SCHOOL CLIMATE INSTRUMENT:
A PILOT STUDY IN PRETORIA AND ENVIRONS

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Submitted in partial fulfilment of the requirements for the degree of
M.A. (RESEARCH PSYCHOLOGY)

In the Department of Psychology

Faculty of Humanities

University of Pretoria

PRETORIA

October 2002

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Acknowledgements

I would like to thank my study leaders, Prof Maree and Dr Howie, who both challenged me and created a safe space for me to grow. Their encouragement and support meant so much to me as I was trying to come to grips with what it was that I was trying to say.

Then to my husband who has been a star during this process, thank-you for sharing my frustrations and joy as well as for constantly supporting me.

To my family, thank-you for your understanding and support.

To my friend and colleague, Tina, thank-you for assisting me wherever you could.

To Zita, thank-you for assisting with the data capturing.

Thank-you to Jennifer Meintjies for assisting with the translation of the summary.

Thank-you to the specialists in the field of psychology, education and instrument development for your willingness to peruse and comment on the questionnaire that was develop.

To the Department of Education who were gracious enough to allow me to go into the schools.

Last but by no means least to the schools that were kind enough to agree to participate in this study. Thank-you for your friendliness and willingness to open your doors to me.

Summary

School climate has been of interest internationally for a number of years not only because school climate has been linked to the effectiveness of the school but also to learner achievement. School climate was the focus of this research study and in particular the development of a school climate questionnaire for learners in Pretoria schools. Prominent factors influencing school climate were identified from literature and six of the more prominent factors were selected for study namely cohesiveness, trust, respect, control, violence and physical infrastructure. These were conceptualised in terms of systems theory using an input-throughput-output model. Input into the system is the learners, educators, principals, policies on school-level as well as policies on National level and resources. The throughput was considered as the process of interaction between the learners, educators and principals and how this influences cohesiveness, trust, respect, control, violence and physical infrastructure. The interplay results in behaviours, perceptions and attitudes of the principal, educators and learners, which influences the atmosphere within the school (output). Survey research was undertaken in order to collect data on the six factors from the perspective of the learner. A self-administered questionnaire was used and was developed based on numerous school climate instruments.

These instruments were studied and items associated to the factors were identified for possible inclusion in the questionnaire. The items chosen were then taken and rephrased to make them relevant for the South African context. Experts in the fields of psychology, education and instrument development rated the items in terms of appropriateness, relevance, language and readability. The comments were then included and the questionnaire piloted in one school in Pretoria. Based on an initial analysis minor changes were made to the questionnaire, which was then administered in three schools in and around Pretoria. In total 608 learners participated in the study, 166 learners in the pilot study and 442 learners in the main study.

Some problems were identified with the questionnaire, which included the language of the items and that of the learners. The instrument was found to have face and content validity. The initial reliability analysis indicated that some of the factors attained reliability coefficients that were lower than the set limits. As a result item-total analysis was undertaken and it was found that certain items did not correlate well with the scale. A factor analysis was also undertaken for further scale development. Five factors were extracted using principal components analysis; the previously conceptualised factors were incorporated in different ways than anticipated.   These factors were conceptualised and named Interaction, Cohesion, Learning environment (which is on a classroom level) and Resources.   The only factor that concurred with the original conceptualized factors was Violence.   The developed questionnaire clearly depicted these individual aspects of school climate and could distinguish between the different school contexts.

Key Words

School climate

Cohesiveness

Trust

Respect

Control

Violence

Physical Infrastructure

Systems theory

Survey Research

Reliability analysis

Factor analysis

Cohesion

Interaction

Resources

Learning Environment

Opsomming

Daar is al 'n paar jaar lank internasionale belangstelling in skoolklimaat, nie net omdat skoolklimaat verband hou met die effektiwiteit van die skool nie, maar ook met dit wat die leerders bereik. Die fokus van hierdie navorsingstudie was skoolklimaat en die ontwikkeling van 'n skoolklimaatvraelys vir leerders in skole in Pretoria. Prominente faktore wat skoolklimaat beïnvloed is geïdentifiseer uit bestaande literatuur en ses van die meer prominente faktore is geselekteer vir verdere bestudering. Die ses faktore is: samehorigheid, vertroue, respek, beheer, geweld en fisiese infrastruktuur. Hierdie faktore is gekonseptualiseer in terme van sisteem teorie met die gebruik van 'n inset-deurset-uitset model. Insette in die sisteem is die leerders, die opvoeders, skoolhoofde, beleid op skoolvlak sowel as beleid op Nasionale vlak en hulpbronne. Die deursette is gesien as die proses van interaksie tussen die leerders, die opvoeders en die skoolhoofde en hoe dit samehorigheid, vertroue, respek, beheer, geweld en fisiese infrastruktuur beïnvloed. Die interaksie het tot gevolg die gedrag, persepsie en houding van die skoolhoof, opvoeders en leerders, wat die atmosfeer van die skool beïnvloed (uitset). Opnamenavorsing is gedoen sodat data versamel kon word aangaande die ses faktore vanuit die perspektief van die leerder. 'n Vraelys is gebruik en ontwikkel op grond van verskeie skoolklimaat instrumente.

Hierdie instrumente is bestudeer en items wat met die faktore verband hou is geïdentifiseer vir moontlike insluiting in die vraelys. Die gekose items is herbewoord om dit relevant te maak vir die Suid Afrikaanse konteks. Kenners op die gebied van Sielkunde, Opvoedkunde en instrumenteontwikkeling het die items beoordeel in terme van gepastheid, relevansie, taal en leesbaarheid. Die opmerkings is in die vraelys ingesluit en die vraelys is in een skool afgeneem. Op grond van die aanvanklike analise is aanpassings aan die vraelys gemaak, wat in drie skole in en om Pretoria afgeneem is. In totaal het 608 leerders aan die studie deelgeneem, 166 in die eerste studie en 442 in die hoofstudie.

Probleme met die vraelys het die taal van die items en dié van die leerders ingesluit. Daar is bevind dat die meetinstrument gesigs- en inhoudsgeldigheid het. Die aanvanklike betroubaarheidsanalise het egter gewys dat van die faktore laer betroubaarheidskoëffisiënte het as wat vereis word.. As gevolg daarvan is die verband tussen die item en totaaltelling ondersoek en is bevind dat sekere items nie goed met die skaal gekorreleer het nie. 'n Faktoranalise is ook onderneem vir verdere skaalontwikkeling. Vyf faktore is geïdentifiseer deur middel van hoofkomponentanalise; die vorige gekonseptualiseerde faktore is geïnkorporeer op ander wyses as wat verwag is. Hierdie faktore is Interaksie, Kohesie, Leeromgewing (wat op 'n klaskamervlak is) en Hulpbronne genoem. Die enigste faktor wat met die oorspronklike konsep-faktore ooreengestem het was Geweld. Die ontwikkelde vraelyste het duidelik hierdie aspekte van skoolklimaat uitgebring en kon onderskei tussen die verskillende skoolkontekste.

Sleutelwoorde

Skoolklimaat

Samehorigheid

Vertroue

Respek

Beheer

Geweld

Fisiese Infrastruktuur

Sisteemteorie

Opname navorsing

Betroubaarheidsanalise

Faktoranalise

Kohesie

Interaksie

Hulpbronne

Leeromgewing

Chapter 1

Introduction

> The efficiency of a school depends on more than just the availability of classrooms, textbooks and a relevant curriculum. It also depends on intangible human elements (Bron, Combrink, Henning, Perold & Wessels, 1998:3).

The school system in South Africa has undergone dramatic transformation since the first democratic elections that took place in 1994. Many policies have been introduced to facilitate the change process and many challenges face the schools in South Africa to a varying degree; amongst these are a shortage of funds and basic resources, as well as crime and violence taking place within school grounds. It is against this backdrop that this research takes place, specifically focusing on school climate and factors that may be indicators of school climate.

The main objective of this research was to develop a questionnaire for learners in Pretoria schools exploring factors and dimensions that may be indicators of school climate. Six factors were included for investigation namely cohesiveness, trust, respect, control, violence and physical infrastructure. A secondary objective was to validate the questionnaire for conditions in South Africa and a third objective was to explore school climate according to the factors based on a valid and reliable questionnaire. This study aimed at operationalising and describing school climate in terms of systems theory using a number of schools in the Pretoria region, where school climate can be viewed as a composite of variables or factors, which are defined and perceived by the members of the education system. These factors can be broadly conceived as norms of the system, expectations that are held by various members of the system, interactions taking place between members of the system which are perceived by the members of the system

and communicated to the members of the system (Brookover & Erickson, 1975).

Owen and Taljaard (1996) state that the successful construction of common measures for the various population groups in South Africa is one of the major challenges to be met.   Due to the nature of this research study, a questionnaire was constructed to investigate possible indicators of school climate. In the chapter to follow various definitions of school climate will be given according to literature.   The definition of school climate as operationalised for this study is seen as the atmosphere of the school, the attitudes and interaction of the principal, educators' and learners which influence their perceptions and affects their behaviour towards one another within the school setting.

In order to operationalise the concept of school climate, a literature study was conducted and found that certain factors reoccur in many of the studies (Anderson, 1982; Gonder & Hymes, 1994; Johnson, Johnson, Kranch and Zimmerman, 1999; Peterson, 1997; Sweeney, 1992).   Six of these factors were chosen for inclusion in this study due to their prominence in other studies conducted internationally.   Previous research on these factors will be expanded upon in chapter 2 but an introduction to how these factors can be defined is briefly given.   The first factor is *cohesiveness*, which can be defined as groups within the school forming a positive unity (Gonder & Hymes, 1994). *Trust* is the extent to which confidentiality, honesty, expertise and fairness are exhibited (Sweeney, 1992), while *respect* may be viewed as a consideration of needs and values for every person in the school setting (Sweeney, 1992). *Control* is the feeling of having a sufficient influence on events and activities (Sweeney, 1992). According to the World Health Organisation (in Stevens, Wyngaard and van Niekerk, 2001) *violence* can been defined as the "intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maladjustment or deprivation" (p.145).   Creemers and Reezigt (1999) view *physical infrastructure* as the physical environment of the school for example

the size of the school and according to Anderson (1982) includes the buildings and equipment of the school.

According to the National Association of Secondary School Principals (2001), in the United States of America, climate is a relatively enduring pattern of shared perceptions held by the principal, educators, learners and parents about the physical, social and learning environments of the school which may influence the processes and outcomes that occur. These perceptions about discipline, school buildings and state of classrooms are what most people believe and these tend to be persistent and stable over time. School climate has been a topic of interest internationally for more than a century mainly because of its effect on the learner and learning environment. The school is the common meeting place for future generations as well as where adults outside of the family unit can interact with youth, to help shape their futures through positive role modelling and continuous interaction (Freiberg, 1999). Every school has a climate that is predominant and is a real factor in the lives of the learners that attend the school, the staff of the school, the parents and community. According to Witcher (1993), educational literature supports the importance of school climate and using school climate measures as predictors of school effectiveness. School climate is of importance because it is related to performance and pupil achievement in general (Gonder & Hymes, 1994; Sweeney, 1992).

The chapter begins with the initial problem statement (1.1), which provides the context for the study and this is followed by a brief description of the current situation in South African schools (1.2). Section 1.3 is a discussion on the main government policies that have been written for education and finally an overview of the study is given (1.4).

1.1. Initial problem statement

The main aim of this study was to develop a reliable and valid questionnaire for assessing school climate in the South African context. However, for the purposes of this dissertation learners in schools in the Pretoria area were

chosen to participate. Factors believed to be indicators of school climate were also explored. Thus far, very little research has been done in South Africa to try to identify the characteristics that may be indicators of school climate in South African schools.

School climate data could provide useful information and an empirical basis for the improvement of schools within South Africa. The school climate data could be utilised as explanatory measures of poor performance in schools and can be used by policy-makers as well as researchers alike for identifying certain problem areas in schools when monitoring the performance of the learners within large number of schools in South Africa. It is believed that this could be achieved with a valid and reliable instrument designed specifically for the South African context. Through the analysis of school climate and acting on the results, change could be brought about. With the identification of problem areas, strategies can be developed in order to target these so that the effectiveness of the school could be improved. This study investigated the degree to which it is possible to develop a questionnaire, using factors that have been identified from literature internationally that have shown to be indicators of school climate, which is valid and reliable in a society, which is as diverse as that of South Africa.

1.2. Background on South African schools

Perold (2001) states that if one wants to understand what is happening in South African schools one has to take into account how educators and learners understand the situation that they find themselves in. A large number of schools within South Africa suffer serious shortcomings, ranging from poor access to water, telephones and electricity. According to the survey of school needs undertaken in 2000, 16.6% of learners were without toilet facilities, 28% of the schools had no access to water, only 57.1% of schools had access to electricity and 35.5% of the schools reported no access to any form of telecommunications (National Department of Education, 2001). After forty years of segregated schooling, certain problems are now experienced, apart from the lack of adequate resources, such as racial

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conflicts and a conflict of cultures. A study conducted by van Heerden (1999) found that: "pupils' perceptions of the school influence their behaviour and matters of identity influence how pupils relate to each other" (p.75). This has an effect on the interaction that takes place between the participants and the relationship between them, which in turn has an effect on the climate of the school.

The climate of a school, according to Gonder and Hymes (1994), refers to the atmosphere within a school and reflects the attitudes (such as trust, respect and cohesiveness for example) that are shared by members of subgroups such as the learners, educators, principal and school population as a whole. Naidoo (in Harber & Muthukrishna, 2000) is of the opinion that many African learners have a lack of confidence and trust in the schools, which they perceive ignore problems of race. According to Monyooe (1999) South Africa has not only suffered from decades of racial oppression but also from serious social relations problems that have culminated in disrespect for authority figures in schools, as well as a lack of enthusiasm and commitment by educators and learners alike. Violence in many schools is rife according to Schuler (2000) and there are countless examples of educators who show up for work drunk, without study plans or do not report for work at all. Vandalism, gangsterism, rape, and drug abuse are also a problem resulting in low morale (Harber & Muthukrishna, 2000). In some instances, for the first month at least, timetables are incomplete, educators are disorganised and books that are needed have not arrived yet. The learners bring weapons to school and smoke marijuana in the schoolyard.   According to Sebidi (in Schuler, 2000), the culture of learning just does not seem to exist within many schools. Another study, the Third International Mathematics and Science Study Repeat (TIMSS-R), sheds some light on certain behavioural problems (Howie, 2001) that are mentioned by the authors above.

The TIMSS studies focused primarily on Mathematics and Science achievement so that trends could be found between the studies conducted in 1995 and 1998 but questions on behavioural problems prevalent in the 194 schools were also included. According to Howie (2001), the atmosphere or

climate within a school is important when considering whether the climate is conducive for learning. The TIMSS-R study found that in 40% of the principals reported that learners arrived late at school as well as absenteeism of learners were serious problems and more than 65% of the principals indicated that arriving late at school and absenteeism occurred on a weekly basis. Skipping of classes was found to be problematic in 36% of the principals while 57% indicated that skipping of classes was a serious problem, which occurs weekly. Violation of the dress code was indicated to be a serious problem by 33% of the principals. Theft was also reported to be problematic by 29% of the principals (Howie, 2001).

Peterson (1997) is of the opinion that lasting change within the schooling system can only take place when a study is conducted of the factors within the school itself, which may enhance or inhibit the change process, for Creemers and Reezigt (1999) climate factors can be altered by learners, educators and schools if they know what needs to be altered. The challenges that face schools in South Africa are great, to a varying degree within schools, but as Sweeney (1992) states "people need to understand what climate is, how it affects them and others, and what can be done to improve it" (p 71).

1.3. Government policies in education

South African schools themselves are situated in different contexts and are faced with many challenges. As Howie (2002) aptly phrased it:

> South Africa is a country with natural wealth and many cultures. It is also notorious for the Apartheid policies that have left a lasting impression on the education system in the country. Evidence of this lies in the appalling conditions in many schools across the country, and these conditions exist primarily in previously so-called African, coloured and Indian schools. South Africa, since the first democratic elections in 1994, has embarked on a substantial reform effort in many areas including education (p. 9).

Since the 1994 elections, many policy documents for Education have been written in order to right the wrongs of the apartheid era and to ensure that every person has equal opportunity for education.   The following policy documents are of relevance for the purposes of this dissertation:

1) The National Education Policy Act (1996). The purpose of this Act is to provide for the determination of National policy for education and to amend the National Policy for General Education Affairs Act of 1984. The Act aims to provide new policy on salaries and conditions of employment of educators; and provides for matters connected with these. The objectives of the Act are to provide for the following:

    i)   The determination of National education policy by the Minister in accordance with certain principles.

    ii)   The consultations to be undertaken before the determination of policy, and the establishment of certain bodies for the purpose of consultation.

    iii)   The publication and implementation of National education policy.

    iv)   To monitoring and evaluation of education (National Department of Education, 1996a).

2) The South African Schools Act (1996) aims to provide for a uniform system for the organisation, governance of schools, funding of schools, amend and repeal certain laws relating to schools and to provide for matters connected with these issues (National Department of Education, 1996b).

3) Abolition of Corporal Punishment Act (1997) provides for the abolishment of corporal punishment authorized in legislation (National Department of Education, 1997).

4) Further Education and Training Act (1998) aims to regulate further education, training as well as to provide for the establishment, governance, funding of public further education, and training institutions. The Act also provides for the registration of private further education and training institutions, provides for quality assurance and quality promotion in further education and training. Finally, the Act

provides for transitional arrangements and the repeal of laws (National Department of Education, 1998a).

5) The Employment of Educators Act (1998) provides the necessary information in terms of the employment of educators by the State, regulations of the conditions of service, discipline, retirement and discharge of educators (National Department of Education, 1998b).

6) National Norms and Standards for School Funding (1999). The document sets out the National norms (which deals only with school-level expenditure) as well as procedures that provincial education departments need to follow when allocating resources to schools. The main goal is to make progress towards equity in school funding, for this reason the provincial departments must use provincial data, develop the necessary data systems to guide planning and allocations and be able to demonstrate to the Department of Education that progress is being made (National Department of Education, 1999).

7) The National policy on Whole School Evaluation (2001) has been adopted because there is no comprehensive data on the quality of teaching and learning or on the educational standards achieved in the system. The policy is aimed at improving the overall quality of education in South African schools and it seeks to ensure that all our children are given an equal opportunity to make the best use of their capabilities. According to the policy, document whole-school evaluation is not an end in itself, but the first step in the process of school improvement and quality enhancement.

8) The Revised National Curriculum Statement (2002). The Statement of the National Curriculum for Grades R-9 was published in October 1997 and was introduced into schools in 1998. In the year 2000 a Ministerial Committee reviewed Curriculum 2005 and its implementation. The review included the structure and design of the curriculum, educator orientation, training and development, learning support materials, provincial support to educators in schools and implementation time frames.   The Review Committee recommended the following:

- Strengthening the curriculum required streamlining its design features.

- Simplifying its language.
- The Curriculum should reduce the curriculum design features from eight to three namely critical and developmental outcomes, learning outcomes and assessment standards.
- Alignment of the curriculum and assessment.
- Implementation needed to be strengthened by improving educator orientation and training, learning support materials and provincial support.
- The relaxation of time frames for implementation.

The revision of Curriculum 2005 resulted in a Draft Revised National Curriculum Statement for Grades R-9 (National Department of Education, 2002). The proponents of Outcome-Based Education acknowledge that a positive climate within the school reinforces the basic values which allow for the improvement of learner performance for this reason it is necessary to monitor the climate in schools so that provision can be made for continuous improvement (Gonder & Hymes, 1994).

1.4. Overview of the study

The study focused on cohesiveness, trust, respect, control, violence and physical infrastructure as appropriate indicators of school climate. However, what type of questionnaire needs to be developed to be a valid and reliable measure of school climate in a South African context?   From this broad question three objectives were identified for this research:

1. To develop a questionnaire for school climate incorporating cohesiveness, trust, respect, control, violence and physical infrastructure as indicators of school climate.
2. To validate and ascertain the reliability of the developed questionnaire by means of expert judges evaluating the questionnaire and by using statistical procedures.
3. To conduct an initial exploration of the factors included in the study.

From the objectives the main research question for this study was identified namely:

What are the characteristics of an appropriate instrument for school climate in Pretoria schools?

Secondary schools in the Gauteng province, specifically schools in and around Pretoria were used for the pilot study and main study. Convenience and random sampling was used in this study. Schools where a relationship already existed with the Faculty of Education were selected to facilitate access to schools but random sampling was used to include an additional school to ensure that schools with various different demographic characteristics participated in the study.

All the Grade 10 learners within the selected schools were asked to complete the survey questionnaire that was developed for both the pilot and main study. The questionnaire was developed for the learners with answer options comprising of a four-point Likert scale. The items were then analysed by expert judges before the pilot study to ascertain the face and content validity of the items. The judges were asked to comment on the items on whether or not the language used to phase the items was appropriate and finally whether or not the items were appropriate for the South African context in which they were administered.

The data, which was collected in the pilot study as well as the main study, was entered into SPSS (Statistical Package for the Social Sciences). Descriptive statistics, item analysis, scale analysis and factor analysis was undertaken using SPSS to analyse the data.

1.5. Conclusion

This chapter outlined the context of the research study, the focus of this research study and the theoretical framework was briefly discussed and an overview of the study was provided. Chapter 2 deals in greater depth with the concepts that were introduced in the first sections of this chapter. Specifically,

the key concepts are defined based on literature as well as systems theory is discussed in detail as it was applied to this study; this is then followed by a discussion on school climate. The research design and methodology, which was briefly discussed in this chapter, is further elaborated on in chapter 3. Various issues relating to the conceptualisation of key variables, measurement and the sampling procedures are explored and the data collection, data capturing, data editing and data analysis are discussed. Finally, the limitations of the method chosen are identified. Chapter 4 presents a discussion of the results of the study and conclusions are drawn from this. Chapter 5 summarises the main points of this study, any caveats in the study are identified, and recommendations are made.

Chapter 2

Literature review

2.1. Introduction

School climate has been a topic of discussion internationally for the past decades and has been linked to school effectiveness as well as learner achievement. School climate can be seen as the heart and soul of a school, the essence of a school that leads a learner, an educator and other staff members to enjoy and look forward to be at school each day. Apart from this school climate can be seen as the quality of the school that "helps each individual feel personal worth, dignity and importance, while simultaneously helping create a sense of belonging to something beyond ourselves" (Freiberg & Stein, 1999:11). According to Emmons (in Savo, 1996) school climate is the quality and frequency of interaction that takes place between the educators and learners, between the learners themselves, between the educators themselves, between the principal and the educators, between the principal and the learners between the staff at the school, the parents and finally the broader community.

Furthermore, Creemers and Reezigt (1999) state that schools are more than just the sum of effectiveness factors; they have personalities of their very own. Climate surveys measure the perceptions of the learners, staff and parents on certain characteristics or factors. These factors in turn influence school climate. Examples found in literature include the following: characteristics of the school buildings, sizes of the classes and schools as a whole, educator stability, educator morale, the characteristics of the learner -body, administrator-educator rapport, educator-shared decision making, good communication, educator-learner relationships and their interaction with one another, learner -shared decision making and learner participation. Other factors include educator-educator relationships, community-school relationships, involvement of various persons in instruction, peer norms, level

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of expectations that educators and administrators have of each other and for the learners, emphasis on academics, rewards and praise, consistency in administering rewards and punishments, consensus and clearly defined goals (Anderson, 1982; Creemers and Reezigt, 1999; Gonder and Hymes, 1994; Peterson, 1997).

This chapter focuses on the literature, which is available on school climate. In section 2.2 the definition of key concepts is given. This is followed by a discussion on the research available on school climate and the various factors chosen for this study (2.3). Finally, systems theory is discussed in section 2.4.

2.2. Definition of factors

This section introduces the key factors for this study, which is important for the validity of the construct or factor. According to Cook and Campbell (1979) construct validity surfaces when attempts are made to the anticipated operations of a construct, specifically focusing on whether the proposed factor measures what it says it does.

The first definition is that school climate. Emmons (in Savo, 1996) defines school climate as the quality and frequency of interaction that takes place between the educators and learners, between the learners themselves, between the educators themselves, between the principal and the educators, between the principal and the learners between the staff at the school and the parents and broader community. While undertaking the literature survey on school climate it became clear that there is not one definition that all authors would use or even agree upon, this could be as a result of approaching school climate for different perspectives. Each author focussed on a different element. For example, Creemers and Reezigt (1999) state that schools have personalities of their very own while Quinones (1987) refers to school climate as the quality of life and human interaction within a school setting. It is how the relevant participants, namely the principal, educators, parents and learners interact with one another. The expectations of the relevant

participants play a role as well as the handling of problems and the solutions that are decided upon. These elements have an effect on how the relevant participants within the school see themselves and others. According to Brookover and Erickson (1975), within the social psychological frame of reference the social climate within a school encompasses a composite of variables, which are defined and perceived by the participants. Therefore, climate within in a school can be seen as reflecting the "feel" or the "shared meanings" of the people who work and learn within the school (Sweeney, 1992). The definition that was used in this study is an amalgamation of these different elements. For the purposes of this study, school climate was viewed as the atmosphere of the school, the attitudes of and interaction of the principal, educators' and learners that influence their perception and affects their behaviour towards one another within the school setting.

Secondly, cohesiveness can be defined as groups within the school forming a positive unity (Gonder & Hymes, 1994). Gonder and Hymes as well as other authors writing and working in the school climate field were used to derive the definition of cohesiveness used in this study. Definitions such as working together, sharing and helping one another (Sweeney, 1992), a "we" spirit where collaboration takes place and individuals are made to feel part of the group (Johnson, Johnson, Kranch & Zimmerman, 1999). Under cohesive in the Merriam Webster dictionary the following are included: forming a union, sticking together, tending to cohere and capable of cohering. Thus, cohesiveness in this study is seen in terms of forming part of a group, standing together when needed.

Thirdly, trust is the extent to which confidentiality, honesty, expertise and fairness are exhibited (Sweeney, 1992). Johnson *et al.* (1999) include elements such as sharing concerns openly, being able to count on another individual. Tschannen-Moran (2000) states that definitions of trust recognise the willingness to risk in the face of being vulnerable. The Merriam Webster dictionary (2001) includes the following under trust: one in which confidence is placed, have faith in, to be credulous, to rely on and to depend. Trust in this study is therefore seen as the notion that one can confide in another person

without feeling that they will betray you by repeating what you have said, for example, and the feeling that another person will be honest and fair towards you.

The fourth factor definition that is discussed is respect. Sweeney (1992) views respect as a consideration of needs and values for every person in the school setting. The Merriam Webster dictionary (2001) includes high regard, esteem and consideration under respect, while Johnson *et al.* (1999) includes elements such as treating individuals as human beings and viewing individuals as important collaborators. From these definitions, the definition for respect was derived for this study to mean the mutual feeling that develops when the one person views the other person as someone of worth.

Fifthly, control is the feeling of having a sufficient influence on events and activities within the school setting (Sweeney, 1992). The Merriam Webster dictionary (2001) describes control in the following terms namely check, restrain, hinder, as well as regulating influence. Gonder and Hymes (1994) state that an orderly environment is a purposeful, businesslike atmosphere that is not oppressive but conducive to teaching and learning in which rules and consequences of behaviour are clear. Thus, control in this study can be defined in terms that a person feels that they are capable of influencing and managing a situation and the sense of orderliness with the school.

The sixth definition is violence, the World Health Organisation (in Stevens, Wyngaard and van Niekerk, 2001) states that violence can been defined as the " intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maladjustment or deprivation" (p.145). The Merriam Webster dictionary (2001) states that violence is the exertion of physical force so as to injure or abuse, quality or state of being violent, highly excited action, urged or impelled with force and excited by strong feeling. Holtappels and Meier (2000) include physical attacks, verbal or non-verbal attacks as well as mental harassment in their conceptualisation of violence. Brookes and Richter

(2001) defines violence as destructive harm, which does not only include physical assaults that damage the body but also techniques that inflict harm by mental and emotional means. The concept violence in this study is taken from the definitions above and is seen as the use of force to with the intent of harming another human being as well as subtle forms of violence, which includes the use of foul language and intimidation.

 The last definition is physical infrastructure. Creemers and Reezigt (1999) view physical infrastructure as the physical environment of the school for example the size of the school and Anderson (1982) includes the buildings and equipment of the school under physical infrastructure. Gonder and Hymes (1994) include learning materials and whether the physical environment is clean. Physical infrastructure in this study is seen as the school buildings and grounds, the size of the school and the equipment that is at the schools disposal.

The next section is a detailed discussion of school and the factors that were chosen study.

2.3. Research on school climate

This section discusses school climate in general and the significance thereof. Various methods including instruments used in previous research measuring school climate and classroom climate are presented. Finally, the factors were have included in this study are discussed.

> School climate is much as the air that we breathe (sic)-it tends to go unnoticed until something is seriously wrong. The concern for the climate or atmosphere of the school and its effects on the student and the learning environment has been a concern of the educational community for more than a century (Freiberg, 1999:1).

The issue of school climate is not a new phenomenon. In 1908 Arthur Perry, the principal of a school in Brooklyn New York, wrote about these concerns in a book for administrators namely "The Management of a City School" in which he emphasises the importance of the school surroundings to support the learner. According to Freiberg (1999), the 1950's saw a revival of the issue of school environment and in 1963; Haplin and Croft developed an instrument called the Organizational Climate Descriptive Questionnaire.   This was followed by work on social climate conducted by Moos and Brookover in the 1970's. It was also around about this time that Herbert Walberg started to develop earlier versions of the Learning Environment Inventory (Fraser, 1994).

Research indicates that school climate can be linked to the effectiveness of a school.   Fisher and Fraser (1990) state that together with curriculum, resources and leadership, school climate makes a major contribution to the effectiveness of a school. Educational literature contains substantial support for the importance of school climate as a predicator of school effectiveness (Witcher, 1993) as well as numerous studies have been undertaken (Brookover, Beady, Flood, Schweitzer & Wisenbaker, 1979; Epstein & McPartland, 1976; Haplin and Croft, 1963; Sweeney, 1992) in which consensus has been reached that school climate not only plays a major role in the effectiveness of a school but that school climate also has an influence on learners' achievement. Brookover *et al.* (1979) for example investigated the relationship between a schools social system and teaching outcomes, this was done by taking the social structure and climate into account. It was found that the school structure accounted for four percent of the variance in achievement and that the climate of the school accounted for an even a larger percentage.   Apart from influencing school effectiveness Worrel (2000) indicates that perceived school climate is a major variable in literature on school completion and according to Emmons (in Savo, 1996) positive school climate contributes to the reduction of absenteeism and related problems. Moreover, research has indicated that school policies and staff have an impact on academic performance as well as the decision of whether or not to stay in school. Other aspects are also affected by a positive school climate

such as, the acceptance of academic and behaviour standards by learners and staff, inter-group relations, interpersonal relationships among learners and staff and overall school satisfaction among learners, staff and parents (Middle School Partnership, 2001).

Freiberg and Stein (1999) are of the opinion that the school creates a learning place for learners, nurtures learners' and parents' dreams and aspirations as well as stimulates educators and elevates the staff, learners and community. However, this can only occur in a school where the climate is positive. Learning and teaching occur best in a positive school climate that is orderly, courteous and safe. According to Sugai and Horner (2001) defiant, disruptive and violent behaviour decreases the effectiveness and efficiency of a school. Unfortunately, schools are faced with many challenges and are experiencing increasing difficulty to provide a full continuum of effective and positive learning and teaching environments for learners. The challenges, according to Sugai and Homer (2001) include:

   i.   A general lack of discipline.
   ii. Increased violence at school.
   iii. Inefficient use of or loss of instructional time.
   iv. An over reliance on punishment-based and exclusionary programming.
   v.   Failed attempts to provide individualised and appropriate educational opportunities for learners with disabilities and learners who come from diverse backgrounds.
   vi. Lack of fluency with specialised behavioural practices.
   vii. Breakdown of families and communities

There are however still caveats in the available literature. According Wilson, Corbett and Webb (1994) the first caveat is that there has been little regard for the applicability of school climate across various contexts for example the difference between elementary (primary) and secondary school. Secondly, factors that affect schools have been assessed but very little are said on how to change those aspects of climate that are lacking and finally criticism that simply listing traits from exemplary sites are not very useful. Apart from these, climate factors are usually operationalised in terms of perceptions of

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people. Perceptions by their nature however lack objectivity according to Creemers and Reezigt (1999). For example, the perception of school climate may be different for the principal, educators and learners even though they work and attend the same school. This may cause interpretive problems but no trouble for researchers that have used a definition of school climate in which different perceptions can coexist. However, Fraser and Walberg (in Fraser, 1994) state that there are advantages of perceptual measures. Firstly, pencil and paper perceptual measures are economical. Secondly, perceptual measures are based on experiences.   Thirdly, perceptual measures involve the pooled judgements of all learners in a class. Fourthly, students' perceptions are the determinants of student behaviour and finally perceptual measures have been found to account for considerable variance in student learning outcomes. The next section briefly discusses the measures developed to explore school climate.

2.3.1. Measures of school climate

Researchers recognise that learners and staff are influenced by the climate they find themselves in and have developed numerous strategies to measure the indicators of school climate and the impact that they have. As such, there are procedures that can measure the various features of school climate, which describes and examines school climate or even evaluates the implementation of certain initiatives. Freiberg and Stein (1999) indicate that there are direct as well as indirect methods of measuring school climate. Direct methods refers to methods where the data needs to be collected such as the use of climate surveys, classroom observations, interviews, video taping, journal entries or narratives, drawings and focus groups. Indirect methods refers to existing data sources such as the records kept by educators, school or education authority. The following section deals with direct methods of investigating school climate and classroom climate.

Creemers and Reezigt (1999) present a checklist of topics related to climate. This checklist was derived from a set of four instruments that were designed to measure school and classroom climate in Dutch Elementary schools.

Creemers and Reezigt (1999) took the four topics and restated them as topics for educators and schools to consider when they wanted to investigate their climate factors. The four topics form the basis for the four dimensions of the checklist.   All four dimensions are considered to be important to school climate.   The dimensions are a school plan for effectiveness, physical environment, educator behaviour and finally the school's system. Each item can be answered with a yes or a no; the more positive the healthier the school is in terms of its climate. Creemers and Reezigt states "a healthy school is a school that pursues a multitude of cognitive and affective outcomes; provides a pleasant atmosphere in classrooms, in the school building and in the lessons; and that has well-stated written arguments about major aspects of teacher behaviour and student behaviour. An unhealthy school is a school that falls short in one or more of the dimensions of the checklists" (p. 37 and 38).

A popular measure of school environment is the School Level Environment questionnaire.   Fisher and Fraser (1990) developed the School Level Environment Questionnaire (SLEQ) based on the work that Moos undertook in the 1970's. The questionnaire has three dimensions. The first dimension is the relationship dimension, which identifies the nature and intensity of personal relationships as well as assesses the extent to which people are involved, support and help one another. The second dimension is called the personal development dimension and assesses the basic directions along which personal growth as well as self-enhancement can take place. The final dimension is system maintenance and system change dimension, which can be viewed as the extent to which the environment is orderly, expectations are clear, maintains control as well as being responsive to change. Eight scales fall within the dimensions mentioned above. The scales are student support, affiliation, professional interest, staff freedom, participatory decision-making, innovation, and resource adequacy and work pressure. According to Fisher and Fraser (1990), analysis has shown that the scales show satisfactory internal consistency reliability and scale independence. There are also other assessment instruments apart from the SLEQ, for example the Organisational

Climate Description Questionnaire, which was one of the first tools developed to assess the climate of an organisation.

The Organizational Climate Description Questionnaire (OCDQ) is one of the most referenced measures of elementary school climate and has recently been revised for use at both secondary middle and elementary school level. The elementary version (OCDQ-RE) of the OCDQ consists of 42 items and describes four types of school climate Open, Engaged, Disengaged or closed. The secondary version (OCDQ-RS) of the OCDQ has 34 items and measures two dimensions of principal behaviour, namely supportive and directive, and three dimensions of educator behaviour, namely engaged, frustrated and intimate. The results from this questionnaire are useful in terms of providing a framework for examining aspects of and developing plans for changing leadership behaviour and motivation strategies within the school setting (Witcher, 1993). The OCDQ for middle schools (OCDQ-RM) was developed because "neither an instrument designed for elementary school (e.g. OCDQ-RE) nor one developed for high schools (e.g. OCDQ-RS) is likely to be of adequate use in middle schools" (Hoy, Hoffman, Sabo and Bliss, 1996: 41 & 42). The OCDQ-RM consists of 50 items with six different dimensions; three aspects measure principal behaviour (Supportive, Directive and Restrictive) and three aspects of educator behaviour (Collegial, Committed and Disengaged). A doctoral study was undertaken in South Africa using the OCDQ-RS in seventy-eight schools in the then Orange Free State. It was found that the questionnaire had construct validity and was reliable within a South African setting (Mentz, 1990).

The last of the school climate instruments to be discussed is the Charles F. Kettering Ltd. School Climate Profile. The Charles F. Kettering Ltd. School Climate Profile has been used for the past 20 years or so. This instrument addresses general climate factors, program determinants and material determinants. While the Effective School Battery assessed information on morale, safety, degree to which the school is found to be pleasant as well as the perceived tension between administration and staff (Witcher, 1993).

Apart from school climate instruments a variety of classroom climate instruments has also been developed, these will be briefly discussed. In his book on Classroom Environment, Fraser (1986) discusses four instruments developed for the measuring the classroom climate. The Learning Environment Inventory (LEI) contains 105 items, which describes the typical school class. The respondent expresses the degree of agreement or disagreement on a four-point scale. The LEI consists of 15 scales (seven items per scale) namely cohesiveness, diversity, formality speed, material environment, friction, goal direction, favouritism, difficulty, apathy, democracy, cliqueness, satisfaction, disorganisation and competitiveness.

The second instrument, which Fraser (1986) discusses, is the Classroom Environment Scale (CES). The CES is one of nine instruments that were developed by Rudolf Moos to assess a variety of human environments and contains nine scales with ten items per scale in a True/False format. The scale names are involvement, affiliation, educator support, task orientation, competition, order and organisation, rule clarity, educator control and innovation. The scales of the CES fall within three dimensions namely the relationship dimension, personal development dimension and the system maintenance and change dimension.

The Individualised Classroom Environment Questionnaire (ICEQ) consists of five scales (personalisation, participation, independence, investigation and differentiation) and was developed to measure the dimensions, which differentiate conventional classrooms from individualised classrooms. The ICEQ consists of 50 items, 10 items per scale and each item are responded to on a scale of alternatives including almost never, seldom, sometimes, often and very often.

Finally, the My Class Inventory (MCI) is a simplification of the LEI, which consists of five scales with 6-9 items per scale (depending on the scale), and is suitable for children between the ages of 8 and 12. The scale names are cohesiveness, friction, difficulty, satisfaction and competitiveness. Even though the MCI is a simplification of the LEI there are important differences

namely that the MCI contains only five scales, the items wording has been simplified in order to improve readability, the MCI consists of a yes/no response format and lastly learners answer on the questionnaire itself instead of on a separate answer sheet (Fraser, 1986).

The various elements that make up school climate are complex because they can range from the quality of interactions in the staff room to the noise levels in the corridors, from the physical infrastructure, which include the buildings and physical comfort levels to whether or not you feel safe. Even the opportunity for interaction between the educator and the learners can add or take away from the school climate. No single factor determines school climate, it is the interaction of various factors that create the support that will enable all of the participants in school to educate and learn (Freiberg, 1998). The rest of this section discusses the various factors of school climate, which form the basis of this study namely; cohesiveness, trust, respect, control, violence and physical infrastructure.

2.3.2. Cohesiveness

> Cohesiveness is seen in terms of forming part of a group, standing together when needed.

Cohesiveness, according to Gonder and Hymes (1994), can be seen within a school when the people form a positive unity and are committed to education. In a study undertaken by Levine and Lezotte (in Maslowski, 2001) nine characteristics of an effective school were identified. The first of which is that of a productive school climate and orderly environments, where an orderly environment is thought of in terms of interpersonal relationships. Other factors that were of importance in terms of effectiveness-enhancing factors are cohesion or cohesiveness, collaboration and collegiality. Likewise, Anderson (1982) studied numerous school climate studies and found that the research indicates that cohesiveness is important for good communication as well as rapport. Cohesion also refers to the sum of group members' feelings about the group as a whole. In cohesive classrooms and schools, the

learners and staff value one another and are proud to be part of the group (Shapiro, 1993). Thus, cohesiveness can enhance the system by creating a "we" feeling, which in turn promotes conformity to the norms within the school.

2.3.3. Trust

> Trust is the notion that one can confide in another person without feeling that they will betray you by repeating what you have said, for example, and the feeling that another person will be honest and fair towards you.

Trust, according to Sweeney (1992), is the glue that holds a school together because in an emotionally laden environment of a school trust is a prerequisite for action that is positive. Trust can be defined in many ways but Tschannen-Moran (2000) states that all the definitions on trust recognise the willingness to risk in the face of being vulnerable, where there is no vulnerability, there is no need to trust another. Trust in any relationship is important but specifically in schools, trust has been acknowledged to facilitate the processes required for the smooth functioning of a school as and is related to a positive school climate. The reason for this is that a school climate of openness and trust allows people to work together in an atmosphere that is collegial (Bulach and Malone in Peterson, 1997) and allows people to focus on the task at hand (Tschannen-Moran & Hoy, 1998). Peterson (1997) states that there was a significant correlation between school climate, group openness and trust and that these factors were of utmost importance in successful implementation of reform.

Trust is seen as a vital element of a well functioning organisation because trust is necessary for co-operation as well as communication and both of these elements form the basis for productive relationships. According to Tschannen-Moran and Hoy (1998), trust facilitates transactions and reduces the complexities that one would find within any organisation. The benefits of trustworthy behaviour are great especially since a person would work with the same group of people over a period within the schooling system. Studies in schools have provided the necessary evidence that trust is significant in the

interpersonal dynamics of schools (Tschannen-Moran & Hoy, 1998). Trust is a crucial factor in the improvement and effectiveness of a school. Without trust, learners are occupied with protecting themselves and not with the learning that is supposed to take place. Without trust communication cannot take place, in fact communication becomes constrained which makes problems more difficult to solve (Tschannen-Moran, 2000). The fact of the matter is that trust is very fragile as it can be changed in an instant, as it could be because of a comment, betrayed confidence or even a decision that violates the sense of care one has for another person.

2.3.4. Respect

> Respec*t* is a mutual feeling that develops when the one person
> views the other person as someone of worth.

Respect in a school is of utmost importance. Respect for Gonder and Hymes (1994) entails that people within the school feel that other individuals within the school can be counted on to behave in a manner that is honest and fair. According to Lawrence-Lightfoot (1999) real respect involves building connections between people, building empathy as well as trust.   While Sutherland (in Perterson, 1997) states that high morale as well as social and academic growth was continuous in schools where the staff and the learners were able to care for one another, where they respected and trusted one another. Apart from this Anderson (1982) states that respect is necessary in fostering a positive school climate and Sizer (1994) is of the opinion that respecting learners can reduce violence because you are telling the learners that someone cares for them by taking the time to get to know them and this signals respect. How does respect affect school climate?

For Sweeney (1992) school climate represents the shared meanings of the people who work and learn in the school. The shared meanings are in turn reflected in the key beliefs and values that influence the behaviour of the people who hold the shared meanings. Sweeney (1992) states that respect for the individual is a key belief or value that can influence the people working and learning in a school. Therefore, if an educator believes that respect for

an individual is important then he or she will treat learners and colleagues with respect and this in turn could become a shared value over time that can influence how educators treat their learners, parents and colleagues.

2.3.5. Control

Control is when a person feels that they are capable of influencing and managing a situation and the sense of orderliness with the school.

Butler and Alberg (2002) are of the opinion that order can be described as the extent to which the environment is ordered and the appropriate student behaviours are present. A safe and orderly environment is important as it correlates with effectiveness of schools. This however does not mean that the school climate is oppressive but rather conducive to teaching and learning. The orderliness of the school can be seen as the extent to which the learner perceives the rules and consequences of certain behaviour to be clear (Gonder & Hymes, 1994) or the extent to which educators and learners have sufficient influence on events and activities occurring in the school. Both of these elements are important when considering control in school. Sweeney (1992) states that in schools where discipline is seen as a problem, the climate of the school suffers. Emmons (in Savo, 1996) states that she has consistently found that order and discipline seem to be the school climate variables that need the most improvement in the United States. According to Education Week (1997) learning and educating cannot take place in a school that is not orderly and found that educators are increasingly reporting discipline problems and disturbances in the classroom that interfere with their teaching. According to Garcia (1994), one of the characteristics of an effective school is that it is orderly.

2.3.6. Violence

Violence is the use of force to with the intent of harming another human being as well as subtle forms of violence, which includes the use of foul language and intimidation.

As fear increases, confidence in the school administration decreases and therefore the informal social controls against violence decreases (Welsh, Stokes and Greene, 2000). Peterson and Skiba (2001) state that a variety of surveys have attempted to identify the degree of conflict, violence and other disruptions that contribute to a negative school climate. Violence is not a new phenomenon but has of late become a problem in the schools internationally (Young, Aurty, Lee, Messemer, Roach and Smit, 2002) as well as in South African schools. One just has to review media coverage over the last two years to realise that this is so (Porteus, 2000). In a survey undertaken by Eliasov and Frank (2000) in schools in the Cape Metropole area it was found that crime and violence was endemic to primary as well as secondary schools. Theft of property and the possession of weapons were major problems within all of the schools sampled while physical violence and vandalism were reported in ninety-five percent of the schools. In ninety-percent of the school, drug abuse was a serious concern while bullying and intimidation was reported in more than seventy-five percent of the schools. Assault and gangsterism was a concern for sixty and fifty percent of the schools respectively. A study commissioned by the United Nations Children's Fund and undertaken by the Human Research Council found interesting results (Brookes & Richter, 2001):

a) Bullying and beating is a common form of violence especially against girls.
b) Boys respond to conflicts with girls by using physical violence.
c) Both boys and girls are at risk of sexual harassment and rape.
d) Interactions among boys are characterised by aggression and violence.
e) Educator/learner relationships and harassment of learners by educators and other staff are common.

Crime and violence in schools are a threat to young people as well as contaminate the school environment, which in turn jeopardises the educational process. Stevens *et al.* (2001) state that research on the impact of violence indicates that learners are at high risk in terms of the poor educational progress amongst other consequences:

> For learners and educators directly exposed to the spectre of violence, the consequences includes various forms of psychological and social distress, acting out behaviours, constraints to academic progress, a sense of impotence and helplessness, perceptions of constant threat to personal safety and a general lack of investment in the affected institutions by the broader community (p.148).

According to Eliasov and Frank (2002), violence can have long standing physical, emotional and psychological implications for the staff and the learners in the school. School violence is a multifaceted phenomenon and if we are to prevent school violence as well as to respond to the violent acts that occur within our schools then an understanding of the larger community and society is needed. The fact of the matter is that human behaviour is shaped by the social and the problems that are experienced in schools in terms of violence are linked to changes within the society (Leone, Mayer, Malmgren and Meisel, 2000). As the school plays a critical role in the socialisation of learners, it is critical that schools offer a safe environment in which learning and growth can take place.

In an article on realising positive school climate Lederhouse (1998) states that many learners enter school with the burden of fear whether this stems from the threat of violence to emotional insecurity. Lederhouse (1998) describes a school that failed to realize a positive school-learning environment for three years. One of the educators decided to change her discipline rules and exchanged them with a sign that stated, "You will be safe here". By doing so, she recognised the power that gang influence had in that area. This simple statement on the wall not only implied physical safety but also respect. The final factor discussed is physical infrastructure.

2.3.7. Physical infrastructure

Physical infrastructure is seen as the school buildings and grounds, the size of the school and the equipment that is at the schools disposal.

In order to create an environment of support, an environment that is stimulating, attention also needs to be paid to the physical environment (Sweeney, 1992). According to Freiberg and Stein (1999), a school is not an organic being in a biological sense but it does have qualities of a living organism in an organisational as well as a cultural sense. The physical structure can have direct influences on staff and learners. As stated by Bron, Combrink, Henning, Pelser, Perold and Wessels (1998) "A school with decent and adequate facilities effects the learning environment" (p.3).

The School Level Environment Questionnaire includes resource adequacy as a scale of investigation within the area of school climate where facilities of the school plays an important part. While Gonder and Hymes (1994) see the physical environment as an important element of school climate and can be described as the extent to which the learners perceive the school to be clean. Apart from what is defined as the physical environment, Anderson (1982) states that research indicates that the state of the school buildings and classrooms are associated with higher student performance.

In summary, school climate is not a new phenomenon and has been linked to school effectiveness and academic achievement. Many measures have been developed over the years internationally to measure both school and classroom climate and included direct and indirect methods. All of the measures focus on certain aspect of school climate of which six were chosen for this study due to their prominence in literature. These six factors; namely cohesiveness, trust, respect, control, violence and physical infrastructure were also discussed in detail.

2.4. Discussion of systems theory

Systems theory is one of the most significant scientific theories since everyone knows what a system is (Bahg, 1990). Systems' thinking has come along way and can be traced back in history to the Greek philosopher Aristotle (384-322 B. C.) who presented a metaphysical vision of a hierarchic order in nature.   Fredrich Hegel (1770-1831) also formulated statements that concerned the nature of systems. According to Hegel, the whole is more than the sum of the parts and defines the nature of the parts. Hegel was also of the opinion that the parts cannot be understood by studying the whole and that the parts are interrelated (Skyttner, 1994).

The advent of systems theory came first in biology and was proposed by the biologist Ludwig von Bertalanffy. In the early 1920s, von Bertalanffy proposed organismic biology, which formed the fundamental ideas for general systems theory. According to Von Bertalanffy the main task of general systems, theory is to study the common aspects of systems and from this to formulate models, principles and laws that apply to generalised systems and their subclasses (Bahg, 1990). According to Bahg (1990), von Bertalanffy made the word system a scientific term.

At the heart of systems, theory is that each component is related to other parts, the whole system working together but each subsystem is identifiable by the unique activity that occurs within it. An organised system is not just a collection of the parts but is a functional entity that has properties that cannot exist independently (Marsh, 2001).

The school setting comprises various components such as the principal, administrative staff, maintenance staff, educators and learners who work together and cannot exist independently of one another for the purpose of education but each has a unique activity. The principal is in charge of the management of the school, ensuring that everything proceeds smoothly. The administrative staff are a core part because they ensure that learners enrol in the school, payment of schools fees and other administrative tasks vital for

the running of the school. The maintenance staff ensures that the school is neat and presentable while the educators are responsible for transferring and facilitating in the acquiring of the necessary knowledge and skills that learners should have.   Finally, the learners are the reason why all of the other components exist. The learners go to school to acquire knowledge and skills that will assist them throughout their lives. As can be seen from the above description each participant in the school system is a component of the system but each is identified by the activity or the role that they play as illustrated by Figure 2.1:
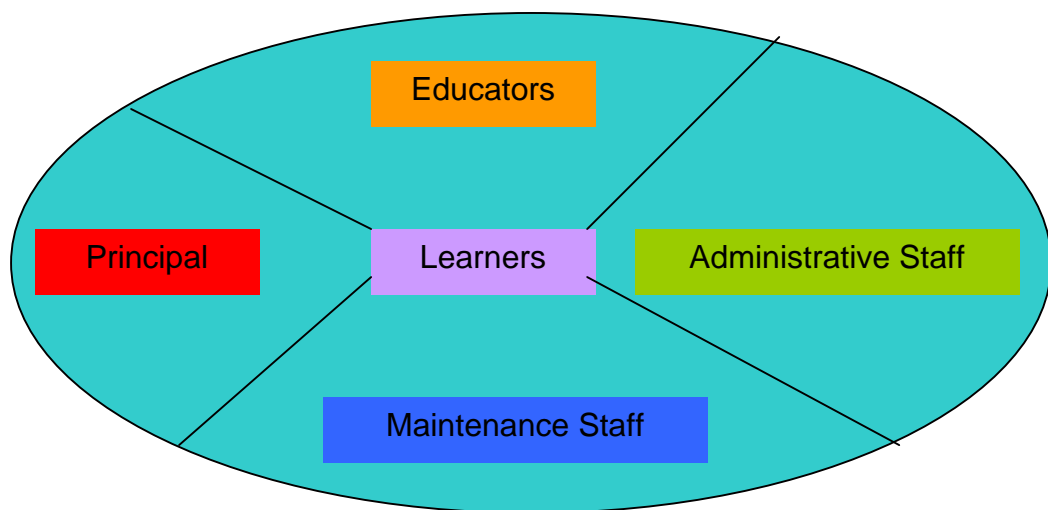
Figure 2.1. Components of the school system

Other distinguishing hallmarks of systems theory are (Skyttner, 1994):
- Holistic properties should be defined in the system (known as holism).
- Systemic interaction must result in a final state (goal seeking).
- All systems must transform the inputs into outputs (transformation process).
- In a closed system, inputs are determined once but in an open system, additional inputs are admitted from its environment (inputs and outputs).
- There is an amount of disorder or randomness in any system at a defined moment of time (entropy).

- The interrelated objects that constitute the system must be regulated in some fashion (regulation).

- Units in complex systems perform specialised functions (differentiation).

- Open systems have equally valid ways of attaining the same objectives or from an initial given state to obtain different and mutually exclusive objectives (divergence and convergence).

- Systems are complex wholes that are made up of smaller subsystems (hierarchy).

Systems are generally part of other systems (the hierarchy of systems). An onion with its various layers is an apt way of describing this. The concept of hierarchy in systems thinking is a universal principle and in the hierarchic structure, the subsets of the whole are ranked regressively as smaller or less complex units until the lowest level is reached. The lowest level is the subsystems, which structure the system and is a part of a superior suprasystem. The ranking found in systems is relative rather than absolute where the same object may be regarded as an element, a system or even a component of the environment. Taking the example as described above further, the school system is situated within a community, which is situated in a society both provincially and nationally. However, the school system also forms part of the much broader education system that consists of district offices, provincial departments and the national department (see Figure 2.2):
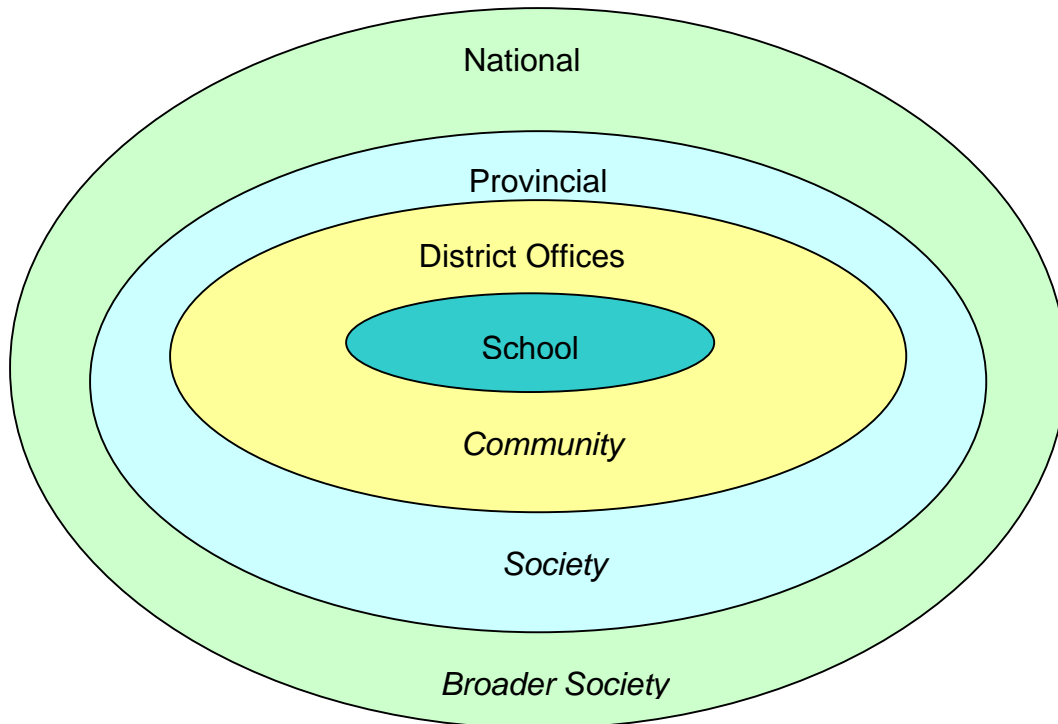
Figure 2.2. Illustration of the hierarchy of systems

Systems exist within an environment with the immediate environment being the next higher system minus the system itself. If Figure 2.2 were used as a guide, the school's environment would be the community or the district office. Furthermore, the environment of a system can be defined as both that which is outside of the direct control of the system and the phenomenon influencing the various processes and behaviours of the system. With regard to input from the environment, systems can be either open or closed (Skyttner, 1994).

The closed system is a system that is open for input of energy only and has a tendency to run down because when equilibrium has been reached the closed system cannot perform any work. In an open system, such as the school system, there is interaction with the environment in which new properties can be acquired resulting in continual evolution (Gavalas, 2000). Thus, using Figure 2.2 as an illustration the school system receives input from the community and district office. Open systems are always dependent on the environment with which it can exchange matter, energy and information. The

organisation of open systems is controlled by information and is fuelled by energy. Open systems tend towards a more elaborate structure, which are in a stable state capable of working for a long time by use of constant input of matter and energy (Skyttner, 1994).

Input includes all that enters the system from the outside for example in the school system the principal, administrative staff, maintenance staff, learners, educators and their backgrounds, resources, polices at school and national level as dictated by the National Department (see Figure 2.3). Every system is goal directed and has certain outputs. Using the school, as an example an output would be school effectiveness, behaviours and attitudes. Output is generally thought of as that which leaves the system for the environment and is a direct or indirect result from the input but what has come out of the system must have first entered the system. What exits the system is different from what enters the system because of the process that has taken place. The transformation from input into output is called the throughput and an example of this in a school system would be the instructional practices that take place within the classroom or the interaction between the components and how this is experienced (Heylighen, 1998). Figure 2.3 illustrates the inputs, throughput and output in interaction with the environment which in this case would be the district office.
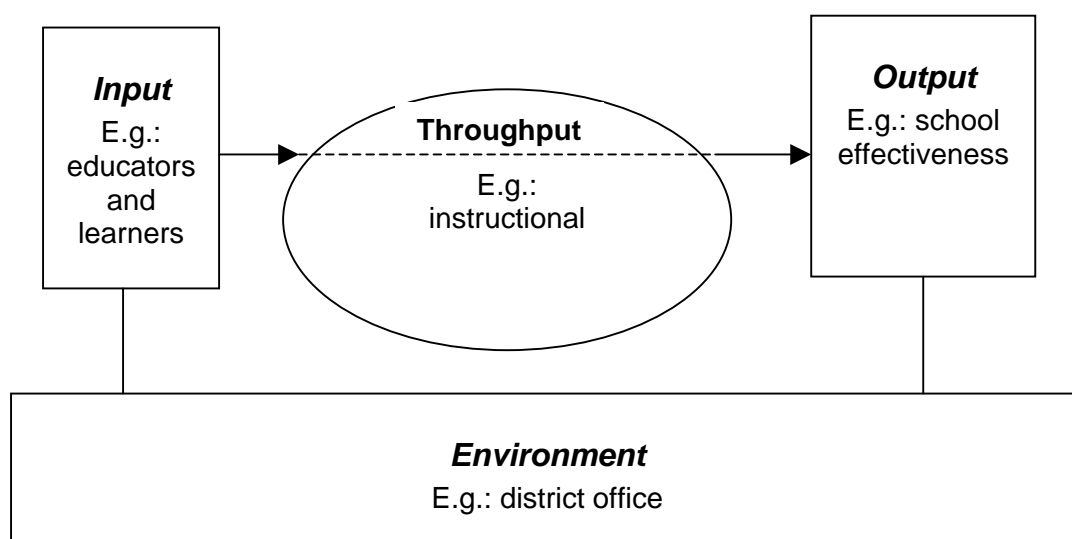
Figure 2.3. A system in interaction with the environment adapted from Heylighen (1998)

Within open systems, the output leaves the system for the environment. From the environment, the system acquires inputs; this process is a form of feedback.

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┌─────────────────────┐                    ┌─────────────────────┐
│      Input          │                    │      Output         │
│  E.g.: experience of│    Throughput      │  E.g.: behaviour of │
│ educator treatment  │  ───────────────▶  │  educators towards  │
│ of learners and visa│                    │  learners and visa- │
│      versa          │                    │       versa         │
└─────────────────────┘                    └─────────────────────┘
           ▲                                          │
           │          ┌─────────────────────┐         │
           │          │    Environment      │         ▼
           └──────────│ E.g.: community, speaking to parents or │
                      │    other colleagues │
                      └─────────────────────┘
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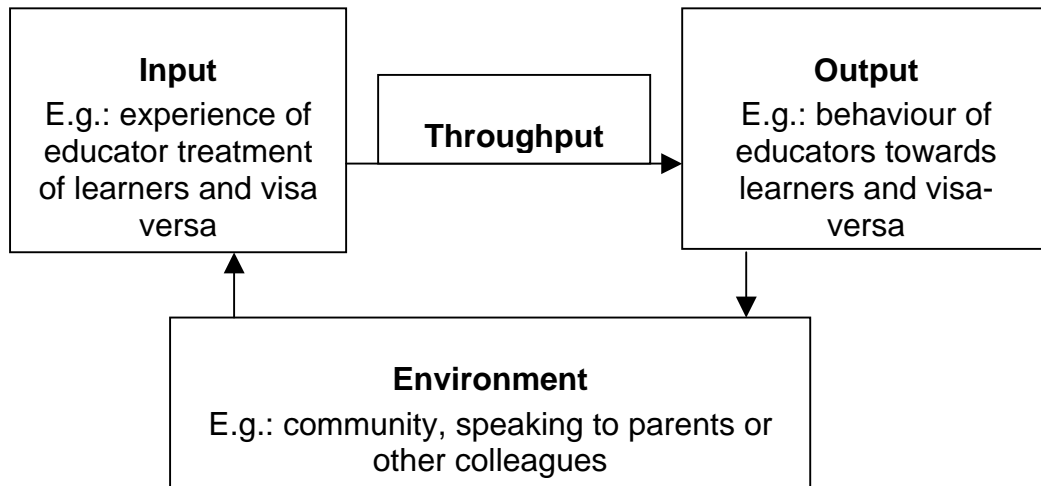
Figure 2.4. Feedback output-environment-input adapted from Heylighen (1998)

Feedback is the means by which a system accomplishes adaptation and self-direction. Feedback refers to the process of interaction whereby information is received and processed; whereby behaviour is validated or changed. As can be seen from the example used in Figure 2.4 the educators and the learners will have a frame of reference from which they draw (input) during class a learner disrespects the educator, the educator loses his/her temper and hits the learner on the head (process). The educator and learners behaviour towards each other after that incident changes dramatically, the learner then goes home and tells his/her parent what happened in class. The parent then reacts either by saying that he/she should not have acted in that way in the first place and reprimands the learner or states that it is totally unacceptable at how the educator reacted and tells the learner that he/she will take it up with the principal in the morning (environment). The educator telephones a colleague from a nearby school and tells him/her the story. Upon hearing the story the colleague either states that under no circumstance is the educator allowed to hit a leaner in that manner or any manner since

corporal punishment has been abolished or s/he states that the learner should not have behaved in such an appalling manner in the first place and that s/he would have probably done the same (environment). The information received from the parent and colleague changes the educator and learners frame of reference (input) and so on. Feedback loops can be positive or negative and represent the dynamic structure of any given system. Associated with this structure are one or more modes of behaviour, for example growth, collapse or even inhibition. The advantage of feedback loops is that through analysis of this network it is possible to come to some understanding of the situation as well as to be able to predict how the system should behave under conditions where there may not be as much knowledge about what the true situation is (Bateson, 1972).

There are generally two types of feedback that are commonly discussed by authors (Bateson, 1972; Goodman, Kemeny and Roberts, 2002; Larsen, McInerney, Nyquist, Santos and Silsbee, 1996) namely positive and negative feedback or reinforcing and balancing feedback. Positive feedback (Figure 2.5) generates exponential growth or collapse in which a change in one part of the system causes a change in another part of the system, which in turn amplifies the change in the first (Larsen *et al.*, 1996).
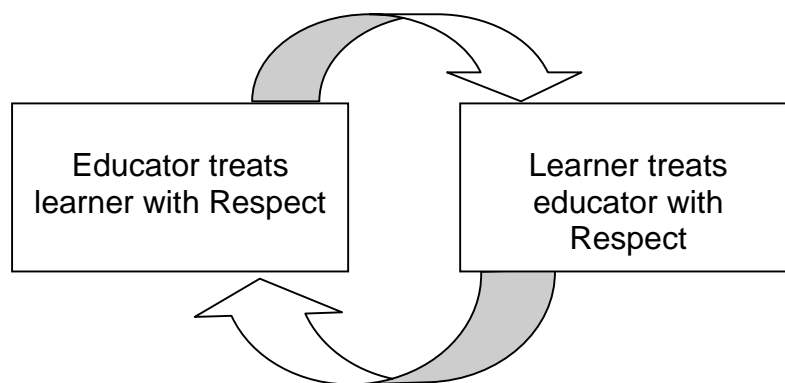
Figure 2.5. Positive feedback

Figure 2.5 is an illustration of positive feedback and the more the educator treats the learner as someone with worth, the more the learner will take note of how the educator is treating him/her, usually the more the learner will start to treat the educator as someone with worth and will respect the educator.

Negative feedback on the other hand generates forces of resistance. These are self-correcting or self-regulating processes which are bound to a goal, constraint or target. When the current situation does not match up to the goal the gap between the goal and the systems actual performance generates a pressure, which cannot be ignored, the greater the gap the more pressure is exerted (Goodman *et al.*, 2002). This can be illustrated by means of the following example; at break time Learner A pushes and shoves Learner B. Educator on break duty sees this and approaches the two learners as fighting on school grounds are not permitted. As the educators reaches the two learners he/she tells them that this behaviour is not allowed and threatens both learners with one week's detention during both breaks if they do not immediately stop what they are doing and apologise to one another. The learners subsequently apologise to one another and the educator praises them for respecting school rules and each other. However, after 10 minutes or so Learner A once again starts to push and shove Learner B and once again, the educator on duty reprimands them. This can be visually represented in the following way (Figure 2.6):
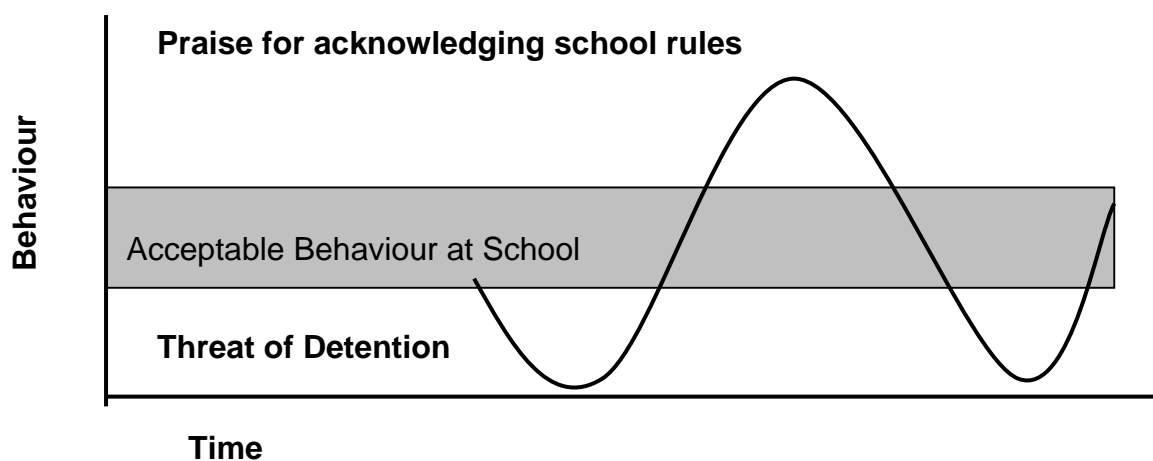
Figure 2.6. Negative feedback adapted from Bron et al. (1998)

Negative feedback loops have the following characteristics:
- They maintain the stability of the system.
- Interaction is involved between at least two individuals or groups.
- One element in the system serves as a controlling function.

- The behaviour of the controlling element undergoes a change when the behaviour of the one element exceeds a critical value.
- The critical value characterises the emergent behaviour of the system and is the calibration point.
- The dynamic stability of the system is maintained in spite of the fact that changes occur in the external environment.

It by means of feedback enables a system to constantly monitor and adapts its functioning which in turn is a means to a steady state. Ashby (in Bateson, 1972) is of the opinion that the steady state and continued existence of complex interactive systems depends on preventing maximization of any variable. To achieve a healthy and stable system flexibility is needed and since variables are interlinked, they affect one another. Where flexibility is regarded as the "uncommitted potentiality for change" (Bateson, 1972:497).

This equilibrium or steady state is reached by means of communication among the parts of a system but also between the system and the environment. The communication that takes place and the energy that is transferred is a necessity in any system. The transfer of energy by means of communication assists the system to accomplish its goals and can take place in various forms (Anderson & Carter, 1990). For example one can verbally speak and relay a message or by means of nonverbal messages. Communication takes place on various levels and as such is subject to interpretation at various levels. Thus misunderstandings may occur since one message can mean two totally different things depending on the level on which it is interpreted (Bateson, 1972).

2.5. Conclusion

School climate studies have been undertaken internationally for the few past decades. These studies found that school climate can be linked to school effectiveness and learner achievement. It is upon this theoretical grounding that this study is built. Furthermore, different questionnaires have been previously designed to study school climate and classroom climate, these

were briefly discussed as well as the factors chosen for inclusion in this study. Systems theory can help to inform the theoretical framework for this study in order to understand the processes within schools. As such, this chapter included a brief discussion of the elements of systems theory. To be an effective school requires an understanding of the processes that are taking place within the school so that the necessary interventions can be put in place so that the school can prosper.

Chapter 3

Research design and methodology

3.1. Introduction

It is human nature to explain what we observe occurring around us
(Black, 1999:2).

From the beginning, human beings have been observing what has been going on around them, making connections and assumptions about the world that they live in. However, the ways in which these observations, connections and assumptions are made differ. We can use common sense or scientific enquiry. The difference lies in the tendency of common sense or everyday observations to be haphazard, careless and not very systematic while scientific enquiry tends to be specific, well focused and systematic. The reality is that the decisions that are made about people and events are made on the explanations of why things happen. Incomplete explanations would have disastrous consequences so the more systematic and organised a study is the more likely it is to produce valid explanations that can be used to support the assumptions that are made (Black, 1999).

This study has three objectives based on the question: What type of questionnaire needs to be developed to be a valid and reliable measure of school climate in a South African context?   The main objective of this research is to develop a questionnaire for learners in Pretoria schools exploring factors that may be indicators of school climate. Six factors were included for investigation namely cohesiveness, trust, respect, control, violence and physical infrastructure. A secondary objective was to validate this questionnaire and finally to explore the factors that comprise school climate. The research question flows from these objectives. The research question, which was used to guide this study, is:

What are the characteristics of an appropriate instrument for school climate in Pretoria schools?

This chapter focuses on the design as well as the organisation of the study in order to reach the objectives identified and answer the research question posed. Section 3.2 discussed the conceptualisation and the key variables of the study. A survey was used in this study and section 3.3 gives the reader an overview of survey research and the steps that were undertaken in this study following a survey method, which is followed by a discussion on the issues of measurement such as validity (3.4). The sample design and methods used in this study are given in section 3.5 and this is followed by an explanation of how the data was collected (3.6). The procedure for the capturing of the data are discussed in section (3.7), which is followed by a detailed description of how the data was analysed (3.8). Finally, any shortcomings of the design will be briefly given (3.9).

3.2. Conceptualisation and key variables

This section discusses the conceptualisation of the study. Based on the literature six factors were chosen as possible indicators of school climate where school climate is defined as the interaction of the principal, educators' and learners which influence their perception of cohesiveness, trust, respect, control, violence and physical infrastructure which in turn affects their behaviour towards one another within the school setting (see chapter 2). The perceptions and behaviour of the principal, educators and learners in terms of school climate can be examined within a systems thinking framework. Goodman, Kemeny and Roberts (2002) are of the opinion that "in systems thinking, every picture tells a story" (p.1). The school setting can be viewed as a system, which is situated in broader systems as was discussed in chapter 2. In order to build a model using systems theory one needs to (Levine & Fitzgerald, 1992):

1) Identify the subunits of the total system.
2) Identify the structural connections of subunits.
3) Assess the properties that emerge so that the collections of components can be coupled into a specific dynamic structure that can change over time.

Furthermore, according to Marsh (2001), systems have four major characteristics which needs to be reflected in the model:

1) Systems are goal oriented.
2) Systems have inputs from their environment.
3) Systems have outputs.
4) There is feedback from the environment about the output back into the system as an input.

In terms of a school where one has administrative staff, a principal, educators and the learners who are constantly interacting with one another and who have certain perceptions about the other parties. These perceptions in turn affect the interaction that takes place and the way the different parties behave towards one another. Systems theory was discussed in detail in chapter 2, this section repeats certain ideas for the sake of clarification. Marsh (2001) states that a system is goal oriented and in the case of the school, the goal is to be an effective school. The inputs into the school system are the learners and their characteristics, the educators and their characteristics, the principal and his/her characteristics. Other inputs could be resources, school policies as well as National policies. The resulting output is the behaviour, attitudes of and perceptions of the principal, educators and learners.   While the relatedness (the way in which the parties relate towards one another) of the principal, educators, administrative staff and learners towards one another in terms of cohesiveness, respect, trust, control and violence as well as their thoughts and feelings about the physical infrastructure of the school can be seen as the throughput process.   The output is fed through to the environment, which would be the district or community in which the school is situated, and then back from the environment into the system. All of these elements have been included in the conceptualisation of school climate. Figure 3.1 is a representation of the model, which is followed by a brief discussion of the different components.

Input

Learners
Principal
Educators
National
Policies
School Policy
Resources

Respect

Violence

Trust

Throughput/Process

Control

Cohesiveness

Physical Infrastructure

Output

Behaviour,
Attitudes and
Perceptions of
the principal,
educators and
learners

Environment
Parents, Community, Educator Unions, Districts, Provincial Government, National Government

Figure 3.1. School climate conceptual model adapted from Heylighen (1998)

3.2.1. Input

The input is what enters the system from the environment. In the model, several inputs are identified. The first of the inputs into the system are the learners of the school. The learners have certain characteristics for example the learner's home backgrounds, socio-economic status, attributes and competencies, which they bring with them into the system. The second input into the system is the principal. The principal also has certain characteristic that he or she brings into the system namely age, experience as well as attributes and competencies. The third input into the system is the educators and their characteristics such as age, experience, attributes and competencies.   The learners, principal and educators are the main participants within the school system.   The principal responsibility is the management of the school. The educators facilitate learning and both the principal as well as educators are needed because there are learners that need to be educated and assisted in order to develop their full potential.

The fourth input into the system is National policies. According to Freiberg (1999), "moving forward requires some sign posts along the way and measuring climate must be one of the beacons of educational reform" (p. 1). South Africa is in a process of educational reform and the numerous policies formulated are testament to the process.   The policies create rules and regulations by which the principal, educators, learners have to adhere to. The policies also outline procedures that need to be followed.   As such these policies which were discussed in chapter 1, the National Education Policy Act (1996) and the South African Schools Act (1996) for example, has an affect on the school system and have been included in the model.

Perold (2001) is of the opinion that how educators and learners understand their situation has to be taken into account to understand what is happening in South African schools and part of this understanding is to grasp the policies to which they have to adhere. Many changes have been taking place within the education system. The governing of the school has become the responsibility of the community as well instead of primarily the responsibility of the

government. Educators are expected to teach differently, to approach teaching differently. This situation includes the various other policies which schools, principal, educators and learners need to comply with which can influence the way in which the principal, educators and learners experience the situation in which they find themselves.

Just as policy drawn up by National Government can have an influence on the school system so to can the policies that schools draw up. These policies vary from admission policy, code of conduct for learners and staff, rules and regulations to financial policies. School policies are informed by the National policies. The policies within a school can have an influence on the overall climate that is created within the school. For example, school rules that are not adhered to and enforced especially in terms of bringing weapons to school could increase the incidents of physical violence.

The final input into the system are resources. The school has buildings and sports fields, equipment, tables and chairs (physical resources) as well as financial resources to the school disposal. This forms part of the input into the system because these are things that are used in the daily goings on of the school (physical resources) and can be used to improve the school (financial resources).

3.2.2. Throughput

The throughput or process in this model constitutes the interaction that takes place between the principal, educator and learner and the various factors that may be influencing the interaction that takes place. The factors included could possibly be divided into three dimensions. The three hypothesised dimensions have been chosen as an umbrella to connect and organise the factors. The factors in the throughput, which is influenced by the interaction taking place, are interpreted and grouped in the following way:

56

A) Relationship dimension.

Cohesiveness, trust and respect develop when a relationship is built with another individual; they develop gradually as one person gets to know the other person.

1) Cohesiveness is seen in terms of forming part of a group, standing together when needed. In order for people to stand together when needed, trust is required. People can only form a unity once they start to get to know one another. It is in interaction that individuals form bonds and learn to trust one another. Therefore it can be said that a positive feedback loop exists between cohesiveness and trust because the more you trust someone the more likely you will form part of the group as well as stand together and the more you get to know someone the more likely you are to form a group and trust one another.

2) Trust is the notion that one can confide in another person without feeling that they will betray you by repeating what you have said and the feeling that another person will be honest and fair towards you. Trust develops gradually while interacting with other people, getting to know them, forming a unity. The more you get to know one another the more you start to respect the other person because they treat you fairly and are honest with you. When a person is honest and fair towards you gain respect for the individual. The more you treat a person fairly the greater the respect the person will have for you. Thus, a positive feedback loop exists between trust and respect.

3) Respect is a mutual feeling that develops when the one person views the other person as someone of worth. Some form of interaction is needed in order to know whether someone treats another person as having worth.

All of these are important but as noted by Chisholm and Valley there appears to be a lack of co-operation, trust and respect between the various parts of the school body (in Perold, 2001).

B) System control dimension.

The system control dimension is the sense that the system has an influence on events occurring within the school setting. For this reason control and violence have been grouped together. Control because it refers directly to the orderliness of the school and the sense that an individual will be able to manage any situation which may be presented to them and violence which could be described as a loss of control and not be able to influence events retaliating in violent ways. A possible example a learner refuses to listen to an educator, after repeated warnings the educator then gets up to move towards the learner in order to intimidate the learner. The learners still refuses to listen to the educator and the educator grabs a ruler and hits the learner on his/her knuckles.

1) Control is when a person feels that they are capable of influencing the management of a situation and the sense of orderliness with the school; an educator would feel comfortable maintaining classroom discipline for example. Thus, calibration points are set at which control or loss thereof can be identified. An example of this, which was given in chapter 2, is Learner A pushing and shoving Learner B. The sense of control and orderliness within a school can be influenced by violence. Thus, a negative feedback loop exists between control and violence.

2) Violence is the use of force to with the intent of harming another human being as well as subtle forms of violence, which includes the use of foul language and intimidation. Violence takes place between parties and with intent in mind. Violence within schools is seen as a priority. According to Porteus (2000), the South African Government has undertaken programmes to counter the problem of violence. The first school and safety programme formed part of the Culture of Learning and Teaching Campaign (COLTS) as a central component aimed at addressing the lack of discipline, values and safety within schools. COLTS was later abandoned and the Tirisano Safe Schools Programme took its place as safety in schools is cited as a primary objective for this period. Another of the initiatives undertaken in South Africa is the Safe Schools Project. According to Seedat (2002), the

Safe Schools Project is a comprehensive approach that promotes both health and safety amongst youth in schools.

C) Physical environment dimension.
1) The physical infrastructure is seen as the school buildings, the size of the school and the equipment that is at the schools disposal for example sports equipment whether classes are warm in winter and cool in summer. This has been included in the throughput process because it is the place of interaction and the principal, educators and learners have certain perceptions about there physical environment in which they find them self in. According to Baron and Byrne (1997) social behaviour is influence by the physical environment in which individuals find themselves in for example when the temperature rises to the point that it is uncomfortable, people interact in less positive ways.

Bateson (1972) states that human beings have a tendency to involve themselves in sequences of cumulative interaction and that this interaction is subjected to some sort of modification, deconditioning or inhibition. This can clearly be seen in the interaction of learner with educator as well as with learner and learner in the way they relate towards one another and how this influences the future interaction with one another.

3.2.3. Output

The resulting output of the interaction of the principal, educators and learners in terms of cohesiveness, trust, respect, control, violence and physical infrastructure is the behaviour, attitudes and perceptions of the principal, educators and learners which influences the atmosphere within the school. For example, the principal is trusted to keep his or her promises for social evenings. The learners are able to get to know each other better as well as the staff of the school. The learners respect the staff and the principal they incorporate this into their frame of reference and this becomes part of their characteristics that they bring into the system.

3.2.4. Environment

The other hierarchical systems form the environment of the school system, all of which have an influence on the output of the system before it gets feed back into the system. The parents of the learners, the larger community and society can influence the behaviour, attitudes and perceptions of the principal, educator and learner. Educator unions also may have positive or negative effects on the school organising strikes for example. The districts, provincial and National Government also has an influence especially because it is at these levels that certain policies are developed that need to be followed by the schools.

Within the school, there is a certain atmosphere, which is influenced by the perceptions of the sub-systems within the school (the principal, educators or educators and learners who attended). The principal, educators and learners are in constant interaction with one another which influence the way they view one another as the well as the way they view cohesiveness, trust, respect, control, violence and physical infrastructure of the participants of the system within the school.

3.3. Research design

Survey research is considered a branch of social scientific research and the survey researcher is interested in accurate assessments of the characteristics of whole populations of persons (Kerlinger, 1973, Cohen & Manion, 1995). Survey research is one of the most commonly used descriptive methods in educational research because surveys gather data at a particular point in time with an intention to describe the nature of existing conditions or even to determine the relationship between specific events (Cohen & Manion, 1995), for this reason survey research was chosen. The earliest survey dates back to 1817 when a survey, which consisted of 34 pages, was undertaken by Marc Antoine Jullien de Paris in order to investigate national education systems. However, it was not until the period between the First World War to the Second World War that surveys, as we know it began to emerge. Various

factors contributed to this development namely the improvement of sampling techniques and the development of different scales of measurement, which meant that surveys could be widely applied in many fields of the social sciences (Creswell, 2002).

Important information on a variety of issues can be gathered by means of surveys but surveys can be divided into two camps (Graziano &, Raulin, 2000). Status surveys attempts to provide descriptive information on an issue while survey research attempts to find relationships between variables measured in the survey. In survey research, the researcher does not manipulate a situation or condition but people simply answer questions, which does impose certain constraints on the respondent. The questions asked in surveys need to be carefully constructed, clear and can be open-ended, in a multiple-choice format or closed-ended such as a Likert scale.   The researcher asks the respondent a number of questions in a short period of time from these answers the researcher is able to obtain a picture of what many people think and do (Neuman, 1997).

According to Kerlinger (1973) the "social scientific nature of survey research is revealed by the nature of its variables, which can be classified as sociological facts and opinions and attitudes" (p.411). Attributes that are associated with membership of social groups such as gender, education, age, population group is referred to as sociological fact. However, this is not what is primarily of interest to the researcher. What is of interest to the researcher is what people think and do. The major goal of a survey is to learn more about people's ideas, knowledge, feelings, opinions or attitudes. But in order to carry out a survey the researcher should (Graziano &, Raulin, 2000):

1) Identify the area of information that the researcher wants.
2) Define the population and draw a sample from that population.
3) Decide on how the survey will be administered e.g. interview, mail questionnaire or self-administered questionnaire.
4) Construct the first draft of the questionnaire, edit the questionnaire and refine it.

5) Pre-test the questionnaire with a sub-sample followed by further refining of the questionnaire.

6) Administer the final version to the sample drawn from the population.

7) Analyse and interpret the results.

8) Communicate the results

Survey research is not a single research design but rather utilises several basic procedures in order to obtain information from people in their environment (Graziano &, Raulin, 2000). Kerlinger (1973) states that survey research has contributed substantially to the methodology of the social sciences because of the sampling procedures, overall design and implementation of the design. In order to outline the design and implementation of a survey researchers use a flow plan or chart. The flow plan starts with the objectives of the survey, lists each step to be taken, and ends with the report. Figure 3.2 outlines the flow plan, which was used in this study. This flow plan was adapted from Cohen and Manion (1995). The first block states the three objectives identified for this study this is followed by the steps followed throughout the study which includes designing the questionnaire, sending the questionnaire to judges to ascertain the validity of the items, contacting schools to ask for permission to administer the questionnaire to the Grade 10 learners, analysis of results and concludes with the writing up of the results.

Develop a questionnaire for School Climate. To develop a measure for cohesiveness, trust, respect, control, violence and physical infrastructure as indicators of School Climate and to validate the developed questionnaire. Finally, School Climate in the schools sampled will be explored.

Information needed:
Judges views on questionnaire
School climate and the factors affecting it

Review exiting information on topic and area

Decide: preliminary tabulations, analysis programme and sample

Examine resources: time

Sample: 4 Schools in Pretoria

Method: Survey: Self-administered questionnaire

Structure and wording of questions

Design questionnaire

Data processing

Send the questionnaire to expert judges

Pilot study
1 School

Amend questionnaire

Send letters of explanation and consent forms

Main Study
3 Schools

Edit, code and Analyse

Write-up

Figure 3.2. Steps in the survey adapted from Cohen and Manion (1995)

3.4. Issues of measurement

In this section, issues of validity and reliability are discussed as they are of importance to reach the objectives as set out in the beginning of this chapter.

3.4.1. Validity

The general definition of validity according to Kline (1993) is: "a test is said to be valid if it measures what is claims to measure"(p.15). In survey research several different types of validity can be of relevance and when assessing the performance of a survey questionnaire several types of validity are typically assessed:

Table 3.1. Types of validity

Type of validity	Characteristics	Comments
1) Face validity.	Casual review of how good an item looks or group of items appear.	Assessed by individuals with no formal training in the subject under study.
2) Content validity.	Formal expert review of how good an item appeared or series of items appears.	Usually assessed by individuals with expertise in some aspect of the subject under study.
3) Construct validity.	Theoretical measure of how meaningful a survey instrument is.	Determined usually after years of experience by numerous investigators.

(Table taken from Litwin, 1995:45).

An instrument's validity should always be evaluated in terms of the specific use for the instrument (Owen & Taljaard, 1996). When evaluating the validity of a questionnaire the researcher is concerned with what the questionnaire measures as well as with how well it does so (Anastasi & Urbina, 1997). The type of validity that was concentrated on in this study was face validity and content validity. A content validation strategy was decided upon in order to determine whether the questionnaire provides a valid measure for the factors

chosen (Murphy & Davidshofer, 1994). According to Anastasi and Urbina face validity should not be confused with content validity since face validity is not validity in the technical sense but refers to what it superficially appears to measures. Face validity refers to whether the test looks valid and is a desirable feature in questionnaires or tests since face validity can increase the motivation of participants and high motivation is essential for valid testing (Kline1993).

Content validity on the other hand refers to representation of the domain of items on a particular topic. There are no exact statistical measures for content validity. Instead, content validity represents judgements regarding the degree to which the test or questionnaire adequately samples a particular content domain. The judgements concerning content validity are neither final nor absolute but judgements of content validity are not arbitrary (Murphy & Davidshofer, 1994).

To ensure face and content validity the questionnaire was given to five expert judges to assess. The assessment of the questionnaire included the relevance and appropriateness of the item as well as the language used and the readability of the item. The expert judges were chosen from the fields of psychology, education and instrument development. The questionnaire was then revised based on the comments received.

3.4.2. Reliability

Reliability is the second aspect to be discussed in this section. Reliability is necessary but not sufficient for the validity of a test and gives an indication of how stable measurement is. In other words, reliability refers to the consistency of scores, which are obtained by the same individuals when they are requested to complete the questionnaire on different occasions (Anastasi & Urbina, 1997). Reliability not only gives an indication of how much confidence can be placed in a particular score obtained but also how constant the scores will be which are obtained in different administrations (Owen & Taljaard, 1996). Specifically, a distinction can be made between the stability of a test

as a measuring instrument and the internal consistency of its items. Murphy and Davidshofer (1994) are of the opinion that there are four factors that affect the reliability of a test or questionnaire:

1) Characteristics of people taking the test.
2) Characteristics of the test itself.
3) The intended uses of the test scores.
4) The method used to estimate reliability.

Different types of reliability can be identified. The first of which is test-retest reliability, which gives one an indication of the consistency over time or temporal stability. In this method, the same test is administered twice to the same group of people with a certain time lapse between the first and second administration. If the test-retest method yields a low reliability coefficient then the test in question is not a suitable means of measuring however, if a high reliability is obtained the value can be attached to the figure only if there if there is certainty that the requirements of the classical test model have been met (Owen & Taljaard, 1996). Factors that could influence test-retest reliability are changes in subjects, factors such as poor test instructions, subjective scoring and guessing which influence the measurement error, boosting of the correlation coefficient (by means of a time gap for example), difficulty level of the items, sampling of subjects and sample size. Split-half reliability on the other hand gives an indication of the consistency of a test when split. In this method, the test is administered once and then split into two equivalent halves that can be regarded as parallel and the correlation between the two sets of scores is calculated (Owen & Taljaard). Split-half reliability can be viewed as another form of parallel form reliability or internal consistency reliability where parallel form reliability gives an indication of the equivalency of two tests (Kline, 1993).

Internal consistency reliability was investigated in this study and indicates the ability of items to measure the same variable or construct where inconsistent items do not measure the same construct. Internal consistency is a pre-requisite for construct validity, where one would expect a high item-total

correlation since items measuring the same construct contributes to the total score of a test (Kline, 1993).

Internal consistency is measured by Cronbach's coefficient alpha when the score is not dichotomous (i.e. more than two scores can be allocated on at least an ordinal level, which is named after the psychometrician who first reported it in the 1950's. Cronbach's alpha reflects how well the different items complement each other in their measurement of different aspects of the same variable (Litwin, 1995). Cronbach's alpha is measured on the same scale as Pearson's r and typically varies between zero and one. The closer the alpha is to one, the greater the internal consistency of the items in the questionnaire being assessed (George & Mallery, 2001). When deciding whether a certain reliability coefficient is acceptable or not the researcher must remember that the reliability data relates only to the accuracy with which the instrument measures and that no information is given about whether the questionnaire or test measures what it is suppose to measure (Owen & Taljaard, 1996).

3.5. Sample design and procedures

This section discusses the sampling procedures that were used in this study. Convenience sampling was initially used to identify secondary schools to be included in this study. Convenience sampling is a non-random sample in which a desirable group of people are chosen for practical reasons (McBurney, 1994). Permission was given by the Gauteng Department of Education, Tswane North district to undertake this research in secondary schools (see Appendix A). A list was received from the Department of Education and this was compared to a list of schools with which the Faculty of Education at the University of Pretoria already had a relationship. This was done to ensure easier access into the schools. However, no school in a township area was found when the two lists were compared. Therefore, a school was randomly selected from the list of schools in the Tswane North district.

In total four schools were included in the study, one school in Soshanguve, one school in Lotus Gardens, one school in Mayville and one school in Riveira. The school in the Mayville area was identified as the pilot school and the rest of the schools formed part of the main study. The principals of these schools were contacted via telephone and an appointment was made to discuss the study. At the meeting with the principals the study was discussed and a copy of the letter of consent from the Tswane North as well as a letter introducing the study were given to them for their record purposes. At this meeting, the principals agreed to the study and signed a consent form indicating their willingness to participate in the study. Consent from the Department of Education and the principals strengthen the ethical base of this study. The principals agreed to make the necessary arrangements so that all the Grade 10 pupils in the school would fill in a questionnaire, either during a registration period or during class time but all at the same time. The date of administration was discussed with the principal and confirmed via telephone. The procedure for the pilot study and the main study was the same.

The study focused on Grade 10 learners because they were in the middle of their secondary education therefore they had experienced school life for two or more years and would be able to give a better indication of the climate in the school than Grade 6's for example. Apart from this, compulsory education ends after completion of Grade 9 in South Africa. Thus, learners in Grade 10 have chosen to continue their education. One of the objectives of the study was to develop a questionnaire that is valid and reliable all the Grade 10's were asked to fill in the questionnaire so that a large enough sample of individuals could be obtained in order to undertake the necessary statistical procedures given that only four schools were included in this study.

3.6. Instrument design

Constructing a questionnaire can be a complex task, whether the items in the questionnaire are going to be open-ended or closed ended in which case one would use a Likert scale.   Likert scales were developed in 1932 by R. A. Likert and involve defining what it is you are trying to measure. From the

definitions of what you are trying to measure, a potential scale of items is created so that one can rate them on a 1 to 4, 1-to-5 or 1-to-7 Disagree-Agree response scale. Once this process has been finalised the Likert technique will present a set of attitude statements to the respondents. The respondents are asked to express agreement or disagreement on the scale chosen. In Likert scales, a grading technique is used for each of the categories included in the questionnaire (for example strongly agree, agree, undecided, disagree and strongly disagree). To score the scale the response options are credited with 5, 4, 3, 2 and 1 from favourable to unfavourable. The sum of the item credits represents the individual's total score (Anastasi & Urbina, 1997).

The questionnaire used in this study was constructed using a Likert scale and consulting other questionnaires developed internationally which investigate school climate. Items appearing to explore the factors included in this study namely cohesiveness, trust, respect, control, violence and physical infrastructure were identified from these questionnaires and adapted for the South African context. The questionnaires consulted included the School-level Environment Questionnaire, the Culture Audit, Charles F. Kettering Ltd School Climate Profile, the School Climate Survey, School Profile, the Organizational Health Inventory, items developed by Gonder and Hymes (1994) as well as items developed by Holtappels and Meier (2000).

The questionnaire is constructed in such a way that the learners indicate what the existing situation in their school is (on the left hand side) as well as what the preferred situation (on the right hand side) both using closed answer options. Including the existing and the preferred situation in one questionnaire was inspired by two questionnaires namely the Culture Audit as well as the Charles F. Kettering Ltd School Climate Profile. The answer options for the existing situation is strongly agree, agree, disagree and strongly disagree while the answer options for the preferred situation includes no improvement is needed, improvement is needed, urgent or immediate improvement is needed and don't know (see Appendix B for an example of the questionnaire). The advantages of using closed questions include the following:

- It is easier and quicker to respond to answer.

- The answers of different respondents are easier to compare.

- Answers are easier to code and analyse.

- The response choices can clarify the question meaning for respondents.

- Respondents are more likely to answer about sensitive topics.

- There are fewer irrelevant or confused answers to questions.

- Less articulate respondents are not disadvantaged.

- Replication of results is easier (Neuman, 1997).

However, there are certain disadvantages of closed questions as well, which one should be aware of (Neuman, 1997):

- Closed questions could suggest ideas that the respondent might not have otherwise had.

- If the respondent has no opinion, he or she can answer anyway.

- If the desired answer is not a choice, the respondent could become frustrated.

- Too many response items could be confusing.

- If the question is misinterpreted, it might go unnoticed.

- The distinction between respondent answers may become blurred.

- Clerical mistakes are possible.

- Simplistic answers are given to complex issues.

- Force choices, which one might not have to make in the real world.

3.7. Data collection methods

The questionnaire was administrated to all of the Grade 10 learners in the schools sampled. Prior arrangements had been made with the principals of the school to spend approximately an hour at any school. The procedure involved briefing the educators as to the instructions to be given to the learners before the questionnaire was filled in. While the educators administered the questionnaire, the researcher walked to the various classrooms to ensure that the instructions were understood and that the administration of the questionnaires was proceeding smoothly. While walking between classes an observation schedule was used in order to describe the

school (see Appendix C for an example of the observation schedule used). The observation schedule is used in order to provide an objective description of the schools in the sample and to set the context of the study.

3.8. Data capturing and data editing

Six hundred and eight questionnaires were captured in total. The data was first captured in Microsoft Excel in two different files one for the existing situation and one for the preferred situation for both the pilot study and the main study, this made the managing of the data easier since two other people apart from the researcher captured the questionnaires. Each school and learner was given a unique identification number, contextual information as well as item data was captured. The responses per question for the existing situation were coded in the following manner for both the pilot and main study:

4 = strongly agree.

3 = agree.

2 = disagree.

1 = strongly disagree.

The codes were reversed when an item was negatively phased. For the preferred situation, the school and learner identification remained the same as in the existing situation, contextual information as well as item data was captured. For both the pilot study and main study, the preferred situation was captured. The responses per question were given the following codes for the pilot study:

4 = No change required

3 = Improvement is needed

2 = Urgent or immediate improvement is needed

1 = Don't know

The codes for the main study were changed in order to elicit more information from the respondents. The responses per question were given the following codes for the main study:

4 = No change required.

3 = Slight improvement is needed.

2 = Much improvement is needed.

1 = Urgent or immediate improvement is needed.

The codes were reversed when an item was negatively phased.

Once the data was captured in Excel and checked for any errors, the file was converted into SPSS (Statistical Package for the Social Sciences) for analysis. In SPSS both the pilot and the main study were included in one database and the variables were defined according to the school identification number, learner identification number, age of the learner, gender of the learner, population group to which the learner belongs, the home language of the learner as well as question answered. Labels were assigned to the codes given and measurement assigned. Once this was done, the data was ready for further analysis.

3.9. Data analysis

Once the data has been captured and edited for errors, the data are ready for further analysis. This section reviews the statistical analyses that was undertaken in order to ensure that the questionnaire is reliable and that the scales proposed in the conceptualisation of the study are feasible. A discussion of descriptive statistics follows.

3.9.1. Descriptive statistics

In this research study, the data was first explored using descriptive statistics in order to give the researcher an overview of the data. Descriptive statistics are used to describe, organise and make understandable data from a research study (Minium, King & Bear, 1993). Frequencies were used to describe the sample, the number of males and females in the study, which population groups do the learners to belong and what the home languages of the learners are. The frequencies output was examined for any missing values in the data as well as the percentage of learners that checked each answer option.

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Descriptive statistics are designed to give information about the distribution of variables (George & Mallery, 2001). The descriptive statistics were used to check the central tendency of the data, variability around the mean, deviations from normality, the spread of the distribution and information about stability or sampling error in the data. Once the descriptive statistics had been studied and problems identified as well as rectified where possible, the reliability analysis was undertaken.

3.9.2. Reliability analysis

Reliability analysis allows the researcher to study the properties of measurement scales and the items that make them up where reliability gives an indication of the stability over time and internal consistency. The Reliability Analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale (SPSS, 2001).

In SPSS under the scale the reliability analysis command can be found. The model that is used in this study is alpha and the statistics requested were (George & Mallery, 2001):

1) The descriptives for item, which provides the means and standard deviations for each variable in the analysis

2) The descriptives for scale, which the mean, variance, standard deviation and N for the sum of all variables in the scale.

3) Descriptions for scale if item is deleted, this identifies the resulting alpha value if the item were deleted from the scale.

4) Inter-Item correlations, which gives a simple correlation matrix of all the variables entered.

5) Inter-Item covariance, which gives a simple covariance matrix of all variables entered.

According to Kline (1993) reliabilities should ideally be high, around 0.9 but should never drop below 0.7 although DeVillis (1991) states that the minimally acceptable bound is between 0.65 and 0.7. After the pilot study it was found that some of the factor reliabilities were low. Upon closer examination it was

found that the negatively phrased items were problematic and were influencing the reliability. Reasons as to why this was the case were sought and thus these questions were not taken out of the questionnaire but instead three extra positively phrased questions based on the negatively phrased questions were included in the questionnaire. Once the reliability of the proposed scales were acceptable using the main study data, a factor analysis was undertaken to investigate the proposed scales and link them to the dimensions as discussed under the conceptualisation of the study (section 3.2).

3.9.3. Factor analysis

Factor analysis is used when a large number of variables have been measured and the researcher wants to know which variables tend to group together, in other words correlate with one another. In this research, factor analysis was chosen to see whether or not the items grouped together from literature and various questionnaires do tend to group together when undertaking statistical analysis. The group of variables or in this case items are called factors and the connection between each of the original variables to a factor is called a factor loading. Factor loadings are the correlations of the variables with the factor (Kline, 1993). Factor loadings range from a negative association (-1) through to no relation (0) to a perfect correlation with a factor (+1). A variable is considered to contribute in a meaningful way if it has a loading of at least +/- 0.3. Standard formulas are used to calculate which of the variables are associated with which factor (Aron & Aron, 1997). By reducing a dataset from a group of correlated variables into uncorrelated factors, the maximum amount of common variance in the correlation matrix was explained by means of using the smallest number of explanatory concepts, since the goal is to find the underlying dimensions within the data in order to find the variance (Field, 2000).

A factor analysis was undertaken using the following four steps (George & Mallery, 2001):

1) Calculate a correlation matrix of the variables to be used in the analysis. Creating a correlation matrix is the starting point for factor analysis and provides initial clues as to how the factor analysis works.

2) Extract the factors that are underlying constructs in order to describe the set of variables. For the analysis of the data for this research study, principal components were used to extract factors. According to Kline (1993), principal components factor analysis is efficient in condensing variables before rotation and does so by maximising the sum of squared loadings for each factor. Principal component analysis is concerned with establishing the linear components that exist within the data and how a particular variable contributes to that component (Field, 2000). The first step in extracting is that the computer programme selects the combination of variables that have a shared correlation that explains the greatest amount of the total variance; this was the first factor. The second factor was extracted based on the greatest amount of variance remaining and variables that contribute to this. This process was continued until there were as many factors as there were conceptualised factors. Each of the variables are initially assigned a communality value that ranges from 0 to 1 where 0 indicates that common factors explain none of the variance in a particular variable and 1 explains all the variance in a particular variable. The more a variable shares common factors with the other variables the larger the communality will be and the larger the communality, the better the factors account for the variance (Kline, 1993). After the first factor was extracted, SPSS shows eigenvalues that are designed to show the proportion of the variance accounted for by each factor.

3) Rotate the factors to create a more understandable factor structure. As many factors can be extracted as there are variables. However, this is not what the researcher wants so the researcher decides on the factors that he or she wishes to retain. The factors are retained based on face validity or theoretical validity before the rotation process. The selection

process is aided by SPSS since factors with an eigenvalue of less than one was rejected because it explains less variance than an original variable. A scree plot, which plots the eigenvalues on bicoordinate plane, is also useful in establishing how many factors should be retained in the analysis. The scree plot indicated that between four and six factors could be extracted. Once the factors have been selected, rotation is needed because although the original structure is mathematically correct it is difficult to interpret. The goal of rotation is to achieve a simple structure that implies high factor loadings on one factor and low loadings on all the others. Rotation does not alter the mathematical accuracy of the factor structure. Initially an analysis was undertaken extracting six factors. It was found that the sixth factor was a weak factor and the analysis was undertaken again using five factors. In the analysis of the data for this study, varimax or orthogonal rotation as opposed to direct oblimin or oblique rotation will be used. Orthogonal rotation means that the axes that are rotated remain at right angles with each other and is generally a good approach as it simplifies the interpretation of factors. While with oblique rotation the factor axes can take up any position relative to each other and the factors are correlated (Kline, 1993).

4) Interpreting the results, which will be discussed in chapter 4.

The use of factor analysis is exploratory in nature and should be used to guide hypotheses or inform researchers about the underlying patterns in data sets (Field, 2000). Therefore, factor analysis was undertaken in this study.

The final analysis for this study includes a description of the factors extracted as an initial exploration of school climate. The items were summed according to the factor to which they belong according to the factor analysis in order to describe the scale and how the learners in the school view these factors.

3.10. Limitations of the design

Survey research, specifically self-administered questionnaires, has advantages namely that it is very economical but more importantly a single researcher can conduct surveys and response rates are high (Neuman, 1997). However, response bias can occur, which means the responses do not accurately reflect the views of the sample and the population (Creswell, 2002). Another consideration, especially in this study, is non-sampling error, which can occur when the sample was non-randomly drawn. This means that the errors that occur cannot be calculated but one may be able to estimate the direction of the effect of these errors. Non-sampling error however does not invalidate the study since validation is a process of admitting of degrees (Sapsford, 1999). A final consideration is the tester-effect in which the results may be pre-empted by the way in which the researcher describes the schools.

3.11. Conclusion

In this chapter, the methodology that was used was described. The use of survey methods and the conceptualisation of the study were discussed in detail as well as the sample and data collection methods. This was followed by a discussion on how the data was captured and analysed. In the next chapter, the results of this study will be discussed using the guidelines as set out in this chapter.

Chapter 4

Presentation and discussion of findings

4.1. Introduction

Four schools were selected to take part in this study, schools that were very different from each other. Two schools were former Model C schools, one predominantly attended by English 1st language speakers and the second by Afrikaans speakers. The remaining two schools were from previously disadvantaged areas, one school a previously House of Delegates school and the other a former DET school. All of the schools were co-educational schools and will be discussed individually according to the observation schedule completed.

In this chapter, the results of the pilot study and main study are presented. The first section gives a description of the schools and the learners that took part in the study (4.2). This is followed by a discussion on the main findings of this study in terms of the pilot and the main study (4.3). Finally, a discussion of how the findings from the study can be taken further to refine the questionnaire is undertaken.

4.2. Description of schools and learners

In order to contextualise the findings of this study a description of the schools is first provided.

4.2.1. School A

School A is a former English model C school and is situated in a residential area. This relatively well-resourced school was formerly an English speaking white school but has now predominantly African learners. The atmosphere was very sober and orderly, all the learners were in classes and the school was very quiet. The school itself was tidy, had electricity and running water. The buildings of the school and garden were well maintained and the toilets

clean. There was parking available for staff both undercover as well as open parking.   The school grounds were well maintained and the school had hockey and soccer fields, netball courts, a basketball court, an athletics field and tennis courts all of which was in a good condition. The school has a gymnasium, pavilions, school hall, staff room, computer laboratory, media centre, science and biology laboratories, metal work classrooms and a tuck shop. The classrooms were clean, spacious and every learner had a desk and a chair. The school has security gates blocking off corridors and sections of buildings, parameter fencing was in place, an alarm system and armed response.   Visitors have to press a button and to be let in by the administrative ladies sitting in the front of the office. The offices are situated at the front of the school and have a security gate blocking them off from visitors. The administration ladies sitting in the front of the offices sit behind glass. Sufficient equipment for running the school is in place. The phone and fax machine are in a working condition, the administrative staff and management have offices and computers to their disposal. All the learners were in class at the time of the visit and were dressed in the prescribed uniform and colours of the school. In the majority of the classes, the educator was busy explaining certain aspects of the work or the learners were busy with class work.

4.2.2. School B

The second school, School B a former Afrikaans school, is also situated in an old, established residential area. The atmosphere in the school was pleasant and the school was tidy, had electricity as well as running water. The school has a parameter fence and gate, a guard during the day, an alarm system and armed response.   The buildings were in a usable condition but needed maintenance in certain areas. The classrooms were large enough for learners and there were classrooms that were not in use. The school has science laboratories, a music centre, tuck shop, woodwork centre, a library or media centre, and a school hall. The sporting facilities included pavilions, tennis courts; netball courts rugby fields, hockey fields and cricket fields. The school had sufficient office equipment such as a telephone, facsimile machine and

photocopier, which were in working order. Computers were available for the administrative staff and the principal.   The school had a garden that is maintained. All the learners were in the classrooms at the time of the visit and were dressed according to the prescribed uniform and colours of the school.

4.2.3. School C

The third school, School C a former DET school, is situated in an African residential township area. The atmosphere of the school felt chaotic and the organisation appeared disorganised.   The school itself is not very well maintained but the classrooms are large enough for the learners.   Each learner had a desk as well as a chair although these were old and appeared to need repair. There was a science laboratory but it did not appear to be in use, as it was very dirty and dusty. The school has offices, a staff room and storeroom but do not have adequate sporting facilities to their disposal. The school has a parameter fence and gate, a guard during the day and security bars on the windows. Uncovered parking was available for the staff but only a limited number of parking spaces. The school has a telephone and facsimile machine but they are out of order. The grounds are tidy except for the unused area where part of the school burnt down, which had not yet been repaired and had litter around. The learners were walking around during class time and educators were not in classrooms. The learners were dressed according to the prescribed uniform but some of the learners were not wearing socks, had hats on and had jerseys as well as jackets that did not appear to be part of the school uniform.

4.2.4. School D

The fourth school, School D, is situated in a former Indian residential area. The atmosphere of the school was lively as the Matriculants were about to write Accountancy, sitting around in groups chatting and learning while waiting to be taken into the school hall to write. The school has electricity and running water, a telephone, a facsimile machine and a photocopier to their disposal. The school has a parameter fence and gate, a guard during the day, burglar bars on the windows; security doors alarm system and armed response. The

classrooms of the school are large enough for the number of learners. The school has science laboratories, a school hall, a tucks shop and storerooms to their disposal. The school has netball courts and a soccer field but the soccer field is not maintained.   The grounds of the school are tidy and well maintained.   The buildings are clean and the classrooms have adequate lighting but the toilets were not hygienic or clean. The learners were in the classrooms except for learners who were excused to go to the bathroom. Learners dressed according to the prescribed uniform and colours of the school.

4.2.5. Description of learners

All the grade 10 learners in each of the schools were asked to complete the questionnaire. In total 608 learners participated in the study.   The overall average age of the learners taking part in the study was 16 years of age (see Table 4.1). However, School C, the former DET school, had an average age of 17 and a maximum age of 21, while the other schools had a maximum age of 18. According to the Admissions policy for ordinary schools of the National Department of Education (1998c) learners who had not made sufficient progress with his or her peer group, must be advised to enrol at an Adult Basic Education and Training centre especially if the learner is three years older than the norm age per grade.

Table 4.1. Age distributions of learners participating in the study by school

School	Learners	Average Age (Std dev)	Minimum Age	Maximum Age
School A	166	16 (0.75)	14	18
School B	85	16 (0.86)	15	18
School C	220	17 (1.25)	15	21
School D	137	16 (0.83)	14	18
Overall	**608**	**16 (1.2)**	**14**	**21**

Fifty-four percent of the learners in this study were female although in two of the schools (School B and School C) there were slightly more males than females. While in School D there were substantially more females than males.

Table 4.2. Gender distributions of the learners participating in the study

School	Learners	Male	Female
School A	166	68 (42%)	94 (58%)
School B	85	43 (51%)	42 (49%)
School C	220	114 (53%)	101 (47%)
School D	137	48 (35%)	88 (65%)
Overall	**608**	**273 (46%)**	**325 (54%)**

As can be seen in Table 4.3 the majority of the learners in this study were African constituting 79% of the total sample; 12% were white while 5% were Indian. The smallest population group in the sample were coloured learners (3%). These results also reflect the trend in migration of learners from township schools to former white schools. School A was a former white model C school and now 81% of the Grade 10 population are African. In contrast, School B was a former Afrikaans school however more than a third of the learners are African.

Table 4.3. Population groups of the learners participating in the study

School	Learners	African	Indian	Coloured	White
School A	166	134 (81%)	1 (1%)	5 (3%)	25 (15%)
School B	85	32 (38 %)	-	3 (4%)	50 (58%)
School C	220	212 (97%)	1 (1%)	6 (3%)	-
School D	137	102 (75%)	29 (21%)	5 (4%)	-
Overall	**608**	**480 (79%)**	**31 (5%)**	**19 (3%)**	**75 (12%)**

-    Data not available

The language spoken at home was considered important to ascertain the number of second language speakers as the questionnaire was administered only in English. As can be seen from Table 4.4 the majority of the learners

are second language speakers with only a small percentage of the learners consisting of first language speakers (11%). Of the second language speakers, the majority speak Sepedi (24%) in the home; SeTswana, Isishangani and IsiZulu follow this with 16%, 14% and 11% respectively.

Table 4.4. Home language of the learners participating in the study

Language	School A (n=166)	School B (n=85)	School C (n=220)	School D (n=137)	Overall (n=608)
IsiZulu	12%	1%	17%	9%	11%
IsiXhosa	3%	5%	1%	6%	3%
TshiVenda	1%	1%	1%	-	1%
SeTswana	34%	7%	25	22%	16%
Isishangani	6%	4%	32%	2%	14%
SeSotho	5%	1%	1%	6%	3%
Siswati	2%	1%	1%	-	1%
SePedi	14%	15%	33%	29%	24%
IsiNdebele	3%	1%	10%	1%	5%
English	14%	15%	1%	22%	11%
Afrikaans	3%	44%	1%	3%	8%
Other	5%	5%	1%	2%	3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

- Data not available

4.3. Pilot study

School A was visited for the pilot study. Given the nature of the study, school A was chosen as the pilot school because of the diverse population within the school and any difficulties with the questionnaire would be easily identified. As was seen in section 4.2.1 School A is situated in a residential area, is a relatively well resourced school and well maintained.

4.3.1. Description of the learners in the pilot study

In section 4.2.5 the demographics of the pilot school was represented in conjunction with the other schools in order to make comparisons and to

provide an overview of the overall sample in this study. However, this section gives a more detailed description of the learners who participated in the pilot study only.

In total one hundred and sixty six learners participated in the pilot study of which the majority were female (58%). Out of the 166 learners, four learners did not indicate their gender.
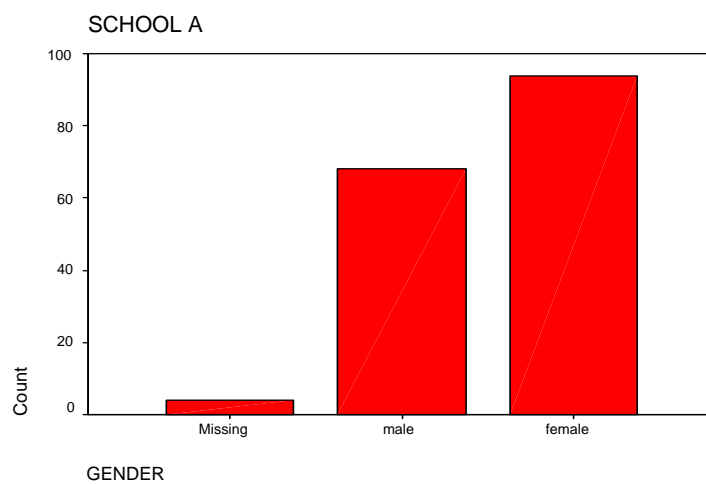
Figure 4.1. Distribution of gender for the pilot study sample

Eighty-one percent of the learners indicated that they were African while 15% of the learners indicated that they were White. Indian and Coloured learners were the smallest population groups in this sample with 1% and 3% respectively.
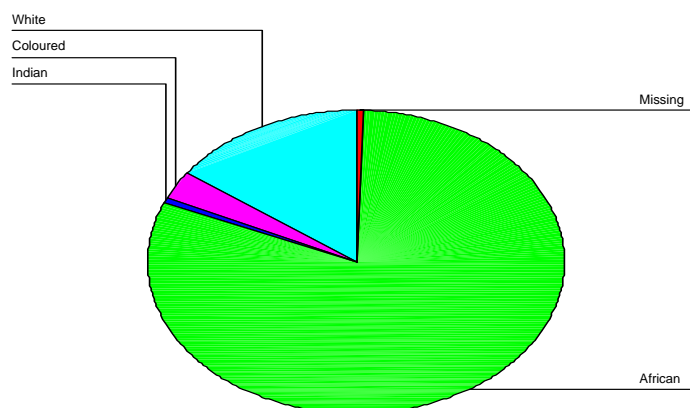
Figure 4.2. Distribution of population groups for the pilot study sample

84

The dominant language group in the pilot sample was SeTswana with 34% of the learners speaking this at home.   Other languages include Sepedi and English with 14% as well as IsiZulu with 12%.
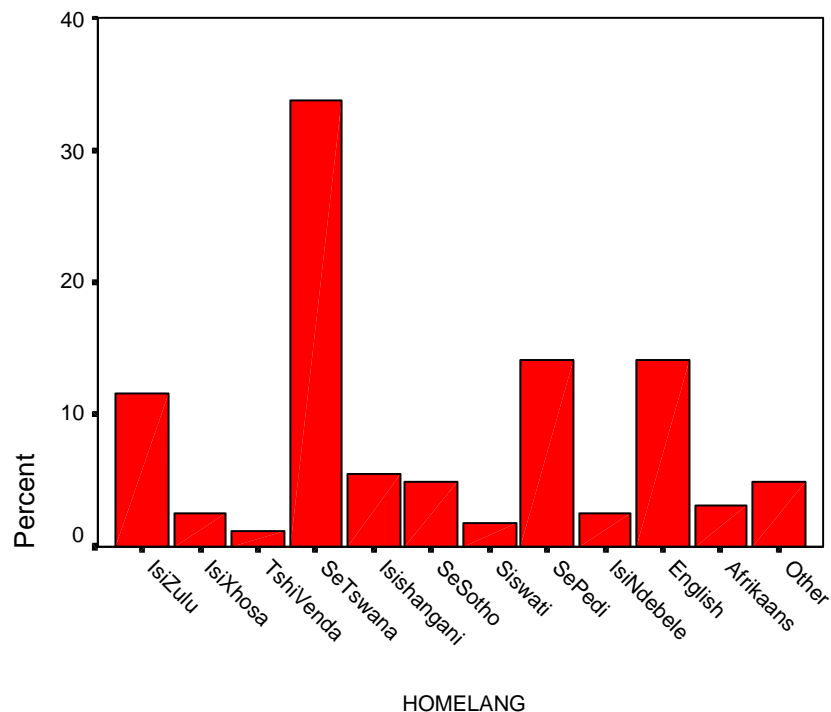
Figure 4.3. Distribution of home language for the pilot study sample

Before undertaking the statistical analysis, an initial exploration of the pilot study data was undertaken to ensure that that the planned statistical procedures could be undertaken and that assumptions would not be violated. The kurtosis and skewness was explored to ascertain the distribution of the data.   The kurtosis measures the extent to which scores cluster around a central point. If the distribution is normal then the value of the kurtosis statistic is zero. Positive kurtosis indicates that the scores cluster more and have longer tails than those in the normal distribution and negative kurtosis indicates the scores cluster less and have shorter tails.   The exploration indicated that items did deviate from normality.   However, this is not problematic for the reliability analysis as the statistical procedure is robust. Frequencies indicated that there was not substantial data missing with a maximum of 15 non-responses out of 166 missing for an item (see Appendix D for descriptive statistics).

4.3.2. Initial Results

The results in this section are the preliminary findings generated before the examination of the reliability of the scales. The questionnaire consisted of two parts. The learner was first requested to complete the questionnaire in terms of how the he/she sees the situation in the school currently (existing situation) and secondly how he/she would like to see the situation in the school (preferred situation). To produce a profile of the school on the various factors under study the mean scores and percentages were calculated for each factor using a score from 1 to 4 for each item (Table 4.5 and Table 4.6).

Table 4.5. Mean and percentage for factor totals School A

School	Cohesive-ness (Maximum Score 32)		Trust (Maximum Score 28)		Respect (Maximum Score 28)		Control (Maximum Score 44)		Violence (Maximum Score 52)		Physical Infra-structure (Maximum Score 64)	
	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%
School A Existing Situation	22 (3.7)	69	15 (4.2)	54	16 (4.0)	57	29 (3.9)	66	35 (5.2)	67	47 (8.0)	73
School A Preferred Situation	24 (4.5)	75	19 (3.6)	68	20 (3.1)	71	34 (4.7)	77	37 (6.3)	71	53 (8.1)	83

School A's profile on the existing situation and preferred situation is graphically represented in Figure 4.4. The percentages could be divided into a low score, a relatively low score, an average score, a relatively high score and a high score for the purposes of this study. A low percentage score would be below 50, a relatively low score would be between 50 and 60, an average score would be between 61 and 74, a relatively high would be a score between 75 and 85, finally a high score would be anything equal to or above 86. Figure 4.4 indicates that trust and respect are relatively low (54% and 57% respectively) while the other factors were average for the existing

situation. The scores for the preferred situation varied from average (trust, respect and violence) to relatively high (cohesiveness, control and physical infrastructure).
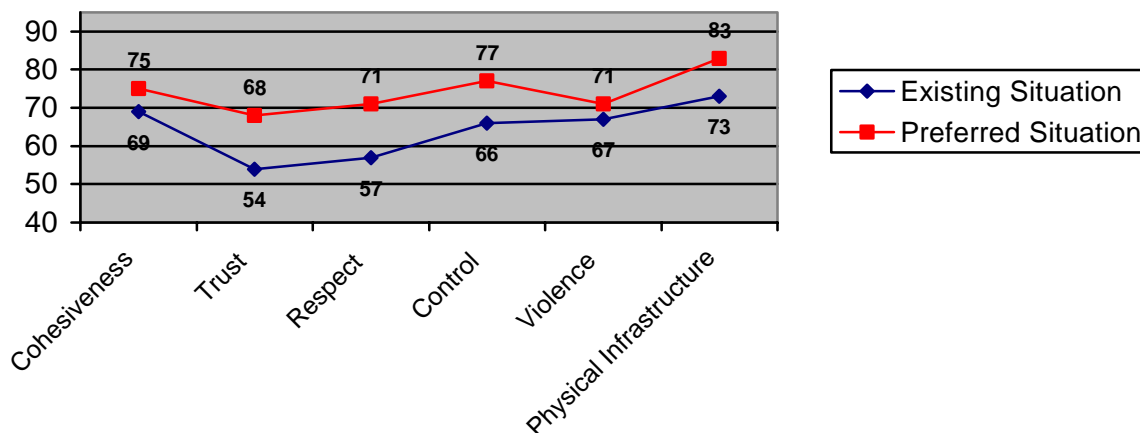
Figure 4.4. Profile on the existing and preferred situation for School A

The gap between the two scores for each scale suggests that the learners feel that in all aspects improvement is needed. As can be seen from Figure 4.4 the learners indicated that on all of the factors improvement (a difference of more than 10% between the existing and preferred situation) is needed on trust, respect control and physical infrastructure with the greatest differences found for respect and trust. The profile indicates that the learners want to be treated as individuals with worth, treated fairly, honestly and want to be able to confide in others more than they are currently experiencing as well as want to experience a sense of orderliness. Apart from this, the learners would like to see an improvement in the physical resources that they have to their disposal.

The learners were asked to write down any comments once they had completed the questionnaire. From these comments some insight into why the learners indicated a difference between the preferred and existing situation for the cohesiveness factor is:

- "We should have more social activities so we can relax and take time off from stressing school work".

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- School A " is a very good school and very organized school and I am proud of my Principal but she needs to let us have some fun sometimes".

- "We need some more fun".

- "There should be socials in this school like in other schools".

- "My school is a cool learning environment but I think socials and gathering for students should be available so that we can know each other better".

- "Our principal can maintain our school its just pupils who need to work together".

- "Principal doesn't work with the students and does everything to please only herself."

- "We really need socials".

- "All in all the school is very good, but a bit more of working together is needed".

Some insight into why the learners indicated a difference between the preferred and existing situation for the control scale, could be because of the negative perceptions that the learners have:

- "School rules are too strict and hairstyles also too strict".

- "Teachers need to listen to the learner if he/she is late for school".

- School A "is a good school but we need a bit more disciplines (sic) especially in classes and in assembly".

- "We need more discipline and respect".

- "Our school is a very good school with excellent education, but just like any other school we do experience discipline problems."

- "I have no problem with the school, this school has good staff and they are all doing their job. I only have a problem with students who make it unpleasant for teachers to do their job".

- "The principle should wach (sic) her=self (sic) the students hate her, she must stop thinking she is the madam of the school, she treats us like the apartheid years".

- "If only students would show some respect and dissipline (sic) themselves better, not be disruptive, cause fights, use foul language, then the school would not be like a prison but will be enjoyable"

4.3.3. Reliability analysis

Reliability analysis was conducted to study the properties of measurement scales and the items that are included in the measurement scale to give an indication of the stability over time and internal consistency. The Reliability Analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale (SPSS, 2001). According to Kline (1993) reliabilities should ideally be high, around 0.9 but 0.7 is suggested as a lower acceptable bound for alpha, although DeVillis (1991) states that the minimally acceptable bound is between 0.65 and 0.7. The overall reliability of the pilot questionnaire was 0.85, which indicates that the items were internally consistent. However, the reliability coefficients of individual factors varied drastically from 0.37 to 0.86 as can be seen from Table 4.6. The highest reliability was for the factor physical infrastructure as a learner stated, "well overall this school is well equipped with teaching aids and extra curricular activities". This could be an actual reason but there could also be instrument problems such as construct integrity or poor items. The factors that were found to have low reliability coefficients were cohesiveness, control and violence.

Table 4.6. Reliability coefficients for pilot factors using all items

Scale	Reliability Coefficient
Cohesiveness	0.58
Trust	0.74
Respect	0.71
Control	0.37
Violence	0.60
Physical Infrastructure	0.86
Overall	**0.85**

A closer examination of results revealed that the reliability coefficients improved significantly once certain items were taken out of the analysis.

These items included in the cohesiveness, control and violence factor also had item-total correlations that were below r = 0.25 and in some instances negative (see Appendix E for the inter-total statistics for each factor). As this is an exploratory study a correlation of below +/- 0.25 is acceptable (Howie, 2002). For cohesiveness three items had low correlations Item 3 (0.10), Item 7 (0.15) and Item 61 (0.14). Control had four items that were below 0.25 and were all negative Item 25 (-0.01), Item 33 (-0.18), Item 55 (-0.08) and Item 62 (-0.17). Three items had item-total correlations below 0.25 for violence of which one was a negative correlation; these items were Item 18 (0.24), Item 46 (- 0.24) and Item 57 (0.16). However, it was suspected that either the learners had difficulty with switching between positively and negatively phrased questions or that the learners did not understand the item or did not read the item. Analysis of the items indicated that it was the negatively phrased questions that were negatively affecting the reliability coefficient. In order to see if the learners had difficulty with the negatively phrased items, positive equivalents of selected negative items were included for the main study resulting in three extra items being included:

63) Very little disruption takes place while the teacher is trying to teach (Instead of many disruptions take place while the teacher is trying to teach)

64) Learners in this school socialise with each other (Instead of some learners in this school do not socialise with other learners).

65) Strict discipline is not needed to manage learners (Instead of strict discipline is needed to control the learners).

Other changes were also made to wording used in items. Words such as "quarrel" and "haphazard" were changed to "argue" and "irregularly" respectively. It was also decided that the word "mix" be changed to "socialise".

4.4. Main study

Three schools were included in the main study, School B, School C and School D (see section 4.2). School B is situated in a quiet residential area and was the better-resourced school of the three schools participating in

terms of resources and facilities to the schools disposal. School C is situated in an African residential township area and of the three schools had the least resources and facilities to the schools disposal, while School D is situated in a previously Indian residential area.

4.4.1. Description of the learners in the main study

In section 4.2.5 an overview of the demographic data was given. This section gives a description of the learners who participated in the main study only.

Four hundred and forty two learners were included in the main study of which 52% were female and 46% were male. Six of the 442 learners did not indicate their gender.
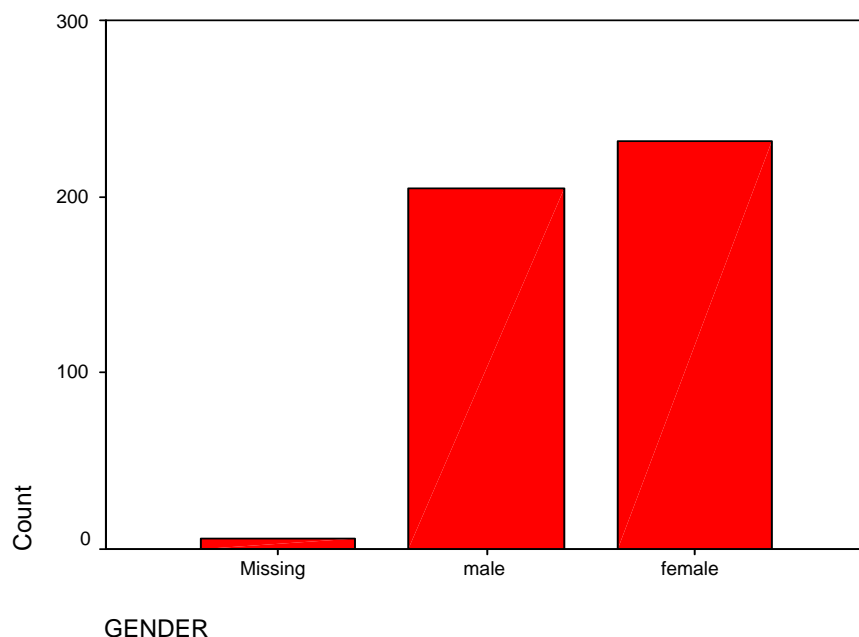
Figure 4.5. Gender distributions for the main study

The majority of the learners in the main study were African (79%). Eleven percent was White, while 7% were Indian and 3% were Coloured. Two learners of the 442 did not indicate to which population group they belong.
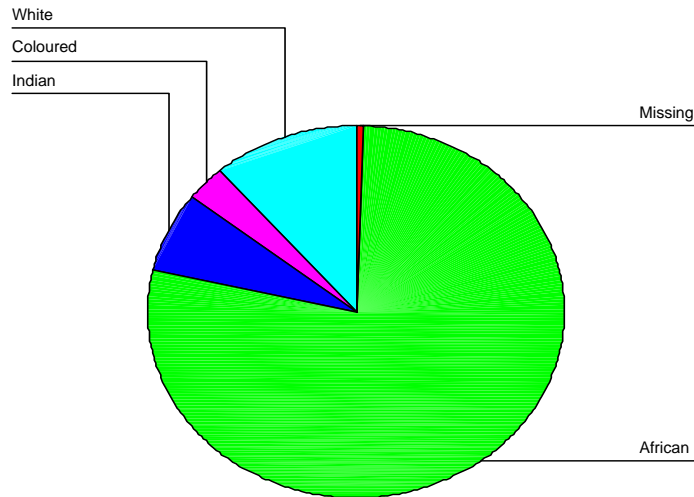
Figure 4.6. Distributions of the population groups for the main study

Learners were asked to indicate their home language as part of the background information collected. More than a quarter of the learners speak Sepedi (28%) in the home; Isishangani was next with 17% and IsiZulu with 11%. Learners speaking English and Afrikaans in the home represent 10% of the sample respectively.
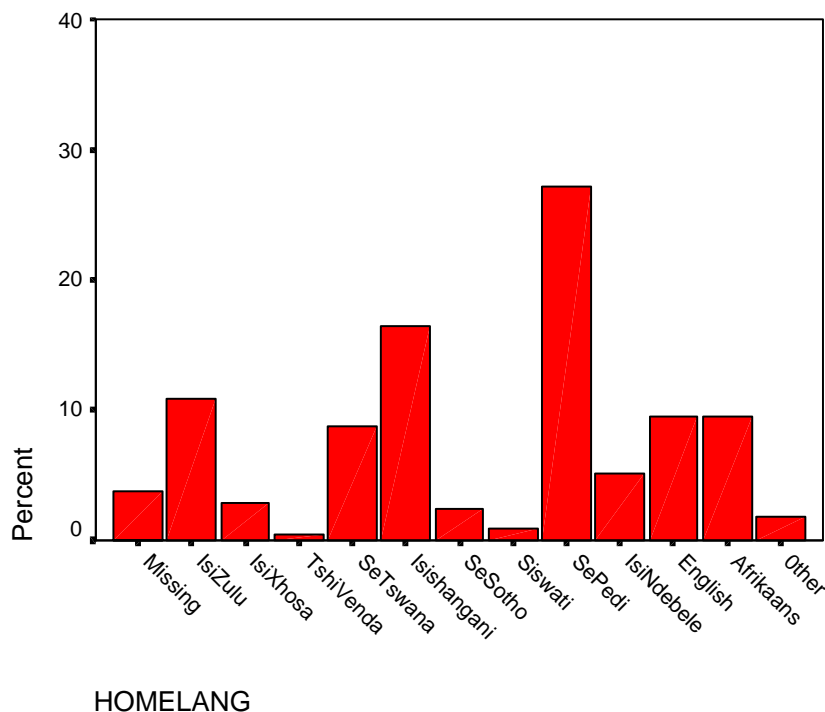
HOMELANG

Figure 4.7. Distribution of home language for the main study

Before undertaking the statistical analysis, an initial exploration of the main study data was undertaken to ensure that that the planned statistical procedures could be undertaken and that assumptions would not be violated. Initial exploration was also undertaken on the main study data. As was previously indicated kurtosis measures the extent to which scores cluster around a central point. If the distribution is normal then the value of the kurtosis statistic is zero. The exploration indicated deviations from normality. However, this is not problematic for the reliability analysis as the statistical procedure is robust. Frequencies indicated that there was not substantial data missing with a maximum of 56 non-responses out of 442 missing for an item (see Appendix F for descriptive statistics).

4.4.2. Initial Results

The main study questionnaire also included the existing and the preferred situation. To produce a profile of the school on the various factors under study the mean scores and percentages were calculated for each factor using a score from 1 to 4 for each item (Table 4.7 and Table 4.8). The results of the three schools are given on one figure for the existing and the preferred (Figure 4.8 and Figure 4.9):

Table 4.7. Mean and percentage for factor totals for the existing situation

School	Cohesive-ness (Maximum Score 36)		Trust (Maximum Score 28)		Respect (Maximum Score 28)		Control (Maximum Score 52)		Violence (Maximum Score 52)		Physical Infra-structure (Maximum Score 64)	
	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%
School B	24 (3.7)	67	18 (2.3)	64	17 (3.4)	61	33 (5.4)	63	35 (5.4)	67	41 (6.7)	64
School C	24 (3.8)	67	18 (3.6)	64	17 (4.0)	61	31 (4.0)	60	32 (6.2)	62	35 (7.0)	55
School D	23 (4.0)	64	16 (3.9)	57	16 (3.8)	57	31 (5.2)	60	35 (5.7)	67	37 (6.9)	58
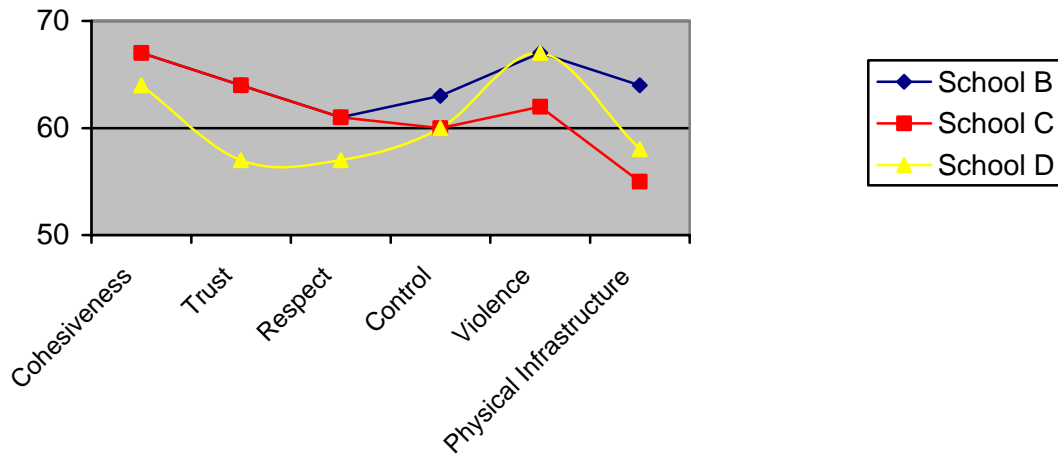
Figure 4.8. Profiles of main study schools for the existing situation

The learners in School B and School C reported very similar perceptions for cohesiveness, trust and respect, as the factor percentages for these schools were the same. School D however, was consistently lower than School B and School C on these factors. Learners in School C reported a lower score than the other schools for violence (which is a reversed factor indicating that the lower the score the lower the violence) and physical infrastructure (refer to Table 4.7 and Figure 4.8). Using the preferred situation data the profiles for the three schools were:

Table 4.8. Mean and percentage for factor totals preferred situation

School	Cohesive-ness (Maximum Score 36)		Trust (Maximum Score 28)		Respect (Maximum Score 28)		Control (Maximum Score 52)		Violence (Maximum Score 52)		Physical Infra-structure (Maximum Score 64)	
	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%
School B	27 (4.6)	75	19 (4.6)	68	19 (4.5)	68	37 (6.9)	71	35 (7.7)	67	44 (8.7)	69
School C	24 (4.8)	67	19 (4.0)	68	19 (3.9)	68	33 (6.3)	63	33 (7.7)	63	38 (8.7)	59
School D	26 (4.6)	72	17 (4.5)	61	18 (4.6)	64	34 (7.2)	64	31 (8.5)	60	38 (8.3)	59

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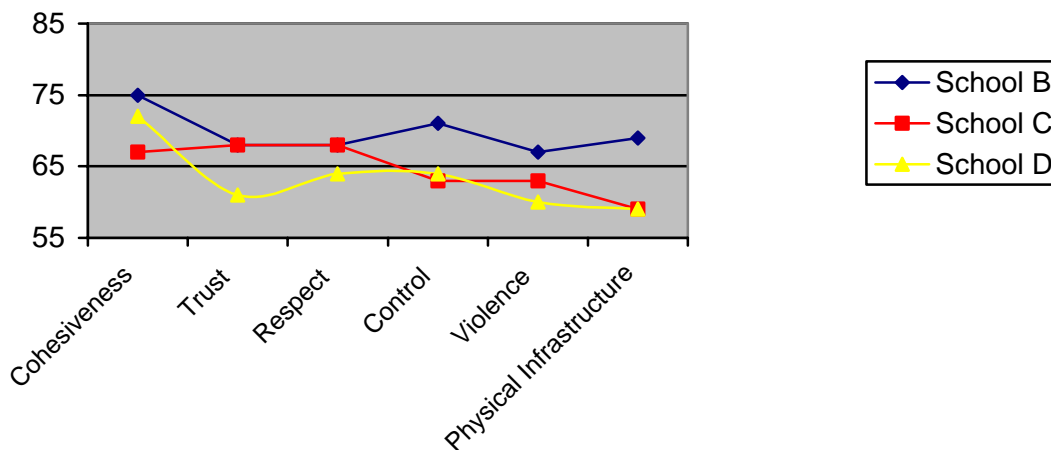
Figure 4.9. Profiles of main study schools for the preferred situation

The percentages for the factors investigated increased for most of the factors from the existing situation percentages to the preferred situation percentages with the exception of School C on the cohesiveness factor and School B on the violence factor. Even though the percentages did increase for School D on the trust and respect factor these remained below the percentage reported by learners in School B and School C.

The individual profile for each school will be individually discussed. The gap between the two scores for each scale suggests that the learners feel that in all aspects improvement is needed.

The profile for School B is represented in Figure 4.10 and indicates that the learners in this school indicated that improvement was needed on almost all of the factors and a decrease in violence. The areas that needed the most attention were cohesiveness, respect and control. This means that the learners want to form part of the group or form a unity more than they are experiencing at the moment, that they want to be treated as individuals with worth more than they are currently experiencing and finally that they want to experience a sense of orderliness that they are currently not experiencing. The percentages could be interpreted according to a low score, a relatively low score, an average score, a relatively high score and a high score for the purposes of this study. A low percentage score would be below 50, a

relatively low score would be between 50 and 60, an average score would be between 61 and 74, a relatively high would be a score between 75 and 85, finally a high score would be anything equal to or above 86. As can be seen from Figure 4.10 the percentage scores for the existing situation and the preferred situation were all average with the exception of cohesiveness on the preferred situation.
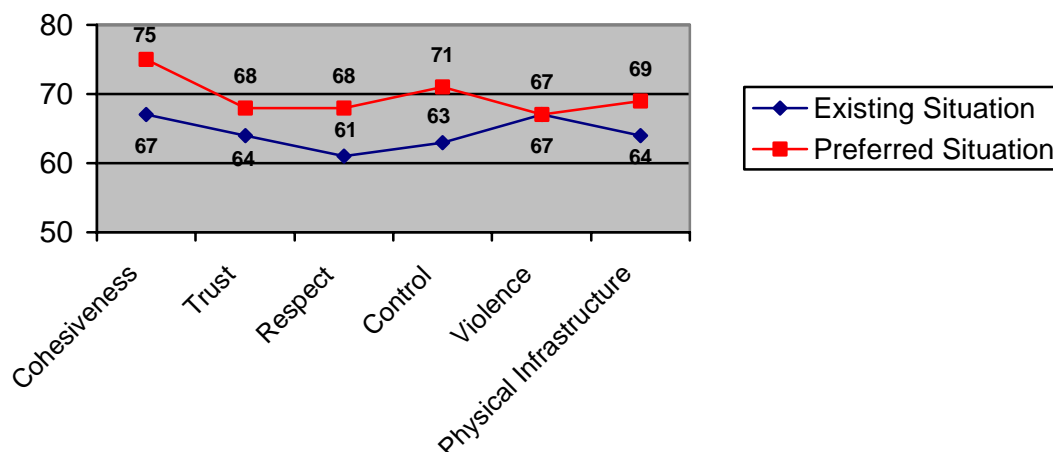
Figure 4.10. Profile for School B

The learners in School C indicated that a slight improvement was needed on all of the factors with the exception of cohesiveness (Figure 4.11). This gives an indication that the learners want to be treated as individuals with worth more than they are currently experiencing, that the learners want to be treated more fairly, honestly and want to be able to confide in others more than they are currently experiencing and that they want to experience a sense of orderliness that they are currently not experiencing. Apart from this, the learners want to see an improvement with regard to physical, mental and emotional violence and would like to see an improvement in the physical resources that they have to their disposal. All the percentages for the existing and the preferred situation were average with the exception of physical infrastructure, which were relatively low for both the existing and the preferred situation.
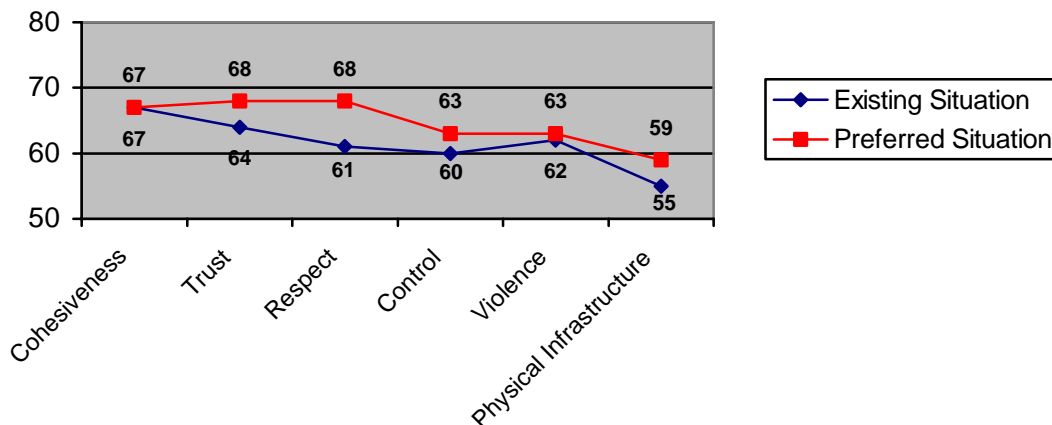
Figure 4.11. Profile for School C

The learners in School D indicated that attention was needed on all of the scales, with a dramatic reduction in violence (Figure 4.12). This means that the learners want to form part of the group or form a unity more than they are experiencing at the moment, that the learners want to be treated as individuals with worth, treated fairly, honestly and want to be able to confide in others more than they are currently experiencing more than they are currently experiencing as well as experiencing a sense of orderliness. Apart from this, the learners want to see an improvement with regard to the physical, mental and emotional violence (which is a unique characteristic to this school when compared to the other schools) and would like to see an improvement in the physical resources that they have to their disposal. The percentage reported by learners in School D was all relatively low for the existing situation with the exception of cohesiveness, which was average. The factor percentage as reported by learners for the preferred situation was average with the exception of physical infrastructure, which was relatively low.
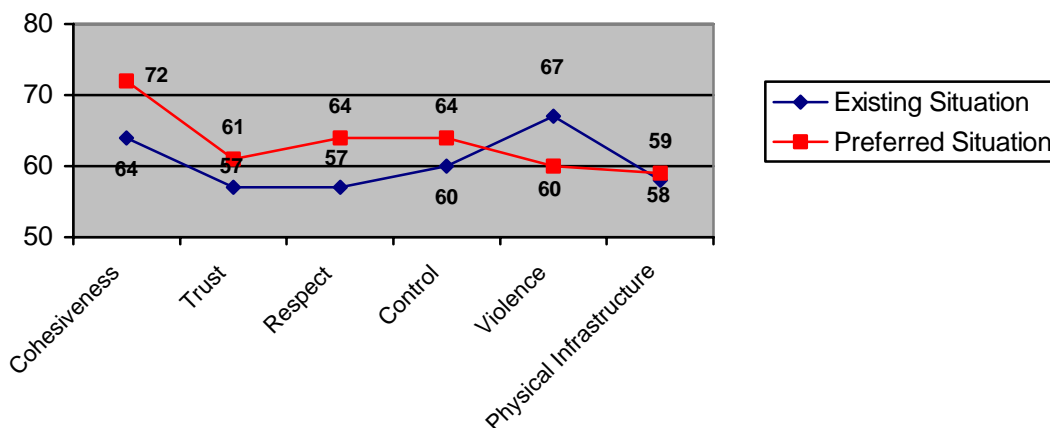
Figure 4.12. Profile for School D

4.4.3. Reliability analysis

Before undertaking reliability analysis it is important to ascertain whether the factors chosen for study correlate with one another. Table 4.9 gives an indication of the correlation between factors and as can be seen the correlations between factors are significant with the exception of violence with cohesiveness, trust and respect.

Table 4.9. Correlation of factors using existing situation data

	Cohesive-ness	Trust	Respect	Control	Violence	Physical Infra-structure
Cohesive-ness	1.000	.473**	.496**	.442**	-.038	.454**
Trust	.473**	1.000	.582**	.383**	.114	.490**
Respect	.496**	.582**	1.000	.507**	-.046	.418**
Control	.442**	.383**	.507**	1.000	-.185**	.395**
Violence	-.038	.114	-.046	-.185**	1.000	.229**
Physical Infra-structure	.454**	.490**	.418**	.395**	.229**	1.000

** Correlation is significant at the 0.01 level (2-tailed).

The overall reliability of the items in the questionnaire for the existing situations was 0.86 indicating that the items are internally consistent but as can be seen from the Table 4.10 all of the scale reliabilities were below 0.7 with two scales below 0.65. A possible explanation for this is that items included in the scale do not correlate with one another thus lowering the reliability of the scale. As mentioned earlier, in the pilot study problems were experienced with a number of negatively phrased questions. Therefore, positively phrased equivalent items for the negatively phrased items were included for the main study. The positive versions of these negative items performed better than the negatively phrased items after recoding. Other factors that might be influencing alpha are a non-central mean, poor variability or a low item-scale correlation (DeVellis, 1991).

Table 4.10. Reliability coefficients for factors using existing situation data

Scale	Reliability Coefficient School B	Reliability Coefficient School C	Reliability Coefficient School D	Reliability Coefficient Overall
Cohesiveness	0.68	0.52	0.59	0.57
Trust	0.58	0.62	0.72	0.65
Respect	0.63	0.65	0.67	0.65
Control	0.71	0.21	0.57	0.48
Violence	0.71	0.70	0.65	0.69
Physical Infrastructure	0.80	0.57	0.76	0.68
Overall	**0.79**	**0.88**	**0.87**	**0.86**

As can be seen from Table 4.10, the reliability coefficients vary between the different types of schools and on different scales. It could be that the types of schools included in the study affect the reliability of the items because the schools are so different from one another in location and resources to their disposal that it might have an influence on the overall reliability of the questionnaire. The data supports the observation made by the researcher when visiting the schools that the school with the better physical infrastructure (School B) had a high alpha for physical infrastructure but a relatively low alpha on trust and respect (lower than the acceptable bound of 0.65). For School C the alphas for cohesiveness, control and physical infrastructure are

also lower than the acceptable bound, with the reliability coefficient for control being the lowest (0.21).   A possible explanation for this could be low item-scale correlation as the reliability across the three schools was found to be lower than acceptable bounds. The alpha for cohesiveness and control were the lower than the acceptable bound of 0.65 for School D (see Appendix E for the reliability analysis per school).   It is possible that the reliability coefficients are low because the items load on other factors.   However, this will only be determined by means of factor analysis which will discussed in detail at a later stage in the chapter (section 4.4.4).

Correlation analysis was also undertaken using the preferred situation data and it was found that all of the factor correlations were significant (Table 4.11).

Table 4.11. Correlation of factors using preferred situation data

	Cohesive-ness	Trust	Respect	Control	Violence	Physical Infra-structure
Cohesive-ness	1.000	.584**	.572**	.563**	.525**	.464**
Trust	.584**	1.000	.646**	.520**	.474**	.621**
Respect	.572**	.646**	1.000	.579**	.542**	.492**
Control	.563**	.520**	.579**	1.000	.705**	.542**
Violence	.525**	.474**	.542**	.705**	1.000	.397**
Physical Infra-structure	.464**	.621**	.492**	.542**	.397**	1.000

** Correlation is significant at the 0.01 level (2-tailed).

The reliability analysis was then undertaken using the data for the preferred situation (Table 4.12).   As can be expected the reliability coefficients for the preferred situation in terms of overall reliability as well as for the individual schools were improved upon, since this is how the learners would want the situation to be like.   The exception is the respect factor in which the reliability coefficient remained the same.   A possible explanation for this is that the

alpha was influenced by a lower reliability for School C in which a decrease is seen from the existing situation to the preferred situation.   The overall reliability coefficient was 0.94 and for all of the factors the coefficients indicated an acceptable bound of 0.65 and thus can be said to be consistent.

Table 4.12. Reliability coefficients for factors using preferred situation data

Scale	Reliability Coefficient School B	Reliability Coefficient School C	Reliability Coefficient School D	Reliability Coefficient Overall
Cohesiveness	0.71	0.66	0.63	0.66
Trust	0.76	0.64	0.71	0.69
Respect	0.73	0.57	0.70	0.65
Control	0.80	0.69	0.76	0.74
Violence	0.84	0.79	0.84	0.82
Physical Infrastructure	0.86	0.81	0.80	0.80
Overall	**0.95**	**0.93**	**0.94**	**0.94**

The reliability coefficients namely trust and respect for school C and cohesiveness for School D were lower than the acceptable bound of 0.65 (DeVillis, 1991). A possible explanation for this is that certain items included in the scale do not correlate with other items or learners had difficulty in reading and/or understanding certain items. For this reason, item analysis was undertaken in which item-total correlations were investigated (see Appendix G for reliability analysis for existing and preferred situation per school and overall).

For the purposes of this study, a low item-total correlation would be below 0.25 as this is an exploratory study and only factors with item-total correlations of less than 0.25 using data from all three schools, were included in the analysis to follow. For the cohesiveness factor two items in particular had low item-total correlations; namely Item 3 (0.14) and Item 61 (0.03). The analysis also indicated that the alpha would increase once these two items were deleted.   For the control factor nine out of the 13 items had low item-total correlations (smaller than 0.25); namely Item 2 (0.23), Item 16 (0.22), Item 25

(0.07), Item 21 (0.23), Item 33 (0.11), Item 55 (0.02), Item 62 (-0.11), Item 63 (0.16) and Item 65 (0.23).   The analysis also indicated that the alpha if deleted would increase if a combination of these items were taken out of the analysis.   The analysis of the violence factor indicated that three items included in the factor had item-total correlations of lower than 0.25.   These items were Item 24 (- 0.05), Item 46 (0.02) and Item 57 (0.19).   Lastly, the physical infrastructure factor of which five items obtained an item-total correlation of less than 0.25 namely Item 6 (- 0.09), Item 26 (0.17), Item 40 (0.21), Item 52 (0.09), Item 56 (0.21).   The reliability analysis indicated that if these items were deleted than the reliability coefficient would improve.

Table 4.13. Reliability coefficients for factors using existing situation data

Scale	Reliability Coefficient Before	Item Deleted	Reliability Coefficient After
Cohesiveness	0.57	3, 61	0.63
Trust	0.65		0.65
Respect	0.65		0.65
Control	0.48	2, 25, 33, 55, 62,63,65	0.65
Violence	0.69	24,46,57	0.76
Physical Infrastructure	0.68	6,26,40,52,56	0.75

On closer examination, it was not just the negatively phrased questions but in some cases also their positively phrased counterparts. The content analysis of the items deleted for cohesiveness revealed that not only were they negatively phrased questions but that the learners might not see the educators argue with one another and that all learners have there "cliques" and that these do not socialise with other "cliques" therefore the questions are not relevant.

The items deleted for the control factor include the negative items for that scale but also the positively phrased counterparts, which refer to the management, discipline and disruptions of learners or lack thereof. A possible

explanation for this is that the learners did not appreciate the wording used or may have felt that the questions were not relevant for their context.

For the violence factor, items that were deleted refer to the safety of learners and staff at school and the intimidation of educators by learners to get what they want (Item 57).   The items deleted did not correlate highly with the other items. This could be that issues of violence between learners and safety of learners at school are not associated with one another since safety can be interpreted in many ways.   It may be possible that the intimidation of educators by learners is thought to be irrelevant for the context by the learners. Possibly because intimidation of learners by educators might be taking place as indicated by the following comment made by a learner: "teachers at this school they don't respect the learners because they think other learners don't respect them, some teachers bull (sic) us if we go to the police they don't do anything."

For physical infrastructure, the items that were deleted included the lack of facilities, condition of sports equipment, conditions of toilets as well as whether the classes are big enough for learners and cool in the summer. A possible explanation for the performance of the items for physical infrastructure is the type of school that was included in the study. Two of the three schools had very few facilities and sporting equipment to their disposal. In all three of the schools the condition of the toilets, left much to be desired as is indicated by a learner in School D: "toilets always seem to be dirty which is very unhygienic."

To further the investigation of the factors included in this study and to see whether certain items were correlating with other items theoretically place factors a factor analysis was undertaken. The overall reliability for the factors was above the acceptable limit of 0.65 for both the existing and the preferred situation with 0.72 and 0.88 respectively (see Appendix H for the reliability analysis for both the existing and the preferred situation).   The findings indicate that a worthwhile operationalisation of the factors was found.

4.4.4. Factor analysis on existing data

Factor analysis is used when a large number of variables have been measured to determine which variables tend to group together, in other words correlate with one another. Each group of variables are grouped together are called factors and the connection between each of the original variables to a factor is called a factor loading. Factor loadings range from a negative association (-1) to no relation (0) to a perfect correlation with a factor (+1). A variable is considered to contribute in a meaningful way if it has a loading of at least +/- 0.3 (Aron & Aron, 1997).

Several procedures were required when undertaking the factor analysis. The first step concerned screening, assumption testing and sampling adequacy. The determinant was found to be 1,154 E-07 or 0,0000001154, which is smaller than the necessary value of 0,00001, this indicates that either there are variables that correlate very well together (R > 0.8) or have no correlation with others. For the purposes of this analysis, all the items were retained regardless of the fact that there were items that did not correlate well with certain items. The Kaiser-Meyer-Olkin (KMO) measures the sampling adequacy and a value close to one indicates that the patterns of correlations are compact and thus the factor analysis should yield distinct factors, which are reliable. In this case, the KMO is 0.806 and indicates that factor analysis (principal component analysis) is appropriate for the data (Field, 2000). Bartlett's Test of Sphericity tests that null hypothesis that the correlation matrix generated from the data are an identity matrix. The significant test indicates that the matrix is not an identity matrix and that there are relationships between variables. As the result for this data set is highly significant (.000), the data can be said to be normal and acceptable for principal component analysis (Field, 2000). Principal components analysis was used to extract the factors. The factors extracted were rotated using varimax rotation meaning that the axes are rotated and remain at right angles with each other with the purpose that the factors do not correlate with each other. The communalities as well as the anti-image matrix were analysed. It was found that certain items did have low communalities but these were

retained in the analysis with the assumption that they would not load on the factors (see Appendix I). The anti-image matrix indicated that all of the items contained correlations higher than 0.5.

The scree plot indicated that between four and six factors could be extracted from the data (see Appendix I). Initially, six factors were extracted however, the sixth factor was weak and thus it was decided to extract five factors instead (see Appendix I). Table 4.14 gives an indication of the factor structure and the percentage of variance explained by each.

Table 4.14. Factor Structure and the percentage of variance explained

Item	Factors Extracted				
	1	**2**	**3**	**4**	**5**
Q42	.601				
Q35	.587				
Q48	.540				
Q39	.528				
Q51	.525				
Q32	.499				
Q18	.480				
Q28	.461				
Q25	-.419				
Q8	.416				
Q55	-.415				
Q4	.393				
Q33	-.337				
Q58		.678			
Q38		.674			
Q54		.636			
Q37		.527			
Q46		.501			
Q43		.481			
Q13		.369			
Q9		.356			
Q26		.320			
Q50		.313			
Q24		.309			
Q19			.613		
Q22			.596		
Q5			.536		
Q53			.497		
Q12			.482		
Q49			.441		
Q23			.418		
Q21			.343		
Q34			.342		
Q52			.326		
Q29				.567	
Q41				.545	
Q64				.528	
Q31				.486	
Q27				.477	
Q47				.433	
Q2				.401	
Q63				.376	
Q17				.373	
Q7				.354	
Q15				.336	
Q56				.323	
Q11					.598
Q30					.589
Q45					.536
Q44					.521
Q36					.507
Q40					.400
Q16					.378
Q60					.340
Percentage Variance Explained	**5.968**	**5.923**	**5.641**	**5.540**	**5.337**

Rotation converged in 7 iterations.

The five factors extracted contained loadings greater than +/- 0.3. The content of the items that load onto the same factor was used to identify common themes and identify the factor. All the items for the first factor included elements such as foul language, vandalism, theft and fighting and therefore is called Violence. Violence is defined as is the use of force with the intent of harming another human being as well as subtle forms of violence, which includes the use of foul language and intimidation. Table 4.15 lists the items that loaded on this factor.

Table 4.15. Items included in the Violence factor

Items included in the Violence factor
4. Fighting amongst learners often takes place in the school.
8. Learners often take things from other learners using force.
18. Learners bring weapons to school.
25. Many disruptions take place while the teacher is trying to teach.
28. Learners use foul language at school.
32. Learners often beat other learners.
33. Strict discipline is needed to control learners.
35. Learners often tease one another.
39. Learners intimidate one another to get what they want.
42. Stealing of school property is a problem.
48. Learners often vandalise school property.
51. Learners frequently annoy one another.
55. Teachers need more assistance to deal with disruptive learners.

The second factor extracted included items that had to do with the Learning Environment in which the learners found themselves specifically in the classroom (Table 4.16). For example, whether the classes start on time, whether learners felt safe, whether the classrooms were warm or cool during winter and summer amongst others. Specifically, the first two examples refer to a structured environment, a safe space for learners to learn. This factor is called Learning Environment and is defined as the structure, resources and physical environment in which the learner finds him or herself in the classroom and school setting. Items in this factor include:

Table 4.16. Items included in the Learning Environment factor

Items included in the Learning Environment factor
9. Classes in this school start on time.
13. The classrooms are warm in the winter.
24. Learners feel safe in this school.
26. The classrooms are cool in the summer.
37. The learner environment in this school is conducive to learning.
38. This school has a science laboratory, which learners can use.
43. The learning environment in this school is orderly.
46. The school is safe for staff and learners.
50. The resources in this school are adequate.
54. There are enough tables and chairs for the learners in the classrooms.
58. The buildings of this school are in a good condition.

The third factor extracted is called Interaction because all of the items that loaded on this factor had to do with the values or esteem that develops either during educator – educator interaction or educator – learner interaction (Table 4.17). For this reason the factor is defined as the esteem that develops between parties in interaction with one another for example viewing the other person as someone of worth, knowing that the other person will be honest and fair towards you and to be able to confide in the other person. Interestingly enough whether the toilets are in good condition also loaded on this factor but a possible explanation is that the bathroom is one of the places were a lot interaction takes place for example via graffiti as well as during break time. This could also be an indication of the schools respect for the personal hygiene and well being of learners, the learners themselves and other learners in the school. Items included in this factor are:

Table 4.17. Items included in the Interaction factor

Items included in the Interaction factor

5. The teachers respect the learners in the school no matter who they are.

12. The teachers in this school trust one another.

19. Teachers treat learners as human beings.

21. Teachers apply consistent discipline in this school.

22. Teachers respect learners.

23. The teachers in this school work well together.

34. Learners can count on the teachers to be fair.

49. The teachers can be trusted to keep their promises.

52. The toilets of this school are in a good condition.

53. When learners get into trouble, the teachers give them a chance to explain their side of the story.

The fourth factor extracted is named Cohesion (Table 4.18). This is more from the learner's perspective in the sense of personal space and freedom to form a group as well as be part of a group (classes spacious enough), learners respect for the staff of the school (administrative staff, teachers and principal) and learners socializing with each other and forming a group. This factor is defined as learners forming a group, a unity as well as including aspects of the dynamics of the interpersonal relationships they have with the authority figures of the school.

Table 4.18. Items included in the Cohesion factor

Items included in the Cohesion factor
2. It is easy for teachers to manage learners.
7. Most of the learners in this school know each other.
15. Learners in class help one another when they need help.
17. The learners feel that teachers are "on their side".
27. The learners in this school get along with one another.
29. Learners in this school respect the administrative staff.
31. The school is important to the learners of the school.
41. Learners in this school respect the teachers.
47. Learners in this school respect the principal.
56. The classrooms are big enough for all the learners.
63. Very little disruption takes place while the teacher is trying to teach.
64. Learners in this school socialise with each other.

The last factor that was extracted is named Resources, which is more on a school level (Table 4.19). This includes the equipment and grounds that the schools has to its disposal and is defined as such. What is of interest is that school rules are clear and whether the principal keeps his or her promises also loads on this factor. A possible explanation for the rules item (Item 16) could be that the learners interpreted this item as the rules that apply when using the equipment or facilities and whether or not the learners understand these. A possible explanation for the principal item (Item 45) could be that access to and requiring of equipment is controlled by the principal or is perceived as controlled by the principal.

Table 4.19. Items included in the Resources factor

Items included in the Resources factor
11. This school has adequate sports fields for the sporting activities taking place.
16. School rules are clear.
30. The grounds of this school are well maintained.
36. This school has a media centre.
40. The sports equipment of this school is in a good condition.
44. The books in the library are in a good condition.
45. The principal can be trusted to keep his/her promises.
60. The equipment of the school is adequate.

The factor analysis extracted five factors and these have been explained and discussed above. The next step is to run a reliability analysis of the extracted factors.

4.4.5. Reliability analysis of extracted factors

In order to say that a factor is reliable it has to have an alpha coefficient of at least 0.65 according to DeVillis (1991). As can be seen from Table 4.20 all the alpha coefficients for both the existing situation and the preferred situation indicate that the factors are reliable except for Violence on the existing situation. On inspection, it was found that once again it was the negatively phrased items that were problematic. The item-total correlation analysis indicated that Item 25, Item 33 and Item 55 had negative correlations (- 0.3, - 0.14 and - 0.27 respectively). Item 33 was the only item that had an item-total correlation of less than 0.25. The analysis also indicated that once these items were deleted that the alpha would improve. The items on the other factors extracted all had item-total correlations greater than 0.25 with the exception of Item 52, which loaded on the Interaction factor. The item-total correlation for this item was 0.17 (see Appendix J for item-total correlations for the factors).

Table 4.20. Reliability coefficients for revised factors

Factor	Reliability Coefficient of Existing Situation	Reliability Coefficient of Preferred Situation
Violence	0.57	0.83
Violence with negative items (q25, q55, q33) deleted	0.76	0.81
Learning Environment	0.79	0.78
Interaction	0.74	0.76
Cohesion	0.72	0.73
Resources	0.65	0.71

The revised factors also correlate with one another as Table 4.21 and Table 4.22 indicates.   The correlations between most factors for the existing situation are significant (with Violence correlating negatively with Cohesion) except for resources, interaction and learning environment with violence. This is plausible if one considers that violence is detrimental to interaction in terms of respecting and trusting someone.   A learning environment could be considered a safe space for individuals to learn as well as develop however, violence threatens this and finally violence would not correlate with resources as resources refers to buildings, grounds and equipment.

Table 4.21. Correlation coefficients existing situation

	Cohesion	Resources	Interaction	Learning Environment	Violence
Cohesion	1.000	.332**	.483**	.344**	-.210**
Resources	.332**	1.000	.392**	.438**	.012
Interaction	.483**	.392**	1.000	.476**	.030
Learning Environment	.344**	.438**	.476**	1.000	.064
Violence	-.210**	.012	.030	0.64	1.000

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.22 gives an indication of the correlation between the factors for the preferred situation. As can be seen all of the correlations are significant.

Table 4.22. Correlation coefficients preferred situation

	Cohesion	**Resources**	**Interaction**	**Learning Environment**	**Violence**
Cohesion	1.000	.301**	.536**	.423**	.612**
Resources	.301**	1.000	.468**	.487**	.322**
Interaction	.536**	.468**	1.000	.548**	.297**
Learning Environment	.423**	.487**	.543**	1.000	.359**
Violence	.612**	.322**	.297**	.359**	1.000

** Correlation is significant at the 0.01 level (2-tailed).

4.4.6. School profiles based on revised factors

The main study section started with the overall profiles of school climate if the conceptual scales or factors were reliable. It was found that the scale would be reliable if certain items were deleted. In order to strengthen the scale or factor structure a factor analysis was undertaken. From this analysis, five new factors or scales were extracted. Based on these five reliable factors the school profile can be plotted per school using percentages, which were calculated for each factor using a score from 1 to 4 for each item. Table 4.23 and Table 4.24 gives an indication of the mean and percentage of the revised factors, which will be used to plot the profiles of the schools on graphs.

Table 4.23. Mean and percentage for revised factors existing situation

School	Cohesion (Maximum Score 48)		Resources (Maximum Score 32)		Interaction (Maximum Score 40)		Learning Environment (Maximum Score 44)		Violence (Maximum Score 40)	
	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%
School B	31 (5.6)	65	22 (4.1)	69	25 (4.4)	63	30 (5.2)	68	28 (5.0)	70
School C	32 (5.3)	67	18 (4.7)	56	25 (5.3)	63	24 (5.2)	55	26 (5.8)	63
School D	30 (5.8)	63	15 (4.1)	47	25 (5.6)	63	29 (6.2)	66	28 (5.6)	70
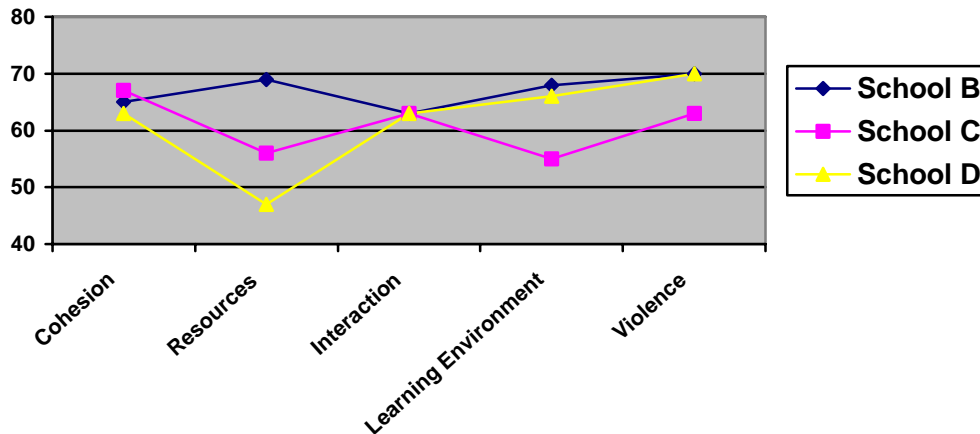
Figure 4.13. Overall school climate profile schools for the existing situation

Table 4.23 gives an indication of the mean and percentage for the revised factors using the existing data. School D reported the lowest percentage on Cohesion and Resources (63% and 47% respectively) of the three schools. When compared to the results in section 4.4.2 (results before reliability analysis) similar trends can be seen. School D scored the lowest of the three schools for cohesiveness, trust, respect and control and since Cohesion is an amalgamation of these factors, it is not surprising that a School D score the lowest of the three schools. While School C reported the lowest percentage on Learning Environment and Violence (55% and 63% respectively), in the previous analysis (section 4.4.2) School C scored the lowest of the three

schools on violence (62%) and physical infrastructure (55%). Since the Violence factor did not change substantially from the conceptualised factor to the factor extracted this is not surprising. Resources are a subsection of the items included in the conceptualised physical infrastructure and this could be a plausible reason why School C reported the lowest percentage of the three schools. Thus, when compared to the results from the profiles in section 4.4.2 similar results are found. The learners from all three schools indicated the same percentage (63%) for Interaction. Table 4.23 gave an indication of the mean and percentage for the revised factors using the existing data. Likewise, the same can be done for the preferred situation (Table 4.24).

Table 4.24. Mean and percentage for revised factors preferred situation

School	Cohesion (Maximum Score 48)		Resources (Maximum Score 32)		Interaction (Maximum Score 40)		Learning Environment (Maximum Score 44)		Violence (Maximum Score 40)	
	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%	Mean (Std Dev)	%
School B	33 (6.9)	69	24 (6.5)	75	27 (6.4)	68	33 (6.3)	75	26 (6.4)	65
School C	33 (6.0)	69	20 (4.7)	59	27 (5.6)	68	27 (6.2)	61	25 (6.7)	60
School D	32 (6.2)	67	16 (4.9)	50	26 (6.4)	65	31 (6.5)	71	23 (6.9)	58
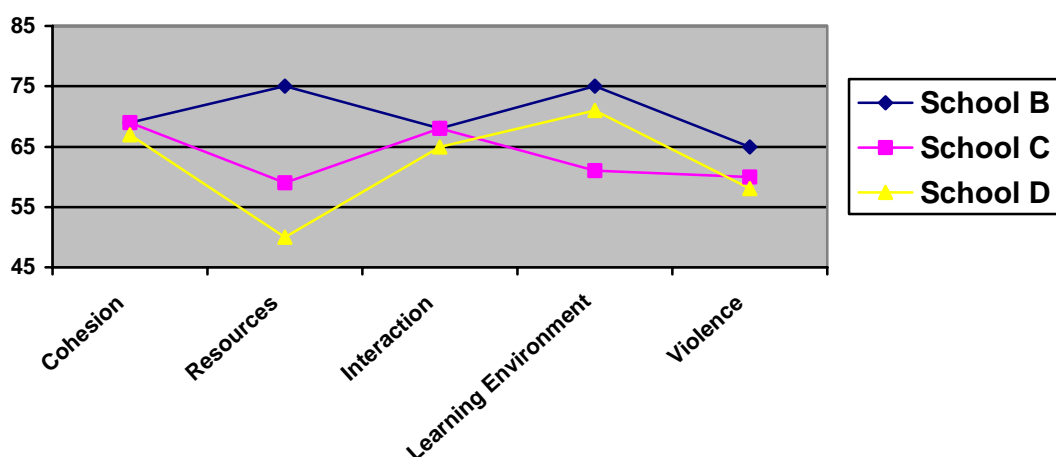
Figure 4.14. Overall school climate profile schools for the preferred situation

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For the preferred situation, the profiles of the three schools had changed when compared to the profiles of the three schools discussed in section 4.4.2. School D reported the lowest percentage of the three schools for four of the five factors with the exception of Learning Environment as compared to three out of the six conceptualised factors.   Violence is the only negative factor which means that the lower the score the less the violence.   Figure 4.14 indicates that there is a decrease in the violence factor when compared to the existing situation across all three schools. The first individual school profile graphically represented and discussed is for School B (Figure 4.15):
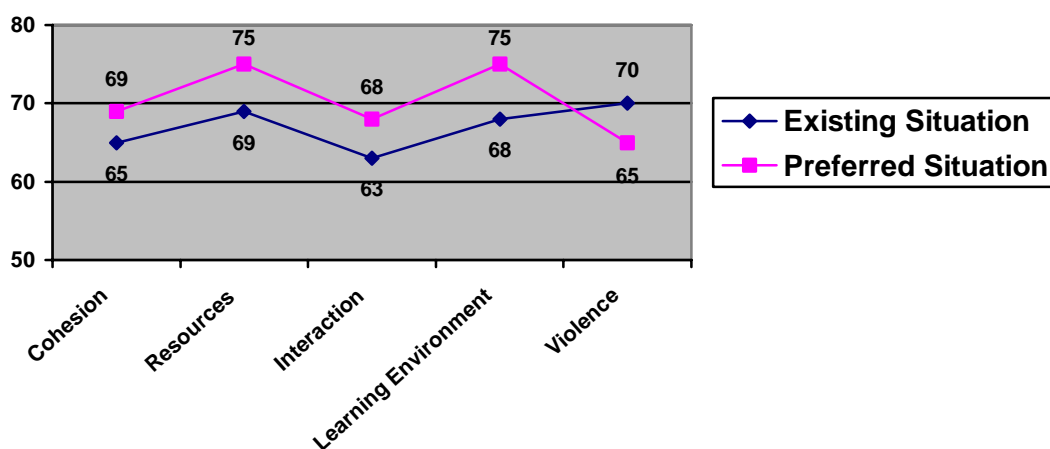
Figure 4.15. Overall school climate profile for School B

Both the preferred and the existing situation are illustrated on Figure 4.15. The percentages could once again, using the guidelines as before in sections 4.3.2 and 4.4.2, be interpreted according to a low score, a relatively low score, an average score, a relatively high score and a high score for the purposes of this study. A low percentage score would be below 50, a relatively low score would be between 50 and 60, an average score would be between 61 and 74, a relatively high would be a score between 75 and 85, finally a high score would be anything equal to or above 86. Thus, the factor scores for School B are all average with the exception of Resources and Learning Environment for the preferred situation, which are relatively high (Figure 4.15).   The gap between the two scores for each scale can be interpreted that the learners feel that in all aspects improvement is needed As can be seen, the learners in

this school would like to see improvement on all of the factors and a decrease in violence being experienced at school. This means that the learners would like to see more resources in terms of equipment and grounds being made available for activities as well as an improvement in the Learning Environment. On both the Cohesion and Interaction factors, there is room for improvement in terms of relationships between staff and the learners and between the learners themselves. The learners in the school indicate this:

> I think that this school needs some more sport facilities, I don't think that teachers can do what they want and we cannot. Teachers should be more patient with school children. Kids that make trouble should be kicked out of the school" and "we need to work together to have the best school and in this school we don't. There's a lot of racism among white's and blacks but the education is really good and some friendliness exists.

Other explanations include:

- "I personally think that my school is a very great school, and I get all the education, fun and seriousness from the teachers and principal."
- "Bathrooms in new building is in a bad condition and should be changes emmidiatly (sic)."
- Educator X "is a racist."
- "Certain pupils trust certain teachers but not others while other (sic) will again trust others. Certain teachers can maintain discipline."

School C has a similar profile as school B but with some subtle differences. The majority of the factor percentages are average as was for School B but Resources for the preferred and existing situation and Learning Environment for the existing situation are relatively low. As can be seen from Figure 4.16 the learners in school C indicate that only a slight improvement is needed on the Cohesion factor and a slight decrease on the Violence factor. Improvement is needed in the relationships between the learners and teachers as well as a substantial improvement in the Learning Environment in

which the learners find themselves. This is supported by the comments that some learners wrote namely that:

The teachers and learners must trust each other, the learners must be treated equally by the teacher because some teachers don't treat us equally, well something has to be done about this school I mean we don't feel safe in this school learners bring guns in this school they even jump gates and I think there have to be improvements about teaching, we need computers and science laboratory for us to learn very well education so that we can pass all of the science learners and our school is running short of money, the sport field are not in a good position, teachers they can't explain very well.

Other examples include:
- "Teachers need to hear the learner's needs and the learners need to be aimfil (sic) about their school work. Teachers need to work more harder and they must make sure the learners understand."
- "Learners at the school go out during lessons they blast in the sun and smoke cigaratte (sic). While we are studying there are some guys which enter the school throw jumping fences and it is not safe as us girls much improvement is needed."
- "Our knowledge is bad or poor level. Because we can come at seven o'clock in the morning but we can attend two or three periods per day. Some of us don't have the textbook of the subject that we do but we have to pay the school funds. Some teachers punish us with break time."
- "They (sic) is a lack of concentration for learners after break because learners return to class with hungry stomach we what (sic) gates to be open for us or something must be than for us to eat we can do with hungry stomach. We have problems with other they sometime spent the whole week not appearing in the class and espect (sic) us to pass."
- "Teachers don't come to their class when they are is their period. They stay in the staff room talking to other teachers. Especially in winter

they drink tea. Some teachers when they come to class we feel scared of them."
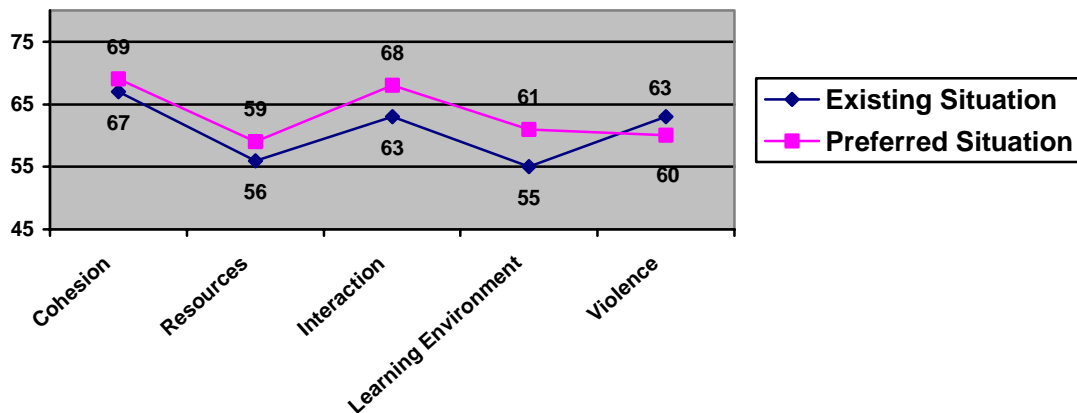
Figure 4.16. Overall school climate profile for School C

The learners from School D (Figure 4.17) indicated that:

From my point of view our school needs a lot of thing they don't have and the teacher need to be more friendly and work together especially when teacher put they favorite (sic) in front of the other learner and make them do thing they are not allowed to do, the school is running shortage of sports facilities and it does not have enough sport for us to participate in, we have to love one another and respect our teachers and listen to them while they are trying to teach. We have to keep our school premises clean and our toilets.   And (sic) learners that come with weapons in school they have to be discipline immediately and our school is our home where we must socialize (sic) and learn about life but it seems like this is a jail where everything does not work out. Children gamble, fight, beat, steal and for the girls they think this is a modelling parade. The principal maintains the school but the children vandalise the property and if we have sports equipment they steal it. Our principal is trying the best but the school children are the worst.

Other comments include:

- "Personally the school does teach very well but the problem is that it lacks a lot of discipline"
- "The principal is not that strict…we need a new principle that is capable of handling disruptive kids and helping the good kids in the school."
- "This is not a safe school. Teachers can not be trusted."

All of these issues are reflected in Figure 4.17 as the learners indicated that improvement is needed on all the factors with a dramatic decrease in the Violence factor. The majority of the factor percentages are average as was for School B and School C but one factor (Resources for the existing situation) is low and two factors (Resources and Violence for the preferred situation) are relatively low.
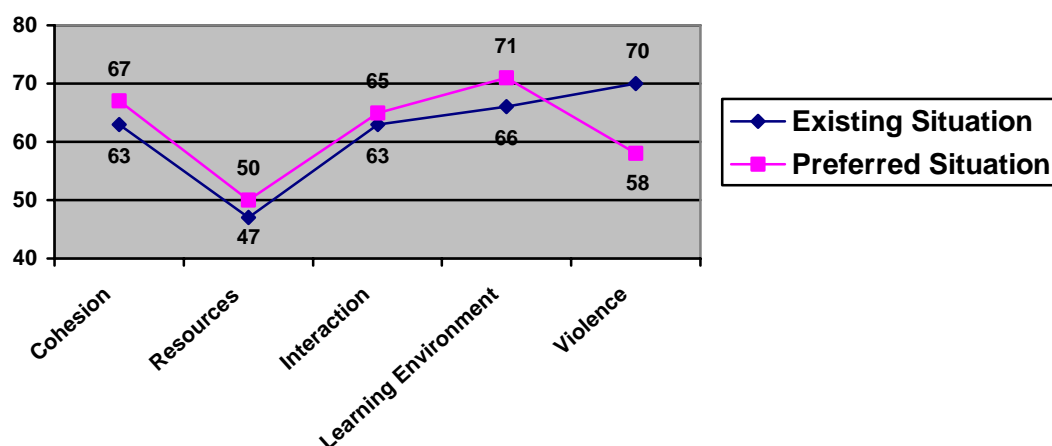
Figure 4.17. Overall school climate profile for School D

When the overall school climate profiles for the schools using the revised factors are compared with the school profiles discussed in section 4.4.2 (school profiles before the reliability analysis) similar trends can be found. The preferred situation is consistently higher than the existing situation for the factors with the exception of Violence where the preferred situation is either equal to or lower than the existing situation because it is a negative factor. From the analysis that has been undertaken it can be said that the questionnaire clearly distinguished the individual aspects of school climate namely Cohesion, Interaction, Resources, Learning Environment and

Violence as well as was able to distinguish between the different school contexts.

4.5. Conclusion

This chapter focused on the results of the data analysis. The description of the total sample was given and this was followed by a discussion of both the pilot and main study. In both the pilot and main study, the sample was described in terms of gender, population group and home language. After this discussion, the reliability analysis was discussed for the conceptualised scales or factors. The reliability analysis under the main study indicated that some items included in a factor had low item-total correlations and that the reliability coefficients would improve if these items were taken out of the analysis. A description of the faction analysis undertaken was given and found that five factors were extracted. These five factors were a combination of the six conceptualised factors. Finally, a description of the schools in terms of the revised factors was given and it was found that the majority of the factors attained average percentage scores in all of the schools. When comparing the factors before and after the factor analysis similar trends can be found. Based on the analysis undertaken it is clear that the questionnaire, which was developed in this study, depicts Cohesion, Interaction, Resources, Learning Environment and Violence as indicators of school climate as well as differentiates between the different school contexts.

Chapter 5

Conclusions and recommendations

5.1. Introduction

> Knowing is not understanding. There is a great difference between knowing and understanding: you can know a lot about something and not really understand it (Kettering, 2002).

This dissertation has focused on school climate in South Africa in an effort to identify relevant indicators of school climate and to develop an understanding of the factors that may be indicators of school climate. In chapter 1, the concept of school climate was introduced and the initial problem statement given. The problem statement was placed in context by discussing South African schools and the policies, which have been formulated. An extensive literature review was undertaken for this research and was presented in chapter 2. This was followed by a discussion on the methodological issues that were considered in this research (chapter 3). The results of the study was then presented and discussed in chapter 4.

This chapter presents a summary of the main points of the dissertation (5.2), which is followed by a discussion of the results in light of the literature reviewed (5.3). Reflections on the methodology used (5.4) and recommendations (5.5) are then given.

5.2. Summary of main results

> People need to understand what climate is, how it affects them and others, and what can be done to improve it (Sweeney, 1991: 71).

School climate was investigated in this dissertation where school climate is understood as the atmosphere of the school, the attitudes and interaction of the principal, educators' and learners that influence their perception and

affects their behaviour towards one another within the school setting. One of the main reasons for choosing this topic is the belief that an understanding of school climate and the factors that affects school climate is a valuable source of information that schools can use. School climate is not a new concept as was seen in chapter two and has been a topic of investigation internationally for the past couple of decades. From these investigations, school climate has been linked to school effectiveness and academic achievement.   In the investigations into school climate, many factors have been isolated for study but for the purposes of this dissertation, only six factors have been included due to their prominence in literature and relevance for the South African context.

The six factors chosen were cohesiveness, trust, respect, control, violence and physical infrastructure. *Cohesiveness* was seen as people in the school setting forming part of a group, standing together when needed and trust the notion that one can confide in another person without feeling that they will betray you by repeating what you have said and the feeling that another person will be honest and fair towards you. *Respect* is defined as a mutual feeling that develops when the one person views the other person as someone of worth and *control* when a person feels that they are capable of influencing the management of a situation and the sense of orderliness with the school.   *Violence* was defined as the use of force with the intent of harming another human being as well as subtle forms of violence, which includes the use of foul language and intimidation. *Physical infrastructure* is seen as the school buildings and grounds, the size of the school and the equipment that is at the schools disposal. In order to investigate these factors a survey was undertaken.

For the survey, a questionnaire was developed for learners after consulting questionnaires developed internationally. The questionnaire consisted of two parts, which the learners needed to complete, the existing situation is how the learners perceive the situation to be currently in their schools and the preferred situation is how the learners would like the situation to be. Items that were relevant to the factors included in this study were used and

rephrased for a South African context and judges in the fields of education, assessment and psychology found that the items included in the questionnaire had both face and content validity. Four schools took part in the study of which all the Grade 10 learners filled in the questionnaire. In total 608 learners took part in the study of which 54% were female and 79% belong to the African population. Sepedi was reported as being the language that was spoken most often in the home.

One school took part in the piloting of the questionnaire. In total 166 learners participated of which 58% reported that they were female and 81% reported that they belong to the African population. The dominant home language was found to be Sepedi. After the pilot phase, reliability analysis was undertaken on the existing situation data. It was found that the negatively phrased items were problematic and that these items brought the reliability of the scale down. These items were however retained and it was decided that positively phrased versions of the negatively phrased be included in the questionnaire for the main study. It was suspected that the learners had difficulty switching between that positively and negatively phrased questions. Thus language was problematic, which is not surprising since the majority of the learners were second language speakers as was seen in chapter 4 by the comments that the learners made. Certain words were also changed in order to make the item more accessible to learners.

Four hundred and forty two learners took part in the main study of which 52% were female and the majority of the learners were African (79%). Of the 442 learners 28% spoke Sepedi in the home, this was significantly more than any of the other official languages. Reliability analysis was undertaken with both the existing situation data and the preferred situation data. Similar patterns were found in the main phase as in the pilot phase. Nevertheless, the reliability coefficients for the existing situation were low for cohesiveness and control having alphas substantially lower than the acceptable 0.65 (0.57 and 0.48 respectively). The reliability coefficients were higher for the preferred situation than for the existing situation with alphas bigger than or equal to 0.65. Once again, it was the negative items, which brought the alpha down,

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and once these items and in some cases the positively phrased counterparts were deleted the coefficients improved drastically. Once acceptable bounds for the reliability coefficients had been attained, factor analysis was undertaken to improve the factor structure.

It was found that only items for one conceptualised factor clustered together namely violence. The other items for conceptualised factors seem to cluster together in a different way than anticipated. Five factors instead of six were extracted overall.   The five factors were named violence, learning environment, cohesion, interaction and resources. Reliability analysis was run for these scales and all except for violence attained above acceptable alphas. On closer inspection, it was found that the negatively phrased items were negatively influencing the coefficient. Once these items were taken out of the analysis the alpha increased dramatically to well above acceptable limits.

5.3. Discussion of the results

As was seen in chapter 1 and chapter 2 school climate could be viewed as the heart and soul of a school as well as the essence of a school that leads learners, educators and other staff members to love and look forward to be at school each day. School climate, as is aptly phrased Freiberg and Stein (1999), can be seen as the quality of the school that "helps each individual feel personal worth, dignity and importance, while simultaneously helping create a sense of belonging to something beyond ourselves" (p.11). In this section, the literature used to inform this study is briefly revisited in order to place the interpretation of the results in context.

Climate surveys measure the perceptions of the learners, staff and parents on certain characteristics or factors, as did this study. These factors in turn influence school climate examples of factors are the characteristics of the school buildings, sizes of the classes and schools as a whole, educator stability, educator morale, the characteristics of the learner -body, administrator-educator rapport, educator-shared decision making, good

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communication, educator-learner relationships and their interaction with one another, learner -shared decision making and learner participation, educator-educator relationships, community-school relationships, involvement of various persons in instruction, peer norms, level of expectations that educators and administrators have of each other and for the learner s, emphasis on academics, rewards and praise, consistency in administering rewards and punishments, consensus and clearly defined goals (Anderson, 1982; Creemers and Reezigt, 1999 ; Gonder and Hymes, 1994; Peterson, 1997).   Research also indicates that school climate is linked to the effectiveness of a school. Fisher and Fraser (1990) state that together with curriculum, resources and leadership school climate makes a major contribution to the effectiveness of a school. Apart from this educational literature contains substantial support for the importance of school climate as a predicator of school effectiveness (Witcher, 1993) as well as numerous studies have been undertaken (Brookover, Beady, Flood, Schweitzer & Wisenbaker, 1979; Epstein & McPartland, 1976; Haplin and Croft, 1963; Sweeney, 1992) in which consensus has been reached that school climate not only plays a major role in the effectiveness of a school and that school climate has an influence on learners' achievement.

This study was conceptualised and informed using systems theory. School climate can be viewed through the lens of systems theory. In systems theory all are interlinked and have an effect on one another; an interrelationship exists between all elements and constituents of society so when one tries to identify the essential factors of problems or issues, it must always be seen and evaluated in light of the interdependent components of the total system (Manning in Von Bertalanffy, 1968). The model for interpreting school climate through a systems perspective consists of input, throughput and output. The input is what enters the system from the environment. The input for this study into the school system are the learners, educators, principal, policies both National and school level and resources.

The throughput or process in this model constitutes the interaction that takes place between the principal, educator and learner and the various factors are

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influenced by the interaction that takes place. The factors included were divided into three dimensions, which was supposed to be verified by the factor analysis undertaken. The three hypothesised dimensions were chosen as an umbrella, which would connect the factors under them.   Firstly, the relationship dimension under which cohesiveness, trust and respect were group because these develop when a relationship is built with another individual; they develop gradually as one person gets to know the other person. Secondly, the system control dimension is the sense that the system has an influence on events occurring within the school setting and control as well as violence was grouped together.   Thirdly, the physical environment dimension under which physical infrastructure is placed.

The resulting output of the interaction of the principal, educators and learners in terms of cohesiveness, trust, respect, control, violence and physical infrastructure is the behaviour, attitudes and perceptions of the principal, educators and learners which influences the atmosphere within the school.

The main aim of this research was to identify the characteristics of an appropriate instrument for school climate, which would explore factors that may be indicators of school climate. Six factors were included for investigation namely cohesiveness, trust, respect, control, violence and physical infrastructure. The six factors were chosen from literature as possible indicators of school climate for a South African context but specifically for schools in and around Pretoria. As the analysis indicated these conceptualised factors were important, but in a different way then initially conceptualised.

The factor analysis extracted five factors that had a stable factor structure instead of the six conceptualised factors. It was found that the factors initially chosen for inclusion in the study were incorporated into other factors reflecting the dynamics of the system. For example instead of cohesiveness, Cohesion was extracted, where cohesiveness, according to Gonder and Hymes (1994), can be seen within a school when the people within the school form a positive unity and are committed to education. In a study undertaken by Levine and

Lezotte (in Maslowski, 2001) nine characteristics of an effective school were identified the first of which is that of a productive school climate and orderly environments, where an orderly environment is thought of in terms of interpersonal relationships. Other factors that were of importance in terms of effectiveness-enhancing factors are cohesion, collaboration and collegiality. However, the extracted Cohesion does not just include elements of forming part of a group as cohesiveness did but also elements of respect and space where collaboration is an important component.

Interaction is another factor that was extracted from the factor analysis and included elements of control, respect and trust. Trust, according to Sweeney (1992), is the glue that holds a school together because in an emotionally laden environment of a school trust is a prerequisite for action that is positive. Trust can be defined in many ways but Tschannen-Moran (2000) states that all the definitions on trust recognise the willingness to risk in the face of being vulnerable, where there is no vulnerability, there is no need to trust another. Trust in any relationship is important but specifically in schools, trust has been acknowledged to facilitate the processes required for the smooth functioning of a school as and is related to a positive school climate. Respect on the other hand entails that people within the school feel that other individuals within the school can be counted on to behave in a manner that is honest and fair (Gonder & Hymes, 1994). According to Lawrence-Lightfoot (1999) real respect involves building connections between people, building empathy as well as trust. For Sweeney (1992) school climate represents the shared meanings of the people who work and learn in the school. The shared meanings are in turn reflected in the key beliefs and values that influence the behaviour of the people who hold the shared meanings. Finally, control and order also forms a component in the Interaction factor. Butler and Alberg (2002) are of the opinion that order can be described as the extent to which the environment is ordered and the appropriate learner behaviours are present. A safe and orderly environment is important as it correlates with effectiveness of schools. This however does not mean that the school climate is oppressive but rather conducive to teaching and learning.

The physical infrastructure is seen as the school buildings, the size of the school and the equipment that is at the schools disposal. In order to create an environment of support, an environment that is stimulating attention also needs to be paid to the physical environment (Sweeney, 1992). According to Freiberg and Stein (1999), a school is not an organic being in a biological sense but it does have qualities of a living organism in an organisational as well as a cultural sense. The physical structure can have direct influences on staff and learners. Physical infrastructure, which was the initial factor, was split into two factors. One of the factors was on a classroom level and one on a school level. Learning Environment is the classroom level factor that was extracted and includes elements of control. Therefore, whether or not classrooms are warm in the winter and whether or not classes start on time are included here. The Resources factor was the school level factor that was extracted and includes sports fields, grounds as well as equipment and whether or not rules are clear.

Violence was the only initial conceptual factor that remained intact. Violence in schools has become problematic and results in a vicious circle. As fear increases, confidence in the school administration decreases and therefore the informal social controls against violence decreases (Welsh, Stokes and Greene, 2000). Peterson and Skiba (2001) state that a variety of surveys have attempted to identify the degree of conflict, violence and other disruptions that contribute to a negative school climate. Violence is not a new phenomena but has of late become a problem in the schools internationally (Young, Aurty, Lee, Messemer, Roach and Smit, 2002) as well as in South African schools. Crime and violence in schools are a threat to young people as well as it contaminates the school environment, which in turn jeopardises the educational process. Stevens, Wyngaard and van Niekerk (2001) state that research on the impact of violence indicates that learners are at high risk in terms of the poor educational progress amongst other consequences.

There are possible explanations for this. The six factors were initially chosen due to the prominence of these factors in literature and based on literature could possibly be indicators of school climate in South African schools. In the

conceptualisation of this study, links between the factors were anticipated and included in the form of feedback loops. It is possible, specifically for cohesiveness, trust and respect, that due to the fact that the majority of the learners were second language speakers that the meaning of these factors overlap, thus the difficulty in pulling the factors apart to form separate factors. Physical resources was split into two levels namely classroom and school level, this could be explained by the experiences of the learners namely their immediate learning environment and then taken further to a school level. How would one interpret these factors in terms of the conceptualised model? The input into the system remains the same however, the throughput changes.

Peterson (1997) states that change within the system can only take place when a study is conducted of the factors within the school itself, which may enhance or inhibit the change process. The initial components for the throughput process was taken from literature namely cohesiveness, trust, respect, control, violence and physical infrastructure. These are static constructs but these have re-emerged as process orientated factors. The factors that have re-emerged as have been named according to the item content are Cohesion, Interaction, Learning Environment, Resources and Violence. These factors are environments in which learners live, learn thus proving that climate is not a static atmosphere but a lived context, and as such can be changed. The participants in the system make and constitute the climate of a school. As was quoted in chapter 1 the effectiveness of a school, the efficiency and the climate of the school are dependent on the intangible human elements (Bron, Combrink, Henning, Perold & Wessels, 1998). These elements are dynamic, in constant interaction with one another and shape the resultant climate within a school.

The factors that have re-emerged can be explained in terms of certain dimensions. The relationship dimension, which was conceptualised in terms of the elements that develop when a relationship is built with another individual; they develop gradually as one person gets to know the other person. Cohesiveness, trust, respect, which were the original factors, as well as control were collapse into two factors, which develop in relation to other

people namely the Cohesion factor and Interaction factor. These form part of the lived emotional experiences of the learners in interaction with others, the social context in which they find themselves in and operate in. For example the learners can only feel that the educators treat them with respect (Interaction factor) and that the educators are on their side (Cohesion factor) if they are interacting with one another.

The system control dimension includes violence, since control can be seen in terms of the schools ability to manage events and situations within the school. If there is zero tolerance for violent acts whether physical, emotional or psychological within school grounds and measures are put in place to reinforce this, then violence within school grounds would not be a problem. Violence is a negative phenomenon and undermines a good school climate because it erodes the foundations of good relationships; therefore, it was not surprising to find that Violence correlated negatively with Cohesion. Violence forms part of the lived experience of the learners and has dire consequences. Violence by its very nature fluctuates as opportunity presents itself taking advantage of the perceived weak. It is dynamic, changing and adapting to the circumstances.

The physical environment dimension has two factors instead of just one factor namely Learning Environment and Resources.   These are the physical environments that the learners find themselves in, one on a more direct level namely the classroom and the other on the school level. The classroom is the immediate physical environment in which the learner finds him/herself as the learner spends his/her day in classrooms.   Therefore, whether or not the classroom is warm in the winter has an effect on the learner's behaviour and the way in which the learner would relate to his/her fellow classmates. If the learner were cold, s/he would be focusing on warming up and would be easily agitated if bothered by other learners more so then if s/he were warm. Resources on the other hand are more on a school level and refer for example to equipment available and the condition thereof. These are the facilities that would be available to the school as a whole and could be a positive factor or a negative factor. For example, if limited equipment were

available then not all learners would be able to take part in a given sport. Thus, certain learners would be marginalized since only an "elite" group would be permitted to use the equipment that is available. This would negatively influence the interaction between learners.

The resulting output of the interaction taking place in the throughput of the principal, educators and learners in terms of Interaction, Learning Environment, Resources, Cohesion and Violence is the behaviour, attitudes and perceptions of the principal, educators and learners which influences the atmosphere within the school.

The reliability coefficients for the five factors were all above the acceptable limits of 0.65 and thus the schools included in the main study could be described according to the factors extracted. The developed questionnaire does distinguish between schools and the individual aspects of school climate are clearly depicted. Internationally, cohesiveness, respect, trust, control, violence and physical infrastructure have been investigated as indicators of school climate. In South Africa, these factors are also important but as they develop in dynamic contexts, in interaction they do not stand on their own but emerge as Interaction, Learning Environment, Resources, Cohesion and Violence. These factors are the indicators of school climate within the South African context.

Freiberg and Stein (1999) states that the school creates a learning place for learners, nurtures learners' and parents' dreams and aspirations as well as stimulates educators and elevates the staff, learners and community. However, this can only occur in a school where the climate is positive. Learning and teaching occur best in a positive school climate that is orderly, courteous and safe.

5.4. Reflection on methodology

This section discusses the reflections on the methodology that was used. A survey was undertaken in this study. The goal was that stakeholders could, if

they so wished, use the questionnaire in order to come to a better understanding of the underlying dynamics of the school. In this study two forms of validity were focused on initially in order to comply with the guidelines for a mini dissertation and initial investigations into construct validity was determined by the factor analysis undertaken. This study included six factors to investigate school climate however there are more factors in literature, which have been investigated internationally and found that they have an influence on school climate. These factors may or may not be of relevance for a South African context

Specifically, this study focused on learners in Grade 10. It may have been beneficial if a sample had been taken from Grades 8, 10 and 12 in order to triangulate learner data. Questionnaires for the principal and educators of the school would also have been beneficial in order to triangulate the learner data but also to gain insight into other perspectives and dynamics of the school.

The language of the questionnaire was English, yet the majority of the learners who participated in the study were second language speakers. Even though the language of instruction is English or Afrikaans the use of English is problematic as can be seen from the comments of the learners in chapter 4. A consequence of this could have been the difficulty in switching between positively and negatively phrased items.

5.5. Strengths and weaknesses of the study

Various strengths of this study can be identified. Firstly, that very little research has been done on school climate in a South African context and thus this research contributes to the already existing body of knowledge internationally as well as building a body of knowledge for the South African context, filling the void in the developing world. Secondly, that this study uses a vast body of knowledge as a departure point, as was seen in chapter 1 and chapter 2. Thirdly, this research serves as a platform for further research to identify other factors that may be indicators of school climate in South Africa, such as leadership and educator dedication, which international studies have

shown are factors that contribute to the climate within schools. Fourthly, this school climate data can be used to improve the school effectiveness of the participating schools based on a valid and reliable questionnaire by targeting the areas that learners indicated need improvement. Lastly, a survey was undertaken and various steps were identified which made the research process easier, namely identifying the research question as well as objectives and how these could be translated into practical application and investigation.

The weaknesses of the study include using limited validation strategies namely face and content validation. However, this study would have benefited if other validation studies were also included such as construct validation. Secondly, that this study only focused on six possible indicators of school climate but literature indicates that there are other factors, such as leadership, community and teacher dedication, which may contribute to the climate within a school. Thirdly, that the questionnaire was only administered the to learners and not to educators and principal as well. Thus, only the perceptions of the learners were identified and this study could have benefited if the educators and the principal were also asked to fill in a questionnaire not only for triangulation purposes but also to obtain a complete account of the school climate based on all the views of the parties participating in the school system. Fourthly, the questionnaire was only administered to the Grade 10 learners, thus the perceptions from the other learners within the school were not obtained.   These perceptions could have been different from the perceptions of the Grade 10 learners; therefore, a more accurate account of school climate would be have been obtained if the learners from the other grade levels were also included. Fifthly, the size of the sample does not permit the generalisability of results as only 608 learners participated in the study.   Sixthly, the classes were not kept separate and therefore the variations within the school in terms of climate could not be identified. The final weakness of this study is that the questionnaire was only available in English and as was seen in chapter 4, some learners were not very proficient in the English language. Thus, it is possible that the learners could have misinterpreted the items in the questionnaire.

5.6. Recommendations

This section is a discussion on recommendations based on the experiences while undertaking this study.

1) As mentioned above the language of the questionnaire was English. It is suggested that in the future that the questionnaire be translated into more than one language, in a dual format questionnaire. As was seen in the analysis negatively phrased questions were problematic and it was suspected that certain words used were unfamiliar to the learners. Completing the questionnaire in one's own language may overcome these problems.

2) Negatively phrased items should be used with care as these could cause confusion on the part of the learners. Other mechanisms should be included in the questionnaire to ensure that the participants are reading and understanding the question. One possibility could be that whoever administers the questionnaire reads the questions aloud and the learners fill in their answer.

3) More than one grade level should be included in future studies. This will not only give one a more complete picture of what is happening in the school but will also assist in triangulation of data as well as in reliability analysis for more than one grade level.

4) Questionnaires should also be administrated to the principal and educators of the school that is visited. This will not only assist in the triangulation of data but will also assist in ensuring construct validity.

5) Classes in future studies should be kept separate in order to pick up the variations in climate from classroom to classroom.

6) Further research is needed into the reading level of participants.

7) The data suggest that the perceptions within schools and between racial groups differ. However, it was beyond the scope of this research to undertake an in-depth analysis of the differences in these perceptions. It is recommend that these are investigated in the future.

8) School climate can be an important element in a school therefore further research is needed into other factors that may be indicators of

the climate of a school such as leadership, community involvement, educator dedication and educator efficacy.

9) This study was based on a specific conceptual framework, however the results indicate that something new is emerging from the data and this needs to be explored further.

5.7. Conclusion

The aim of this undertaking was to begin to understand school climate in South Africa by identifying the indicators of school climate, which would be relevant for the context. What does school climate mean in our context with all of the differences found in schools across our country and what are the factors that may be indicators of school climate. This study was an initial step towards the conceptualisation of school climate in and around Pretoria schools. Kettering (2002) pointed out in the beginning of this chapter to know is not necessarily to understand but to know is an important step towards the understanding that is sort after. This knowing and understanding would be of benefit to our schools, to enable schools to identify problem areas and to take the necessary steps to change. These changes would be of benefit not only for the learners and for staff of the school but also society as a whole.

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Appendix A Letter of Permission

Appendix B Questionnaire

University of Pretoria

School Climate Questionnaire

Your school has been selected to participate in a study that forms part of my Masters degree in Research Psychology at the University of Pretoria. This questionnaire has been designed in order to get your opinions and attitudes concerning your school, teachers, learners and yourself. Your responses are strictly anonymous and you will not be asked to identify yourself at anytime during this study. As such please answer all the questions as completely and as honestly as you can. I thank-you in advance for your willingness to participate.

A. Background Information

1) How old are you?						
2) Indicate whether you are:	**Male**			**Female**		
3) To which population group do you belong?	**Black**		**Indian**		**Coloured**	**White**
4) What is your home language?						

B. General Questions

The section to follow contains various statements about your school life. The column to your left indicates how you see the situation now, while the column on the right indicates how you would like the situation to be.

Please indicate your opinion or attitude with a tick where appropriate (X) as the EXAMPLE below shows:

Existing Situation:

This is the situation in my school now

Preferred Situation:

This is what I would like to see in my school

Strongly Agree	Agree	Disagree	Strongly Disagree		No change required	Slight Improvement is needed	Much Improvement is needed	Urgent or immediate improvement is needed
	X			A. The teachers in the school work together		X		

The next page contains various statements of your school life. Please continue and complete the questionnaire.

Existing Situation

This is the situation in my school now

Preferred Situation

This is what I would like to see in my school

Strongly Agree	Agree	Disagree	Strongly Disagree		No change required	Slight Improvement is needed	Much Improvement is needed	Urgent or immediate improvement is needed
				1.Learners in this school trust the teachers.				
				2. It is easy for the teachers to manage the learners.				
				3. Some learners in this school do not socialise with other learners.				
				4. Fighting amongst learners often takes place in the school.				
				5. The teachers respect the learners in the school no matter who they are.				
				6. The school facilities are inadequate for some learning activities.				
				7. Most of the learners in this school know each other.				
				8. Learners often take things from other learners using force.				
				9. Classes in this school start on time.				
				10. Learners are proud of the appearance of the school.				
				11. This school has adequate sports fields for the sporting activities taking place.				
				12. The teachers in this school trust one another.				
				13. The classrooms are warm in the winter.				
				14. Learners treat each other as equals.				
				15. Learners in class help one another when they need help.				
				16. School rules are clear.				
				17. The learners in this school feel that the teachers are "on their side".				
				18. Learners bring weapons to school.				
				19. Teachers treat learners as human beings.				
				20. The teachers in this school get along with one another.				
				21. Teachers apply discipline consistently in this school.				
				22. Teachers respect learners.				
				23. The teachers in this school work well together.				
				24. Learners feel safe at this school.				
				25. Many disruptions take place while the teacher is trying to teach.				
				26. The classrooms are cool in the summer.				
				27. The learners in this school get along with				

Strongly Agree	Agree	Disagree	Strongly Disagree		No change required	Slight Improvement is needed	Much Improvement is needed	Urgent or immediate improvement is needed
				one another.				
				28. Learners use foul language at school.				
				29. Learners in this school respect the administrative staff.				
				30. The grounds of this school are well maintained.				
				31. The school is important to the learners of the school.				
				32. Learners often beat other learners.				
				33. Strict discipline is needed to control the learners.				
				34. Learners can count on the teachers to be fair.				
				35. Learners often tease one another.				
				36. This school has a media centre.				
				37. The learning environment in this school is conducive to learning.				
				38. This school has a science laboratory, which the learners can use.				
				39. Learners intimidate one another to get what they want.				
				40. The sports equipment of this school is in a good condition.				
				41. Learners in this school respect the teachers.				
				42. Stealing of school property is a problem at this school.				
				43. The learning environment in this school is orderly.				
				44. The books in the library are in good condition.				
				45. The principal can be trusted to keep his/her promises.				
				46. The school is safe for staff and learners.				
				47. Learners in this school respect the principal.				
				48. Learners often vandalise school property.				
				49. The teachers can be trusted to keep their promises.				
				50. The resources in this school are adequate.				
				51. Learners frequently annoy one another.				
				52. The toilets of this school are in good condition.				
				53. When learners get into trouble, the teachers give them a chance to explain their side of the story.				
				54. There are enough tables and chairs for the learners in classrooms.				
				55. Teachers need more assistance to deal				

Strongly Agree	Agree	Disagree	Strongly Disagree	152	No change required	Slight Improvement is needed	Much Improvement is needed	Urgent or immediate improvement is needed
				with disruptive learners.				
				56. The classrooms are big enough for all the learners.				
				57. Learners intimidate teachers to get what they want.				
				58. The buildings of this school are in a good condition.				
				59. School rules are enforced.				
				60. The equipment in this school is adequate.				
				61. Teachers in this school often argue with each other.				
				62. Teachers in this school apply discipline irregularly.				
				63. Very little disruption takes place while the teacher is trying to teach.				
				64. Learners in this school socialise with each other.				
				65. Strict discipline is not needed to manage learners.				

Comments:

Thank-you for your time.

Appendix C Observation Schedule

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OBSERVATION

SCHEDULE

A. BACKGROUND INFORMATION	
Date	
School	
School type	
Area	

DOES THE SCHOOL HAVE THE FOLLOWING?

B. FACILITIES			
	Yes	**No**	**Comments**
1.Classrooms, big enough for learners, clean			
2.Science laboratories, clean			
3.A library or media centre			
4.School hall			
5. Offices			
6. Staff room			
7. Grounds for learners during break			
7.Other, please specify:			

C. SPORTING FACILITIES:			
	Yes	**No**	**Comments**
1.Pavilions			
2.Tennis courts			
3.Netball courts			
4.Swimming pool			
5.Rugby fields			
6.Soccer fields			
7.Hockey fields			
8.Cricket fields			
9.Other, please specify:			

D. SECURITY FEATURES:			
	Yes	**No**	**Comments**
1.Perimeter fence			
2.Guard during day			
3.Guard at night			

4.Burglar bars on all windows			
5.Security doors			
6.Alarm system			
7.Armed response/ security company			
8. Boom			
9. Gate			
10. Other, please specify:			

E. INFRASTRUCTURE

	Yes	No	Comments
1. Electricity			
2. Running Water			
3. Telephone			
4. Photocopier			
5. Fax machine			
6. Parking			
7.Other, please specify:			

F. TICK THE FOLLOWING

	Yes	No
1. The grounds are tidy		
2. The grounds are well maintained		
3. The buildings are clean		
4. The buildings are well maintained		
5. Are the learners in the classrooms		
6. Toilets are hygienic		
7. Toilets are well maintained		
8. Facilities have adequate lighting		
9. Facilities has adequate heating		
10. Facilities have adequate cooling		

11.Other, please specify:		

H. DESCRIBE THE AREA IN WHICH THE SCHOOL IS SITUATED

I. WHAT ARE YOUR OVERALL IMPRESSIONS OF THE SCHOOL (Atmosphere, obvious things)

Appendix D Pilot study descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	165	14.00	18.00	15.8667	.75331
GENDER	162	1.00	2.00	1.5802	.49505
POPGROUP	165	1.00	4.00	1.5212	1.10756
HOMELANG	163	1.00	12.00	5.9387	3.23693
Q1	161	1.00	4.00	2.2422	.74813
Q2	163	1.00	4.00	1.9693	.77319
Q3	163	1.00	4.00	2.1104	.88893
Q4	165	1.00	4.00	2.9939	.72832
Q5	161	1.00	4.00	2.1180	.93126
Q6	158	1.00	4.00	2.6203	.82638
Q7	162	1.00	4.00	3.0309	.82223
Q8	159	1.00	4.00	2.4969	.96045
Q9	160	1.00	4.00	2.8875	.93827
Q10	162	1.00	4.00	2.8457	1.01890
Q11	163	1.00	4.00	3.2454	.92357
Q12	153	1.00	4.00	2.5556	.87275
Q13	161	1.00	4.00	2.4224	.99146
Q14	162	1.00	4.00	1.8519	.84311
Q15	165	1.00	4.00	2.7636	.86173
Q16	162	1.00	4.00	2.7716	1.08790
Q17	163	1.00	4.00	1.8344	.84081
Q18	156	1.00	4.00	2.1090	1.03221
Q19	159	1.00	4.00	2.6101	.98026
Q20	151	1.00	4.00	2.8742	.84305
Q21	159	1.00	4.00	2.9119	.84482
Q22	161	1.00	4.00	2.1491	.87472
Q23	155	1.00	4.00	3.0000	.79772
Q24	156	1.00	4.00	2.5769	1.02886
Q25	162	1.00	4.00	2.0123	.95870
Q26	162	1.00	4.00	3.0926	.92451
Q27	160	1.00	4.00	2.4500	.89583
Q28	161	1.00	4.00	3.1615	.92804
Q29	160	1.00	4.00	2.4562	.95724
Q30	161	1.00	4.00	3.0497	.90001
Q31	157	1.00	4.00	2.6624	1.08341
Q32	158	1.00	4.00	2.7658	1.02309
Q33	159	1.00	4.00	2.3019	1.11806
Q34	161	1.00	4.00	2.1677	.98891
Q35	157	1.00	4.00	3.2229	.85933
Q36	155	1.00	4.00	3.5806	.62284
Q37	155	1.00	4.00	3.0258	.92546
Q38	159	1.00	4.00	2.9623	.95392
Q39	157	1.00	4.00	2.7261	.91715
Q40	163	1.00	4.00	2.7301	.94321
Q41	160	1.00	4.00	2.1875	.87730
Q42	160	1.00	4.00	2.5688	1.09672
Q43	161	1.00	4.00	2.7764	.87303
Q44	159	1.00	4.00	2.8868	.92079
Q45	158	1.00	4.00	2.2468	1.26030
Q46	156	1.00	4.00	2.8718	.97529
Q47	157	1.00	4.00	2.0955	1.09652

Q48	160	1.00	4.00	2.7188	1.00422
Q49	159	1.00	4.00	2.3774	.93239
Q50	153	1.00	4.00	2.7124	.80027
Q51	158	1.00	4.00	2.8418	1.03149
Q52	164	1.00	4.00	2.1951	1.05014
Q53	162	1.00	4.00	1.9259	.94937
Q54	162	1.00	4.00	3.3395	.86451
Q55	162	1.00	4.00	2.2037	1.03443
Q56	161	1.00	4.00	3.1739	.92578
Q57	158	1.00	4.00	2.0506	.99552
Q58	160	1.00	4.00	3.1500	.83327
Q59	161	1.00	4.00	3.0559	.91685
Q60	157	1.00	4.00	2.9490	.84578
Q61	151	1.00	4.00	2.8146	1.00932
Q62	151	1.00	4.00	2.4768	1.05093
Valid N (listwise)	68				

Appendix E Reliability analysis for the pilot study

F1. Cohesiveness

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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
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		Mean	Std Dev	Cases
1.	Q3	2.1575	.9209	127.0
2.	Q7	3.0394	.8582	127.0
3.	Q15	2.8189	.8302	127.0
4.	Q20	2.8661	.8579	127.0
5.	Q23	2.9606	.8204	127.0
6.	Q27	2.5039	.8717	127.0
7.	Q31	2.7087	1.1135	127.0
8.	Q61	2.8346	.9821	127.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	21.8898	13.4957	3.6736	8

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q3	19.7323	12.0071	.1004	.6032
Q7	18.8504	11.8901	.1468	.5867
Q15	19.0709	11.0346	.3213	.5368
Q20	19.0236	10.6105	.3846	.5167
Q23	18.9291	9.9711	.5504	.4677
Q27	19.3858	10.8261	.3329	.5323
Q31	19.1811	9.7050	.3677	.5167
Q61	19.0551	11.5763	.1429	.5940

Reliability Coefficients

N of Cases =   127.0   N of Items = 8

Alpha =   .5800

F2. Trust
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1	2.2246	.7643	138.0
2.	Q12	2.5362	.8892	138.0
3.	Q17	1.8768	.8667	138.0
4.	Q34	2.1739	.9883	138.0
5.	Q45	2.2246	1.2731	138.0
6.	Q49	2.3696	.9443	138.0
7.	Q53	1.8768	.9472	138.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	15.2826	17.6495	4.2011	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q1	13.0580	14.3908	.4612	.7057
Q12	12.7464	14.0885	.4150	.7127
Q17	13.4058	13.8633	.4703	.7013
Q34	13.1087	13.4553	.4437	.7063
Q45	13.0580	12.5222	.3892	.7312
Q49	12.9130	13.4084	.4843	.6970
Q53	13.4058	13.0312	.5442	.6829

Reliability Coefficients

N of Cases =   138.0   N of Items = 7

Alpha =   .7362

F3. Respect

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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
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                          Mean        Std Dev        Cases

   1.      Q5              2.1232        .9548         138.0
   2.      Q14             1.8986        .8483         138.0
   3.      Q19             2.6087        .9848         138.0
   4.      Q22             2.1739        .8872         138.0
   5.      Q29             2.4928        .9221         138.0
   6.      Q41             2.2101        .8497         138.0
   7.      Q47             2.1232       1.0971         138.0
```

```
                                                    N of
Statistics for       Mean    Variance    Std Dev  Variables
     SCALE         15.6304   15.6653      3.9579       7
```

Item-total Statistics

```
              Scale        Scale     Corrected
              Mean        Variance     Item-             Alpha
             if Item      if Item      Total            if Item
             Deleted      Deleted   Correlation         Deleted

Q5          13.5072      12.0328       .4107             .6762
Q14         13.7319      13.2196       .2798             .7058
Q19         13.0217      11.4229       .4916             .6543
Q22         13.4565      11.8266       .5001             .6544
Q29         13.1377      12.5429       .3479             .6916
Q41         13.4203      12.5958       .3893             .6815
Q47         13.5072      10.8503       .4996             .6514
```

Reliability Coefficients

N of Cases =   138.0   N of Items = 7

Alpha =   .7076

F4. Control

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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
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		Mean	Std Dev	Cases
1.	Q2	1.9685	.7760	127.0
2.	Q9	2.8898	.9531	127.0
3.	Q16	2.8346	1.0821	127.0
4.	Q21	2.9370	.8614	127.0
5.	Q25	2.1024	.9987	127.0
6.	Q33	2.3307	1.1059	127.0
7.	Q37	3.0000	.9258	127.0
8.	Q43	2.7559	.8794	127.0
9.	Q55	2.2756	1.0210	127.0
10.	Q59	3.0945	.9035	127.0
11.	Q62	2.4724	1.0528	127.0

```
                                                N of
Statistics for      Mean   Variance   Std Dev  Variables
     SCALE        28.6614   15.3210    3.9142      11
```

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q2	26.6929	12.9764	.3117	.2857
Q9	25.7717	11.3363	.4793	.1963
Q16	25.8268	12.1761	.2614	.2834
Q21	25.7244	12.6139	.3211	.2743
Q25	26.5591	14.4231	-.0131	.3990
Q33	26.3307	15.6675	-.1793	.4715
Q37	25.6614	12.7019	.2670	.2902
Q43	25.9055	11.8958	.4372	.2267
Q55	26.3858	14.9373	-.0835	.4268
Q59	25.5669	13.7554	.1118	.3498
Q62	26.1890	15.6465	-.1722	.4625

Reliability Coefficients

N of Cases =   127.0   N of Items = 11

Alpha =   .3647

F5. Violence

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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
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		Mean	Std Dev	Cases
1.	Q4	2.9748	.7531	119.0
2.	Q8	2.5042	.9731	119.0
3.	Q18	2.0924	1.0167	119.0
4.	Q24	2.6050	1.0351	119.0
5.	Q28	3.1933	.9046	119.0
6.	Q32	2.7143	1.0345	119.0
7.	Q35	3.2521	.8459	119.0
8.	Q39	2.7647	.9086	119.0
9.	Q42	2.6303	1.0804	119.0
10.	Q46	2.9076	.9742	119.0
11.	Q48	2.7815	.9843	119.0
12.	Q51	2.8487	1.0548	119.0
13.	Q57	2.0672	1.0229	119.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	35.3361	27.4454	5.2388	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q4	32.3613	24.3683	.3376	.5660
Q8	32.8319	22.5647	.4255	.5424
Q18	33.2437	24.0164	.2404	.5795
Q24	32.7311	30.1813	-.3348	.6853
Q28	32.1429	23.9370	.3039	.5680
Q32	32.6218	22.6778	.3753	.5510
Q35	32.0840	24.1963	.3044	.5689
Q39	32.5714	21.9080	.5540	.5199
Q42	32.7059	22.4297	.3761	.5498
Q46	32.4286	28.9758	-.2364	.6638
Q48	32.5546	22.4525	.4314	.5407
Q51	32.4874	21.7435	.4666	.5300
Q57	33.2689	24.7406	.1630	.5950

Reliability Coefficients

N of Cases =   119.0   N of Items = 13

Alpha =   .5981

F6. Physical Infrastructure

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q6	2.5812	.8534	117.0
2.	Q10	2.9231	.9927	117.0
3.	Q11	3.2479	.8897	117.0
4.	Q13	2.4274	.9766	117.0
5.	Q26	3.0598	.9125	117.0
6.	Q30	3.0427	.8749	117.0
7.	Q36	3.5983	.6026	117.0
8.	Q38	2.9060	.9283	117.0
9.	Q40	2.7778	.9108	117.0
10.	Q44	2.8547	.8931	117.0
11.	Q50	2.7350	.8029	117.0
12.	Q52	2.1624	1.0501	117.0
13.	Q54	3.3932	.8300	117.0
14.	Q56	3.2222	.9295	117.0
15.	Q58	3.1709	.8125	117.0
16.	Q60	2.9829	.8092	117.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	47.0855	64.3375	8.0211	16

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q6	44.5043	63.9246	-.0231	.8737
Q10	44.1624	56.6544	.4482	.8532
Q11	43.8376	55.4993	.6070	.8449
Q13	44.6581	56.4856	.4699	.8520
Q26	44.0256	55.7321	.5705	.8467
Q30	44.0427	55.7654	.5975	.8455
Q36	43.4872	60.7865	.3393	.8571
Q38	44.1795	58.5279	.3483	.8579
Q40	44.3077	54.9735	.6319	.8435
Q44	44.2308	58.0928	.4001	.8551
Q50	44.3504	58.1434	.4532	.8525
Q52	44.9231	56.0544	.4566	.8531
Q54	43.6923	55.9735	.6180	.8449
Q56	43.8632	54.4122	.6608	.8418
Q58	43.9145	55.3892	.6853	.8419
Q60	44.1026	56.8342	.5613	.8477

Reliability Coefficients

N of Cases =   117.0   N of Items = 16

Alpha =   .8590

F7. Overall

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1	2.2394	.7457	71.0
2.	Q2	2.0141	.7836	71.0
3.	Q3	2.1972	.9801	71.0
4.	Q4	3.0000	.8106	71.0
5.	Q5	2.1127	.9935	71.0
6.	Q6	2.6338	.9295	71.0
7.	Q7	3.1831	.8161	71.0
8.	Q8	2.4507	.9825	71.0
9.	Q9	2.9437	.9394	71.0
10.	Q10	2.9577	.9774	71.0
11.	Q11	3.3099	.9349	71.0
12.	Q12	2.6338	.8659	71.0
13.	Q13	2.4225	1.0094	71.0
14.	Q14	2.0423	.9325	71.0
15.	Q15	2.8592	.7230	71.0
16.	Q16	2.9014	1.0303	71.0
17.	Q17	2.0282	.9558	71.0
18.	Q18	2.0423	1.0062	71.0
19.	Q19	2.5775	.9952	71.0
20.	Q20	2.8873	.8544	71.0
21.	Q21	2.9296	.7805	71.0
22.	Q22	2.1690	.9256	71.0
23.	Q23	3.0563	.7725	71.0
24.	Q24	2.6620	1.0134	71.0
25.	Q25	2.1408	1.0183	71.0
26.	Q26	3.1268	.9551	71.0
27.	Q27	2.5493	.8416	71.0
28.	Q28	3.0141	.9927	71.0
29.	Q29	2.6338	.9295	71.0
30.	Q30	3.1408	.9304	71.0
31.	Q31	2.8169	1.1503	71.0
32.	Q32	2.8028	.9505	71.0
33.	Q33	2.4507	1.0927	71.0
34.	Q34	2.1408	.9899	71.0
35.	Q35	3.2535	.8572	71.0
36.	Q36	3.6620	.5592	71.0
37.	Q37	3.0000	.9103	71.0
38.	Q38	2.8592	.9754	71.0
39.	Q39	2.8451	.8560	71.0
40.	Q40	2.8592	.9304	71.0
41.	Q41	2.2394	.8696	71.0
42.	Q42	2.6479	1.1097	71.0
43.	Q43	2.8592	.8158	71.0
44.	Q44	2.8310	1.0140	71.0
45.	Q45	2.1972	1.3161	71.0
46.	Q46	2.8732	1.0272	71.0
47.	Q47	2.2535	1.2038	71.0
48.	Q48	2.7746	.9441	71.0

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

		Mean	Std Dev	Cases
49.	Q49	2.3944	.9332	71.0
50.	Q50	2.6620	.8097	71.0
51.	Q51	2.8028	1.1035	71.0
52.	Q52	2.1268	1.0681	71.0
53.	Q53	1.8451	.9358	71.0
54.	Q54	3.4648	.7527	71.0
55.	Q55	2.3239	1.0660	71.0
56.	Q56	3.3239	.8908	71.0
57.	Q57	2.0704	1.0046	71.0
58.	Q58	3.2254	.8315	71.0
59.	Q59	3.1831	.9151	71.0
60.	Q60	3.0423	.8525	71.0
61.	Q61	2.7183	1.0307	71.0
62.	Q62	2.3239	1.0389	71.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	165.7324	347.6845	18.6463	62

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q1	163.4930	335.5392	.4242	.8499
Q2	163.7183	336.6052	.3640	.8506
Q3	163.5352	349.1095	-.0651	.8575
Q4	162.7324	346.7702	.0085	.8555
Q5	163.6197	329.7819	.4688	.8483
Q6	163.0986	348.2901	-.0424	.8569
Q7	162.5493	340.4511	.2181	.8526
Q8	163.2817	364.3195	-.4692	.8642
Q9	162.7887	335.9976	.3137	.8511
Q10	162.7746	331.2056	.4363	.8489
Q11	162.4225	326.7903	.5923	.8464
Q12	163.0986	332.5759	.4547	.8490
Q13	163.3099	332.8455	.3752	.8499
Q14	163.6901	341.1598	.1642	.8535
Q15	162.8732	339.5694	.2849	.8517
Q16	162.8310	328.3996	.4880	.8478
Q17	163.7042	335.6684	.3170	.8510
Q18	163.6901	362.9026	-.4234	.8637
Q19	163.1549	323.4471	.6494	.8450
Q20	162.8451	330.0757	.5437	.8476
Q21	162.8028	339.3320	.2693	.8519
Q22	163.5634	327.4781	.5776	.8467
Q23	162.6761	333.7078	.4741	.8491
Q24	163.0704	327.0950	.5337	.8470
Q25	163.5915	348.6165	-.0518	.8575
Q26	162.6056	326.9565	.5737	.8466
Q27	163.1831	340.9517	.1938	.8530
Q28	162.7183	351.6052	-.1318	.8587
Q29	163.0986	336.9473	.2893	.8515
Q30	162.5915	325.9594	.6209	.8459

```
Q31           162.9155          326.9070           .4677           .8478
Q32           162.9296          359.5521          -.3543           .8620
Q33           163.2817          364.4052          -.4294           .8648
Q34           163.5915          329.9308           .4664           .8483
Q35           162.4789          349.6817          -.0852           .8571
Q36           162.0704          341.1521           .3011           .8519
Q37           162.7324          324.8559           .6705           .8452
Q38           162.8732          337.5980           .2549           .8521
Q39           162.8873          361.0443          -.4332           .8621
Q40           162.8732          324.1980           .6752           .8450
Q41           163.4930          336.5392           .3256           .8509
Q42           163.0845          346.9642          -.0124           .8573
Q43           162.8732          330.7980           .5466           .8478
Q44           162.9014          330.8330           .4290           .8489
Q45           163.5352          320.9095           .5311           .8460
Q46           162.8592          327.0942           .5258           .8471
Q47           163.4789          323.7960           .5180           .8466
Q48           162.9577          356.6125          -.2754           .8607
Q49           163.3380          326.6841           .5967           .8463
Q50           163.0704          329.6378           .5915           .8472
Q51           162.9296          344.1235           .0572           .8560
Q52           163.6056          325.6423           .5422           .8466
Q53           163.8873          331.5586           .4475           .8488
Q54           162.2676          330.9131           .5917           .8476
Q55           163.4085          356.9308          -.2578           .8615
Q56           162.4085          329.1022           .5504           .8473
Q57           163.6620          346.9412          -.0071           .8567
Q58           162.5070          328.5964           .6103           .8467
Q59           162.5493          334.3368           .3738           .8501
Q60           162.6901          328.3312           .6029           .8467
Q61           163.0141          334.9284           .3100           .8511
Q62           163.4085          345.9308           .0175           .8564


Reliability Coefficients

N of Cases =      71.0                      N of Items = 62

Alpha =     .8538
```

Appendix F Main study descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
AGE	433	14.00	21.00	16.5543	1.26836
GENDER	436	1.00	2.00	1.5298	.49968
POPGROUP	440	1.00	4.00	1.4727	.99849
HOMELANG	425	1.00	12.00	6.6824	3.13159
Q1	436	1.00	4.00	2.4679	.76797
Q2	418	1.00	4.00	2.3445	.81707
Q3	423	1.00	4.00	2.2175	.88161
Q4	432	1.00	4.00	2.7292	.90796
Q5	435	1.00	4.00	2.4736	.93873
Q6	402	1.00	4.00	2.3980	.94528
Q7	436	1.00	4.00	2.8922	.84952
Q8	429	1.00	4.00	2.5128	.98728
Q9	428	1.00	4.00	2.7313	.97762
Q10	427	1.00	4.00	2.3138	.94191
Q11	427	1.00	4.00	2.2740	1.01969
Q12	419	1.00	4.00	2.5107	.86768
Q13	421	1.00	4.00	1.8931	.95393
Q14	425	1.00	4.00	1.8635	.90346
Q15	433	1.00	4.00	2.5935	.96999
Q16	428	1.00	4.00	2.4907	.99526
Q17	423	1.00	4.00	2.2482	.87479
Q18	424	1.00	4.00	2.5071	1.09801
Q19	425	1.00	4.00	2.7200	.95621
Q20	421	1.00	4.00	2.7435	.81984
Q21	410	1.00	4.00	2.7634	.90914
Q22	424	1.00	4.00	2.3844	.98492
Q23	415	1.00	4.00	2.7108	.86435
Q24	414	1.00	4.00	2.3333	1.03217
Q25	430	1.00	4.00	2.3070	1.01674
Q26	425	1.00	4.00	2.7624	.98694
Q27	424	1.00	4.00	2.3137	.95437
Q28	429	1.00	4.00	2.8951	1.05711
Q29	428	1.00	4.00	2.6682	.91678
Q30	430	1.00	4.00	1.9512	.99647
Q31	435	1.00	4.00	3.0000	.98139
Q32	433	1.00	4.00	2.7321	.98240
Q33	425	1.00	4.00	2.0518	.96503
Q34	420	1.00	4.00	2.6095	.92171
Q35	422	1.00	4.00	3.0190	.93220
Q36	404	1.00	4.00	2.2550	1.04578
Q37	416	1.00	4.00	2.4255	.90206
Q38	420	1.00	4.00	2.3167	1.11068
Q39	431	1.00	4.00	2.5174	.94207
Q40	430	1.00	34.00	2.0186	1.84344
Q41	422	1.00	4.00	2.4005	1.01218
Q42	426	1.00	4.00	2.6291	1.09049
Q43	417	1.00	4.00	2.4149	.93442
Q44	410	1.00	4.00	2.0829	.99777
Q45	423	1.00	4.00	2.4634	1.06782
Q46	419	1.00	4.00	2.4916	.96186
Q47	416	1.00	4.00	2.6010	1.07744
Q48	417	1.00	4.00	2.6859	1.08956

Q49	429	1.00	4.00	2.4009	.95095
Q50	386	1.00	4.00	2.2617	.89815
Q51	401	1.00	4.00	2.6608	.95900
Q52	416	1.00	4.00	1.9135	1.08980
Q53	423	1.00	4.00	2.4728	1.09873
Q54	423	1.00	4.00	2.5745	1.10514
Q55	419	1.00	4.00	2.1790	.94790
Q56	429	1.00	4.00	3.1399	.82259
Q57	419	1.00	4.00	2.2100	.90917
Q58	425	1.00	4.00	2.4071	1.09736
Q59	403	1.00	4.00	2.4615	1.01009
Q60	386	1.00	4.00	2.1684	.88575
Q61	410	1.00	4.00	2.8341	.97740
Q62	402	1.00	4.00	2.4602	.96298
Q63	420	1.00	4.00	2.4738	1.05991
Q64	423	1.00	4.00	2.4870	.95847
Q65	429	1.00	4.00	2.2890	1.11506
Q1P	408	1.00	4.00	2.6299	.89924
Q2P	401	1.00	4.00	2.4613	.90506
Q3P	403	1.00	4.00	2.5881	.97942
Q4P	407	1.00	4.00	2.5332	1.10897
Q5P	402	1.00	4.00	2.6318	1.05876
Q6P	394	1.00	4.00	2.4619	1.04593
Q7P	395	1.00	4.00	3.2076	.94113
Q8P	392	1.00	4.00	2.6607	1.13520
Q9P	394	1.00	4.00	3.0457	1.05471
Q10P	401	1.00	4.00	2.4888	1.06325
Q11P	398	1.00	4.00	2.2915	1.09979
Q12P	381	1.00	4.00	2.8530	1.05103
Q13P	391	1.00	4.00	2.2097	1.10570
Q14P	391	1.00	4.00	2.2711	1.03188
Q15P	400	1.00	4.00	2.7875	1.04646
Q16P	401	1.00	4.00	2.7955	1.11493
Q17P	391	1.00	4.00	2.5090	1.03740
Q18P	392	1.00	4.00	2.3444	1.19943
Q19P	390	1.00	4.00	2.8974	1.07064
Q20P	386	1.00	4.00	3.0933	.96247
Q21P	391	1.00	4.00	2.9284	1.03774
Q22P	382	1.00	4.00	2.5916	1.07987
Q23P	375	1.00	4.00	2.9333	1.05887
Q24P	380	1.00	4.00	2.5421	1.16945
Q25P	396	1.00	4.00	2.4672	1.10760
Q26P	390	1.00	4.00	2.9795	1.06092
Q27P	392	1.00	4.00	2.5638	1.02202
Q28P	391	1.00	4.00	2.2327	1.12754
Q29P	396	1.00	4.00	2.8662	1.09302
Q30P	403	1.00	32.00	2.2134	1.84583
Q31P	403	1.00	4.00	2.8337	1.12177
Q32P	404	1.00	4.00	2.5322	1.14309
Q33P	403	1.00	4.00	2.4739	1.08182
Q34P	389	1.00	4.00	2.5527	1.03815
Q35P	388	1.00	4.00	2.5052	1.04546
Q36P	394	1.00	4.00	2.4391	1.16024
Q37P	399	1.00	4.00	2.5940	1.09616
Q38P	399	1.00	4.00	2.4887	1.17949
Q39P	393	1.00	4.00	2.5751	1.02524

Q40P	397	1.00	4.00	2.0605	1.07608
Q41P	399	1.00	4.00	2.4286	1.06535
Q42P	395	1.00	4.00	2.3038	1.15932
Q43P	395	1.00	4.00	2.6759	1.03801
Q44P	388	1.00	4.00	2.2912	1.11380
Q45P	400	1.00	4.00	2.6100	1.16244
Q46P	390	1.00	4.00	2.6897	1.07729
Q47P	385	1.00	4.00	2.6857	1.14220
Q48P	392	1.00	4.00	2.2602	1.11197
Q49P	390	1.00	4.00	2.6026	1.02086
Q50P	374	1.00	4.00	2.5909	1.04125
Q51P	382	1.00	4.00	2.5524	1.04549
Q52P	393	1.00	4.00	2.0560	1.16362
Q53P	401	1.00	4.00	2.5536	1.12372
Q54P	405	1.00	4.00	2.7605	1.15802
Q55P	397	1.00	4.00	2.4937	1.04354
Q56P	390	1.00	4.00	3.2744	.98006
Q57P	387	1.00	4.00	2.9251	1.00366
Q58P	395	1.00	4.00	2.6911	1.15578
Q59P	379	1.00	4.00	2.7177	1.07496
Q60P	358	1.00	4.00	2.4804	1.05236
Q61P	379	1.00	4.00	3.0660	1.04064
Q62P	381	1.00	4.00	2.7979	1.04054
Q63P	395	1.00	4.00	2.4177	1.03256
Q64P	393	1.00	4.00	2.6514	1.07765
Q65P	398	1.00	4.00	2.4322	1.19578
Valid N (listwise)	97				

Appendix G Reliability analysis for the main study

G1. Existing Situation Data

G1.1. Cohesiveness

School B
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

```
                              Mean        Std Dev        Cases

   1.    Q3                 2.0968         .7620          62.0
   2.    Q7                 2.8387         .7723          62.0
   3.    Q15                2.7097         .8176          62.0
   4.    Q20                2.9677         .5422          62.0
   5.    Q23                2.9355         .5393          62.0
   6.    Q27                2.3065         .8014          62.0
   7.    Q31                2.8226         .9148          62.0
   8.    Q61                3.0645         .8468          62.0
   9.    Q64                2.7097         .9476          62.0


                                                         N of
Statistics for          Mean    Variance   Std Dev   Variables
      SCALE          24.4516    14.0550     3.7490           9
```

Item-total Statistics

```
                 Scale         Scale       Corrected
                 Mean          Variance    Item-                  Alpha
                 if Item       if Item     Total                  if Item
                 Deleted       Deleted     Correlation            Deleted

Q3               22.3548       11.5442       .3728                 .6534
Q7               21.6129       11.1264       .4526                 .6367
Q15              21.7419       11.0471       .4305                 .6405
Q20              21.4839       12.6145       .2977                 .6690
Q23              21.5161       12.9424       .2118                 .6807
Q27              22.1452       10.6835       .5210                 .6206
Q31              21.6290       11.2208       .3259                 .6654
Q61              21.3871       12.7329       .1001                 .7114
Q64              21.7419        9.9979       .5272                 .6140
```

Reliability Coefficients

N of Cases =   62.0   N of Items = 9

Alpha =   .6828

School C

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q3	2.2515	.8762	167.0
2.	Q7	2.8443	.8711	167.0
3.	Q15	2.4671	1.0166	167.0
4.	Q20	2.6228	.8475	167.0
5.	Q23	2.6228	.8823	167.0
6.	Q27	2.4371	.9728	167.0
7.	Q31	3.1557	.9312	167.0
8.	Q61	2.9042	1.0014	167.0
9.	Q64	2.6108	.9239	167.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	23.9162	14.4749	3.8046	9

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q3	21.6647	13.0917	.0971	.5354
Q7	21.0719	11.6936	.3395	.4619
Q15	21.4491	11.2128	.3273	.4607
Q20	21.2934	12.2086	.2614	.4868
Q23	21.2934	12.1001	.2600	.4866
Q27	21.4790	11.2872	.3429	.4563
Q31	20.7605	12.7977	.1216	.5303
Q61	21.0120	13.9517	-.0641	.5921
Q64	21.3054	10.7074	.4819	.4093

Reliability Coefficients

N of Cases =   167.0   N of Items = 9

Alpha =   .5245

School D
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q3	2.1322	.8939	121.0
2.	Q7	2.9339	.8538	121.0
3.	Q15	2.6446	.9297	121.0
4.	Q20	2.8017	.8126	121.0
5.	Q23	2.7769	.8513	121.0
6.	Q27	2.1405	.9337	121.0
7.	Q31	2.7851	1.0584	121.0
8.	Q61	2.6281	.9843	121.0
9.	Q64	2.2727	.9661	121.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	23.1157	16.0698	4.0087	9

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q3	20.9835	14.4831	.1158	.6006
Q7	20.1818	14.3833	.1479	.5912
Q15	20.4711	13.0512	.3207	.5468
Q20	20.3140	12.8506	.4392	.5193
Q23	20.3388	13.6092	.2763	.5595
Q27	20.9752	12.8744	.3468	.5392
Q31	20.3306	12.0898	.3886	.5236
Q61	20.4876	14.5186	.0776	.6152
Q64	20.8430	12.3001	.4186	.5168

Reliability Coefficients

N of Cases =   121.0   N of Items = 9

Alpha =   .5879

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G1.2. Trust

School B

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                         Mean        Std Dev        Cases

   1.     Q1             2.5217         .7594          69.0
   2.     Q12            2.7826         .8723          69.0
   3.     Q17            2.3188         .7764          69.0
   4.     Q34            2.5072         .9644          69.0
   5.     Q45            2.8696         .9987          69.0
   6.     Q49            2.6812         .7572          69.0
   7.     Q53            2.2754        1.0129          69.0

                                                   N of
Statistics for       Mean    Variance   Std Dev  Variables
      SCALE        17.9565   10.8363     3.2919       7


Item-total Statistics

                Scale         Scale       Corrected
                Mean         Variance       Item-            Alpha
              if Item        if Item        Total           if Item
              Deleted        Deleted     Correlation        Deleted

Q1            15.4348         9.3082         .2053           .5695
Q12           15.1739         8.2046         .3744           .5117
Q17           15.6377         8.9991         .2650           .5513
Q34           15.4493         8.1628         .3164           .5330
Q45           15.0870         7.8159         .3623           .5137
Q49           15.2754         9.1436         .2444           .5577
Q53           15.6812         8.0145         .3131           .5350


Reliability Coefficients

N of Cases =      69.0                    N of Items =  7

Alpha =     .5781
```

School C
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1	2.4765	.8009	170.0
2.	Q12	2.4941	.8583	170.0
3.	Q17	2.2471	.9024	170.0
4.	Q34	2.6647	.9098	170.0
5.	Q45	2.7529	.9959	170.0
6.	Q49	2.4294	.9780	170.0
7.	Q53	2.5000	1.1160	170.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	17.5647	13.2414	3.6389	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q1	15.0882	10.8975	.3219	.5864
Q12	15.0706	10.1843	.4236	.5546
Q17	15.3176	10.8334	.2683	.6019
Q34	14.9000	10.7651	.2761	.5996
Q45	14.8118	10.4259	.2835	.5989
Q49	15.1353	9.5141	.4592	.5369
Q53	15.0647	9.8005	.3142	.5916

Reliability Coefficients

N of Cases =   170.0   N of Items = 7

Alpha =   .6192

School D
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1	2.3083	.6835	120.0
2.	Q12	2.4333	.8475	120.0
3.	Q17	2.1917	.8916	120.0
4.	Q34	2.5917	.9744	120.0
5.	Q45	1.7250	.9071	120.0
6.	Q49	2.1917	.9813	120.0
7.	Q53	2.5167	1.1522	120.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	15.9583	15.6369	3.9544	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q1	13.6500	13.8429	.2609	.7166
Q12	13.5250	11.6128	.5724	.6498
Q17	13.7667	12.5669	.3599	.6989
Q34	13.3667	12.0325	.3927	.6920
Q45	14.2333	11.6258	.5154	.6612
Q49	13.7667	11.3064	.5103	.6608
Q53	13.4417	11.2403	.3973	.6966

Reliability Coefficients

N of Cases =   120.0   N of Items = 7

Alpha =   .7158

G1.3. Respect

School B
```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                          Mean        Std Dev        Cases

  1.     Q5              2.3788         .8369          66.0
  2.     Q14             1.8788         .8136          66.0
  3.     Q19             2.5000         .9487          66.0
  4.     Q22             2.3030         .9110          66.0
  5.     Q29             2.7727         .7189          66.0
  6.     Q41             2.4848         .9322          66.0
  7.     Q47             2.7576         .9125          66.0


                                                   N of
Statistics for       Mean    Variance    Std Dev  Variables
     SCALE        17.0758     11.5172     3.3937       7


Item-total Statistics

                Scale         Scale       Corrected
                Mean         Variance       Item-          Alpha
               if Item       if Item        Total         if Item
               Deleted       Deleted     Correlation      Deleted

Q5            14.6970        9.1991         .3186          .5986
Q14           15.1970        8.8375         .4171          .5688
Q19           14.5758        8.6788         .3468          .5901
Q22           14.7727        7.9014         .5440          .5195
Q29           14.3030        9.2606         .3977          .5788
Q41           14.5909        8.7685         .3405          .5921
Q47           14.3182       10.2510         .0742          .6758



Reliability Coefficients

N of Cases =      66.0                    N of Items =   7

Alpha =    .6287
```

School C

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q5	2.4400	1.0146	175.0
2.	Q14	1.9543	.9273	175.0
3.	Q19	2.6857	.9876	175.0
4.	Q22	2.3771	1.0535	175.0
5.	Q29	2.6514	.9152	175.0
6.	Q41	2.4800	1.0386	175.0
7.	Q47	2.8571	1.0267	175.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	17.4457	15.6393	3.9547	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q5	15.0057	12.1551	.3470	.6160
Q14	15.4914	12.7226	.3109	.6261
Q19	14.7600	12.1145	.3708	.6087
Q22	15.0686	11.7194	.3896	.6025
Q29	14.7943	12.0149	.4392	.5900
Q41	14.9657	12.0908	.3420	.6178
Q47	14.5886	12.3240	.3137	.6264

Reliability Coefficients

N of Cases =   175.0   N of Items = 7

Alpha =   .6486

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School D
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q5	2.4667	.9161	120.0
2.	Q14	1.6750	.7903	120.0
3.	Q19	2.8083	.8725	120.0
4.	Q22	2.3667	.9069	120.0
5.	Q29	2.5417	.9605	120.0
6.	Q41	2.1667	1.0070	120.0
7.	Q47	2.0667	1.0590	120.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	16.0917	14.3697	3.7907	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q5	13.6250	11.6145	.3068	.6559
Q14	14.4167	11.8081	.3566	.6430
Q19	13.2833	12.2048	.2302	.6745
Q22	13.7250	10.7389	.4725	.6096
Q29	13.5500	10.8042	.4185	.6243
Q41	13.9250	10.3389	.4659	.6090
Q47	14.0250	10.4447	.4095	.6274

Reliability Coefficients

N of Cases =   120.0   N of Items = 7

Alpha =   .6710

G1.4. Control

School B
```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                           Mean        Std Dev      Cases

   1.     Q2             2.1154         .8321        52.0
   2.     Q9             3.0385         .7129        52.0
   3.     Q16            2.7500         .8828        52.0
   4.     Q25            1.9423         .9375        52.0
   5.     Q21            2.8846         .8081        52.0
   6.     Q33            2.3846         .9529        52.0
   7.     Q37            2.8654         .7148        52.0
   8.     Q43            2.7115         .7232        52.0
   9.     Q55            2.2308         .8991        52.0
  10.     Q59            2.9808         .8042        52.0
  11.     Q62            2.3846         .8438        52.0
  12.     Q63            2.2500        1.0455        52.0
  13.     Q65            2.2885        1.0354        52.0


                                                   N of
Statistics for        Mean    Variance   Std Dev  Variables
     SCALE          32.8269    28.6557    5.3531       13


Item-total Statistics

                 Scale        Scale      Corrected
                 Mean        Variance      Item-              Alpha
                if Item      if Item       Total             if Item
                Deleted      Deleted     Correlation         Deleted

Q2              30.7115      23.6603       .5316             .6716
Q9              29.7885      25.5818       .3557             .6953
Q16             30.0769      28.5430      -.0707             .7467
Q25             30.8846      23.7903       .4359             .6825
Q21             29.9423      24.3299       .4607             .6814
Q33             30.4423      24.0162       .3995             .6876
Q37             29.9615      25.7240       .3339             .6976
Q43             30.1154      26.4178       .2307             .7084
Q55             30.5962      24.3631       .3925             .6889
Q59             29.8462      26.2504       .2134             .7111
Q62             30.4423      27.1927       .0854             .7269
Q63             30.5769      22.8763       .4686             .6764
Q65             30.5385      22.2534       .5457             .6637


Reliability Coefficients

N of Cases =     52.0                    N of Items = 13

Alpha =     .7134
```

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School C
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q2	2.6250	.8068	136.0
2.	Q9	2.5662	1.0378	136.0
3.	Q16	2.4926	1.0680	136.0
4.	Q25	2.5809	1.0078	136.0
5.	Q21	2.8015	.9570	136.0
6.	Q33	1.8897	.9163	136.0
7.	Q37	2.1618	.8626	136.0
8.	Q43	2.1765	.9419	136.0
9.	Q55	2.2794	.9637	136.0
10.	Q59	2.2941	1.0264	136.0
11.	Q62	2.4853	.9887	136.0
12.	Q63	2.4412	1.0524	136.0
13.	Q65	2.1985	1.1341	136.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	30.9926	15.6962	3.9618	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q2	28.3676	14.1749	.1433	.1694
Q9	28.4265	12.8390	.2394	.1097
Q16	28.5000	13.4519	.1409	.1596
Q25	28.4118	15.4292	-.0946	.2701
Q21	28.1912	13.3558	.2037	.1345
Q33	29.1029	15.0115	-.0218	.2345
Q37	28.8309	14.2749	.1039	.1830
Q43	28.8162	12.7141	.3119	.0838
Q55	28.7132	15.8505	-.1411	.2859
Q59	28.6985	13.1455	.2011	.1307
Q62	28.5074	16.9481	-.2739	.3412
Q63	28.5515	14.7233	-.0167	.2376
Q65	28.7941	13.3647	.1261	.1654

Reliability Coefficients

N of Cases =   136.0   N of Items = 13

Alpha =   .2120

School D
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q2	2.0727	.7628	110.0
2.	Q9	2.9636	.9378	110.0
3.	Q16	2.3364	.9700	110.0
4.	Q25	2.2182	1.0869	110.0
5.	Q21	2.6455	.9045	110.0
6.	Q33	2.0545	1.0390	110.0
7.	Q37	2.5091	.9457	110.0
8.	Q43	2.5455	.9050	110.0
9.	Q55	1.9636	.9378	110.0
10.	Q59	2.5000	.9554	110.0
11.	Q62	2.3636	.9259	110.0
12.	Q63	2.5091	1.1313	110.0
13.	Q65	2.4273	1.2449	110.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	31.1091	26.8687	5.1835	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q2	29.0364	23.7785	.3372	.5362
Q9	28.1455	23.0979	.3208	.5339
Q16	28.7727	21.9754	.4346	.5085
Q25	28.8909	23.6577	.1920	.5610
Q21	28.4636	24.6179	.1596	.5656
Q33	29.0545	25.1163	.0646	.5873
Q37	28.6000	22.9945	.3285	.5321
Q43	28.5636	22.1014	.4640	.5058
Q55	29.1455	25.7218	.0281	.5907
Q59	28.6091	23.2678	.2916	.5395
Q62	28.7455	26.1181	-.0113	.5974
Q63	28.6000	23.0862	.2302	.5525
Q65	28.6818	22.6960	.2211	.5562

Reliability Coefficients

N of Cases =   110.0   N of Items = 13

Alpha =   .5723

G1.5. Violence

School B

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                            Mean        Std Dev       Cases

   1.     Q4              2.5410         .8077         61.0
   2.     Q8              2.3934         .7589         61.0
   3.     Q18             2.3115         .9581         61.0
   4.     Q24             2.6230         .9689         61.0
   5.     Q28             3.2295         .7830         61.0
   6.     Q32             2.4918         .8874         61.0
   7.     Q35             3.1475         .8334         61.0
   8.     Q39             2.5082         .7879         61.0
   9.     Q42             3.0000         .9832         61.0
  10.     Q46             2.8361         .7785         61.0
  11.     Q48             3.0820         .9712         61.0
  12.     Q51             2.8361         .9518         61.0
  13.     Q57             2.2131         .8586         61.0


                                                      N of
Statistics for        Mean    Variance    Std Dev   Variables
     SCALE          35.2131    28.7372     5.3607       13


Item-total Statistics

                  Scale         Scale       Corrected
                  Mean         Variance       Item-          Alpha
                 if Item       if Item        Total         if Item
                 Deleted       Deleted     Correlation      Deleted

Q4              32.6721        24.7907        .4095          .6813
Q8              32.8197        25.2169        .3863          .6849
Q18             32.9016        24.4568        .3548          .6876
Q24             32.5902        29.4459       -.1567          .7567
Q28             31.9836        25.3831        .3474          .6892
Q32             32.7213        23.4710        .5209          .6646
Q35             32.0656        24.6956        .4041          .6816
Q39             32.7049        24.8115        .4211          .6803
Q42             32.2131        24.2038        .3687          .6856
Q46             32.3770        28.0055        .0153          .7265
Q48             32.1311        23.1492        .4970          .6660
Q51             32.3770        22.5721        .5815          .6533
Q57             33.0000        25.8667        .2443          .7019


Reliability Coefficients

N of Cases =      61.0                    N of Items = 13

Alpha =     .7079
```

School C

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q4	2.6403	.9928	139.0
2.	Q8	2.4892	1.0312	139.0
3.	Q18	2.4676	1.1184	139.0
4.	Q24	2.2374	1.1006	139.0
5.	Q28	2.6906	1.0553	139.0
6.	Q32	2.6547	1.0123	139.0
7.	Q35	2.8201	.9873	139.0
8.	Q39	2.3885	1.0109	139.0
9.	Q42	2.5971	1.0949	139.0
10.	Q46	2.2878	.9872	139.0
11.	Q48	2.5540	1.1110	139.0
12.	Q51	2.5396	.9268	139.0
13.	Q57	2.1007	.9348	139.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	32.4676	38.8595	6.2337	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q4	29.8273	34.7816	.2641	.6894
Q8	29.9784	33.0792	.3977	.6713
Q18	30.0000	32.6667	.3866	.6723
Q24	30.2302	37.0336	.0459	.7205
Q28	29.7770	33.1311	.3798	.6736
Q32	29.8129	32.5590	.4567	.6633
Q35	29.6475	33.0705	.4240	.6683
Q39	30.0791	32.2183	.4897	.6587
Q42	29.8705	33.0121	.3695	.6749
Q46	30.1799	37.1631	.0600	.7148
Q48	29.9137	33.2534	.3412	.6791
Q51	29.9281	32.7919	.4907	.6608
Q57	30.3669	36.4803	.1333	.7048

Reliability Coefficients

N of Cases =   139.0   N of Items = 13

Alpha =   .6990

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School D

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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                         Mean        Std Dev      Cases

    1.     Q4           2.8679        .8737       106.0
    2.     Q8           2.5189       1.0532       106.0
    3.     Q18          2.6604       1.1371       106.0
    4.     Q24          2.2453        .9934       106.0
    5.     Q28          3.0094       1.0556       106.0
    6.     Q32          2.9057        .9106       106.0
    7.     Q35          3.1792        .8815       106.0
    8.     Q39          2.6321        .9189       106.0
    9.     Q42          2.6226       1.0994       106.0
   10.     Q46          2.4811        .9878       106.0
   11.     Q48          2.6981       1.0882       106.0
   12.     Q51          2.6981       1.0251       106.0
   13.     Q57          2.1698        .9307       106.0

                                                  N of
Statistics for       Mean    Variance   Std Dev  Variables
      SCALE        34.6887    32.6926    5.7177      13


Item-total Statistics

                 Scale        Scale      Corrected
                 Mean        Variance      Item-                Alpha
               if Item       if Item       Total              if Item
               Deleted       Deleted    Correlation           Deleted

Q4            31.8208       27.4819        .4855               .6051
Q8            32.1698       28.3328        .2899               .6330
Q18           32.0283       28.1801        .2667               .6376
Q24           32.4434       33.9825       -.1966               .7052
Q28           31.6792       28.5247        .2708               .6362
Q32           31.7830       27.1810        .4932               .6023
Q35           31.5094       27.4523        .4832               .6051
Q39           32.0566       28.5111        .3401               .6257
Q42           32.0660       27.0718        .3857               .6156
Q46           32.2075       33.2137       -.1315               .6959
Q48           31.9906       26.5999        .4373               .6062
Q51           31.9906       26.4856        .4887               .5986
Q57           32.5189       29.6044        .2194               .6437


Reliability Coefficients

N of Cases =    106.0                     N of Items = 13

Alpha =     .6525
```

G1.6. Physical Infrastructure

School B

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q6	2.2000	.8806	50.0
2.	Q10	2.4800	.8862	50.0
3.	Q11	2.8600	.7827	50.0
4.	Q13	1.8600	.8084	50.0
5.	Q26	2.7600	.9381	50.0
6.	Q30	2.5000	1.0152	50.0
7.	Q36	3.2000	.6999	50.0
8.	Q38	2.5400	.8855	50.0
9.	Q40	2.5600	.9071	50.0
10.	Q44	2.7200	.9044	50.0
11.	Q50	2.7400	.6642	50.0
12.	Q52	1.4200	.6728	50.0
13.	Q54	2.9000	.8864	50.0
14.	Q56	2.9800	.7140	50.0
15.	Q58	2.6000	.7825	50.0
16.	Q60	2.5400	.7879	50.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	40.8600	45.0208	6.7098	16

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q6	38.6600	39.4535	.4331	.7917
Q10	38.3800	39.7914	.3975	.7944
Q11	38.0000	41.9184	.2457	.8040
Q13	39.0000	39.4286	.4865	.7882
Q26	38.1000	38.7449	.4620	.7895
Q30	38.3600	37.7861	.4971	.7866
Q36	37.6600	42.8004	.1890	.8065
Q38	38.3200	41.3241	.2558	.8046
Q40	38.3000	38.4184	.5140	.7855
Q44	38.1400	39.0616	.4548	.7901
Q50	38.1200	41.9445	.3063	.7998
Q52	39.4400	41.8433	.3131	.7994
Q54	37.9600	37.6718	.6032	.7788
Q56	37.8800	43.4139	.1166	.8107
Q58	38.2600	39.4208	.5076	.7871
Q60	38.3200	38.3445	.6206	.7793

Reliability Coefficients

N of Cases =   50.0   N of Items = 16

Alpha =   .8043

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School C
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q6	2.4224	.9524	116.0
2.	Q10	2.3276	.9489	116.0
3.	Q11	2.2155	.9492	116.0
4.	Q13	1.7155	.8925	116.0
5.	Q26	2.6983	1.0731	116.0
6.	Q30	1.8362	.8841	116.0
7.	Q36	1.8448	.9099	116.0
8.	Q38	1.6293	.8898	116.0
9.	Q40	2.3103	3.1469	116.0
10.	Q44	2.0259	.9368	116.0
11.	Q50	2.0948	.8646	116.0
12.	Q52	2.3276	1.1404	116.0
13.	Q54	2.0431	1.0248	116.0
14.	Q56	3.2069	.8290	116.0
15.	Q58	1.9052	.9323	116.0
16.	Q60	2.0948	.8746	116.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	34.6983	49.8473	7.0603	16

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q6	32.2759	50.6189	-.1239	.5983
Q10	32.3707	45.2788	.2872	.5424
Q11	32.4828	45.7997	.2449	.5484
Q13	32.9828	43.3736	.4829	.5166
Q26	32.0000	48.2087	.0327	.5801
Q30	32.8621	44.9895	.3437	.5362
Q36	32.8534	47.1870	.1466	.5621
Q38	33.0690	45.4561	.3000	.5419
Q40	32.3879	31.2482	.2472	.6135
Q44	32.6724	44.3613	.3693	.5309
Q50	32.6034	47.0240	.1751	.5585
Q52	32.3707	46.5657	.1273	.5662
Q54	32.6552	43.9496	.3567	.5300
Q56	31.4914	47.5738	.1387	.5631
Q58	32.7931	43.6960	.4286	.5225
Q60	32.6034	45.7892	.2782	.5451

Reliability Coefficients

N of Cases =   116.0   N of Items = 16

Alpha =   .5690

School D

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q6	2.4700	.9688	100.0
2.	Q10	2.1800	.9575	100.0
3.	Q11	1.7300	.8629	100.0
4.	Q13	2.0200	1.0048	100.0
5.	Q26	2.8900	.8978	100.0
6.	Q30	1.6400	.8935	100.0
7.	Q36	2.2000	1.0249	100.0
8.	Q38	3.0900	.9438	100.0
9.	Q40	1.4600	.7709	100.0
10.	Q44	1.7400	.8833	100.0
11.	Q50	2.2600	.8118	100.0
12.	Q52	1.7000	1.0493	100.0
13.	Q54	3.1500	.8805	100.0
14.	Q56	3.1600	.8495	100.0
15.	Q58	2.9600	1.0533	100.0
16.	Q60	2.0600	.8143	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	36.7100	47.0363	6.8583	16

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q6	34.2400	48.8711	-.2048	.7947
Q10	34.5300	41.4435	.3793	.7446
Q11	34.9800	42.3228	.3535	.7470
Q13	34.6900	38.7009	.5859	.7240
Q26	33.8200	43.4016	.2391	.7566
Q30	35.0700	42.9546	.2803	.7531
Q36	34.5100	40.1918	.4458	.7380
Q38	33.6200	41.7733	.3584	.7465
Q40	35.2500	43.3005	.3096	.7506
Q44	34.9700	42.1708	.3561	.7468
Q50	34.4500	42.7551	.3412	.7482
Q52	35.0100	41.2019	.3514	.7475
Q54	33.5600	41.0570	.4612	.7378
Q56	33.5500	41.2399	.4651	.7379
Q58	33.7500	39.3005	.5017	.7320
Q60	34.6500	41.3813	.4765	.7375

Reliability Coefficients

N of Cases =   100.0   N of Items = 16

Alpha =   .7592

G1.7. Reliability coefficient overall per factors

G1.7.1. Cohesiveness

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

		Mean	Std Dev	Cases
1.	Q3	2.1829	.8636	350.0
2.	Q7	2.8743	.8472	350.0
3.	Q15	2.5714	.9571	350.0
4.	Q20	2.7457	.7982	350.0
5.	Q23	2.7314	.8271	350.0
6.	Q27	2.3114	.9380	350.0
7.	Q31	2.9686	.9880	350.0
8.	Q61	2.8371	.9808	350.0
9.	Q64	2.5114	.9567	350.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	23.7343	15.1068	3.8868	9

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q3	21.5514	13.4572	.1426	.5749
Q7	20.8600	12.7339	.2738	.5401
Q15	21.1629	12.0164	.3277	.5229
Q20	20.9886	12.6761	.3156	.5301
Q23	21.0029	12.9370	.2497	.5466
Q27	21.4229	11.8264	.3721	.5095
Q31	20.7657	12.4034	.2482	.5478
Q61	20.8971	13.9607	.0251	.6130
Q64	21.2229	11.1708	.4723	.4759

Reliability Coefficients

N of Cases =   350.0   N of Items = 9

Alpha =   .5714

G1.7.2. Trust
```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

		Mean	Std Dev	Cases
1.	Q1	2.4290	.7585	359.0
2.	Q12	2.5292	.8643	359.0
3.	Q17	2.2423	.8747	359.0
4.	Q34	2.6100	.9416	359.0
5.	Q45	2.4318	1.0884	359.0
6.	Q49	2.3983	.9543	359.0
7.	Q53	2.4624	1.1102	359.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	17.1031	14.1877	3.7667	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q1	14.6741	12.0583	.2950	.6301
Q12	14.5738	10.7815	.4685	.5817
Q17	14.8607	11.6174	.3027	.6281
Q34	14.4930	11.3121	.3140	.6255
Q45	14.6713	10.3777	.3744	.6083
Q49	14.7047	10.4321	.4615	.5799
Q53	14.6407	10.6610	.3164	.6294

Reliability Coefficients

N of Cases =   359.0   N of Items = 7

Alpha =   .6485

G1.7.3. Respect

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                        Mean        Std Dev       Cases

   1.    Q5            2.4377         .9499        361.0
   2.    Q14           1.8476         .8702        361.0
   3.    Q19           2.6925         .9470        361.0
   4.    Q22           2.3601         .9792        361.0
   5.    Q29           2.6371         .8998        361.0
   6.    Q41           2.3767        1.0176        361.0
   7.    Q47           2.5762        1.0777        361.0

                                                  N of
Statistics for        Mean    Variance    Std Dev  Variables
      SCALE         16.9280    14.7559     3.8413      7


Item-total Statistics

               Scale        Scale      Corrected
               Mean        Variance      Item-            Alpha
              if Item      if Item       Total           if Item
              Deleted      Deleted    Correlation        Deleted

Q5           14.4903      11.7617        .3211            .6267
Q14          15.0803      11.8796        .3532            .6177
Q19          14.2355      11.9139        .2975            .6334
Q22          14.5679      11.0072        .4294            .5935
Q29          14.2909      11.3568        .4270            .5964
Q41          14.5512      11.0592        .3932            .6047
Q47          14.3518      11.3231        .3131            .6319


Reliability Coefficients

N of Cases =    361.0                  N of Items =  7

Alpha =    .6510
```

G1.7.4. Control

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

		Mean	Std Dev	Cases
1.	Q2	2.3322	.8371	298.0
2.	Q9	2.7953	.9718	298.0
3.	Q16	2.4799	1.0090	298.0
4.	Q25	2.3356	1.0516	298.0
5.	Q21	2.7584	.9149	298.0
6.	Q33	2.0369	.9823	298.0
7.	Q37	2.4128	.9068	298.0
8.	Q43	2.4060	.9172	298.0
9.	Q55	2.1544	.9515	298.0
10.	Q59	2.4899	.9923	298.0
11.	Q62	2.4228	.9405	298.0
12.	Q63	2.4329	1.0811	298.0
13.	Q65	2.2987	1.1611	298.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	31.3557	22.3781	4.7305	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q2	29.0235	19.9287	.2340	.4436
Q9	28.5604	19.0418	.2820	.4274
Q16	28.8758	19.4020	.2203	.4438
Q25	29.0201	20.5652	.0741	.4851
Q21	28.5973	19.6824	.2290	.4430
Q33	29.3188	20.4334	.1103	.4736
Q37	28.9430	19.5759	.2467	.4387
Q43	28.9497	18.7281	.3538	.4102
Q55	29.2013	21.2792	.0220	.4951
Q59	28.8658	19.2277	.2488	.4361
Q62	28.9329	22.4534	-.1077	.5253
Q63	28.9228	19.6742	.1601	.4611
Q65	29.0570	18.6937	.2327	.4386

Reliability Coefficients

N of Cases =   298.0   N of Items = 13

Alpha =   .4769

G1.7.5. Violence

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                            Mean        Std Dev      Cases

   1.     Q4              2.6993         .9239       306.0
   2.     Q8              2.4804         .9891       306.0
   3.     Q18             2.5033        1.0992       306.0
   4.     Q24             2.3170        1.0469       306.0
   5.     Q28             2.9085        1.0266       306.0
   6.     Q32             2.7092         .9635       306.0
   7.     Q35             3.0098         .9356       306.0
   8.     Q39             2.4967         .9417       306.0
   9.     Q42             2.6863        1.0832       306.0
  10.     Q46             2.4641         .9685       306.0
  11.     Q48             2.7092        1.0911       306.0
  12.     Q51             2.6536         .9705       306.0
  13.     Q57             2.1471         .9168       306.0

                                                     N of
  Statistics for       Mean    Variance    Std Dev  Variables
       SCALE         33.7843   35.9730     5.9977      13


  Item-total Statistics

                   Scale        Scale      Corrected
                   Mean        Variance      Item-           Alpha
                 if Item       if Item       Total          if Item
                 Deleted       Deleted    Correlation       Deleted

Q4             31.0850        31.4878        .3502           .6713
Q8             31.3039        31.2024        .3432           .6718
Q18            31.2810        30.7601        .3285           .6740
Q24            31.4673        35.5284       -.0522           .7265
Q28            30.8758        30.8239        .3593           .6694
Q32            31.0752        30.1484        .4628           .6554
Q35            30.7745        30.3719        .4583           .6567
Q39            31.2876        30.5465        .4361           .6596
Q42            31.0980        30.2789        .3792           .6661
Q46            31.3203        34.8479        .0164           .7144
Q48            31.0752        29.8861        .4104           .6611
Q51            31.1307        29.6222        .5120           .6481
Q57            31.6373        33.1631        .1865           .6921

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)



Reliability Coefficients

N of Cases =    306.0                   N of Items = 13

Alpha =    .6929
```

G1.7.6. Physical Infrastructure
```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

		Mean	Std Dev	Cases
1.	Q6	2.3985	.9472	266.0
2.	Q10	2.3008	.9436	266.0
3.	Q11	2.1541	.9726	266.0
4.	Q13	1.8571	.9287	266.0
5.	Q26	2.7820	.9855	266.0
6.	Q30	1.8872	.9608	266.0
7.	Q36	2.2331	1.0417	266.0
8.	Q38	2.3496	1.1235	266.0
9.	Q40	2.0376	2.2094	266.0
10.	Q44	2.0489	.9720	266.0
11.	Q50	2.2782	.8410	266.0
12.	Q52	1.9211	1.0943	266.0
13.	Q54	2.6203	1.0757	266.0
14.	Q56	3.1466	.8179	266.0
15.	Q58	2.4323	1.0663	266.0
16.	Q60	2.1654	.8528	266.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	36.6128	52.5401	7.2485	16

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q6	34.2143	52.8935	-.0908	.6995
Q10	34.3120	47.2796	.3368	.6552
Q11	34.4586	47.6153	.2964	.6594
Q13	34.7556	45.3476	.5061	.6368
Q26	33.8308	49.2052	.1710	.6732
Q30	34.7256	46.6150	.3813	.6500
Q36	34.3797	46.4628	.3515	.6523
Q38	34.2632	46.8588	.2873	.6599
Q40	34.5752	41.7245	.2079	.7022
Q44	34.5639	46.2695	.4028	.6473
Q50	34.3346	48.1556	.3151	.6587
Q52	34.6917	49.9876	.0876	.6843
Q54	33.9925	45.1999	.4275	.6423
Q56	33.4662	49.4649	.2091	.6688
Q58	34.1805	44.9862	.4486	.6398
Q60	34.4474	46.7538	.4338	.6467

Reliability Coefficients

N of Cases =   266.0   N of Items = 16

Alpha =   .6757

G1.7.7. Overall

School B
```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Reliability Coefficients

N of Cases =      34.0                    N of Items = 65

Alpha =    .7857
```

School C
```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Reliability Coefficients

N of Cases =      53.0                    N of Items = 65

Alpha =    .8820
```

School D
```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Reliability Coefficients

N of Cases =      67.0                    N of Items = 65

Alpha =    .8691
```

Overall
```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

		Mean	Std Dev	Cases
1.	Q1	2.4221	.7736	154.0
2.	Q2	2.2857	.8610	154.0
3.	Q3	2.1623	.9321	154.0
4.	Q4	2.6753	.9209	154.0
5.	Q5	2.5130	.9784	154.0
6.	Q6	2.3636	.9689	154.0
7.	Q7	2.9156	.8398	154.0
8.	Q8	2.5325	.9913	154.0
9.	Q9	2.8247	.9844	154.0
10.	Q10	2.3117	.9464	154.0
11.	Q11	2.1883	1.0018	154.0
12.	Q12	2.5974	.8364	154.0
13.	Q13	1.8831	.9071	154.0
14.	Q14	1.8312	.8308	154.0
15.	Q15	2.6558	.9454	154.0
16.	Q16	2.5065	.9983	154.0
17.	Q17	2.2662	.8482	154.0
18.	Q18	2.5584	1.0846	154.0
19.	Q19	2.7143	.9126	154.0
20.	Q20	2.7273	.7607	154.0
21.	Q21	2.7013	.9227	154.0
22.	Q22	2.3636	1.0086	154.0
23.	Q23	2.8052	.7504	154.0
24.	Q24	2.2532	.9806	154.0

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25.    Q25                    2.3117      1.0757      154.0
26.    Q26                    2.8571       .9177      154.0
27.    Q27                    2.2338       .9132      154.0
28.    Q28                    2.9545      1.0312      154.0
29.    Q29                    2.6623       .9233      154.0
30.    Q30                    1.8701       .9477      154.0
31.    Q31                    2.9156       .9898      154.0
32.    Q32                    2.7143       .9268      154.0
33.    Q33                    2.0519       .9821      154.0
34.    Q34                    2.5844       .9053      154.0
35.    Q35                    3.0130       .9217      154.0
36.    Q36                    2.2792      1.0572      154.0
37.    Q37                    2.4740       .8722      154.0
38.    Q38                    2.3961      1.1168      154.0
39.    Q39                    2.5584       .8855      154.0
40.    Q40                    1.9545      1.0184      154.0
41.    Q41                    2.2922       .9830      154.0
42.    Q42                    2.7403      1.0591      154.0
43.    Q43                    2.4545       .9224      154.0
44.    Q44                    2.0909       .9522      154.0
45.    Q45                    2.3831      1.0615      154.0
46.    Q46                    2.4935       .9306      154.0
47.    Q47                    2.5779      1.0773      154.0
48.    Q48                    2.7597      1.0544      154.0
49.    Q49                    2.4156       .8908      154.0
50.    Q50                    2.2468       .7947      154.0
51.    Q51                    2.7597       .9638      154.0
52.    Q52                    1.8636      1.0851      154.0
53.    Q53                    2.5000      1.0862      154.0
54.    Q54                    2.5714      1.0344      154.0
55.    Q55                    2.1364       .9080      154.0
56.    Q56                    3.0974       .8066      154.0
57.    Q57                    2.0909       .9101      154.0
58.    Q58                    2.4870      1.0431      154.0
59.    Q59                    2.5000       .9651      154.0
60.    Q60                    2.1104       .8210      154.0
61.    Q61                    2.8052       .9080      154.0
62.    Q62                    2.4026       .9112      154.0
63.    Q63                    2.3636      1.0530      154.0
64.    Q64                    2.4870       .9582      154.0
65.    Q65                    2.3506      1.2020      154.0

                                                  N of
Statistics for       Mean   Variance   Std Dev  Variables
     SCALE       159.8701   383.2771   19.5775        65

Item-total Statistics

            Scale       Scale      Corrected
            Mean       Variance      Item-                Alpha
           if Item     if Item      Total               if Item
           Deleted     Deleted   Correlation            Deleted

Q1       157.4481     370.9679      .3930                .8549
Q2       157.5844     376.9242      .1678                .8578
Q3       157.7078     379.4631      .0811                .8592
Q4       157.1948     376.4978      .1660                .8579
Q5       157.3571     367.6036      .3922                .8544
Q6       157.5065     387.0751     -.1242                .8625
Q7       156.9545     370.9326      .3598                .8551
Q8       157.3377     383.6630     -.0352                .8612
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Q9          157.0455       362.0175        .5417          .8519
Q10         157.5584       365.5423        .4653          .8533
Q11         157.6818       370.7151        .2996          .8559
Q12         157.2727       365.5068        .5338          .8527
Q13         157.9870       365.9868        .4745          .8533
Q14         158.0390       371.3318        .3515          .8553
Q15         157.2143       366.0257        .4522          .8535
Q16         157.3636       364.1283        .4764          .8530
Q17         157.6039       363.2473        .5972          .8518
Q18         157.3117       386.5820       -.1051          .8629
Q19         157.1558       369.4527        .3703          .8548
Q20         157.1429       370.9337        .4015          .8548
Q21         157.1688       369.2916        .3704          .8548
Q22         157.5065       359.0751        .6066          .8507
Q23         157.0649       370.0742        .4378          .8544
Q24         157.6169       366.2510        .4280          .8538
Q25         157.5584       382.8495       -.0173          .8613
Q26         157.0130       374.9933        .2094          .8573
Q27         157.6364       369.9061        .3569          .8550
Q28         156.9156       378.6791        .0881          .8594
Q29         157.2078       365.8912        .4681          .8533
Q30         158.0000       370.8627        .3155          .8556
Q31         156.9545       367.8607        .3802          .8546
Q32         157.1558       381.7925        .0173          .8601
Q33         157.8182       380.9471        .0356          .8601
Q34         157.2857       366.7414        .4532          .8536
Q35         156.8571       375.8618        .1837          .8576
Q36         157.5909       372.5178        .2363          .8569
Q37         157.3961       365.6787        .5048          .8530
Q38         157.4740       375.2706        .1562          .8585
Q39         157.3117       379.9676        .0732          .8592
Q40         157.9156       368.8883        .3413          .8552
Q41         157.5779       365.9841        .4341          .8537
Q42         157.1299       378.9765        .0771          .8597
Q43         157.4156       362.3490        .5717          .8517
Q44         157.7792       369.3627        .3554          .8550
Q45         157.4870       369.3756        .3131          .8556
Q46         157.3766       365.2428        .4827          .8531
Q47         157.2922       371.2801        .2610          .8565
Q48         157.1104       384.2296       -.0499          .8618
Q49         157.4545       364.6417        .5245          .8526
Q50         157.6234       372.5239        .3300          .8556
Q51         157.1104       375.0662        .1951          .8575
Q52         158.0065       372.5555        .2279          .8571
Q53         157.3701       371.1628        .2613          .8565
Q54         157.2987       365.4657        .4233          .8538
Q55         157.7338       386.6803       -.1184          .8620
Q56         156.7727       373.1964        .3026          .8560
Q57         157.7792       382.0555        .0111          .8601
Q58         157.3831       369.6758        .3120          .8556
Q59         157.3701       373.3458        .2413          .8568
Q60         157.7597       368.8896        .4348          .8542
Q61         157.0649       380.4010        .0579          .8595
Q62         157.4675       382.5643       -.0033          .8604
Q63         157.5065       376.8006        .1313          .8587
Q64         157.3831       365.3751        .4636          .8533
Q65         157.5195       380.6565        .0251          .8612


Reliability Coefficients
N of Cases =    154.0                   N of Items = 65
Alpha =     .8582
```

G2. Preferred Situation Data

G2.1. Cohesiveness

School B

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q3P	2.7273	.9119	55.0
2.	Q7P	3.1818	.9248	55.0
3.	Q15P	2.8000	1.0435	55.0
4.	Q20P	3.3455	.8214	55.0
5.	Q23P	3.3273	.7467	55.0
6.	Q27P	2.6364	.9101	55.0
7.	Q31P	2.9091	1.1267	55.0
8.	Q61P	3.4182	.8754	55.0
9.	Q64P	2.9273	.9594	55.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	27.2727	21.2020	4.6046	9

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q3P	24.5455	18.4377	.2468	.7114
Q7P	24.0909	17.9731	.3027	.7017
Q15P	24.4727	16.3650	.4440	.6747
Q20P	23.9273	17.5502	.4326	.6793
Q23P	23.9455	17.7562	.4590	.6772
Q27P	24.6364	17.1987	.4206	.6801
Q31P	24.3636	15.4209	.5099	.6594
Q61P	23.8545	19.7933	.0825	.7372
Q64P	24.3455	15.7118	.6008	.6430

Reliability Coefficients

N of Cases =   55.0   N of Items = 9

Alpha =   .7115

School C
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q3P	2.6977	.9731	129.0
2.	Q7P	2.9767	1.0343	129.0
3.	Q15P	2.7519	.9924	129.0
4.	Q20P	2.9845	.9436	129.0
5.	Q23P	2.8450	1.0492	129.0
6.	Q27P	2.6899	.9984	129.0
7.	Q31P	2.8605	1.1092	129.0
8.	Q61P	3.0155	1.0605	129.0
9.	Q64P	2.6202	1.0473	129.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	25.4419	22.9985	4.7957	9

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q3P	22.7442	20.4575	.1811	.6683
Q7P	22.4651	18.0476	.4417	.6127
Q15P	22.6899	19.4187	.2967	.6452
Q20P	22.4574	19.2032	.3513	.6339
Q23P	22.5969	18.7737	.3436	.6351
Q27P	22.7519	18.8442	.3643	.6307
Q31P	22.5814	18.3859	.3556	.6325
Q61P	22.4264	18.8559	.3277	.6388
Q64P	22.8217	18.4445	.3843	.6258

Reliability Coefficients

N of Cases =   129.0   N of Items = 9

Alpha =   .6632

School D
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q3P	2.4434	1.0055	106.0
2.	Q7P	3.5377	.7455	106.0
3.	Q15P	2.9057	1.0559	106.0
4.	Q20P	3.2075	1.0115	106.0
5.	Q23P	3.0660	1.0353	106.0
6.	Q27P	2.3774	1.0552	106.0
7.	Q31P	2.8585	1.1249	106.0
8.	Q61P	3.0660	1.0167	106.0
9.	Q64P	2.4245	1.0950	106.0

					N of
Statistics for		Mean	Variance	Std Dev	Variables
	SCALE	25.8868	21.4537	4.6318	9

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q3P	23.4434	18.4968	.2250	.6253
Q7P	22.3491	19.5056	.2115	.6254
Q15P	22.9811	18.3425	.2207	.6274
Q20P	22.6792	17.2676	.3762	.5892
Q23P	22.8208	16.8152	.4201	.5776
Q27P	23.5094	17.9666	.2654	.6165
Q31P	23.0283	17.0182	.3415	.5974
Q61P	22.8208	17.6723	.3214	.6026
Q64P	23.4623	16.4795	.4246	.5749

Reliability Coefficients

N of Cases =   106.0   N of Items = 9

Alpha =   .6327

G2.2. Trust

School B
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1P	2.7778	.8509	63.0
2.	Q12P	3.1429	1.0755	63.0
3.	Q17P	2.4127	.8914	63.0
4.	Q34P	2.6190	1.0840	63.0
5.	Q45P	2.9841	1.1429	63.0
6.	Q49P	2.8413	.9706	63.0
7.	Q53P	2.3175	1.0599	63.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	19.0952	20.8295	4.5639	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q1P	16.3175	16.8976	.4586	.7385
Q12P	15.9524	16.4977	.3634	.7588
Q17P	16.6825	16.3815	.5063	.7292
Q34P	16.4762	14.6406	.6044	.7044
Q45P	16.1111	15.1326	.4938	.7309
Q49P	16.2540	15.7732	.5336	.7222
Q53P	16.7778	16.0466	.4310	.7439

Reliability Coefficients

N of Cases =   63.0   N of Items = 7

Alpha =   .7621

School C
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1P	2.5379	.8821	145.0
2.	Q12P	2.8138	1.0137	145.0
3.	Q17P	2.4345	1.0660	145.0
4.	Q34P	2.4690	1.0345	145.0
5.	Q45P	2.9724	1.0202	145.0
6.	Q49P	2.6690	.9651	145.0
7.	Q53P	2.6759	1.0922	145.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	18.5724	16.0937	4.0117	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q1P	16.0345	12.8807	.3846	.6038
Q12P	15.7586	12.7122	.3256	.6195
Q17P	16.1379	12.5225	.3227	.6211
Q34P	16.1034	12.4684	.3497	.6122
Q45P	15.6000	11.9500	.4399	.5838
Q49P	15.9034	12.7267	.3537	.6111
Q53P	15.8966	12.3851	.3273	.6202

Reliability Coefficients

N of Cases =   145.0   N of Items = 7

Alpha =   .6464

School D

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1P	2.6609	.9355	115.0
2.	Q12P	2.8087	1.1153	115.0
3.	Q17P	2.5130	1.0952	115.0
4.	Q34P	2.5826	1.0428	115.0
5.	Q45P	1.9043	1.0594	115.0
6.	Q49P	2.4348	1.0933	115.0
7.	Q53P	2.4000	1.1608	115.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	17.3043	20.6346	4.5425	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q1P	14.6435	17.1963	.3303	.6979
Q12P	14.4957	15.9890	.3814	.6876
Q17P	14.7913	16.1315	.3755	.6888
Q34P	14.7217	16.3780	.3755	.6883
Q45P	15.4000	15.5404	.4755	.6635
Q49P	14.8696	14.6232	.5760	.6358
Q53P	14.9043	15.3855	.4285	.6756

Reliability Coefficients

N of Cases =   115.0   N of Items = 7

Alpha =   .7104

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G2.3. Respect

School B
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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                            Mean        Std Dev       Cases

   1.     Q5P             2.4918        1.1049         61.0
   2.     Q14P            2.0656         .9464         61.0
   3.     Q19P            2.8852        1.1120         61.0
   4.     Q22P            2.6721        1.1064         61.0
   5.     Q29P            3.1311         .9394         61.0
   6.     Q41P            2.5410        1.0095         61.0
   7.     Q47P            2.9836        1.0082         61.0

                                                    N of
Statistics for      Mean    Variance   Std Dev  Variables
      SCALE       18.7705   19.9131    4.4624         7


Item-total Statistics

                Scale        Scale       Corrected
                Mean        Variance       Item-              Alpha
              if Item      if Item        Total            if Item
              Deleted      Deleted     Correlation         Deleted

Q5P           16.2787      14.7710        .4617             .6903
Q14P          16.7049      15.2448        .5105             .6805
Q19P          15.8852      13.8366        .5850             .6572
Q22P          16.0984      13.6235        .6202             .6476
Q29P          15.6393      15.6678        .4522             .6935
Q41P          16.2295      16.6131        .2772             .7322
Q47P          15.7869      17.3038        .1899             .7507


Reliability Coefficients

N of Cases =      61.0                   N of Items =  7

Alpha =     .7275
```

School C

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q5P	2.4925	1.0813	134.0
2.	Q14P	2.4627	1.0012	134.0
3.	Q19P	2.8806	1.0263	134.0
4.	Q22P	2.6269	1.0597	134.0
5.	Q29P	2.9403	1.0532	134.0
6.	Q41P	2.6567	1.0627	134.0
7.	Q47P	2.8806	1.1107	134.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	18.9403	15.2746	3.9083	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q5P	16.4478	12.0988	.2668	.5403
Q14P	16.4776	12.3266	.2768	.5363
Q19P	16.0597	12.2370	.2764	.5364
Q22P	16.3134	11.4649	.3744	.4990
Q29P	16.0000	12.0301	.2923	.5306
Q41P	16.2836	11.7536	.3282	.5169
Q47P	16.0597	12.2821	.2259	.5565

Reliability Coefficients

N of Cases =   134.0   N of Items = 7

Alpha =   .5694

School D
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q5P	2.8448	1.0600	116.0
2.	Q14P	2.1293	1.0260	116.0
3.	Q19P	3.0086	1.0914	116.0
4.	Q22P	2.6121	1.1327	116.0
5.	Q29P	2.8190	1.1617	116.0
6.	Q41P	2.2241	1.0639	116.0
7.	Q47P	2.3879	1.2070	116.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	18.0259	21.6080	4.6484	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q5P	15.1810	17.6452	.3188	.6923
Q14P	15.8966	16.9979	.4205	.6680
Q19P	15.0172	17.2171	.3533	.6844
Q22P	15.4138	16.2621	.4447	.6609
Q29P	15.2069	15.5916	.5087	.6428
Q41P	15.8017	16.3169	.4839	.6516
Q47P	15.6379	16.5982	.3613	.6844

Reliability Coefficients

N of Cases =   116.0   N of Items = 7

Alpha =   .7029

G2.4. Control

School B
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q2P	2.2708	.8184	48.0
2.	Q9P	3.4583	.8241	48.0
3.	Q16P	3.1458	1.0516	48.0
4.	Q25P	2.3958	1.0667	48.0
5.	Q21P	3.1458	.9891	48.0
6.	Q33P	2.8750	1.1037	48.0
7.	Q37P	2.9792	.8870	48.0
8.	Q43P	2.9375	.9765	48.0
9.	Q55P	2.7292	.9618	48.0
10.	Q59P	2.9375	.9319	48.0
11.	Q62P	3.0625	.8606	48.0
12.	Q63P	2.3542	1.0617	48.0
13.	Q65P	2.6042	1.0260	48.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	36.8958	47.3293	6.8796	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q2P	34.6250	42.0266	.4366	.7905
Q9P	33.4375	41.5705	.4780	.7874
Q16P	33.7500	44.5319	.1205	.8181
Q25P	34.5000	40.4255	.4251	.7912
Q21P	33.7500	43.4681	.2211	.8082
Q33P	34.0208	39.9783	.4394	.7901
Q37P	33.9167	39.3972	.6417	.7737
Q43P	33.9583	40.6365	.4610	.7878
Q55P	34.1667	40.6525	.4690	.7872
Q59P	33.9583	40.7642	.4788	.7865
Q62P	33.8333	42.2695	.3860	.7940
Q63P	34.5417	38.4238	.5910	.7753
Q65P	34.2917	38.7216	.5916	.7756

Reliability Coefficients

N of Cases =   48.0   N of Items = 13

Alpha =   .8031

School C
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q2P	2.5932	.9717	118.0
2.	Q9P	2.7627	1.0992	118.0
3.	Q16P	2.6864	1.1375	118.0
4.	Q25P	2.6949	1.0086	118.0
5.	Q21P	2.8644	1.1087	118.0
6.	Q33P	2.4237	1.0493	118.0
7.	Q37P	2.2881	1.0630	118.0
8.	Q43P	2.4068	1.0147	118.0
9.	Q55P	2.6017	.9969	118.0
10.	Q59P	2.6356	1.0675	118.0
11.	Q62P	2.6441	1.0664	118.0
12.	Q63P	2.5508	1.0178	118.0
13.	Q65P	2.2966	1.1789	118.0

		Mean	Variance	Std Dev	N of Variables
Statistics for					
	SCALE	33.4492	39.9076	6.3173	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q2P	30.8559	36.3124	.2264	.6792
Q9P	30.6864	33.1402	.4393	.6484
Q16P	30.7627	34.7124	.2910	.6712
Q25P	30.7542	35.2639	.3028	.6692
Q21P	30.5847	34.9116	.2875	.6715
Q33P	31.0254	34.2130	.3742	.6589
Q37P	31.1610	33.8627	.3973	.6554
Q43P	31.0424	33.7845	.4318	.6511
Q55P	30.8475	35.0535	.3270	.6659
Q59P	30.8136	36.7684	.1545	.6901
Q62P	30.8051	35.0813	.2920	.6707
Q63P	30.8983	35.6819	.2623	.6747
Q65P	31.1525	34.8483	.2636	.6758

Reliability Coefficients

N of Cases =   118.0   N of Items = 13

Alpha =   .6856

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School D
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q2P	2.3980	.9921	98.0
2.	Q9P	3.3163	.8921	98.0
3.	Q16P	2.7959	1.1573	98.0
4.	Q25P	2.2755	1.1909	98.0
5.	Q21P	2.9796	.9737	98.0
6.	Q33P	2.2959	1.1234	98.0
7.	Q37P	2.6939	1.1344	98.0
8.	Q43P	2.6837	1.0314	98.0
9.	Q55P	2.3776	1.1170	98.0
10.	Q59P	2.7959	1.0837	98.0
11.	Q62P	2.8776	1.0480	98.0
12.	Q63P	2.2347	1.0133	98.0
13.	Q65P	2.5204	1.2781	98.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	34.2449	51.7745	7.1954	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q2P	31.8469	45.6567	.3829	.7494
Q9P	30.9286	47.5515	.2786	.7586
Q16P	31.4490	42.2912	.5410	.7313
Q25P	31.9694	43.6176	.4284	.7442
Q21P	31.2653	47.3309	.2609	.7606
Q33P	31.9490	45.0592	.3616	.7515
Q37P	31.5510	45.7963	.3056	.7576
Q43P	31.5612	44.0220	.4887	.7386
Q55P	31.8673	45.4152	.3395	.7539
Q59P	31.4490	45.1984	.3707	.7505
Q62P	31.3673	43.6987	.5036	.7369
Q63P	32.0102	44.5463	.4585	.7419
Q65P	31.7245	44.6140	.3237	.7572

Reliability Coefficients

N of Cases =   98.0   N of Items = 13

Alpha =   .7636

G2.5. Violence

School B
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q4P	3.0000	.8467	54.0
2.	Q8P	3.0000	.9517	54.0
3.	Q18P	2.8704	1.1663	54.0
4.	Q24P	2.8704	1.0824	54.0
5.	Q28P	2.2037	1.0529	54.0
6.	Q32P	2.7407	1.1021	54.0
7.	Q35P	2.6667	.9316	54.0
8.	Q39P	2.7963	1.0349	54.0
9.	Q42P	1.9074	1.0328	54.0
10.	Q46P	2.9815	.9808	54.0
11.	Q48P	2.1296	1.0648	54.0
12.	Q51P	2.6667	1.0279	54.0
13.	Q57P	3.1667	.9467	54.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	35.0000	59.9245	7.7411	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q4P	32.0000	53.2075	.4857	.8282
Q8P	32.0000	53.0943	.4272	.8315
Q18P	32.1296	50.5678	.4821	.8283
Q24P	32.1296	52.6810	.3864	.8350
Q28P	32.7963	52.9577	.3823	.8350
Q32P	32.2593	49.0636	.6248	.8170
Q35P	32.3333	52.1887	.5102	.8262
Q39P	32.2037	48.8445	.6920	.8126
Q42P	33.0926	51.7460	.4786	.8281
Q46P	32.0185	54.7732	.2886	.8406
Q48P	32.8704	50.9829	.5135	.8256
Q51P	32.3333	49.5849	.6413	.8164
Q57P	31.8333	53.0094	.4366	.8309

Reliability Coefficients

N of Cases =   54.0   N of Items = 13

Alpha =   .8387

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School C
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q4P	2.5225	1.1587	111.0
2.	Q8P	2.3874	1.1691	111.0
3.	Q18P	2.3063	1.1739	111.0
4.	Q24P	2.4685	1.1663	111.0
5.	Q28P	2.4685	1.1585	111.0
6.	Q32P	2.5315	1.1507	111.0
7.	Q35P	2.4414	1.0845	111.0
8.	Q39P	2.6306	1.0781	111.0
9.	Q42P	2.4054	1.1551	111.0
10.	Q46P	2.4595	1.0769	111.0
11.	Q48P	2.3333	1.1388	111.0
12.	Q51P	2.7387	.9882	111.0
13.	Q57P	2.9189	1.0192	111.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	32.6126	59.0395	7.6837	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q4P	30.0901	50.7918	.4181	.7705
Q8P	30.2252	52.3943	.3119	.7808
Q18P	30.3063	50.1599	.4511	.7673
Q24P	30.1441	50.2699	.4480	.7676
Q28P	30.1441	49.4154	.5085	.7616
Q32P	30.0811	48.8388	.5519	.7573
Q35P	30.1712	48.9613	.5866	.7549
Q39P	29.9820	51.0906	.4403	.7686
Q42P	30.2072	49.8021	.4848	.7640
Q46P	30.1532	53.9127	.2509	.7854
Q48P	30.2793	50.5486	.4442	.7680
Q51P	29.8739	54.0930	.2731	.7827
Q57P	29.6937	55.4144	.1704	.7913

Reliability Coefficients

N of Cases =   111.0   N of Items = 13

Alpha =   .7850

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School D

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q4P	2.1809	1.0469	94.0
2.	Q8P	2.7979	1.1693	94.0
3.	Q18P	2.2128	1.2604	94.0
4.	Q24P	2.4894	1.1708	94.0
5.	Q28P	1.9255	1.0899	94.0
6.	Q32P	2.3085	1.0977	94.0
7.	Q35P	2.4255	1.0625	94.0
8.	Q39P	2.3936	.9970	94.0
9.	Q42P	2.3830	1.2102	94.0
10.	Q46P	2.6277	1.1638	94.0
11.	Q48P	2.0957	1.1646	94.0
12.	Q51P	2.4574	1.0438	94.0
13.	Q57P	2.9149	1.0438	94.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	31.2128	72.6854	8.5256	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q4P	29.0319	63.3000	.4976	.8290
Q8P	28.4149	61.8153	.5168	.8275
Q18P	29.0000	58.3441	.6623	.8160
Q24P	28.7234	62.6108	.4697	.8309
Q28P	29.2872	62.2714	.5363	.8263
Q32P	28.9043	60.9262	.6159	.8208
Q35P	28.7872	64.6209	.4060	.8349
Q39P	28.8191	63.4831	.5167	.8280
Q42P	28.8298	61.8847	.4903	.8295
Q46P	28.5851	62.3744	.4872	.8296
Q48P	29.1170	62.0399	.5063	.8283
Q51P	28.7553	64.2728	.4375	.8329
Q57P	28.2979	67.8888	.2155	.8466

Reliability Coefficients

N of Cases =   94.0   N of Items = 13

Alpha =   .8405

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G2.6. Physical infrastructure

School B

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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
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		Mean	Std Dev	Cases
1.	Q6P	2.7778	1.0420	45.0
2.	Q10P	2.4667	.9677	45.0
3.	Q11P	3.1556	.8779	45.0
4.	Q13P	2.0222	.9883	45.0
5.	Q26P	3.2000	.9909	45.0
6.	Q30P	2.6667	1.0871	45.0
7.	Q36P	3.1556	1.0215	45.0
8.	Q38P	2.5111	1.0579	45.0
9.	Q40P	2.5111	.9200	45.0
10.	Q44P	2.8889	1.0493	45.0
11.	Q50P	2.8889	.8587	45.0
12.	Q52P	1.3556	.6794	45.0
13.	Q54P	3.1111	1.0050	45.0
14.	Q56P	3.3111	.8481	45.0
15.	Q58P	2.8222	.9364	45.0
16.	Q60P	2.8000	.8944	45.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	43.6444	75.2798	8.6764	16

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q6P	40.8667	64.6182	.5716	.8465
Q10P	41.1778	68.5131	.3640	.8570
Q11P	40.4889	70.7556	.2541	.8613
Q13P	41.6222	66.1040	.5102	.8498
Q26P	40.4444	66.7525	.4660	.8521
Q30P	40.9778	63.2495	.6274	.8433
Q36P	40.4889	66.9828	.4338	.8538
Q38P	41.1333	67.2545	.3980	.8559
Q40P	41.1333	66.1636	.5525	.8479
Q44P	40.7556	64.3253	.5854	.8458
Q50P	40.7556	67.8707	.4715	.8518
Q52P	42.2889	69.0283	.5128	.8512
Q54P	40.5333	64.0273	.6368	.8432
Q56P	40.3333	71.9091	.1844	.8639
Q58P	40.8222	64.5131	.6575	.8427
Q60P	40.8444	66.4980	.5472	.8483

Reliability Coefficients

N of Cases =   45.0   N of Items = 16

Alpha =   .8591

School C
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q6P	2.4200	1.0748	100.0
2.	Q10P	2.3800	1.0423	100.0
3.	Q11P	2.3000	1.0299	100.0
4.	Q13P	2.0000	1.1010	100.0
5.	Q26P	2.7900	1.1573	100.0
6.	Q30P	2.1200	1.0472	100.0
7.	Q36P	2.2800	1.1641	100.0
8.	Q38P	1.9500	1.0481	100.0
9.	Q40P	2.2200	1.1244	100.0
10.	Q44P	2.2800	1.0058	100.0
11.	Q50P	2.6000	1.0918	100.0
12.	Q52P	2.5900	1.1815	100.0
13.	Q54P	2.2400	1.0929	100.0
14.	Q56P	3.3200	.8748	100.0
15.	Q58P	2.2600	1.1157	100.0
16.	Q60P	2.4300	.9975	100.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	38.1800	75.7855	8.7055	16

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q6P	35.7600	69.4570	.2888	.8044
Q10P	35.8000	67.3737	.4281	.7950
Q11P	35.8800	68.2077	.3831	.7980
Q13P	36.1800	65.8057	.4909	.7905
Q26P	35.3900	70.4827	.2040	.8111
Q30P	36.0600	68.2994	.3692	.7989
Q36P	35.9000	66.9798	.3910	.7977
Q38P	36.2300	65.8961	.5166	.7890
Q40P	35.9600	63.9378	.5886	.7832
Q44P	35.9000	65.0808	.5973	.7841
Q50P	35.5800	67.8218	.3766	.7985
Q52P	35.5900	68.2241	.3159	.8033
Q54P	35.9400	64.9459	.5476	.7865
Q56P	34.8600	73.7782	.0826	.8144
Q58P	35.9200	66.4178	.4467	.7936
Q60P	35.7500	66.7551	.4930	.7910

Reliability Coefficients

N of Cases =   100.0   N of Items = 16

Alpha =   .8067

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School D

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q6P	2.2558	1.0648	86.0
2.	Q10P	2.5349	1.1448	86.0
3.	Q11P	1.7326	.9258	86.0
4.	Q13P	2.1977	1.0827	86.0
5.	Q26P	3.1047	1.0519	86.0
6.	Q30P	1.8023	1.0718	86.0
7.	Q36P	2.0814	1.1603	86.0
8.	Q38P	2.9767	1.1579	86.0
9.	Q40P	1.5581	.7912	86.0
10.	Q44P	1.7907	1.0417	86.0
11.	Q50P	2.3256	.9634	86.0
12.	Q52P	1.7674	1.0811	86.0
13.	Q54P	3.3023	1.0183	86.0
14.	Q56P	3.3140	1.0545	86.0
15.	Q58P	3.0581	1.1413	86.0
16.	Q60P	2.3953	.9974	86.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	38.1977	69.5487	8.3396	16

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q6P	35.9419	62.0789	.3776	.7860
Q10P	35.6628	62.7908	.3002	.7923
Q11P	36.4651	62.0399	.4561	.7811
Q13P	36.0000	60.5882	.4621	.7797
Q26P	35.0930	66.5795	.1085	.8049
Q30P	36.3953	61.3948	.4171	.7831
Q36P	36.1163	61.6098	.3619	.7876
Q38P	35.2209	61.9389	.3440	.7890
Q40P	36.6395	63.3627	.4414	.7832
Q44P	36.4070	61.2089	.4451	.7811
Q50P	35.8721	62.3482	.4123	.7837
Q52P	36.4302	60.0833	.4950	.7772
Q54P	34.8953	62.7301	.3584	.7873
Q56P	34.8837	61.7746	.4019	.7842
Q58P	35.1395	59.8156	.4776	.7783
Q60P	35.8023	61.0075	.4843	.7786

Reliability Coefficients

N of Cases =   86.0   N of Items = 16

Alpha =   .7957

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G2.7. Reliability coefficient overall per factors

G2.7.1 Cohesiveness
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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                          Mean        Std Dev      Cases

    1.    Q3P            2.6103        .9790       290.0
    2.    Q7P            3.2207        .9483       290.0
    3.    Q15P           2.8172       1.0245       290.0
    4.    Q20P           3.1345        .9553       290.0
    5.    Q23P           3.0172       1.0067       290.0
    6.    Q27P           2.5655       1.0108       290.0
    7.    Q31P           2.8690       1.1146       290.0
    8.    Q61P           3.1103       1.0196       290.0
    9.    Q64P           2.6069       1.0608       290.0

                                                   N of
Statistics for        Mean    Variance   Std Dev  Variables
      SCALE         25.9517    22.3921    4.7320      9


Item-total Statistics

                Scale        Scale      Corrected
                Mean         Variance     Item-              Alpha
               if Item      if Item       Total            if Item
               Deleted      Deleted    Correlation         Deleted

Q3P           23.3414       19.6651       .2037             .6603
Q7P           22.7310       18.8755       .3177             .6365
Q15P          23.1345       18.7604       .2910             .6426
Q20P          22.8172       18.3575       .3814             .6231
Q23P          22.9345       17.9922       .3965             .6189
Q27P          23.3862       18.5701       .3215             .6357
Q31P          23.0828       17.6333       .3757             .6231
Q61P          22.8414       18.7429       .2956             .6415
Q64P          23.3448       17.4101       .4357             .6087


Reliability Coefficients

N of Cases =    290.0                  N of Items =  9

Alpha =     .6597
```

G2.7.2. Trust

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1P	2.6285	.8976	323.0
2.	Q12P	2.8762	1.0677	323.0
3.	Q17P	2.4582	1.0428	323.0
4.	Q34P	2.5387	1.0459	323.0
5.	Q45P	2.5944	1.1741	323.0
6.	Q49P	2.6192	1.0218	323.0
7.	Q53P	2.5077	1.1184	323.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	18.2229	19.0185	4.3610	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q1P	15.5944	15.6145	.3663	.6625
Q12P	15.3467	14.9291	.3575	.6646
Q17P	15.7647	15.0314	.3586	.6641
Q34P	15.6842	14.7261	.3984	.6535
Q45P	15.6285	13.8243	.4370	.6426
Q49P	15.6037	14.2214	.4870	.6299
Q53P	15.7152	14.5459	.3777	.6597

Reliability Coefficients

N of Cases =   323.0   N of Items = 7

Alpha =   .6882

G2.7.3. Respect
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q5P	2.6238	1.0880	311.0
2.	Q14P	2.2605	1.0127	311.0
3.	Q19P	2.9293	1.0663	311.0
4.	Q22P	2.6302	1.0932	311.0
5.	Q29P	2.9325	1.0770	311.0
6.	Q41P	2.4727	1.0679	311.0
7.	Q47P	2.7170	1.1544	311.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	18.5659	18.6013	4.3129	7

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
Q5P	15.9421	14.9450	.2939	.6387
Q14P	16.3055	14.6516	.3772	.6145
Q19P	15.6367	14.5482	.3585	.6195
Q22P	15.9357	13.7571	.4500	.5912
Q29P	15.6334	14.1039	.4126	.6032
Q41P	16.0932	14.3622	.3828	.6123
Q47P	15.8489	14.8126	.2764	.6457

Reliability Coefficients

N of Cases =   311.0   N of Items = 7

Alpha =   .6540

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G2.7.4. Control
R E L I A B I L I T Y   A N A L Y S I S   –   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q2P	2.4621	.9585	264.0
2.	Q9P	3.0947	1.0219	264.0
3.	Q16P	2.8106	1.1379	264.0
4.	Q25P	2.4848	1.1030	264.0
5.	Q21P	2.9583	1.0401	264.0
6.	Q33P	2.4583	1.1023	264.0
7.	Q37P	2.5644	1.0908	264.0
8.	Q43P	2.6061	1.0300	264.0
9.	Q55P	2.5417	1.0420	264.0
10.	Q59P	2.7500	1.0528	264.0
11.	Q62P	2.8068	1.0339	264.0
12.	Q63P	2.3977	1.0304	264.0
13.	Q65P	2.4356	1.1939	264.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	34.3712	46.8579	6.8453	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q2P	31.9091	42.3491	.2878	.7340
Q9P	31.2765	40.7636	.3870	.7235
Q16P	31.5606	40.1636	.3744	.7248
Q25P	31.8864	40.8235	.3418	.7287
Q21P	31.4129	42.0684	.2748	.7359
Q33P	31.9129	40.1483	.3934	.7225
Q37P	31.8068	40.0196	.4093	.7207
Q43P	31.7652	39.6557	.4734	.7137
Q55P	31.8295	41.0393	.3545	.7271
Q59P	31.6212	41.6126	.3046	.7327
Q62P	31.5644	40.4901	.4027	.7217
Q63P	31.9735	40.8928	.3721	.7252
Q65P	31.9356	40.1821	.3469	.7286

Reliability Coefficients

N of Cases =   264.0   N of Items = 13

Alpha =   .7418

G2.7.5. Violence

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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
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		Mean	Std Dev	Cases
1.	Q4P	2.4981	1.0975	259.0
2.	Q8P	2.6641	1.1510	259.0
3.	Q18P	2.3900	1.2257	259.0
4.	Q24P	2.5598	1.1578	259.0
5.	Q28P	2.2162	1.1342	259.0
6.	Q32P	2.4942	1.1288	259.0
7.	Q35P	2.4826	1.0467	259.0
8.	Q39P	2.5792	1.0476	259.0
9.	Q42P	2.2934	1.1642	259.0
10.	Q46P	2.6293	1.1039	259.0
11.	Q48P	2.2046	1.1346	259.0
12.	Q51P	2.6216	1.0209	259.0
13.	Q57P	2.9691	1.0149	259.0

Statistics for	Mean	Variance	Std Dev	N of Variables
SCALE	32.6023	65.5893	8.0987	13

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q4P	30.1042	56.5744	.4731	.8045
Q8P	29.9382	57.2985	.3998	.8104
Q18P	30.2124	54.1136	.5531	.7974
Q24P	30.0425	56.3742	.4529	.8061
Q28P	30.3861	56.0752	.4844	.8035
Q32P	30.1081	54.3604	.5981	.7942
Q35P	30.1197	56.5631	.5037	.8023
Q39P	30.0232	56.2243	.5263	.8006
Q42P	30.3089	56.5941	.4361	.8075
Q46P	29.9730	58.3132	.3593	.8133
Q48P	30.3977	56.2715	.4717	.8045
Q51P	29.9807	58.1275	.4124	.8091
Q57P	29.6332	60.6518	.2472	.8206

Reliability Coefficients

N of Cases =   259.0   N of Items = 13

Alpha =   .8181

G2.7.6. Physical Infrastructure

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R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)


                          Mean        Std Dev       Cases

    1.     Q6P            2.4286       1.0766        231.0
    2.     Q10P           2.4545       1.0658        231.0
    3.     Q11P           2.2554       1.0873        231.0
    4.     Q13P           2.0779       1.0726        231.0
    5.     Q26P           2.9870       1.0974        231.0
    6.     Q30P           2.1082       1.1039        231.0
    7.     Q36P           2.3766       1.1982        231.0
    8.     Q38P           2.4416       1.1813        231.0
    9.     Q40P           2.0303       1.0400        231.0
   10.     Q44P           2.2165       1.0978        231.0
   11.     Q50P           2.5541       1.0195        231.0
   12.     Q52P           2.0433       1.1713        231.0
   13.     Q54P           2.8052       1.1576        231.0
   14.     Q56P           3.3160        .9370        231.0
   15.     Q58P           2.6667       1.1484        231.0
   16.     Q60P           2.4892        .9863        231.0


                                                        N of
Statistics for        Mean   Variance   Std Dev   Variables
       SCALE       39.2511   77.4149    8.7986          16


Item-total Statistics

               Scale        Scale       Corrected
               Mean         Variance     Item-            Alpha
               if Item      if Item      Total            if Item
               Deleted      Deleted      Correlation      Deleted

Q6P            36.8225      69.1814       .3950            .7937
Q10P           36.7965      69.9802       .3532            .7965
Q11P           36.9957      68.8565       .4088            .7928
Q13P           37.1732      68.1786       .4565            .7895
Q26P           36.2641      71.9778       .2273            .8052
Q30P           37.1429      67.7839       .4628            .7889
Q36P           36.8745      67.5972       .4254            .7916
Q38P           36.8095      68.8679       .3648            .7961
Q40P           37.2208      67.4076       .5226            .7852
Q44P           37.0346      66.3553       .5510            .7826
Q50P           36.6970      69.2382       .4207            .7921
Q52P           37.2078      71.1914       .2454            .8048
Q54P           36.4459      67.6655       .4415            .7904
Q56P           35.9351      73.0436       .2181            .8043
Q58P           36.5844      67.5222       .4543            .7894
Q60P           36.7619      68.0518       .5156            .7862


Reliability Coefficients

N of Cases =    231.0                   N of Items = 16

Alpha =     .8036
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G2.7.7. Overall

School B

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Reliability Coefficients

N of Cases =   25.0   N of Items = 65

Alpha =   .9523

School C

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Reliability Coefficients

N of Cases =   42.0   N of Items = 65

Alpha =   .9266

School D

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

Reliability Coefficients

N of Cases =   46.0   N of Items = 65

Alpha =   .9445

Overall

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q1P	2.6018	.9214	113.0
2.	Q2P	2.4513	.9819	113.0
3.	Q3P	2.5575	1.0259	113.0
4.	Q4P	2.4248	1.1480	113.0
5.	Q5P	2.7522	1.1143	113.0
6.	Q6P	2.3717	1.1035	113.0
7.	Q7P	3.3009	.9150	113.0
8.	Q8P	2.6460	1.1644	113.0
9.	Q9P	3.1062	1.0296	113.0
10.	Q10P	2.4513	1.0855	113.0
11.	Q11P	2.2566	1.1002	113.0
12.	Q12P	3.0000	1.0856	113.0
13.	Q13P	2.0708	1.0327	113.0
14.	Q14P	2.1947	.9898	113.0
15.	Q15P	2.9292	.9975	113.0
16.	Q16P	2.8496	1.1894	113.0
17.	Q17P	2.3894	1.0215	113.0
18.	Q18P	2.2832	1.2354	113.0
19.	Q19P	3.0088	1.0732	113.0
20.	Q20P	3.1504	.9749	113.0
21.	Q21P	3.0265	1.0130	113.0
22.	Q22P	2.6549	1.0837	113.0
23.	Q23P	3.0885	.9960	113.0
24.	Q24P	2.4513	1.1495	113.0
25.	Q25P	2.3805	1.1285	113.0
26.	Q26P	3.1416	1.0340	113.0

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27.     Q27P                2.4779          .9919          113.0
28.     Q28P                2.1593         1.1305          113.0
29.     Q29P                2.8850         1.1319          113.0
30.     Q30P                2.1327         1.0898          113.0
31.     Q31P                2.8496         1.1819          113.0
32.     Q32P                2.4779         1.1503          113.0
33.     Q33P                2.5398         1.1729          113.0
34.     Q34P                2.6372         1.0943          113.0
35.     Q35P                2.5044         1.0188          113.0
36.     Q36P                2.3717         1.1354          113.0
37.     Q37P                2.4956         1.1110          113.0
38.     Q38P                2.4602         1.1805          113.0
39.     Q39P                2.5929         1.0491          113.0
40.     Q40P                1.9469          .9621          113.0
41.     Q41P                2.3805         1.0717          113.0
42.     Q42P                2.2035         1.1113          113.0
43.     Q43P                2.5487         1.0690          113.0
44.     Q44P                2.2212         1.0328          113.0
45.     Q45P                2.5221         1.1809          113.0
46.     Q46P                2.6106         1.0892          113.0
47.     Q47P                2.6726         1.1607          113.0
48.     Q48P                2.1947         1.1328          113.0
49.     Q49P                2.6637         1.0404          113.0
50.     Q50P                2.5575          .9630          113.0
51.     Q51P                2.5133         1.0099          113.0
52.     Q52P                1.9204         1.1112          113.0
53.     Q53P                2.5133         1.1348          113.0
54.     Q54P                2.6283         1.1967          113.0
55.     Q55P                2.5575         1.1095          113.0
56.     Q56P                3.2920          .9607          113.0
57.     Q57P                3.0442          .9855          113.0
58.     Q58P                2.6460         1.1644          113.0
59.     Q59P                2.7080         1.0495          113.0
60.     Q60P                2.4690          .9917          113.0
61.     Q61P                3.0177         1.0435          113.0
62.     Q62P                2.8850         1.0586          113.0
63.     Q63P                2.3009         1.0167          113.0
64.     Q64P                2.5487         1.0855          113.0
65.     Q65P                2.3894         1.2206          113.0

                                                         N of
Statistics for          Mean    Variance    Std Dev   Variables
     SCALE           168.0796   988.3061    31.4373        65


Item-total Statistics

            Scale          Scale      Corrected
            Mean          Variance      Item-                  Alpha
           if Item        if Item       Total                 if Item
           Deleted        Deleted    Correlation              Deleted

Q1P       165.4779       959.0732       .4974                  .9366
Q2P       165.6283       962.5213       .4074                  .9370
Q3P       165.5221       974.5375       .1985                  .9380
Q4P       165.6549       960.7995       .3680                  .9372
Q5P       165.3274       956.7222       .4402                  .9368
Q6P       165.7080       955.9050       .4570                  .9367
Q7P       164.7788       974.5131       .2268                  .9378
Q8P       165.4336       957.9264       .4027                  .9370
Q9P       164.9735       957.2761       .4704                  .9366
```

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Q10P          165.6283          958.2178          .4302          .9368
Q11P          165.8230          964.4327          .3317          .9374
Q12P          165.0796          951.4847          .5322          .9363
Q13P          166.0088          961.3838          .4038          .9370
Q14P          165.8850          959.5849          .4524          .9368
Q15P          165.1504          965.4682          .3524          .9372
Q16P          165.2301          952.2502          .4719          .9366
Q17P          165.6903          956.8943          .4805          .9366
Q18P          165.7965          952.3243          .4519          .9367
Q19P          165.0708          958.5664          .4302          .9368
Q20P          164.9292          957.4949          .4949          .9365
Q21P          165.0531          967.6579          .3114          .9375
Q22P          165.4248          949.2108          .5679          .9361
Q23P          164.9912          962.5981          .3999          .9370
Q24P          165.6283          952.9499          .4796          .9366
Q25P          165.6991          957.9801          .4159          .9369
Q26P          164.9381          976.7729          .1619          .9382
Q27P          165.6018          965.4561          .3547          .9372
Q28P          165.9204          951.2882          .5125          .9364
Q29P          165.1947          950.8725          .5179          .9363
Q30P          165.9469          956.8722          .4486          .9367
Q31P          165.2301          951.0537          .4919          .9365
Q32P          165.6018          950.2061          .5186          .9363
Q33P          165.5398          952.3578          .4776          .9366
Q34P          165.4425          951.4989          .5275          .9363
Q35P          165.5752          953.7465          .5327          .9363
Q36P          165.7080          967.9050          .2705          .9378
Q37P          165.5841          952.7630          .5002          .9365
Q38P          165.6195          976.5593          .1403          .9386
Q39P          165.4867          952.6806          .5331          .9363
Q40P          166.1327          971.4376          .2658          .9377
Q41P          165.6991          958.1051          .4379          .9368
Q42P          165.8761          965.4309          .3134          .9375
Q43P          165.5310          949.5727          .5706          .9361
Q44P          165.8584          959.1762          .4387          .9368
Q45P          165.5575          955.2310          .4340          .9368
Q46P          165.4690          951.3941          .5317          .9363
Q47P          165.4071          962.0471          .3460          .9373
Q48P          165.8850          960.0491          .3843          .9371
Q49P          165.4159          951.0844          .5632          .9362
Q50P          165.5221          965.7875          .3607          .9372
Q51P          165.5664          964.5335          .3627          .9372
Q52P          166.1593          963.8494          .3366          .9374
Q53P          165.5664          958.8906          .4002          .9370
Q54P          165.4513          953.9106          .4459          .9368
Q55P          165.5221          958.0375          .4228          .9369
Q56P          164.7876          967.9723          .3247          .9374
Q57P          165.0354          962.1952          .4112          .9370
Q58P          165.4336          965.1764          .3010          .9376
Q59P          165.3717          954.2892          .5076          .9364
Q60P          165.6106          958.9185          .4625          .9367
Q61P          165.0619          953.4158          .5245          .9364
Q62P          165.1947          952.1939          .5356          .9363
Q63P          165.7788          963.9238          .3698          .9372
Q64P          165.5310          952.8941          .5108          .9364
Q65P          165.6903          961.6800          .3320          .9375


Reliability Coefficients

N of Cases =     113.0                     N of Items = 65
Alpha =     .9378
```

Appendix H Reliability analysis using existing and preferred data

H1. Existing Situation

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

		Mean	Std Dev	Cases
1.	COHBEF	23.7078	4.1758	154.0
2.	TRUBEF	17.1688	3.9171	154.0
3.	RESBEF	16.9545	4.1006	154.0
4.	CONBEF	31.3636	5.0043	154.0
5.	VIOBEF	34.1039	5.7760	154.0
6.	PHYBEF	36.5714	6.7008	154.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	159.8701	383.2771	19.5775	6

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Alpha if Item Deleted
COHBEF	136.1623	285.0258	.5732	.6559
TRUBEF	142.7013	281.3873	.6586	.6389
RESBEF	142.9156	281.2935	.6192	.6453
CONBEF	128.5065	277.5196	.4841	.6741
VIOBEF	125.7662	336.5202	.0632	.8060
PHYBEF	123.2987	224.2631	.5686	.6480

Reliability Coefficients

N of Cases =   154.0   N of Items = 6

Alpha =   .7213

H2. Preferred Situation

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)
```

		Mean	Std Dev	Cases
1.	COHBEFP	25.9204	5.0163	113.0
2.	TRUBEFP	18.3274	4.6530	113.0
3.	RESBEFP	18.5487	4.5826	113.0
4.	CONBEFP	34.2389	7.5608	113.0
5.	VIOBEFP	32.1062	8.3338	113.0
6.	PHYBEFP	38.9381	8.4466	113.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	168.0796	988.3061	31.4373	6

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
COHBEFP	142.1593	766.6708	.7073	.8577
TRUBEFP	149.7522	767.9381	.7706	.8526
RESBEFP	149.5310	777.9477	.7408	.8567
CONBEFP	133.8407	624.5280	.8114	.8325
VIOBEFP	135.9735	629.3475	.6924	.8601
PHYBEFP	129.1416	652.5691	.6127	.8776

Reliability Coefficients

N of Cases =   113.0   N of Items = 6

Alpha =   .8773

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Appendix I Factor Analysis

Table I1. KMO and Bartlett's test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.806
Bartlett's Test of Sphericity	Approx. Chi-Square	5231.851
	df	2080
	Sig.	.000

Table I2. Communalities

Communalities

	Initial	Extraction
Q1	1.000	.204
Q2	1.000	.263
Q3	1.000	8.315E-02
Q4	1.000	.236
Q5	1.000	.311
Q6	1.000	.115
Q7	1.000	.178
Q8	1.000	.220
Q9	1.000	.328
Q10	1.000	.223
Q11	1.000	.383
Q12	1.000	.363
Q13	1.000	.247
Q14	1.000	.211
Q15	1.000	.205
Q16	1.000	.312
Q17	1.000	.299
Q18	1.000	.304
Q19	1.000	.399
Q20	1.000	.189
Q21	1.000	.204
Q22	1.000	.441
Q23	1.000	.314
Q24	1.000	.292
Q25	1.000	.236
Q26	1.000	.206
Q27	1.000	.297
Q28	1.000	.235
Q29	1.000	.380
Q30	1.000	.448
Q31	1.000	.283
Q32	1.000	.319
Q33	1.000	.274
Q34	1.000	.177
Q35	1.000	.369
Q36	1.000	.464
Q37	1.000	.403
Q38	1.000	.481
Q39	1.000	.280

Q40	1.000	.205
Q41	1.000	.411
Q42	1.000	.392
Q43	1.000	.413
Q44	1.000	.319
Q45	1.000	.464
Q46	1.000	.438
Q47	1.000	.395
Q48	1.000	.301
Q49	1.000	.330
Q50	1.000	.162
Q51	1.000	.287
Q52	1.000	.143
Q53	1.000	.290
Q54	1.000	.466
Q55	1.000	.234
Q56	1.000	.227
Q57	1.000	8.689E-02
Q58	1.000	.488
Q59	1.000	.205
Q60	1.000	.197
Q61	1.000	6.417E-02
Q62	1.000	6.438E-02
Q63	1.000	.230
Q64	1.000	.304
Q65	1.000	.175

Extraction Method: Principal Component Analysis.

Figure I1. Scree plot for factor analysis

Scree Plot
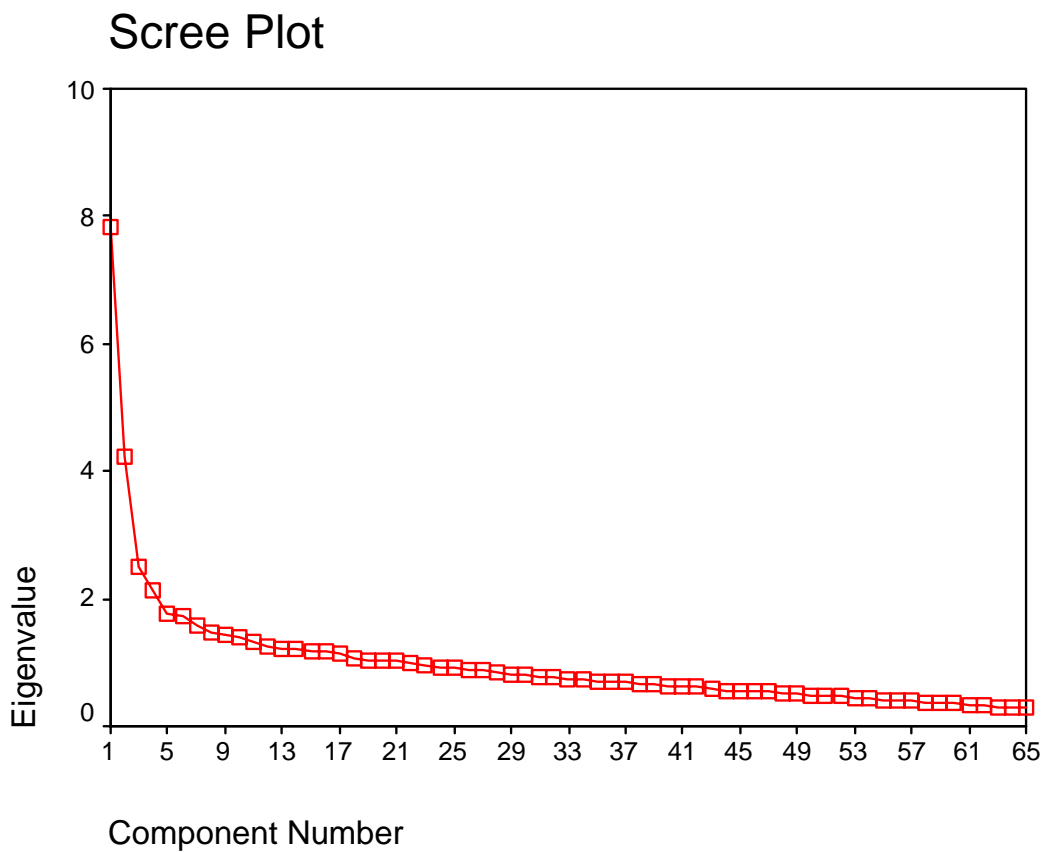
Table I3. Rotated component matrix

	Component				
	1	2	3	4	5
Q42	.601				
Q35	.587				
Q48	.540				
Q39	.528				
Q51	.525				
Q32	.499				
Q18	.480				
Q28	.461				
Q25	-.419				
Q8	.416				
Q55	-.415				
Q4	.393				
Q33	-.337				
Q6					
Q59					
Q57					
Q3					
Q62					
Q58		.678			
Q38		.674			
Q54		.636			
Q37		.527			
Q46		.501			.361
Q43		.481			
Q13		.369			
Q9		.356	.337		
Q26		.320			
Q50		.313			
Q24		.309			
Q20					
Q19			.613		
Q22			.596		
Q5			.536		
Q53			.497		
Q12			.482		.316
Q49			.441		.324
Q23			.418		
Q21			.343		
Q34			.342		
Q52			.326		
Q1					
Q14					
Q29				.567	
Q41				.545	
Q64				.528	
Q31				.486	
Q27				.477	
Q47				.433	.386

Q2				.401	
Q63				.376	
Q17			.346	.373	
Q7				.354	
Q15				.336	
Q56				.323	
Q65					
Q11					.598
Q30					.589
Q45			.307		.536
Q44					.521
Q36		.410			.507
Q40					.400
Q16			.343		.378
Q60					.340
Q10					
Q61					

Extraction Method: Principal Component Analysis.   Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 7 iterations.

Table I4. Component transformation matrix

Component Transformation Matrix

Component	1	2	3	4	5
1	.020	.491	.524	.501	.483
2	.910	.271	.050	-.304	-.053
3	.282	-.706	.517	.336	-.204
4	-.159	.431	.278	.102	-.838
5	.257	.041	-.615	.731	-.143

Extraction Method: Principal Component Analysis.   Rotation Method: Varimax with Kaiser Normalization.

Appendix J Reliability analysis for revised factors

J1. Violence

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                          Mean        Std Dev      Cases

   1.     Q4             2.7350         .9239       317.0
   2.     Q8             2.4763        1.0017       317.0
   3.     Q18            2.4921        1.1127       317.0
   4.     Q25            2.3249        1.0396       317.0
   5.     Q28            2.8707        1.0580       317.0
   6.     Q32            2.7539         .9724       317.0
   7.     Q33            2.0505         .9860       317.0
   8.     Q35            3.0063         .9480       317.0
   9.     Q39            2.5142         .9500       317.0
  10.     Q42            2.6593        1.0780       317.0
  11.     Q48            2.6782        1.0983       317.0
  12.     Q51            2.6688         .9972       317.0
  13.     Q55            2.1514         .9526       317.0

                                                    N of
  Statistics for       Mean    Variance   Std Dev  Variables
       SCALE          33.3817   27.9203    5.2840      13


Item-total Statistics

                 Scale          Scale      Corrected
                 Mean          Variance      Item-                Alpha
               if Item         if Item       Total              if Item
               Deleted         Deleted     Correlation          Deleted

Q4            30.6467         24.1659         .3193              .5298
Q8            30.9054         23.1492         .3909              .5122
Q18           30.8896         21.8390         .4657              .4892
Q25           31.0568         30.3322        -.3050              .6520
Q28           30.5110         23.5924         .3122              .5284
Q32           30.6278         22.9369         .4335              .5041
Q33           31.3312         28.3741        -.1358              .6175
Q35           30.3754         23.6846         .3617              .5204
Q39           30.8675         23.4697         .3855              .5154
Q42           30.7224         22.6379         .4017              .5068
Q48           30.7035         23.5827         .2936              .5322
Q51           30.7129         22.7939         .4340              .5027
Q55           31.2303         29.8487        -.2724              .6386

Reliability Coefficients

N of Cases =    317.0                      N of Items = 13

Alpha =     .5679
```

J2. Learning Environment

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                              Mean        Std Dev       Cases

    1.      Q9              2.7759         .9728        299.0
    2.      Q13             1.8829         .9464        299.0
    3.      Q24             2.3779        1.0204        299.0
    4.      Q26             2.7960         .9874        299.0
    5.      Q37             2.4515         .9012        299.0
    6.      Q38             2.3311        1.1146        299.0
    7.      Q43             2.4247         .9142        299.0
    8.      Q46             2.5284         .9737        299.0
    9.      Q50             2.2642         .8672        299.0
   10.      Q54             2.6288        1.0741        299.0
   11.      Q58             2.3779        1.0623        299.0

                                                        N of
Statistics for        Mean   Variance   Std Dev   Variables
      SCALE        26.8395   38.5245    6.2068          11


Item-total Statistics

                 Scale         Scale      Corrected
                 Mean         Variance      Item-              Alpha
                if Item       if Item       Total             if Item
                Deleted       Deleted    Correlation          Deleted

Q9              24.0635       33.0731       .4027              .7824
Q13             24.9565       32.7531       .4501              .7775
Q24             24.4615       32.5916       .4198              .7808
Q26             24.0435       34.9276       .2246              .8008
Q37             24.3880       32.2785       .5306              .7697
Q38             24.5084       31.5394       .4587              .7768
Q43             24.4147       32.0690       .5427              .7683
Q46             24.3110       31.4835       .5576              .7659
Q50             24.5753       34.7015       .3005              .7916
Q54             24.2107       30.7105       .5595              .7646
Q58             24.4615       31.3232       .5107              .7705


Reliability Coefficients

N of Cases =     299.0                      N of Items = 11

Alpha =     .7936
```

J3. Interaction

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q5	2.4180	.9434	323.0
2.	Q12	2.5449	.8635	323.0
3.	Q19	2.7121	.9526	323.0
4.	Q21	2.7461	.9177	323.0
5.	Q22	2.3622	.9790	323.0
6.	Q23	2.7276	.8378	323.0
7.	Q34	2.6254	.9286	323.0
8.	Q49	2.3994	.9579	323.0
9.	Q52	1.9257	1.0952	323.0
10.	Q53	2.4799	1.1154	323.0

	Mean	Variance	Std Dev	N of Variables
Statistics for SCALE	24.9412	27.4717	5.2413	10

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q5	22.5232	22.8900	.4090	.7132
Q12	22.3963	22.7182	.4869	.7029
Q19	22.2291	22.2765	.4768	.7027
Q21	22.1950	23.7538	.3215	.7259
Q22	22.5789	21.3501	.5707	.6871
Q23	22.2136	23.1375	.4507	.7084
Q34	22.3158	23.5211	.3429	.7229
Q49	22.5418	23.0503	.3809	.7174
Q52	23.0155	24.4128	.1718	.7531
Q53	22.4613	21.9325	.4111	.7134

Reliability Coefficients

N of Cases =   323.0   N of Items = 10

Alpha =   .7362

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J4. Cohesion

R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

		Mean	Std Dev	Cases
1.	Q2	2.3374	.8219	329.0
2.	Q7	2.8906	.8447	329.0
3.	Q15	2.5836	.9626	329.0
4.	Q17	2.2705	.8677	329.0
5.	Q27	2.2979	.9481	329.0
6.	Q29	2.6505	.9086	329.0
7.	Q31	2.9605	.9885	329.0
8.	Q41	2.3830	1.0057	329.0
9.	Q47	2.5805	1.0765	329.0
10.	Q56	3.1429	.8343	329.0
11.	Q63	2.4833	1.0766	329.0
12.	Q64	2.5106	.9567	329.0

				N of
Statistics for	Mean	Variance	Std Dev	Variables
SCALE	31.0912	31.6746	5.6280	12

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Alpha if Item Deleted
Q2	28.7538	28.4910	.2859	.7126
Q7	28.2006	28.4718	.2761	.7138
Q15	28.5076	27.8239	.2879	.7132
Q17	28.8207	27.4220	.3851	.7006
Q27	28.7933	26.6889	.4172	.6956
Q29	28.4407	26.2960	.4886	.6865
Q31	28.1307	26.6384	.3978	.6981
Q41	28.7082	25.9634	.4586	.6891
Q47	28.5106	26.4092	.3711	.7021
Q56	27.9483	28.2260	.3105	.7097
Q63	28.6079	28.7086	.1566	.7340
Q64	28.5805	26.3174	.4525	.6906

Reliability Coefficients

N of Cases =   329.0   N of Items = 12

Alpha =   .7220

J5. Resources

```
R E L I A B I L I T Y   A N A L Y S I S   -   S C A L E   (A L P H A)

                        Mean         Std Dev        Cases

   1.     Q11           2.2000         .9940         320.0
   2.     Q16           2.4875        1.0046         320.0
   3.     Q30           1.9156         .9774         320.0
   4.     Q36           2.2125        1.0378         320.0
   5.     Q40           2.0438        2.0582         320.0
   6.     Q44           2.0688         .9897         320.0
   7.     Q45           2.4438        1.0726         320.0
   8.     Q60           2.1813         .8844         320.0

                                                    N of
Statistics for      Mean    Variance    Std Dev  Variables
     SCALE        17.5531    25.9031     5.0895       8


Item-total Statistics

              Scale        Scale      Corrected
              Mean        Variance      Item-          Alpha
             if Item      if Item       Total         if Item
             Deleted      Deleted    Correlation      Deleted

Q11          15.3531      21.3326       .3901          .6094
Q16          15.0656      22.0552       .3008          .6288
Q30          15.6375      21.0908       .4297          .6012
Q36          15.3406      21.5921       .3353          .6209
Q40          15.5094      16.9027       .2815          .6875
Q44          15.4844      20.7897       .4580          .5944
Q45          15.1094      20.7372       .4111          .6025
Q60          15.3719      22.0964       .3638          .6178



Reliability Coefficients

N of Cases =    320.0                 N of Items =  8

Alpha =     .6497
```