142 emotion features and on the coordinates of the 24 emotion terms on these components (dimensions). Table 8 presents a Principal Component Analysis table that indicates which of the 142 features loads on which component (dimension) for the Sepedi group (see table 8). The results of the exploratory factor analysis and the loadings of variables on factors are also indicated in Table 8.

Table 8

Component loadings of the 142 items of the Sepedi GRID instrument

	Feature	Components (Dimensions)	
		1 Pleasant vs Unpleasant (Evaluation) Valence	2 Weakness vs Dominance (Potency)
	Features on the two components		
1	felt inhibited or blocked	,932	-,232
2	breathing getting faster	,926	-,189
3	got pale	,921	-,216
4	had stomach troubles	,920	-,045
5	incongruent with own standards and ideals	,908	-,157
6	felt cold	,905	-,099
7	felt the urge to stop what he or she was doing	,904	,022
8	showed tears	,900	,105
9	breathing slowing down	,899	,042
10	had a trembling voice	,892	-,143
11	felt weak	,891	-,300

12	was in an intense emotional state	,891	-,133
13	heartbeat getting faster	,886	-,151
14	wanted to be hurt as little as possible	,886	-,036
15	a lump in throat	,884	-,168
16	irrevocable loss	,881	-,384
17	felt shivers	,880	-,170
18	felt hot	,879	-,070
19	felt weak limbs	,877	-,275
20	caused by chance	,871	-,282
21	wanted to undo what was happening	,867	-,206
22	in danger	,854	-,415
23	felt bad	,849	-,208
24	required an immediate response	,846	-,268
25	sweat	,846	-,128
26	felt nervous	,846	-,325
27	wanted to prevent or stop sensory contact	,841	,007
28	wanted to make up for what she or he had done	,839	,045
29	wanted to disappear or hide from others	,836	-,335
30	pressed lips together	,834	-,302
31	caused by somebody else's behaviour	,832	,079
32	heartbeat slowing down	,825	,139
33	lacked the motivation to pay attention to what was going on	,824	-,248
34	produced speech disturbances	,822	-,046
35	felt tired	,820	-,067
36	in itself unpleasant for the person	,819	,202
37	closed her or his eyes	,818	-,269
38	muscles tensing (whole body)	,818	,055

39	felt powerless	,815	-,375
40	fell silent	,813	,118
41	perspired, or had moist hands	,811	,107
42	felt exhausted	,810	-,251
43	decreased the volume of voice	,804	-,225
44	violated laws or socially accepted norms	,801	-,212
45	wanted to flee	,794	-,290
46	unpredictable	,793	,234
47	spoke slower	,789	,001
48	had the jaw drop	,789	-,420
49	wanted to run away in whatever direction	,782	-,008
50	experienced the emotional state for a long time	,781	,070
51	felt out of control	,781	-,055
52	treated unjustly	,780	-,479
53	had eyebrows go up	,779	,003
54	suddenly	,777	,388
55	produced a short utterance	,775	,356
56	withdrew from people or things	,768	-,567
57	produced abrupt body movements	,766	,470
58	showed the emotion to other less than s/he felt it	,749	,081
59	moved against people or things	,742	-,503
60	felt restless	,728	,090
61	enough resources to avoid or modify consequences	,722	,227
62	lacked the motivation to do anything	,714	,044
63	consequences avoidable or modifiable	,711	-,265
64	wanted to act, whatever action it might be	,701	,070
65	consequences negative for somebody else	,693	-,319

66	in itself unpleasant for somebody else	,685	,023
67	wanted to overcome an obstacle	,683	,358
68	wanted someone to be there to provide help or support	,676	,475
69	did not show any changes in gestures	,646	-,008
70	blushed	,626	,087
71	wanted to submit to the situation as it is	,625	,205
72	wanted to be in control of the situation	,593	,222
73	did not show any changes in vocal expression	,581	,055
74	inconsistent with expectations	,576	,530
75	wanted to do nothing	,575	-,297
76	felt submissive	,559	,423
77	wanted to withdraw into her/himself	,559	-,413
78	wanted to get totally absorbed in the situation	,550	,297
79	had no bodily symptoms at all	,541	,213
80	wanted to destroy whatever was close	,541	-,518
81	wanted to oppose	,538	-,223
82	wanted to move	,537	,505
83	caused by the person's own behaviour	,509	,112
84	spoke faster	,490	,287
85	did not show any changes in face	,445	,205
86	wanted to keep or push things away	,440	,128
87	changed the melody of her or his speech	,368	,112
88	wanted to take initiative her/himself	,250	,127
89	wanted the ongoing situation to last or be repeated	-,159	,950
90	felt an urge to be active, to do something, anything	-,223	,949
91	important and relevant for person's goals	-,088	,948
92	consequences positive for somebody else	-,045	,942

93	felt at ease	-,136	,941
94	consequences able to live with	-,068	,925
95	felt positive	-,121	,918
96	centre of attention	,083	,915
97	felt powerful	-,074	,911
98	felt in control	-,025	,909
99	felt calm	-,227	,907
100	in itself pleasant for somebody else	-,124	,906
101	important and relevant for goals of somebody else	-,086	,905
102	felt energetic	-,109	,897
103	consequences positive for person	-,164	,884
104	felt strong	-,253	,884
105	smiled	-,371	,882
106	felt good	-,158	,879
107	confirmed expectations	-,221	,879
108	wanted to go on with what he or she was doing	-,141	,873
109	hid the emotion from others by smiling	-,288	,853
110	muscles relaxing (whole body)	,293	,851
111	in itself pleasant for the person	-,199	,848
112	felt warm	,246	,841
113	wanted to sing and dance	-,025	,833
114	wanted to be tender, sweet, and kind	,114	,825
115	opened her or his eyes widely	,261	,821
116	consequences predictable	-,154	,813
117	familiar	-,101	,798
118	wanted to be near or close to people or things	,344	,790
119	frowned	,250	-,782

120	showed the emotion to others more than s/he felt it	,113	,778
121	wanted to be seen, to be in the centre of attention	-,282	,777
122	produced a long utterance	,000	,762
123	wanted to show off	-,240	,703
124	will be changed in a lasting way	,204	,683
125	felt dominant	-,355	,674
126	felt alert	,269	,649
127	caused intentionally	-,218	,647
128	wanted to tackle the situation	,632	,643
129	wanted to take care of another person or cause	,538	,642
130	wanted to do damage, hit, or say something that hurts	,419	-,627
131	moved toward people or things	,469	,624
132	consequences negative for person	,514	-,613
133	felt an urge to be attentive to what is going on	,490	,604
134	caused by a supernatural power	,581	,603
135	tried to control the intensity of the emotional feeling	,465	,597
136	wanted to hand over the initiative to someone else	,444	,575
137	wanted to comply to someone else's wishes	,397	,569
138	felt negative	,427	-,530
139	had an assertive voice	,154	,510
140	increased the volume of voice	,342	,473
141	wanted to break contact with others	,345	-,370
142	wanted to be in command of others	,073	,239

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 3 iterations.

Close inspection of Table 8 indicates emotion features as measured by items 11, 16, 22, 26, 29, 30, 39, 48, 56, 59, 68, 74, 80, 82, 88, 128 – 138, 140, and 141 loads on both factors 1 and 2. Furthermore, it should be noted that item 142 has a value of less than 0,30 which indicates that it does not load significantly on any of the factors.

The interpretation of the two dimensions is based on their relationships with the 142 emotion features and on the coordinates of the 24 emotion terms. Figure 2 presents the 142 emotion features and their relationships to the two emotion dimensions (component loadings), following a further analysis to determine the factor structure (components) or the coordinates of the 24 emotion terms on the factor structure.

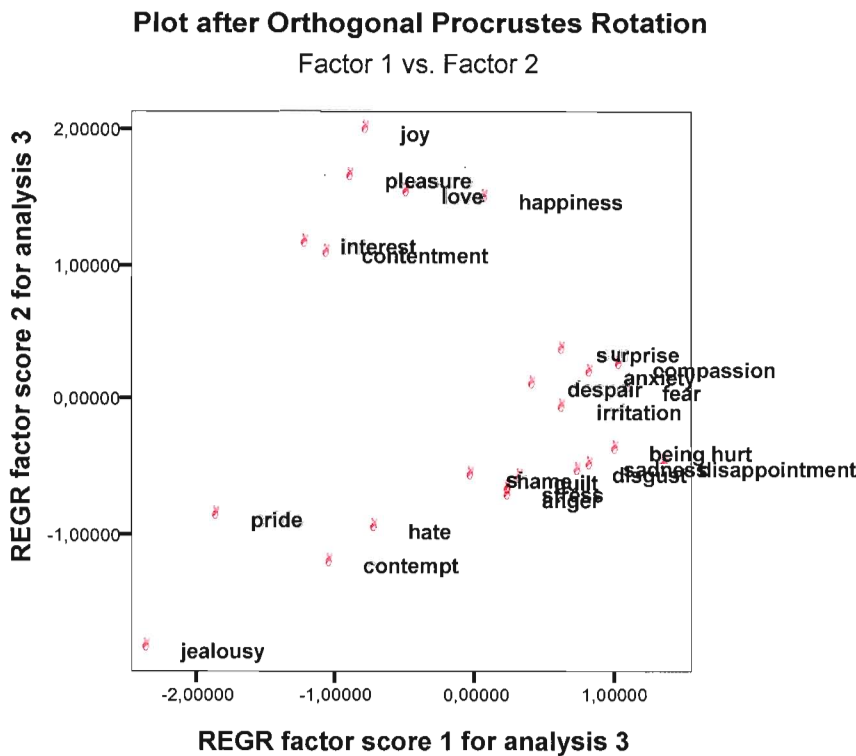


Figure 2. The three-dimensional scatter plot representing the 24 Sepedi emotion terms of the GRID. Diagram indicate plot of coordinates for (a) Potency: weak vs. strong emotions (factor 2) x Evaluation: positive and negative emotions (factor 1).

The first dimension that was identified is the evaluation-pleasantness dimension. This dimension evaluates the pleasantness or positiveness versus the unpleasantness or negativeness of an emotion. This dimension is characterised by intrinsic appraisals of pleasantness and goal conduciveness, and action tendencies of approach versus avoidance (Fontaine et al., 2007). As can be seen in figure 2, emotions such as joy, happiness, love, pleasure, contentment and interest are opposed to emotions such as jealousy, pride, hate and contempt. “Jealousy” in western languages is, in contrast to the findings of the assessment in the Sepedi language, highly potent, which indicates that it is a high outlier in the Sepedi language group. Also, jealousy usually appears to be weaker (in westernised cultures), whereas in the Sepedi group it was indicated as strong (see Fig. 2).

The second dimension which was identified is the potency dimension. This dimension is characterised by appraisals of control, which guide feelings of control or limitations, interpersonal supremacy or deference, which includes the urge to proceed or desist from action, alterations in the tempo and volume of speech, and parasympathetic symptoms (Fontaine et al., 2007). On this dimension, emotions such as pride, anger, and contempt are opposed to sadness, shame, and despair (see Fig. 2). This dimension can therefore be interpreted in terms of potency-control (Fontaine et al., 2007). The pride emotion in the Sepedi group reflects highly negative (see Fig. 2) in contrast to results presented by the English language group in European studies, who exhibit strong positive coordinates on a scatter plot. A Sepedi-speaking individual advised that the word “pride” (boikgogomošo) is generally associated with what would be considered “hoogmoed” (in other words interpersonal supremacy) and not “trots” (being proud of/pride or a sense of accomplishment) in Afrikaans. The word thus has an explicit negative general meaning in Sepedi or the Sepedi group may have interpreted the word in a negative way.

The interpretability of a third dimension is less clear, and could, with some impetus, be interpreted as arousal. An interesting finding is that the first factor before and after varimax rotation is not pleasantness, but power. A possible explanation could be that the social nature of the emotion (submissive versus dominant) is of much greater significance in the Sepedi language group than in other languages.

DISCUSSION

The aim of this study was to examine the extent to which the meaning of 24 emotion terms in the Sepedi, Xitsonga and Tshivenda language groups have the same meaning as their European English counterparts by means of the GRID approach, and to compare the findings of the meaning structure with the meaning structure study conducted by Nicholls (2008).

The Classical Multidimensional Scaling (CMDS) procedure was used to compute the factor structure (components) or the coordinates of the 24 emotion terms on these factors (dimensions). The resulting structures can be compared to the results obtained in the study conducted by Nicholls (2008) to determine what each reveals about the organisation of emotion knowledge within each language group.

Nicholls' research (2008) presented a three-dimensional structure (evaluation, arousal, dominance) and a four-factor loading (positive emotion, sadness, fear, and anger) for each of the Sepedi, Xitsonga and Tshivenda language groups. In comparison to the results obtained in the Nicholls study (2008), the Sepedi language grouping in this study presented a two-dimensional structure (evaluation and arousal), where the third dimension could not be interpreted clearly, and the fourth dimension could not be interpreted at all.

In both Nicholls (2008) and this research, the first dimension interpreted with the Sepedi group was the pleasantness (or evaluation) dimension opposing pleasant to unpleasant emotion terms. In this study it was however found that the first factor before and after varimax rotation is power instead of pleasantness. A possible explanation could be that the social nature of the emotion (submissive versus dominant) is of much greater significance in the Sepedi language group than in other languages, and is a suggested point for future research. The second dimension interpreted within the Sepedi language group in both Nicholls (2008) and this research is the power (dominance or potency) dimension opposing anger/pride terms to sadness/fear terms. A possible explanation specifies possible ethnicity-specific beliefs which may have played a role (Nicholls, 2008).

According to Russell (1983, 1991) the first dimension is always on evaluation or pleasantness (positive to negative dimension). Osgood, May, and Miron (1975) moreover state that other dimensions which often emerge 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 finally, a dimension related to emotions of unpredictability (surprise terms to other terms).

In this research, the reliability score were unfortunately exceptionally low ($\alpha < 1$) in the Xitsonga and Tshivenda groups, and the decision to improve the reliabilities was made should it have been possible. The low reliability scores could possibly be attributed to the participants not understanding the meaning of emotion terms. Although professional language translators were used in this study to translate and back-translate the emotion terms from English to Sepedi, Xitsonga and Tshivenda, most respondents in these language groups lacked comprehension of the meaning of the translated emotion words, instructions and/or technical terms of reference used in the assessment, and commented that the language used was not representative of the spoken everyday language in their respective cultural groups. A possible explanation of this could be that the Xitsonga and Tshivenda groups do not understand the classical translation versus the spoken language.

A further limitation of the current study is that while the sample size was relatively large ($n=390$) and culturally relevant emotion terms were examined in each language group, the sample composition consisted of police recruits for the 2009 year only. As with the study conducted by Nicholls (2008), the results may also not have been representative of all the Sepedi-, Xitsonga- and Tshivenda-speaking South Africans due to the likelihood that method bias may have negatively impacted on the results, and that the samples represented only one out of nine provinces in South Africa.

Evidently this could be a major constraint and care should be taken to adjust the value of language used to accommodate all participants, while still conserving the intended meaning of the translated emotion terms. This study proved its limitations in terms of methodology, rather than the cultural understanding of the contents of the assessments.

Results of this research thus (a) informs the unsuitability of the current assessment instrument for use in the Xitsonga and Thivenda language groups, and that some alterations are required to the existing instrument for successful future use with these cultural groups, and (b) correlates to results found in the study by Nicholls (2008) for the Sepedi language group .

RECOMMENDATIONS

Despite the limitations of this study, the present findings suggest that future research on the culture of the Sepedi-, Tshivenda- and Xitsonga-speaking groups are required. A limited amount of accredited literary resources are currently available on the behaviour and conduct of these cultures. Also the expansion of similar South African research to encompass a larger variety of language groups across a range of different industry sectors should also be included in future research.

Future consideration should be aimed at eliminating non-standardised and biased instructions to respondents, by providing suitable training of individuals in administering the GRID instrument. A suggestion for improvement is to give consideration to designing and implementing a standardised operating procedure for test administration, to minimise subjective and possibly incorrect test administration procedures. Attention could also be paid to limiting the size of the scale to three or five points, as problems were experienced by the participants in rating an item on a nine-point scale. Present findings from this study also suggest the reconsideration of the complexity level of the translated language (and subsequent instructions) within each of these South African GRID instruments. A suggestion is to translate the GRID instrument into everyday spoken versions of the Xitsonga and Tshivenda language groups, rather than utilising the classical version of each of the languages.

Consideration can furthermore be given to designing and piloting a shortened version of the GRID in the Sepedi, Xitsonga and Tshivenda language groups, as the current version may contain too many items and be too time-consuming for the average respondent. Most participants required in excess of ninety minutes to complete the 149 questions (which includes biographical data), and appeared to lose momentum and concentration approximately 60 minutes into the assessment. Loss of impetus consequently resulted in participants responding to items in the questionnaire at random and without due and appropriate consideration.

REFERENCES

- Aue, T., Flykt, A., & Scherer, K. R. (2007). First evidence for differential and sequential efferent effects of stimulus relevance and goal conduciveness appraisals. *Biological Psychology, 74*, 347-357.
- Averill, J. R. (1980). Emotion & anxiety: Sociocultural, biological and psychological determinants. In A. O. Rorty (Ed.), *Explaining Emotions* (pp. 37-72). University of California Press.
- Boucher, J. D., & Carlson, O. E. (1980). Recognition of facial expression in three cultures. *Journal of Cross-cultural Psychology, 11*, 263-280.
- Butler, E. A., Lee, T. L., & Gross, J. J. (2007). Emotion regulation and culture: Are the social consequences of emotion suppression culture-specific? *Emotion, 7*(1), 30-48.
- Church, A. T., Katigbak, M. S., Reyes, J. A. S., & Jensen, S. M. (1998). Language and organisation of Filipino emotion concepts: Comparing emotion concepts and dimensions across cultures. *Cognition and Emotion, 12*, 63-92.
- Church, A. T., Katigbak, M. S., Reyes, J. A. S., & Jensen, S. M. (1999). The structure of affect in a non-western culture: Evidence for cross-cultural comparability. *Journal of Personality, 67*(3), 505-534.
- Claassen, N. C. W. (1997). Culture differences, politics and test bias in South Africa. *European Review of Applied Psychology, 47*, 297-307.
- Dimberg, U., & Ohman, A. (1996). Behold the wrath: Psychophysiological responses to facial stimuli. *Motivation & Emotion, 20*(2), 149-182.
- Ducci, L., Arcuri, L., Georgis, T. & Sineshaw, T. (1982). Emotion recognition in Ethiopia. *Journal of Cross-cultural Psychology, 13*, 340-351.
- Du Toit, E. S. (2008). *The manifestation of the emotion lexicon of the Afrikaans speaking group in South Africa*. Unpublished master's dissertation, North-West University, Potchefstroom Campus, Potchefstroom.
- Ekman, P. (1999). Facial Expressions. In T. Dalgleish and M. J. Power, *Handbook of Cognition and Emotion* (pp. 301-320). Chichester, John Wiley and sons.
- Ekman, P., Friesen, W. V., O'Sullivan, M., Diacoyanni-Tarlatzis, I., Krause, R., Pitcairn, T., Scherer, K., Tzavaras, A., Chan, A., Heider, K., LeCompte, W. A., Ricci-Bitti, P. E., & Tomita, M. (1987). Universals and cultural differences in the judgments of facial expressions of emotion. *Journal of Personality and Social Psychology, 53*(4), 712-717.

- Ekman, P., Sorenson, E. R. & Friesen. W. V. (1969). Pan-cultural elements in facial displays of emotions. *Science*, 164(3875), 86-88.
- Ellsworth, P. C., & Scherer, K. R. (2003). Appraisal processes in emotion. In H. H. Goldsmith (Ed.), *Handbook of affective sciences* (pp. 572-595). New York: Oxford University Press.
- Ellsworth, P. C., & Smith, C. A. (1988). Shades of joy: Patterns of appraisal differentiating pleasant emotions. *Cognition and Emotion*, 2(4), 301-331.
- Evens, B. and Coman, G. J. (1992). General versus specific measures of occupational stress: An Australian police survey. *Stress Medicine*, 9, 11–20.
- Fehr, B., & Russell, J. A. (1984). Concept of emotion viewed from a prototype perspective. *Journal of Experimental Psychology: General*, 113(3), 468-486.
- Fehr, B., Russell, J. A., & Ward, L. M. (1982). Prototypicality of emotions: A reaction of time study. *Bulletin of the Psychonomic Society*, 20, 253-254
- Finn, P. (1997). Reducing stress. An organization-centered approach. *FBI Law Enforcement Bulletin*, 66(8), 20-26.
- Fontaine, R. J., Poortinga, Y. H., Setiadi, B., & Markam, S. S. (2002). Cognitive structure of emotion in terms of Indonesia and the Netherlands. *Cognition and Emotion*, 16(1), 61-86.
- Fontaine, R. J., Scherer, K. R., & Roesch, E. (2006). Studying the meaning of emotion words through a componential emotion approach.
- Fontaine, R. J., Scherer, K. R., Roesch, E. & Ellsworth, P. C. (2007). The world of emotions is not two-dimensional. *Psychological Science*, 18(12), 1050-1057.
- Fredrickson, B. L. (2003). Positive emotions and upward spirals in organisations. In K. S. Cameron, J. E. Dutton & R. E. Quinn (Eds.), *Positive Organisational Scholarship: Foundations of a new discipline* (pp. 163-175). San Francisco: Berrett-Koehler Publishers, Inc.
- Frijda, N. H. (1987). Emotion, cognitive structure, and action tendency. *Cognition and emotion*, 1(2), 115-143.
- Frijda, N. H. (1993). The place of appraisal in emotion. In N. H. Frijda (Ed.), *Appraisal and beyond: The issue of cognitive determinants of emotion* (pp. 357-387). Hove, UK: Lawrence Erlbaum Associates Ltd.
- Frijda, N. H. (1994). Varieties of affect: Emotions and episodes, moods, and sentiments. In R. J. Davidson (Ed.), *The Nature of Emotion – Fundamental Questions* (pp. 59-67). New York: Oxford University Press.

- Frijda, N. H., Kuipers, P., & Ter Schure, L. (1989). Relations between emotion, appraisal and emotional action readiness. *Journal of Personality and Social Psychology*, *57*, 212-228.
- Frijda, N. H., & Mesquita, B. (1994). The social roles and functions of emotions. In H. R. Markus & S. Kitayama (Eds.), *Emotion and culture* (pp. 51-87). Washington, DC: American Psychological Association.
- Government Gazette, Republic of South Africa, Vol. 400, no. 19370. Cape Town, 19 October 1998.
- Gratch, J., & Marsella, S. (2004). A domain-independent framework for modeling emotion. *Cognitive Systems Research*, *5*, 269-306.
- Griffiths, P. E. (2003). Philosophy and the emotions. In A. Hatzimoysis, *Royal Institute of Philosophy supplement*, *52*, 39-67. New York: Cambridge University Press.
- Griffiths, P. E. (2004). Towards a Machiavellian theory of emotional appraisal. In P. Cruise and D. Evans, *Emotion, Evolution and Rationality* (pp.89-105). Oxford: Oxford University Press.
- Gross, J. J., & Levenson, R. W. (1993). Emotional suppression: Physiology, self-report, and expressive behavior. *Journal of Personality and Social Psychology*, *64*, 970-986.
- Gross, J. J., & Levenson, R. W. (1997). Hiding feelings: The acute effects of inhibiting negative and positive emotion. *Journal of Abnormal Psychology*, *106*, 95-103.
- Herrmann, D. J., & Raybeck, D. (1981). Similarities and differences in meaning in six cultures. *Journal of Cross-Cultural Psychology*, *12*, 194-206.
- Interpol (2000). *International crime statistics*. Lyon: Authors
- Izard, C. E. (1971). *The face of emotion*. New York, Appleton, Century, Crofts.
- Izard, C. E. (1990). Facial expressions and the regulation of emotions. *Journal of Personality and Social Psychology*, *58*(3), 487-498.
- Izard, C. E. (1991). *The psychology of emotions*. New York: Plenum Press.
- Izard, C. E. (1994). Innate and universal facial expressions: Evidence from developmental and cross-cultural research. *Psychological Bulletin*, *115*, 288-299.
- Keltner, D., & Kring, A. (1998). Emotion, social function, and psychopathology. *Review of General Psychology*, *2*, 320-342.
- Keltner, D., & Haidt, J. (1999). Social functions of emotion at four levels of analysis. *Cognition and Emotion*, *13*(5), 505-521.
- Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of behavioural research* (4th ed.). Fort Worth, TX: Harcourt College.

- Kitayama, S., & Markus, H.R. (1991). Culture and the self: Implications for cognition, emotion and motivation. *Psychological Review*, 98(2), 224-253.
- Kitayama, S., Markus, H. R., & Kurokawa, M. (2000). Culture, emotion, and well-being: Good feelings in Japan and the United States. *Cognition and Emotion*, 14(1), 93-124.
- Kleinginna, P. R., & Kleinginna, A. M. (1981). A categorized list of emotion definitions, with suggestions for a consensual definition. *Motivation and Emotion*, 5(4), 345-379.
- Kleyn, E., Rothmann, S. and Jackson, L. T. B. (2004). Expectations and satisfaction with the South African Police Service in the Rustenburg area. *South African Journal of Industrial Psychology*, 30(1), 37-45.
- Lazarus, R. S. (1991). Progress on a cognitive-motivational-relational theory of emotion. *American Psychologist*, 46(8), 819-834.
- Marsh, A. A., Ambady, N., & Kleck, R. E. (2005). The effects of fear and anger facial expressions on approach- and avoidance-related behaviors. *Emotion*, 5(1), 119-124.
- Matsumoto, D., Yoo, S. H., & Chung, J. (2007). The expression of anger across cultures. Chapter to appear in Potegal, M., Stemmler, G., and Spielberger, C. *Handbook of anger*. New York: Springer.
- McAndrew, F. T. (1986). A cross-cultural study of recognition thresholds for facial expression of emotion. *Journal of Cross-cultural Psychology*, 17, 211-224.
- Mesquita, B., & Frijda, N. H. (1992). Cultural variations in emotions: A review. *Psychological Bulletin*, 112, 179-204.
- Mesquita, B., Frijda, N. H., & Scherer, K. R. (1997). Culture and emotion. In J. W. Berry, P. R. Dasen & T. S. Saraswathi (Eds.). *Handbook of cross-cultural psychology: Basic processes and human development* (pp. 255-297). Boston, MA: Allyn and Bacon.
- Mesquita, B. & Ellsworth, P. C. (2001). *The role of culture in appraisal* in Scherer, K. R., Schorr, A., & Johnstone, T. (Eds.), *Appraisal Processes in Emotion: Theory, Methods, Research* (pp. 92-120). Oxford University Press, New York.
- Nicholls, T. (2008). *Emotion lexicon in the Sepedi, Xitsonga and Tshivenda language groups in South Africa: The impact of culture on emotion*. Unpublished master's dissertation, North-West University, Potchefstroom Campus, Potchefstroom.
- Niit, T. & Valsiner, J. (1991). Recognition of facial expressions: an experimental investigation of Ekman's model. *Acta et Commentationes Universitatis Tarvensis*, 429, 85-107.
- Nunnally, J. C., & Bernstein, I. P. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.

- Oatley, K. (2004). Emotional intelligence and the intelligence of emotions. *Psychological Inquiry, 1*, 216-238.
- O'Connor, R. M., & Little, I. S. (2002). Revisiting the predictive validity of emotional intelligence: Self report versus ability-based measures. *Personality and Individual Differences, 35*, 1893-1902.
- Osgood, C. E., May, W. H., & Miron, M. S. (1975). *Cross-cultural universals of affective meaning*. Champaign: University of Illinois Press.
- Parkinson, B. (1995). *Ideas and realities of emotion*. London and New York, Routledge.
- Roosendaal, P. (2002). SAPS officials - victims of crime: The end result... suicide. *Servamus, 95*(8), 20-23.
- Roseman, I. J. (1984). Cognitive determinants of emotion - a structural theory. In P. Shaver (Ed.), *Emotions, Relationships, and Health, 5*, 11-36. Beverly Hills, CA: Sage.
- Roseman, I. J., Antoniou, A. A., & Jose, P. E. (1996). Appraisal determinants of emotions: Constructing a more accurate and comprehensive theory. *Cognition and emotion, 10*(3), 241-277.
- Russell, J. A. (1983). Pancultural aspects of the human conceptual organization of emotions. *Journal of Personality and Social Psychology, 45*, 1281-1288.
- Russell, J. A. (1991). Culture and the categorization of emotions. *Psychological Bulletin, 110*, 426-450.
- Russell, J. A. (2003). Core affect and the construction of emotions. *Psychological Review, 110*, 145-72.
- Russell, J. A., & Feldman Barrett, L. (1999). Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. *Journal of Personality and Social Psychology, 76*(5), 805-819.
- Sander, D., Grandjean, D., & Scherer, K. R. (2005). A systems approach to appraisal mechanisms in emotion. *Neural Networks, 18*, 317-352.
- Salovey, P., Kokkonen, M., Lopes, P. N., & Mayer, J. D. (2004). Emotional intelligence: What do we know? In A. S. R. Manstead, N. Frijda, & A. Fischer (Eds.), *Feelings and emotions* (pp. 321-340). Cambridge, UK: Cambridge University Press.
- Scarantino, A. (2005). *Explicating emotions*. Unpublished PhD, University of Pittsburgh, Pittsburgh.
- Scherer, K. R. (1984a). Emotion as a multi-component process: A model and some cross-cultural data. In P. Shaver (Ed.), *Emotions, relationships, and health, 5*, 37-63. Beverly Hills, CA: Sage.

- Scherer, K. R. (1984b). On the nature and function of emotion: a component process approach. In Scherer, K.R., Ekman, P. (Eds.), *Approaches to Emotion* (pp. 293-318). Erlbaum, Hillsdale, NJ.
- Scherer, K. R. (1986a). Asking about emotional experiences: rationale and methods. In K. R. Scherer, H. G. Wallbott & A. B. Summerfield (Eds.), *Experiencing emotion: A cross-cultural study* (pp. 3-27). Cambridge: Cambridge University Press.
- Scherer, K. R. (1986b). Vocal affect expression: a review and a model for future research. *Psychological Bulletin*, 99, 143-165.
- Scherer, K. R. (1987). Toward a dynamic theory of emotion: The component process model of affective states. *Geneva Studies in Emotion and Communication*, 1(1), 1-98.
- Scherer, K. R. (1988). Criteria for emotion-antecedent appraisal: A review. In N. H. Frijda (Ed.), *Cognitive perspectives on emotion and motivation* (pp. 89-126). Dordrecht: Nijhoff.
- Scherer, K. R. (1999). Appraisal theories. In M. Power (Ed.), *Handbook of Cognition and Emotion* (pp. 637-663). Chichester, UK: John Wiley & Sons.
- Scherer, K. R. (2000). Psychological models of emotion. In J. Borod (Ed.), *The neuropsychology of emotion* (pp. 137-162). New York: Oxford University Press.
- Scherer, K. R. (2001). Appraisal considered as a process of multi-level sequential checking. In Scherer, K. R., Schorr, A., & Johnstone, T. (Eds.), *Appraisal Processes in Emotion: Theory, Methods, Research* (pp. 92-120). Oxford University Press, New York.
- Scherer, K. R. (2004). Feelings integrate the central representation of appraisal driven response organization in emotion. In A.S.R. Manstead, N. H. Frijda and A. H. Fischer (Eds.), *Feelings and emotions: The Amsterdam Symposium* (pp. 136-157). Cambridge University Press.
- Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information*, 44, 695-729.
- Scherer, K. R., & Ellgring, H. (2007). Multimodal expression of emotion: Affect programs or componential appraisal patterns? *Emotion*, 7(1), 158-177.
- Scherer, K. R., Ellsworth, P., Poortinga, Y. H., Dasen, P., Fontaine, J. R. J., & Breugelmans, S. (2005). *The international consortium for cross-cultural research on affect*. Retrieved October 16, 2009, from <http://www.iccra.net>
- Scherer, K. R., Wallbott, H. G., Matsumo, D., & Kudoh, T. (1988). Antecedents of and reactions to emotions in the United States and Japan. *Journal of Cross-Cultural Psychology*, 19, 267-286.

- Shaughnessy, J. J. & Zachmeister, E. B. (1997). *Research methods in psychology* (4th ed.). New York: McGraw-Hill
- Shaver, P., Schwartz, J., Kirson, D. & O'Connor, C. (1987). Emotional knowledge: Further exploration of a prototype approach. *Journal of Personality and Social Psychology*, *52*(6), 1061-1086.
- Shiota, M. N., Campos, B., Keltner, D., & Hertenstien, M. J. (2004). Positive emotion and the regulation of interpersonal relationships. In P. Philippot & R. S. Feldman (Eds.), *The regulation of emotion* (pp. 127-155). Mahwah, NJ: Erlbaum.
- Shipper, F. M., Kincaid, J. F., Rotondo, D. M., & Hoffman, R. C. (2003). A cross-cultural exploratory study of linkage between emotional intelligence and management effectiveness. *International Journal of Organizational Analysis*, *11*(3), 171-193.
- Silverman, B. G. (2002). Human behavior models for gametheoretic agents: Case of crowd tipping. *Cogn. Sci. Q.*, Fall.
- Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of personality and social psychology*, *48*(4), 813-838.
- Smith, C. A., & Lazarus, R. S. (1993). Appraisal components, core relational themes, and the emotions. *Cognition and Emotion*, *7*, 233-269.
- Statistics South Africa (2004). *Census 2004: Key results*. Retrieved November 13, 2008, from <http://www.statssa.org.za>.
- Statistics South Africa (2007). *Census 2007: Key results*. Retrieved July 22, 2009, from <http://www.statssa.org.za>.
- Stephens, C., & Long, N. (2000). Communication with police supervisors and peers as a buffer to work-related traumatic stress. *Journal of Organizational Behavior*, *21*, 407-424.
- Tran, V. (2004). *The influence of emotions on decision-making processes in management teams*. Unpublished PhD, University of Geneve, Geneve.
- VanReekum, C. M., & Scherer, K. R. (1997). Levels of processing for emotion antecedent appraisal. In G. Matthews (Ed.), *Cognitive Science Perspectives on Personality and Emotion* (pp. 259-300). Amsterdam: Elsevier Science.
- Watson, D., & Clark, L. A. (1997). Measurement and mismeasurement of mood: Recurrent and emergent issues. *Journal of Personality Assessment*, *68*, 267-296.
- Wierzbicka, A. (1999). *Emotions across languages and cultures*. New York: Cambridge University Press.

CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

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

3.1 CONCLUSIONS

The *first* objective of this research was to ascertain what the emotions components in the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the SAPS are. Scherer (2005) categorised the emotion components as the cognitive component (appraisal), the neurophysiological component (bodily symptoms), the motivational component (action tendencies), the motor expression component (facial and vocal expression), and the subjective feeling component (emotional experience). Two dimensions were clearly identified in the Sepedi language group, namely specifically the evaluation-pleasantness dimension and the potency dimension.

The first (evaluation-pleasantness) dimension is, according to Fontaine, Scherer, Roesch, and Ellsworth (2007) characterised by the cognitive component (intrinsic appraisals of pleasantness and goal conduciveness) and the motivational component (action tendencies of approach versus avoidance). In this dimension, emotions such as joy, happiness, love, pleasure, contentment and interest are opposed to emotions such as anger, jealousy, irritation, pride, hate and disgust. “Jealousy” in this study on the Sepedi language group proved to rate high on potency, which indicates that it is a high outlier position in this language group.

The second (potency) dimension is categorised by appraisals of control, which guide feelings of control or limitations, interpersonal supremacy or deference, which includes the urge to proceed or desist from action, alterations in the tempo and volume of speech, and parasympathetic symptoms (Fontaine et al., 2007). On this dimension, emotions such as pride, anger, and contempt are opposed to sadness, shame, and despair, and this dimension can therefore be interpreted in terms of potency control (Fontaine et al., 2007). Interestingly,

“pride” manifested in a strong negative mode within the Sepedi group, and this could be attributed to either a general negative meaning of the word “pride” within this language group (translated as interpersonal supremacy) or that the meaning of “pride” in the contexts used in the assessment was interpreted negatively.

The *second* objective of this research was to determine what the relevant and representative features for each emotion component (such as appraisals, action tendencies, subjective experiences) that have been encoded in the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the SAPS are. Language is sensitive to cultural dynamics, and one should understand emotions as they are characterised in every day life within a specific cultural context (Church, Katigbak, Reyes, & Jensen, 1998).

According to Du Toit (2008), earlier research verified the existence of some universal features of emotion in cultures, namely action readiness, particular emotional reactions, and emotion regulation. Emotion components identified within the Sepedi language group were feelings of weakness, irrevocable loss, being in danger, nervousness, wanting to disappear or hide from others, pressing the lips together, feeling powerless, having one’s jaw drop, withdrawal from others or things, resistance against others or things, wanting someone to provide help or support, inconsistency with expectations, wanting to destroy whatever was close, wanting to move and tackle a situation, wanting to take care of another person or a situation, wanting to do damage, hit, or say something that hurts, moving toward people or things, experiencing consequences negative for a person, feeling an urge to be attentive to what is going on, feeling an urge, feeling negative, increased volume of voice, wanting to comply to someone else's wishes, wanting to hand over the initiative to someone else, trying to control the intensity of the emotional feeling, wanting to be in command of others, believing that something has been caused by a supernatural power, and wanting to break contact with others. An emotion component which did not appear to be significant is wanting to take initiative her/himself.

Representative features for each emotion component which loaded on both dimensions in the Sepedi language group are therefore bodily symptoms, action tendencies, facial and vocal expression, and emotional experience.

The *third* objective of this research was to determine the extent to which the emotion words refer to specific positions (dimensions) on each of the emotion features in the Sepedi, Xitsonga and Tshivenda language groups in the SAPS. According to Russell (1991) structural analysis, factor analysis and multidimensional scaling of emotion terms typically result in two or three dimensions. Furthermore, emotion terms can be systematically ordered on a positive-negative dimension with the first dimension most often presenting as pleasantness or valence. In the present study, linguistic and cognitive variances as well as cultural specificity was found for some of the emotion terms.

A two-dimensional representation could be well interpreted for the Sepedi group and was decided upon on the basis of the interpretability of the representation. The first dimension is the pleasantness (or evaluation) dimension opposing pleasant to unpleasant emotion terms. The second dimension identified is the potency dimension, and can be interpreted in terms of potency-control (Fontaine et al., 2007). The third and fourth dimensions could not be interpreted clearly. An interesting finding is that the first factor before and after varimax rotation is not pleasantness, but power. A possible explanation could be that the social nature of the emotion (submissive versus dominant) is of much greater significance in the Sepedi language group than in other languages.

In a study conducted by Fontaine et al., (2007) whereby three European languages were evaluated, they concluded that in excess of two dimensions are required to account for the space of emotion. Their explorative revision only capitulated two dimensions, and would hence be deemed a false depiction of the emotion structure of the Sepedi group.

The *fourth* objective of this research was to determine the similarities and differences in the emotion experiences based on the results evident from the GRID. As the reliabilities for the Xitsonga and Tshivenda language groups were exceedingly low, it was decided not to conduct descriptive statistical analyses for these language groups. One could thus not conclusively state the similarities and differences in emotion experiences between the Sepedi, Xitsonga and Tshivenda cultural groups.

The *fifth* objective of this research was to compare the emotions meaning structure between the “bottom-up” and “top-down” GRID approach between the Sepedi, Xitsonga and Tshivenda language groups in the SAPS. In the light of the extremely low reliabilities for the

Xitsonga and Tshivenda cultural groups, a comparison between this research and the research conducted by Nicholls (2008) on these two language groups was impossible.

In following a bottom-up approach, Nicholls (2008) however identified a four-dimensional representation for the Sepedi language group, similar to that of the GRID, the first dimension being a pleasantness (or evaluation) dimension opposing pleasant to unpleasant emotion terms, and the second dimension a power (dominance or potency) dimension opposing anger/pride terms to sadness/fear terms (Scherer, 2005). In this research the first dimension in the Sepedi cultural group correlates with Nicholls' finding (2008) in that it was interpreted as the pleasantness (or evaluation) dimension. The second dimension interpreted on the Sepedi group in this research also corresponds to Nicholls' findings (2008), in that this dimension manifested as the potency dimension, and can be interpreted in terms of potency-control (Fontaine et al., 2007). In this research, it was however expected, similar to the Nicholls study (2008), to extract four dimensions on all three language groups.

3.2 LIMITATIONS

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

The results of this study indicated methodological difficulties in that the GRID assessment administration for the Sepedi, Xitsonga and Tshivenda groups may have impacted negatively on the findings of this research. Moreover, the use of classical translations of the Xitsonga and Tshivenda languages may have also negatively impacted the results of this study. The cross-cultural assessment problems were well represented in this study, and were reasonably successful in assessing the meaning of emotions in the Sepedi language group.

With regard to the literature study, restricted scientific information on the Sepedi, Xitsonga and Tshivenda cultures in South Africa could be generated as a small amount of studies have been conducted on these cultures in the past. The researcher was thus incapable to present a comprehensive view on these language or cultural groups as it is ingrained 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 culture of the three languages concerned being required in South Africa, as very little information on the customs and traditions of these cultures are available in literature.

Future extensive qualitative research on emotion experiences as it occurs on a daily basis would be helpful. Consideration can furthermore be given to the standardisation of the GRID administration procedure, so as to minimise or eliminate interpretation bias by the test administrator and/or the participants undergoing the assessment. Attention could also be paid to limiting the size of the rating scale to three or five points, as problems were experienced by the participants in rating an item on a nine-point scale.

Present findings from this study also suggest the reconsideration of the complexity level of the translated language (and subsequent instructions) within each of these South African GRID instruments. A suggestion is to translate the GRID instrument into everyday spoken versions of the Xitsonga and Tshivenda language groups, rather than utilising the classical version of each of the languages.

Thought can be given to designing and piloting a shortened version of the GRID in the Sepedi, Xitsonga and Tshivenda language groups, as the current version may contain too many items and be too time-consuming for the average respondent, which results in participants responding to items in the questionnaire at random and without due and appropriate consideration.

It would be useful to study the correspondence between the concrete use of emotion words to describe one's feelings and the underlying psychological processes as well as personality attributes. This could furthermore be used for the construction of personality and emotional competence instruments and measurement tools, and may inform the translation of the emotion words across cultural groups (as well as being used for studying the impact of culture in the emotion domain).

3.3.2 Recommendations for organisations

Future prospects, following the completion of a South African GRID could include the development of an evidence-based intervention programme to address the role of emotions in the work context, and to raise awareness and familiarise employees with similarities and differences in the emotions of South African ethno-cultural groups in both the government and private sectors in South Africa. This could, in turn, have a significant positive impact on consumer service delivery and organisational wellness and growth.

REFERENCES

- Church, A. T., Katigbak, M. S., Reyes, J. A. S., & Jensen, S. M. (1998). Language and organisation of Filipino emotion concepts: Comparing emotion concepts and dimensions across cultures. *Cognition and Emotion, 12*, 63-92.
- Du Toit, E. S. (2008). *The manifestation of the emotion lexicon of the Afrikaans speaking group in South Africa*. Unpublished master's dissertation, North-West University, Potchefstroom Campus, Potchefstroom.
- Fontaine, R. J., Scherer, K. R., Roesch, E. & Ellsworth, P. C. (2007). The world of emotions is not two-dimensional. *Psychological Science, 18(12)*, 1050-1057.
- Nicholls, T. (2008). *Emotion lexicon in the Sepedi, Xitsonga and Tshivenda language groups in South Africa: The impact of culture on emotion*. Unpublished master's dissertation, North-West University, Potchefstroom Campus, Potchefstroom.
- Russell, J. A. (1991). Culture and the categorization of emotions. *Psychological Bulletin, 110*, 426-450.
- Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information, 44*, 695-729.

CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

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

3.1 CONCLUSIONS

The *first* objective of this research was to ascertain what the emotions components in the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the SAPS are. Scherer (2005) categorised the emotion components as the cognitive component (appraisal), the neurophysiological component (bodily symptoms), the motivational component (action tendencies), the motor expression component (facial and vocal expression), and the subjective feeling component (emotional experience). Two dimensions were clearly identified in the Sepedi language group, namely specifically the evaluation-pleasantness dimension and the potency dimension.

The first (evaluation-pleasantness) dimension is, according to Fontaine, Scherer, Roesch, and Ellsworth (2007) characterised by the cognitive component (intrinsic appraisals of pleasantness and goal conduciveness) and the motivational component (action tendencies of approach versus avoidance). In this dimension, emotions such as joy, happiness, love, pleasure, contentment and interest are opposed to emotions such as anger, jealousy, irritation, pride, hate and disgust. “Jealousy” in this study on the Sepedi language group proved to rate high on potency, which indicates that it is a high outlier position in this language group.

The second (potency) dimension is categorised by appraisals of control, which guide feelings of control or limitations, interpersonal supremacy or deference, which includes the urge to proceed or desist from action, alterations in the tempo and volume of speech, and parasympathetic symptoms (Fontaine et al., 2007). On this dimension, emotions such as pride, anger, and contempt are opposed to sadness, shame, and despair, and this dimension can therefore be interpreted in terms of potency control (Fontaine et al., 2007). Interestingly,

“pride” manifested in a strong negative mode within the Sepedi group, and this could be attributed to either a general negative meaning of the word “pride” within this language group (translated as interpersonal supremacy) or that the meaning of “pride” in the contexts used in the assessment was interpreted negatively.

The *second* objective of this research was to determine what the relevant and representative features for each emotion component (such as appraisals, action tendencies, subjective experiences) that have been encoded in the Sepedi-, Xitsonga- and Tshivenda-speaking groups in the SAPS are. Language is sensitive to cultural dynamics, and one should understand emotions as they are characterised in every day life within a specific cultural context (Church, Katigbak, Reyes, & Jensen, 1998).

According to Du Toit (2008), earlier research verified the existence of some universal features of emotion in cultures, namely action readiness, particular emotional reactions, and emotion regulation. Emotion components identified within the Sepedi language group were feelings of weakness, irrevocable loss, being in danger, nervousness, wanting to disappear or hide from others, pressing the lips together, feeling powerless, having one’s jaw drop, withdrawal from others or things, resistance against others or things, wanting someone to provide help or support, inconsistency with expectations, wanting to destroy whatever was close, wanting to move and tackle a situation, wanting to take care of another person or a situation, wanting to do damage, hit, or say something that hurts, moving toward people or things, experiencing consequences negative for a person, feeling an urge to be attentive to what is going on, feeling an urge, feeling negative, increased volume of voice, wanting to comply to someone else's wishes, wanting to hand over the initiative to someone else, trying to control the intensity of the emotional feeling, wanting to be in command of others, believing that something has been caused by a supernatural power, and wanting to break contact with others. An emotion component which did not appear to be significant is wanting to take initiative her/himself.

Representative features for each emotion component which loaded on both dimensions in the Sepedi language group are therefore bodily symptoms, action tendencies, facial and vocal expression, and emotional experience.

The *third* objective of this research was to determine the extent to which the emotion words refer to specific positions (dimensions) on each of the emotion features in the Sepedi, Xitsonga and Tshivenda language groups in the SAPS. According to Russell (1991) structural analysis, factor analysis and multidimensional scaling of emotion terms typically result in two or three dimensions. Furthermore, emotion terms can be systematically ordered on a positive-negative dimension with the first dimension most often presenting as pleasantness or valence. In the present study, linguistic and cognitive variances as well as cultural specificity was found for some of the emotion terms.

A two-dimensional representation could be well interpreted for the Sepedi group and was decided upon on the basis of the interpretability of the representation. The first dimension is the pleasantness (or evaluation) dimension opposing pleasant to unpleasant emotion terms. The second dimension identified is the potency dimension, and can be interpreted in terms of potency-control (Fontaine et al., 2007). The third and fourth dimensions could not be interpreted clearly. An interesting finding is that the first factor before and after varimax rotation is not pleasantness, but power. A possible explanation could be that the social nature of the emotion (submissive versus dominant) is of much greater significance in the Sepedi language group than in other languages.

In a study conducted by Fontaine et al., (2007) whereby three European languages were evaluated, they concluded that in excess of two dimensions are required to account for the space of emotion. Their explorative revision only capitulated two dimensions, and would hence be deemed a false depiction of the emotion structure of the Sepedi group.

The *fourth* objective of this research was to determine the similarities and differences in the emotion experiences based on the results evident from the GRID. As the reliabilities for the Xitsonga and Tshivenda language groups were exceedingly low, it was decided not to conduct descriptive statistical analyses for these language groups. One could thus not conclusively state the similarities and differences in emotion experiences between the Sepedi, Xitsonga and Tshivenda cultural groups.

The *fifth* objective of this research was to compare the emotions meaning structure between the “bottom-up” and “top-down” GRID approach between the Sepedi, Xitsonga and Tshivenda language groups in the SAPS. In the light of the extremely low reliabilities for the

Xitsonga and Tshivenda cultural groups, a comparison between this research and the research conducted by Nicholls (2008) on these two language groups was impossible.

In following a bottom-up approach, Nicholls (2008) however identified a four-dimensional representation for the Sepedi language group, similar to that of the GRID, the first dimension being a pleasantness (or evaluation) dimension opposing pleasant to unpleasant emotion terms, and the second dimension a power (dominance or potency) dimension opposing anger/pride terms to sadness/fear terms (Scherer, 2005). In this research the first dimension in the Sepedi cultural group correlates with Nicholls' finding (2008) in that it was interpreted as the pleasantness (or evaluation) dimension. The second dimension interpreted on the Sepedi group in this research also corresponds to Nicholls' findings (2008), in that this dimension manifested as the potency dimension, and can be interpreted in terms of potency-control (Fontaine et al., 2007). In this research, it was however expected, similar to the Nicholls study (2008), to extract four dimensions on all three language groups.

3.2 LIMITATIONS

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

The results of this study indicated methodological difficulties in that the GRID assessment administration for the Sepedi, Xitsonga and Tshivenda groups may have impacted negatively on the findings of this research. Moreover, the use of classical translations of the Xitsonga and Tshivenda languages may have also negatively impacted the results of this study. The cross-cultural assessment problems were well represented in this study, and were reasonably successful in assessing the meaning of emotions in the Sepedi language group.

With regard to the literature study, restricted scientific information on the Sepedi, Xitsonga and Tshivenda cultures in South Africa could be generated as a small amount of studies have been conducted on these cultures in the past. The researcher was thus incapable to present a comprehensive view on these language or cultural groups as it is ingrained 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 culture of the three languages concerned being required in South Africa, as very little information on the customs and traditions of these cultures are available in literature.

Future extensive qualitative research on emotion experiences as it occurs on a daily basis would be helpful. Consideration can furthermore be given to the standardisation of the GRID administration procedure, so as to minimise or eliminate interpretation bias by the test administrator and/or the participants undergoing the assessment. Attention could also be paid to limiting the size of the rating scale to three or five points, as problems were experienced by the participants in rating an item on a nine-point scale.

Present findings from this study also suggest the reconsideration of the complexity level of the translated language (and subsequent instructions) within each of these South African GRID instruments. A suggestion is to translate the GRID instrument into everyday spoken versions of the Xitsonga and Tshivenda language groups, rather than utilising the classical version of each of the languages.

Thought can be given to designing and piloting a shortened version of the GRID in the Sepedi, Xitsonga and Tshivenda language groups, as the current version may contain too many items and be too time-consuming for the average respondent, which results in participants responding to items in the questionnaire at random and without due and appropriate consideration.

It would be useful to study the correspondence between the concrete use of emotion words to describe one's feelings and the underlying psychological processes as well as personality attributes. This could furthermore be used for the construction of personality and emotional competence instruments and measurement tools, and may inform the translation of the emotion words across cultural groups (as well as being used for studying the impact of culture in the emotion domain).

3.3.2 Recommendations for organisations

Future prospects, following the completion of a South African GRID could include the development of an evidence-based intervention programme to address the role of emotions in the work context, and to raise awareness and familiarise employees with similarities and differences in the emotions of South African ethno-cultural groups in both the government and private sectors in South Africa. This could, in turn, have a significant positive impact on consumer service delivery and organisational wellness and growth.

REFERENCES

- Church, A. T., Katigbak, M. S., Reyes, J. A. S., & Jensen, S. M. (1998). Language and organisation of Filipino emotion concepts: Comparing emotion concepts and dimensions across cultures. *Cognition and Emotion, 12*, 63-92.
- Du Toit, E. S. (2008). *The manifestation of the emotion lexicon of the Afrikaans speaking group in South Africa*. Unpublished master's dissertation, North-West University, Potchefstroom Campus, Potchefstroom.
- Fontaine, R. J., Scherer, K. R., Roesch, E. & Ellsworth, P. C. (2007). The world of emotions is not two-dimensional. *Psychological Science, 18*(12), 1050-1057.
- Nicholls, T. (2008). *Emotion lexicon in the Sepedi, Xitsonga and Tshivenda language groups in South Africa: The impact of culture on emotion*. Unpublished master's dissertation, North-West University, Potchefstroom Campus, Potchefstroom.
- Russell, J. A. (1991). Culture and the categorization of emotions. *Psychological Bulletin, 110*, 426-450.
- Scherer, K. R. (2005). What are emotions? And how can they be measured? *Social Science Information, 44*, 695-729.