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STUDENT SATISFACTION REGARDING MEAL EXPERIENCE AT THE RESIDENTIAL DINING HALLS OF THE UNIVERSITY OF PRETORIA

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Dissertation

MConsumer Science Food Management

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Co-study leader: Dr A.T. Viljoen

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STUDENT SATISFACTION REGARDING MEAL EXPERIENCE AT THE RESIDENTIAL DINING HALLS OF THE UNIVERSITY OF PRETORIA

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DECLARATION

I declare that the dissertation that I submitted for the degree of
Masters in Consumer Science (Food Management) at the University of Pretoria
is my own work and has not previously been submitted by me for a degree at this university
or any other tertiary institution and that all my reference materials contained herein
has been duly acknowledged.

Jeanne Kathleen Hall

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SUMMARY

TITLE OF DISSERTATION: **Student satisfaction regarding meal experience at the residential dining halls of the University of Pretoria**

by

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The residential meal experience has certain unique characteristics that can be attributed to both the socio-demographic profile of the student and the type of food service provided. These characteristics result in specific expectations that should be satisfied to meet the organisational and financial goals of the service provider and the University. The main challenges include addressing cultural diversity of captive consumers and providing for the specific needs of Generation Y. Globally there is an increased effort to determine the level of satisfaction of students with their meal experiences, in order to improve the food service provided. Limited research within the unique multi-cultural South African context; the changing demographic profile of Pretoria University students since 1996, and the increase in negative media reports regarding foodservice provided on campus motivated the urgent need for an investigation.

The aim of this study was to describe the satisfaction of the University of Pretoria's residential students regarding their meal experience in terms of the food itself, the service and the ambience, in order to provide the University's Department of Residence Affairs and Accommodation with recommendations to improve the meal experience offered by taking into account the demographic profile of students.

To obtain the relevant data to meet the stated aim, focus group discussions in which probing questions were asked of the participants were conducted in order to develop a questionnaire. Self-administered questionnaires were issued to a stratified random sample of 878 respondents from 22 responding residences. Data analysis involved descriptive statistics and the chi-square test.

Results indicated that most respondents were satisfied with the meal experience. Respondents were most satisfied with the ambience and least satisfied with the food. Respondents were most satisfied with the sensory and portion size attributes, but least satisfied with the price attributes of the food. Respondents were most satisfied with the tangible and empathy attributes of the service and most satisfied with the cleanliness and neatness attributes of the ambience. Food was ranked as most important followed by service and ambience. Freshness, nutritional value and cost (value for money) were ranked the most important attributes of food. Operating hours and cleanliness (neatness) were ranked most important for service and ambience respectively.

The food dimension was identified as a priority for improvement, specifically with respect to: the price of both booked meals and commercial items, regular incorporation of new menu items, healthy/nutritious food and variety of fruit and vegetables provided. Apart from the food attributes the availability of stock at item sales and the operating hours in general, were identified as attributes of the service requiring improvement. In addition, statistically significant relationships were found between satisfaction and specific profile characteristics such as ethnic group, gender and the number of years using a specific dining hall. The results of the open-ended question confirmed the findings of the rest of the questionnaire.

This study has contributed to the limited literature on student satisfaction regarding their meal experiences at residential dining halls. Valuable recommendations for improvement of the residential meal experience were provided.

Word limit 500 words [499 words]

Keywords:

South Africa, university, residential student, student satisfaction, student perception, meal experience, food service.

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GLOSSARY (as used in this document)

Aesthetic design of the dining hall refers to all the aspects that give consumers a general perception of the style of the dining hall.

Ambience customer's/consumer's interaction with the environment/physical facility in which the service is delivered (Heide, Lærdal & Grønhaug, 2007:1316).

Ambient conditions are defined as “the background conditions in the environment” (Heide & Grønhaug, 2006:274). In this study ambient conditions include the lighting, music and noise, cleanliness, temperature and ventilation.

Appearance refers to “the visual properties of the product including size, shape, colour, texture, gloss, transparency, cloudiness” (Schröder, 2003:140; Lawless & Heymann, 2010:286).

Aroma is the “characteristic smell of a substance” (Lawless & Heymann, 1998:811). “Aroma is a fragrance or an odour of food as perceived by the nose from sniffing the food” (Lawless & Heymann, 1998:804).

Assurance is defined “as the ability of the organization's employees to inspire trust and confidence in the organisation through their knowledge and courtesy” (Parasuraman, Zeithaml & Berry, 1988:23). This includes the hygiene procedures executed during service, staff's knowledge of food, staff's courtesy, professionalism of staff.

Captive customers/consumers are defined, according to Cousins *et al.* (2002:11), as “customers/consumers that are restricted by some means or another to a food service establishment. This can be due to physical restriction (e.g. hospital patients) or due to policies setting a limit of minimum participation or limited alternative (e.g. residential students)”.

Context “(or environment or situation) is defined to mean all the variables of a specific eating occasion” (Meiselman, Johnson, Reeve & Crouch, 2000b:231)

Conventional food service system is defined as a system that purchases foods in different stages of preparation for and individual operation and the production, distribution and service of the final food item are completed on the same premises (Davis, Lockwood, Alcott & Pantelidis, 2008:211; Payne-Palacio & Theis, 2009:63; Gregoire, 2010:74).

Customer/Consumer satisfaction is the customer's/consumer's post-experience subjective summary evaluation of the meal experience. This evaluation includes over-and under-fulfilment.

Cycle menu is defined as a series of menus offering different items daily on a 16 day basis, after which the menus are repeated (Knight & Kotschevar, 2000:56; Payne-Palacio & Theis, 2009:174; Gregoire, 2010:48)

Empathy is defined by Parasuraman *et al.* (1988:23) as “caring, individualized attention”. This includes the friendliness of staff, staff recognizing you, staff’s response to your requests.

Flavour is defined “a complex group of sensations comprising the olfactory sense, taste and other chemical sensations e.g. the irritation or heat caused by chillies” (Lawless & Heymann, 1998:808; Schröder, 2003:242). In simpler terms it is the sensory evaluation of food by means of the combination of smell and taste buds.

Food is defined according to the Shorter Oxford English dictionary on historic principles, “as any substance liquid/solid eaten by/served to humans for nourishment” (Brown & Stevenson, 2007b:1008)

Food production is defined as “the preparation of menu items in the needed quantity and the desired quality at a cost appropriate to a particular operation” (Gregoire, 2010:165)

Functional design is defined “as the way in which equipment and furnishings are arranged, and the ability of the items to facilitate consumer’s enjoyment of the experience” (Wakefield & Blodgett, 1996:46). The study considered only the comfort of the furniture and the layout (personal space) of the functional design.

Living Standards Measure (LSM) is “an instrument that was developed by the South African Advertising Research Foundation (SAARF) to segment the market. It uses surrogate indicators such as degree of urbanisation and ownership of major household appliances to determine consumer lifestyle levels” (South African Advertising Research Foundation, 2006).

Meal experience can be defined as the meal (food, service and ambience) presented as an experience.

Meal offering refers to the menu variety, portion size and the price paid

Person (residential student) refers to all characteristics regarding the consumer that have the ability to influence the consumers’ behaviour.

Ready prepared food service system using the cook-chill method. This entails that menu items are partially cooked, rapidly chilled, held in chilled storage and re-thermalised prior to service (Payne-Palacio & Theis, 2009:64; Gregoire, 2010:76).

Reliability is defined according to Parasuraman *et al.* (1988:23) as “the ability to provide the promised service dependably and accurately.” In this study it includes the availability of menus, consistency in items booked and items served, accuracy of billing at item sales, availability of stock at item sales

Responsiveness is defined according to Parasuraman *et al.* (1988:23) as “the staffs’ willingness to help customers and to provide prompt service”. This includes operating hours, staff’s attitude towards serving you, supervisor’s availability for requests from students

Sensory attributes is the characteristic sensations experienced by the senses. The sensory attributes include appearance, aroma, flavour, taste, temperature and texture.

Service is defined according to Gregoire’s (2010:231) definition in food service context as “the delivery of food to the customer/consumer”.

Socio-economic status is defined as “the overall rank of people in society; people who are grouped within the same social class are approximately equal in terms of their social standing, occupations and lifestyles”(Solomon, Bamossy, Askengard & Hogg, 2006:655).

Tangibles are defined according to Parasuraman *et al.* (1988:23) as “the physical facilities, equipment and appearance of service personnel”. This definition was adapted to exclude the physical facilities and to only include the interaction with staff (appearance) including the equipment (cutlery, crockery and booking system) necessary to provide students with quality service.

Taste refers to the four basic tastes of sweet, sour, salty, bitter (Brown, 2008:3; Lawless & Heymann, 2010:30).

Temperature is defined according to the Shorter Oxford English dictionary on historic principles as “the state of a substance with regard to its sensible warmth or coldness” (Brown & Stevenson, 2007a:3203).

Texture is defined “as the structure of foods and is detected by the feel of foods in the mouth. Crisp, soft, grainy, smooth hard and chewy are among the descriptors of food texture, which should be varied in a meal” (Gregoire, 2010:57).

CHAPTER 1 : The study in context

1.1 INTRODUCTION AND BACKGROUND

Students' satisfaction with food service plays an important part in the overall quality of life of a student on a university campus, therefore university food service directors need to be knowledgeable regarding the trends in providing for students' meal experience requirements (Gramling, Byrd, Epps, Keith, Lick & Tian, 2005:15; Klassen, Trybus & Kumar, 2005:580; Kim, Ng & Kim, 2009:10). The Food Services Division of the Department of Residence Affairs and Accommodation at the University of Pretoria is responsible for providing food services for the students in the residences at the University of Pretoria (Department of Residence Affairs and Accommodation, 2008). This department is driven by the ideal of realising a better quality of student life in the residences (Department of Residence Affairs and Accommodation, 2008). Preventing boredom and providing familiar and comfort foods to improve the emotional and mental well-being of its student customers is considered an important role of university food services (Williams, 2009:52) such as Food Services Division. This is substantiated by Locher, Yoels, Maurer and Van Ells (2005:279) who found in research conducted at a south-eastern university in the United States of America that students consume certain dishes for comfort when they are feeling down or facing difficult situations.

Certain challenges for this market include consumer captivity, menu fatigue, changes in the cultural profile in terms of ethnic group composition of the clientele and catering for the current Generation's specific needs. Due to the changing demographic profile of the University of Pretoria's students since 1996 (Van der Watt, 2008:192) and an increase in negative media reports regarding food service offerings on campus (Magnus, 2008 ; Ellis, 2009 ; Rossouw, 2009 ; Kruger, 2011), the Food Services Division of the Department of Residence Affairs and Accommodation identified the need for an investigation into the residential students' level of satisfaction with the food services at residences' dining halls.

University students in general are regarded captive customers/consumers, a target market, for food service providers on a university campus (Kim, Moreo & Yeh, 2004:98; Shanka & Taylor, 2005:329). Captive customers/consumers are defined as those individuals who are restricted by some means or another to a food service establishment. This can be due to physical condition (e.g. hospital patients) or due to policies setting a limit of minimum participation or limited alternative means to obtain meals (e.g. residential students) (Cousins *et al.*, 2002:11). The university gives a 50% advance for all residence students, which will become part of the residential account for food (Department of Residence Affairs and Accommodation, 2010:17; Van Tonder, 2012b:1). It is assumed that the majority of students will consume at least some meals in the residences' dining halls. Wealthy students with no constraints on their budget will still use fast food outlets and restaurant options if these are in close

proximity to the residences. Most students with budget constraints will thus be forced to consume meals in the residential dining hall as facilities to prepare food in their rooms are limited (Coertze, 2012, pers. comm., 17 Aug.). In addition, there is no specific time slot in the day during which lectures are not presented at the University of Pretoria. This means that there is no common lunch break and students cannot return to the residence to eat lunch together (Coertze, 2012, pers. comm., 17 Aug). Residential students who regularly book meals at the dining halls form a captive customer/consumer market that has to be catered for and menu fatigue might be experienced because of regular use of the food service.

Residential students are offered three meals a day by means of a cycle menu (booked meals) that repeats every 16 days with snack options sold throughout the day (Coertze, 2012, pers. comm., 17 Aug.). This is common practice for this type of food service (Williams, 2009:57; Gregoire, 2010:48). A cycle menu is a series of set menus offering different items each day on a weekly, bi-weekly, or longer time period after which the cycle is repeated (Knight & Kotschevar, 2000:56; Payne-Palacio & Theis, 2009:174; Gregoire, 2010:48). A cycle menu is defined for the purpose of this study as a series of menus offering different items daily on a 16 day basis, after which the menus are repeated. When the menu repeats too often, the customers may become bored with food offered (Cousins *et al.*, 2002:64; Martin & Oakley, 2008:383). Studies have shown that customers fed a monotonous diet rate food lower than customers who are fed a more varied diet (Hirsch, Kramer & Meiselman, 2005:39). Preventing boredom and providing familiar and comfort foods to people is specifically important in a non-commercial food services sector such as a university, to improve the morale and general well-being of students (Williams, 2009:51). This is especially important with captive customers (Cousins *et al.*, 2002:64) and where there are few or no alternative sources of meals other than those provided by the food service (Williams, 2009:51).

The changes in the South African government after the first democratic election in 1994 brought about cultural changes that enabled the University of Pretoria to strengthen its relationships with universities abroad (Van der Watt, 2008), thereby adding to the national cultural diversity by attracting international students to study at the University. In addition, apart from the tradition of the institution being only for white students, more students from various ethnic groups in South African received the opportunity to attend South African Universities (Byrnes, 1996:1). The University of Pretoria student enrolment records from 1996 to 2006 reflect these changes significantly in terms of the growth in student numbers drawn from diverse ethnic groups (Van der Watt, 2008:192). This development created many challenges for food service managers who had to manage the increased number of culturally diverse students. Complaints received from students in the media (Magnus, 2008 ; Ellis, 2009 ; Rossouw, 2009 ; Kruger, 2011) may be culture-related (Schutte in Ellis, 2009). These findings indicate that a need exists to explore the level of satisfaction with the current offerings in the light of the changing cultural profile of students studying at the University of Pretoria.

The number of students pursuing higher education degrees is increasing globally (Knutson, 2000:68; Shanka & Taylor, 2005:330; Kim *et al.*, 2009:10). On a national level the number of students attending tertiary institutions in South Africa, such as a university or a college, increased by 112 000 from 1993 to 2000 (Department of Labour, 2002) alone. The University of Pretoria's registered students increased by 9 000 full-time students from 1997 to 2006 (Van der Watt, 2008). As a result these numbers indicate that the demands of the institutional food service market are growing.

Limited research in the field of student satisfaction with a focus on the growing market of the university food service sector has been done (Shanka & Taylor, 2005:330). This state of affairs comprises the Generation Y group who were born between 1979 and 1994 (Neuborne & Kerwin, 1999:80; Smith, 2008:1). Generation Y adolescents born between 1986 and 1990 are described as the desirable university market (Noble, Haytko & Phillips, 2009:617). The University of Pretoria's residential student population may also have a fairly large contingent in this age group. Literature describes this market as a generation with more disposal funds than any teen group in history (Morton, 2002:46), with some of the greatest amounts spent on food (Martin & Turley, 2004:466). McCrindle (2002:1) adds that generally Generation Y's priorities have changed towards financial commitments with 70% of their disposable income spent on entertainment, travel and food. The South African Generation Y also displays the same spending power tendency and places a high value on comfort (Human Development Index youth marketeers, 2011:1,2). Therefore the same high spending on entertainment and food can be expected from them. Despite their potential contribution to market segment activities, Generation Y is unrepresented in global literature, not only in terms of their consumption behaviour and perceptions (Martin & Turley, 2004:465; Noble *et al.*, 2009:618) but also in the food service industry (Kueh & Voon, 2007:657). This study will contribute to existing consumer behaviour literature of the older Generation Y in the educational food service setting.

1.2 JUSTIFICATION FOR THE STUDY AND PROBLEM STATEMENT

The Department of Marketing at the University Pretoria conducted a survey during 2006 in the dining halls of its residences. Residential students indicated clearly that the food quality was not satisfactory (Client Services University of Pretoria, 2006). Unfortunately the questions included in the survey were not compiled with proper consultation of Consumer Science professionals which resulted in insufficient information being obtained to solve the problem satisfactorily.

From the customer satisfaction information and media reports (Magnus, 2008 ; Ellis, 2009 ; Rossouw, 2009 ; Kruger, 2011), it appears that there are mixed opinions with regard to students' satisfaction with food quality at the University residences. It is explained that when the customer's/consumer's expectations are met or exceeded (satisfaction occurs) they feel they have received quality (Davis *et al.*, 2008:372). There is also uncertainty amongst the students as to what food quality entails. In addition, Meiselman (2001:67) notes that the customers/consumers perception of quality is influenced by the context. The context of the residential meal experience is discussed in more detail in Chapter 1

Section 1.4 and Chapter 2 Section 2.5. Consumer satisfaction is one of the most important goals of a Food Services establishment. In order to accomplish this goal a consumer profile is needed (Spears & Gregoire, 2007:8).

The Deputy Director of the Department of Residence Affairs and Accommodation, who is also the head of the Food Services Division of the Department of Residence Affairs and Accommodation, approached the Department of Consumer Science and requested them to provide them with recommendations to address the residence students' meal experience requirements (Martin, 2008, pers. comm., 11 Feb.).

1.3 AIMS AND OBJECTIVES

The aim of the study is to determine and describe the satisfaction of the University of Pretoria's residential students regarding the meal experience in terms of food, service and ambience. The study was undertaken in order to provide the Department of Residence Affairs and Accommodation with recommendations for improvement of the meal experience in terms of food, service delivery and ambience according to the demographic profile of the students in residences.

The following objectives were set in order to achieve the aim of this study:

1. To determine and describe the socio-demographic profile of the University of Pretoria's residential students in terms of age, gender, cultural background and socio-economic status.
2. To determine and describe the utilisation of dining facilities by the University of Pretoria's residential students.
3. To determine and describe the special dietary requirements of the University of Pretoria's residential students.
4. To determine and describe the level of satisfaction of the University of Pretoria's residential students with the attributes of the meal experience.
5. To determine and describe the relationship between the socio-demographic profile of the residential students of the University of Pretoria and their level of satisfaction with the meal experience.
6. To determine and describe the relationship between the utilisation of dining facilities by the residential students of the University of Pretoria and their level of satisfaction with the meal experience.

7. To determine and describe the importance to the University of Pretoria's residential students, of the attributes of the meal experience.
8. To determine and describe the relationship between the level of satisfaction with the dimensions of meal experience and the importance of the dimensions of the meal experience to the students at the residential dining halls of the University of Pretoria.
9. To make recommendations for the improvement of the meal experience in terms of food, service and ambience in the residential dining halls at the University of Pretoria.

1.4 STUDY AREA AND CONTEXT

The study area and context were explored by means of informal interviews conducted with the Operational Managers and Head of the Food Services Division of the Department of Residence Affairs and Accommodation at the University of Pretoria (Coertze & Kempff, 2008, pers. comm., 7 Feb.; Martin, 2008, pers. comm., 11 Feb.). The Food Services Division of the Department of Residence Affairs and Accommodation is classified as part of the non-commercial Institutional Food Service Sector. The non-commercial (institutional food service) sector operates where the sale of food is secondary to the goal of the organization; typically as a not-for profit organisation (Edwards & Hartwell, 2009:105; Gregoire, 2010:11). The food service industry has changed over the last few years and, amongst other things, the profit generated from food provided at some institutions such as hospitals and universities, has fallen (Edwards & Hartwell, 2009:117). This is also the case with the Food Services Division of the Department of Residence Affairs and Accommodation at the University of Pretoria (Martin, 2008, pers. comm., 11 Feb.). The non-commercial (institutional food service) sector is defined for the purpose of this study as a food service where the sale of food is a secondary goal and education the primary goal. The next section discusses and describes the Food Services Division of the Department of Residence Affairs and Accommodation of the University of Pretoria's physical facilities, food service system and menu.

1.4.1 Physical facilities

This study was conducted at the University of Pretoria which is situated in the capital city of South Africa. The University of Pretoria had about 40 000 students at the time of the study of whom about 30 000 were undergraduate students. The University of Pretoria has 28 residences providing accommodation to 7 200 students. Three of these residences host post-graduate students only and another three do not formally make use of the food service provided by the Food Services Division of the Department of Residence Affairs and Accommodation of the University. The remaining 22 undergraduate residences studied in the research are situated on the Onderstepoort, Medical, Hatfield, Hillcrest and Groenkloof campuses as indicated on the map in Figure 1.2, which is a map of the location of the University of Pretoria's residences.



Figure 1.1: The location of the University of Pretoria's residences

1.4.2 Food service system

Initially the Food Services Division of the Department of Residence Affairs and Accommodation used only the conventional system to provide food to students at the Hillcrest, Onderstepoort, Medical, Hatfield and Groenkloof campuses. Recently this Division started using a combination of the conventional and ready-prepared (using the cook-chill method) food service systems for the provision of food. The use of a combination of food service systems is currently a trend followed in food services in order to draw optimal advantages of each food service system (Gregoire, 2010:84). Onderstepoort, Medical, and Groenkloof campuses use only the conventional food service system. Hillcrest and

Hatfield campuses now use a combination of the conventional and ready-prepared food service system using the cook-chill method for selected menu items.

The conventional system offered the advantage of flexibility enabling adaptability to regional, ethnic and individual preferences of its customers/consumers (Payne-Palacio & Theis, 2009:64). Ethnic food and special dietary requirements are emerging trends in university food services (Payne-Palacio & Theis, 2009:52) even more so in the South African context with its ethnic diversity. The ready prepared food service system offers the advantage of reduced labour requirements, normal working hours, reduced work stress and the even distribution of the workload (National Food Service Management Institute, 2002:14; Payne-Palacio & Theis, 2009:65; Gregoire, 2010:83). This saves costs, reduces staff turnover and eases the recruitment process (Payne-Palacio & Theis, 2009:65; Gregoire, 2010:76). These advantages were also applicable to the Food Services Division of the Department of Residence Affairs and Accommodation (Martin, 2012, pers. comm., 7 Sept.). The ready-prepared food service system requires special skilled labour to pay attention to food safety and recipe formulation due to the large quantities produced, sensory changes during storage and temperature changes during distribution (National Food Service Management Institute, 2002:14; Payne-Palacio & Theis, 2009:68; Gregoire, 2010:82). This level of skill required may be challenging in the South-African context where the largest proportion of the labour employed is unskilled (Thwala, 2006:1).

The combination of these two systems is implemented for selected menu items produced at Mopanie and Maroela residences located on the Hillcrest campus. Use is made of the ready-prepared food service system using the cook-chill method and then selected items are distributed to three residential dining halls located on the Hillcrest campus, and three residential dining halls located on the Hatfield campus (Martin, 2012, pers. comm., 7 Sept.). At all the residences located on the Hatfield and Hillcrest campuses the cook-chill menu items are re-thermalised prior to service and the rest of the menu items required are prepared by means of the conventional system (Martin, 2012, pers. comm., 7 Sept.). These menu items are then portioned, plated and served to students at the dining halls according to the menu they have booked (Martin, 2012, pers. comm., 7 Sept.). The advantage of this service type is that all the courses of the meal are served together and portions are standardised (Edwards & Hartwell, 2009:111). However, on the other hand, the standardised portion sizes resulted that the customers/consumers were not having the option to choose their own portion sizes.

1.4.3 Menu

Residential students are offered three meals a day by means of a cycle menu (booked meals) which repeats every 16 days with food items (unbooked) throughout the day (Coertze, 2012, pers. comm., 17 Aug.). The cycle menu offers three options per meal from which to choose. The chosen menu from the cycle menu is booked at dining halls 12 hours ahead of time and collected at the relevant meal times (Coertze, 2012, pers. comm., 17 Aug.). The advantage of pre-ordered meals is that management can make forecasts and thereby reduce food wastage (Edwards & Hartwell, 2009:110). The disadvantages are that customers have to select their meal up to 12 hours before consumption without the aid of

sensory stimuli (Edwards & Hartwell, 2009:110). Food items (unbooked) are also sold during all three meals. These items currently consist of commercially produced snacks such as potato crisps, cool drinks and milk. Previously this section provided fast food items such as pies, French fries and salads. However these items have been removed due to the complaints received. Students place credit on their student cards and use it to pay for the above, thereby avoiding carrying cash.

1.5 RESEARCH METHODOLOGY

This study followed an explorative and descriptive research design. Focus group discussions were used to develop the measurement instrument. The measurement instrument consisted of a self-administered survey questionnaire that focused on attaining the objectives of the study operationalised in Chapter 3 Section 3.3. A sizeable stratified random sample described in Chapter 3 Section 3.7.1 enabled the researcher to generalise results to the rest of the population. A description and justification for the research methodology followed can be found in Chapter 3 Section 3.2.

1.6 LIMITATIONS AND DELIMITATIONS

In order to make a valid contribution to this investigation, it is necessary to demarcate the parameters of the study. The following delimitations were applied to the study:

- This study is limited to residential students living in the 22 specified undergraduate residences of the University of Pretoria.
- This study only evaluates students' level of satisfaction with the meal experience provided by the Food Services Division of the Department of Residence Affairs and Accommodation.
- Residential students from post-graduate residences were excluded from the sample because they comprise a very small part of the population and their food service offering in post-graduate residences differs so much from that which is offered in other residences that a separate questionnaire would be required to explore students' satisfaction in this group.

This study excluded:

- Possible alternative offerings provided by the Food Services Division of the Department of Residence Affairs and Accommodation
- Alternative food service offerings provided by other food services
- Food preferences and habits were excluded due to the magnitude of the questionnaire that would be required - this would, in any event, constitute a separate study
- Residential student expectations of the meal experience at residential dining halls
- The cognitive evaluation process followed by residential students when they determine their level of satisfaction with the meal experience
- The evaluation of students' level of quality experienced during the meal experience provided by the Food Services Division of the Department of Residence Affairs and Accommodation.

1.7 RESEARCH PLAN AND PRESENTATION OF THE STUDY

The written report of the research and operational development is presented in five chapters. The research plan for the study (Figure 1.2) describes how the research proceeded from the literature

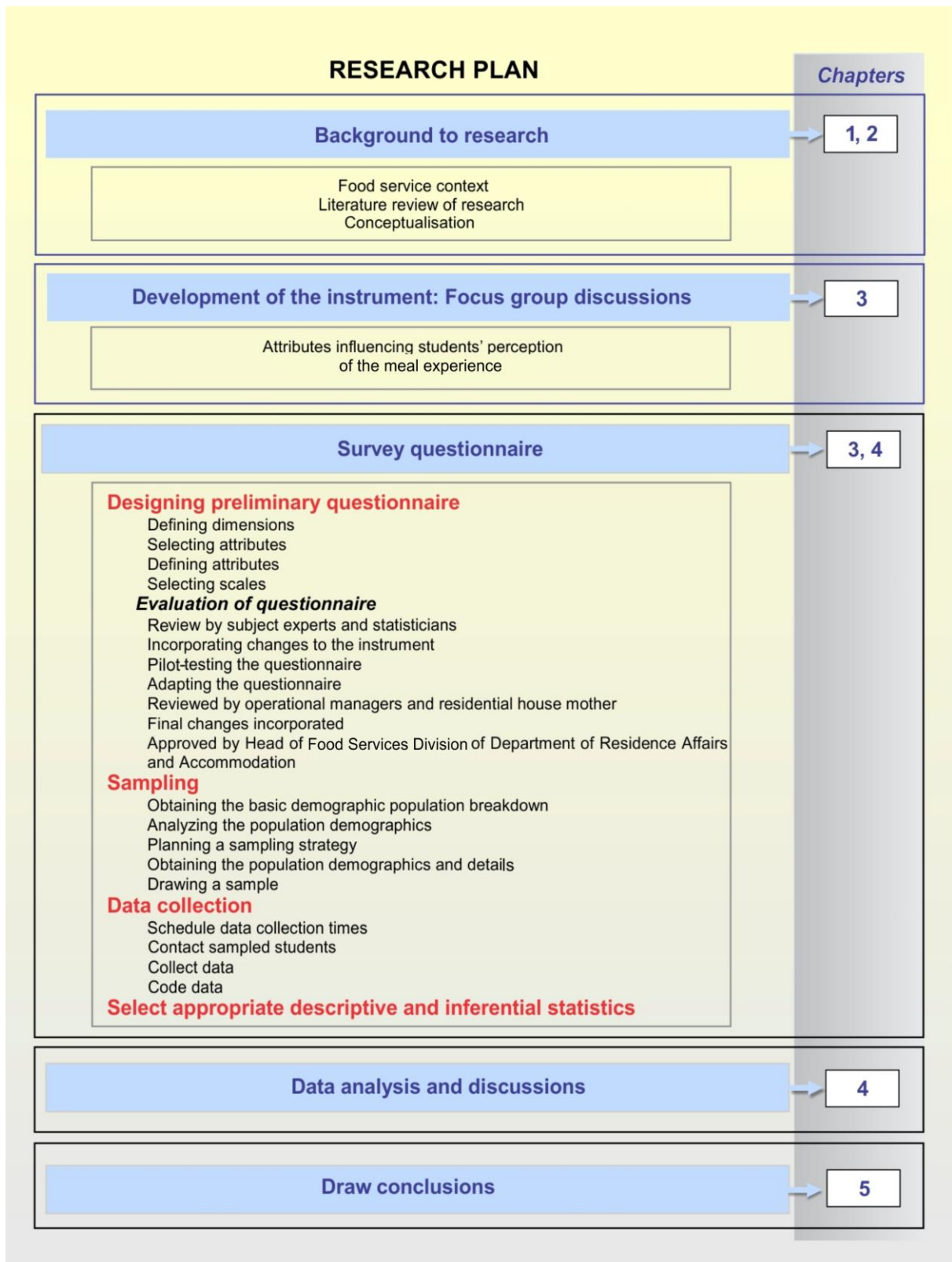


Figure 1.2: Research plan

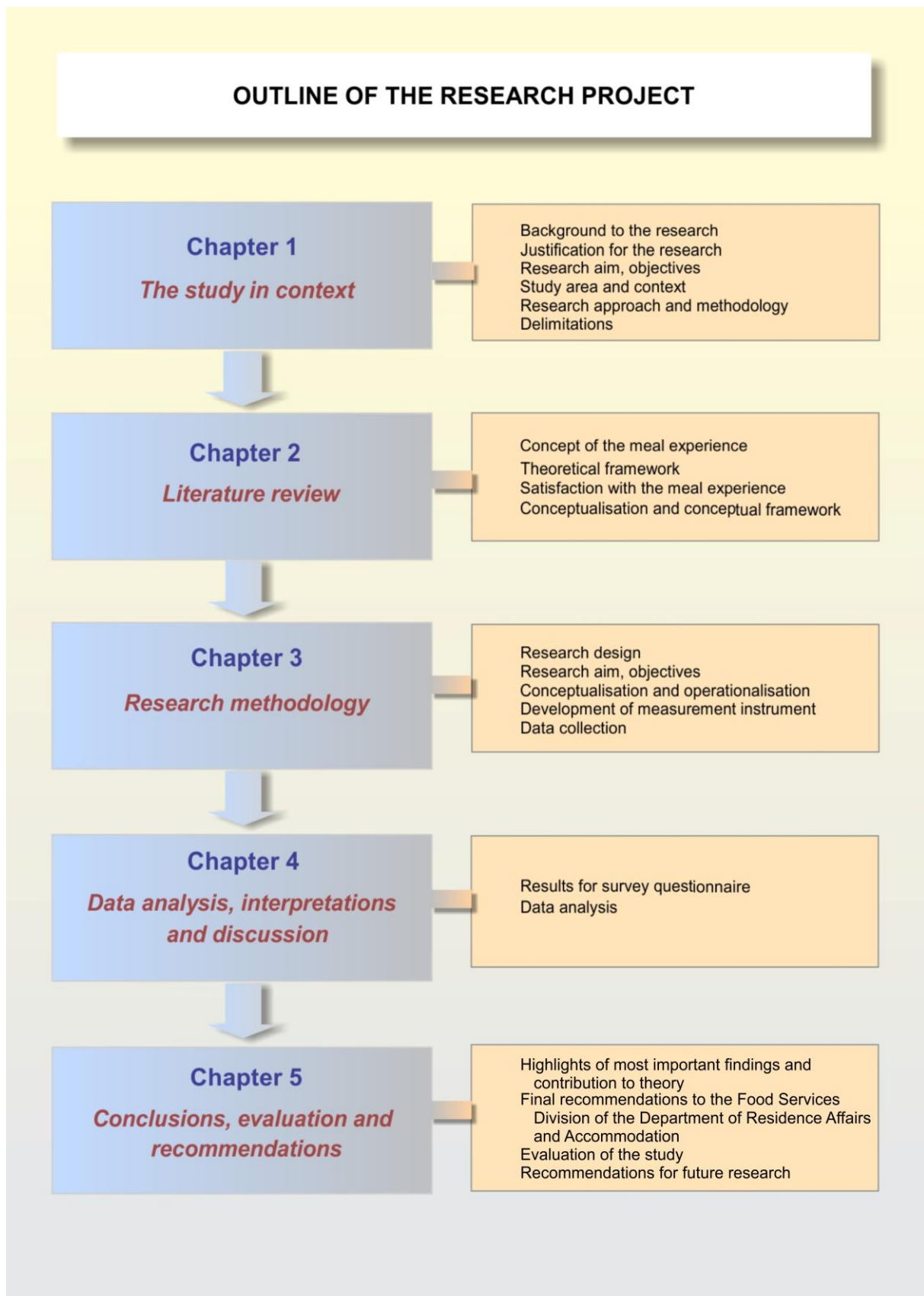


Figure 1.3: Outline of the research project

review and conceptualisation to the focus group discussions after which the questionnaire was compiled; data was collected; and data analysis and discussion follows. Finally conclusions were drawn, the study evaluated and recommendations provided. Figure 1.2 shows that research is not presented in a chronological order and some information is covered in more than one chapter.

Figure 1.3 presents the outline of the research project showing a list of basic content as discussed in each chapter. Chapter 1 starts with a background, justification and objectives. Chapter 2 reviews literature for theory and research and then conceptualises and contextualises the research for the specific study. Chapter 3 plans the methodology used, describes the focus group discussions used to develop the measurement instrument and plans the data collection. Chapter 4 analyses, describes and discusses the data. Chapter 5 evaluates the study and draws conclusions.

1.8 CONCLUSION

This chapter provided a brief background to the study, justification for the study and the aims and objectives. The basic design of the research methodology is stated and an outline of the following chapters is given.

The next chapter will give a review of literature relevant to the study.

CHAPTER 2 : Literature review

2.1 INTRODUCTION

The focus of this research is on consumer satisfaction with the meal experience in the context of a residential university's food service. In this chapter the concept of the meal experience is defined and various meal experience models are reviewed. The limited availability of completed research that specifically appertained to a university food service necessitated that the meal experience in the broader commercial and non-commercial food service industry was examined. The concepts of satisfaction with the meal experience in general and the meal experience in a non-commercial food service context are described. The reviewed research and meal experience models were used as a basis for the conceptual framework of this research study that is discussed at the end of the chapter.

2.2 THE DEVELOPMENT OF THE MEAL EXPERIENCE CONCEPT

The meal experience consists of two components, the concept of the meal and the concept of the experience.

2.2.1 The meal

The meal refers to both the event of eating as well as to what is eaten and includes both food and drinks (Meiselman, 2008:13). In this research the meal will refer to the event of eating and food will refer to what is eaten and drunk during a meal. Mäkelä (in Mäkelä, 2000:7) suggests meal format, eating pattern, and the social organisation of eating as the dimensions which together form the meal. The meal format considers the composition of the main course and the sequence of the meal. Eating pattern includes time of eating, the number of eating events and alteration of hot and cold meals and snacks. The social organization is concerned with the environment in which the meal is consumed, the company with whom one consumes a meal and the person who prepared and served the meal (Mäkelä, 2000:7). Although customers colloquially refer to a meal as what is eaten and what has been drunk, it includes the service and ambience.

2.2.2 The meal experience

In order to appreciate the meaning of the meal experience, the concept of turning services into experiences has to be appreciated. The idea of an experience economy was introduced, according to Darmer and Sundbo (2008:1), by Gerhard Schulze's writings in 1992 about *die erlebniss gesellschaft* which means the experience economy from the food service perspective. In fact, it is similar to the much earlier work of Campbell-Smith (1967:61). As economists Pine II and Gilmore (1998:4) provide a valuable description of the concept suggesting that services are turned into experiences, thereby creating economic value (Pine II & Gilmore, 1998:1).

The concept of experience can be described in different ways. The three characteristics of experience are clear from the Oxford Shorter Dictionary on Historic Principles: "the practical acquaintance (encounter) or actual observation of events/facts" (Brown & Stevenson, 2007b:899). First, the customer should be involved in an experience. This can involve either active or passive participation (Pine II & Gilmore, 1998:4). The second describes the connection, or environmental relationship (Pine II & Gilmore, 1998:4). Third, is that experiences, like goods and services, have to meet the consumer's or customer's needs and from which they form expectations (Pine II & Gilmore, 1998:5). Morgan (2006:305) confirms that the word experience is used in leisure and other service sectors too to describe the essence of what a customer is seeking and paying for. Providing too much leads to experiences that are not appreciated by the customer/consumer. However, providing just a product is not enough either. Damer and Sunbo (2008:1) explain that experiences are always more than the product. An experience consists of all the possible aspects related to the meal that contribute to providing a competitive advantage, as well as the actual meal itself.

Thus the meal experience is a term that sums up all the elements that make a meal something more than satisfying the appetite (Cracknell, Kaufman & Nobis, 2000:36). It can be defined as the meal, the food, the service and the ambience presented in such a way that a quality product is offered which is really pleasurable for the customer/consumer. The characteristics that make up the meal experience are many and varied. They consist partly of the food itself, service received and the environment created by the décor, furniture, lighting and music (Davis *et al.*, 2008:372). A meal experience has many components which depend on the perspective from which it is approached. The literature covers a wide range of models created from different perspectives for research done on meal experiences. The following section offers a review of models, completed research and measurement instruments used as approaches to the meal experience.

2.3 MEAL EXPERIENCE RESEARCH

The meal experience has been researched by a number of researchers. The following section reviews models and research regarding the meal experience. Recent studies regarding students' meal experiences at South African universities do not exist and certainly not at the University of Pretoria as is illustrated in Appendix B that contains a summary of the main food service research endeavours reviewed and their main findings.

2.3.1 A review of meal experience models

In the literature five models were identified for this review. The models include the Campbell-Smith's meal experience, the five aspect meal model, the customer's meal experience model, the prism of experience and the four M model. These models are briefly described after which the models are compared.

2.3.1.1 Campbell-Smith's meal experience model

The meal experience, according to Campbell-Smith (1967:85-109), consists of the food, the service and the atmosphere. He found that when customers consume food and beverages their experiences are a result of

more than the quality of the food and beverages alone. Central to his writings is the perception that the quality of food and beverages (hereafter food refers to both food and beverages) is influenced by service and atmosphere (Campbell-Smith, 1967:4). The meal experience is described as an interrelated whole where the food, service and atmosphere influence each other. Food is defined as the food and the drinks consumed. The service involves the delivery of the food to the consumer/customer. The atmosphere is the ambience (physical environment) in which the food is enjoyed. The atmosphere also includes aspects such as proximity to other diners. The meal experience is also considered from the perception of the consumer/customer.

2.3.1.2 Five Aspects Meal Model

Researchers from Orebro University in Sweden presented a model called the five aspects meal model as represented in Figure 2.1 to assess a restaurant meal experience from the management perspective (Gustafsson, 2004:10; Hansen, Jensen & Gustafsson, 2005:136). The model is constructed from a management perspective and is used to structure their education curriculum and managerial food service research. Their model incorporates the product, the meeting, the room, the atmosphere and the management control system (Figure 2.1). The product and the room is what Campbell–Smith (1967:85, 92) describes as the food and atmosphere respectively. The meeting is defined as the service but includes the social interaction between guests. Atmosphere is the feelings experienced by diners by the interaction between the product, room and meeting from a management perspective. The management control system covers the different systems required to run a food service and it includes systems such as personnel (human resources), general administration and financial management. This model was not suitable for this research as it did not take the customer's/consumer's perspective into consideration.



Figure 2.1: Five Aspects Meal Model (FAMM) (Gustafsson, Johansson & Mossberg, 2006:86)

2.3.1.3 Customer's Meal Experience Model (CMEM)

The customer's meal experience model is based on research that used five focus group interviews and seven semi-structured interviews to collect data in an à la carte restaurant in Norwegian cities (Hansen *et al.*, 2005:138). The customer meal experience model and the five aspects meal model have some similarities but the customer meal experience model includes the customer's/consumer's perspective of a meal experience as presented in Figure 2.2. The customer's meal experience model in Figure 2.2 shows that the core product, the restaurant interior, the personal social meeting, the company and the restaurant atmosphere were factors identified. The core product and restaurant interior are what Campbell-Smith (1967:85, 92) calls the food and

atmosphere respectively, and which Gustafsson (2004:11, 12) refers to as the product and the room respectively. The personal social meeting is what Gustafsson (2004:11) simply calls the meeting. Hansen *et al.* (2005:144) added the aspect of the company (social setting) which implies the purpose of the meal (private/business) and the conversations. The company (social setting) is considered part of the meeting aspect in Gustafsson's (2004:11) model and is not mentioned in Campbell-Smith's (1967:85-109) model. The restaurant atmosphere for Hansen *et al.* (2005:144) is the customer's/consumer's emotional and total experience throughout the entire meal. This is what Gustafsson (2004:12) calls atmosphere in the sense of this being the emotional and total experience the manager aims to provide to the customer/consumer. The difference is only that for Hansen the restaurant atmosphere is the customers' perception *per se* of the emotional and total meal experience. The interaction between all the five factors creates a meal experience as represented in Figure 2.2. One of the main differences between the Hansen *et al.* (2005:140) and the Gustafsson (2004:12) models is the management control perspective in Gustafsson (2004:12) and the customer/consumer perspective in Hansen *et al.* (2005:140) This model focused specifically on the customer/consumer perspective, but the commercial context from which the model originates was not suitable for the non-commercial context of this research study.

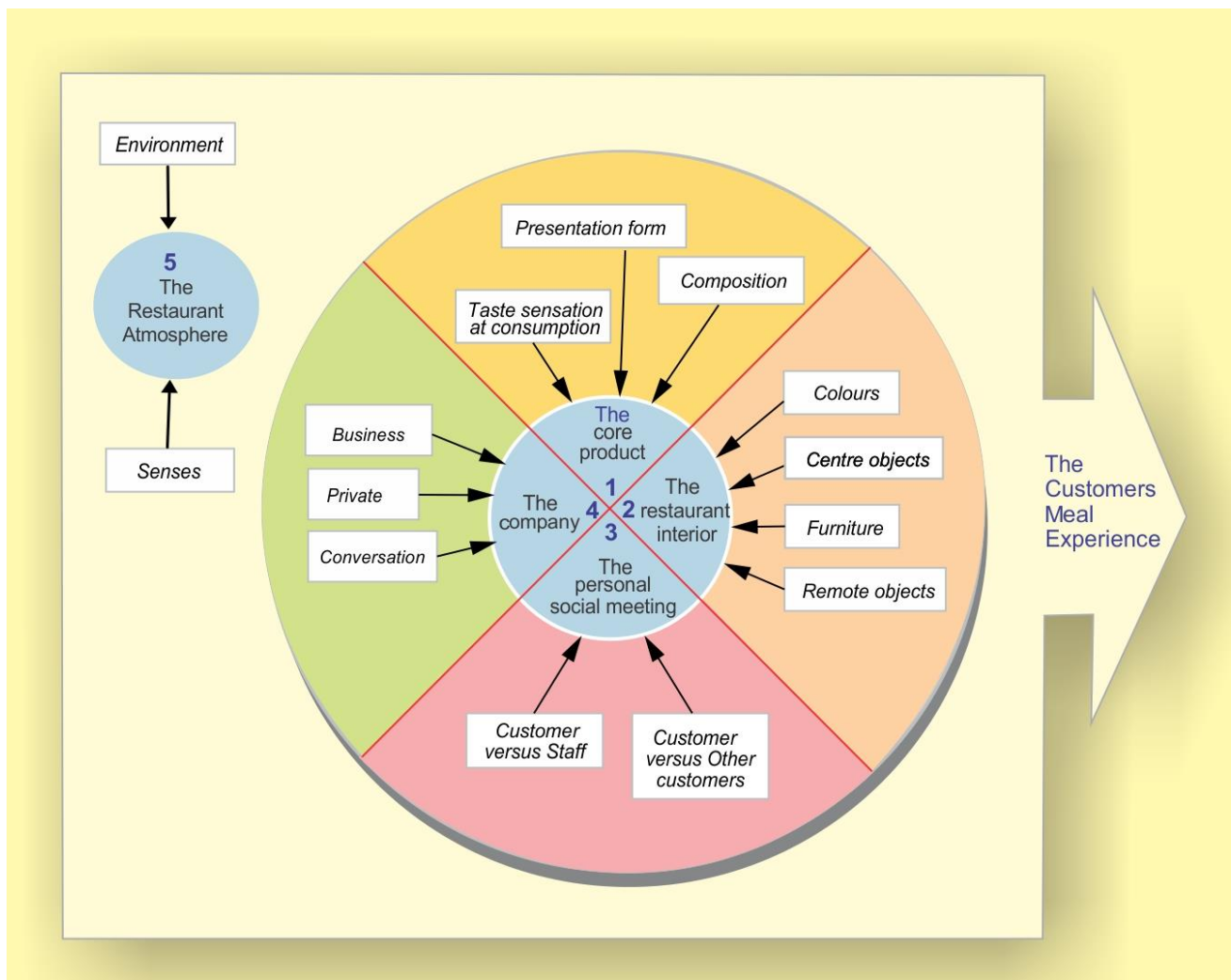


Figure 2.2: Customer's Meal Experience Model (Hansen *et al.*, 2005:140)

2.3.1.4 The prism of experience

The prism of experience was based on Crompton's (1979:421-423) push and pull factors in tourism motivation and Kapferer's (2010:183) prism of brand identity (Morgan, 2006:309). Morgan (2006:309) aimed to create a holistic model that included the interaction between the food service management and the customer/consumer. Johns, Hartwell and Morgan (2010:182) adapted the model for a non-commercial hospital food service context. This is represented in Figure 2.3. Table 2.1 presents the terminology as it was adapted from Morgan's (2006:309) model to Johns's *et al.* (2010:182) model. Morgan's (2006:309) model was, except for the terminological adaptation, the same as the one in Figure 2.3.

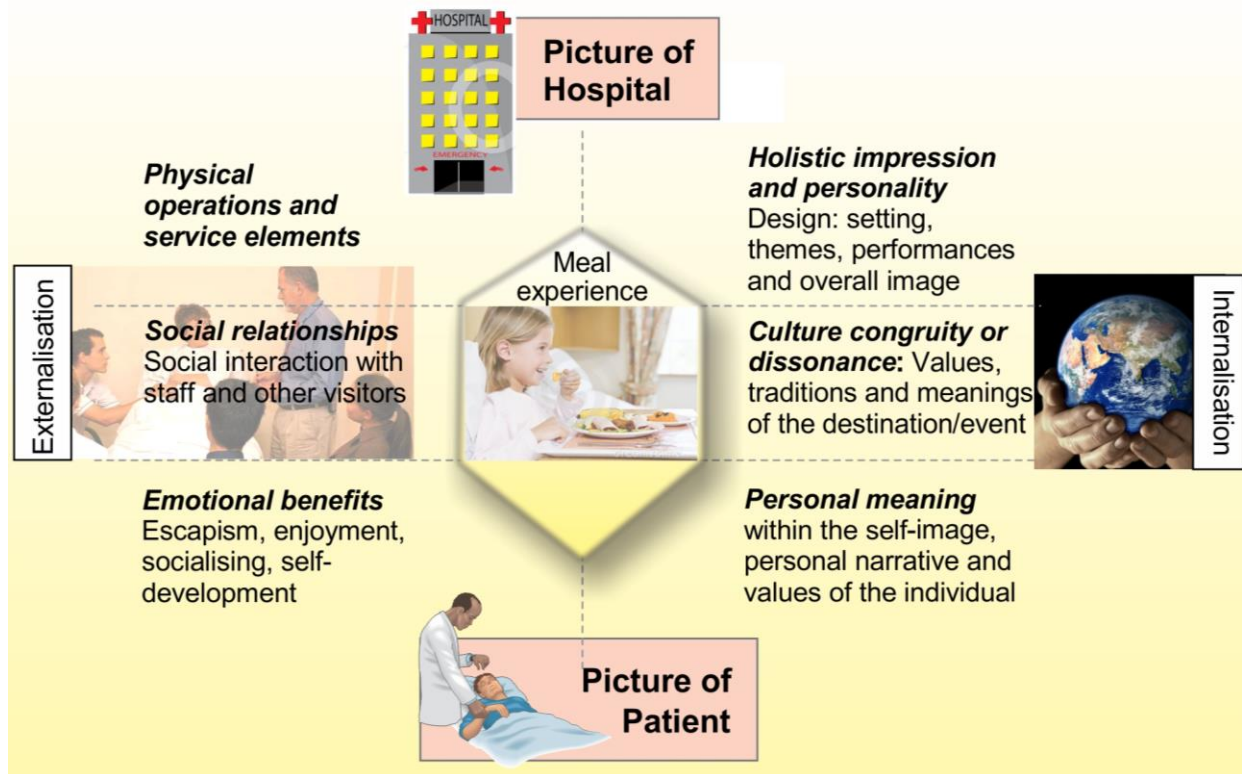


Figure 2.3: The prism of experience adapted for hospital meals (Johns *et al.*, 2010:182)

In the above figure, the top level aspects are those controlled by the management (picture of the hospital) this includes the physical operation and the holistic impression and personality. The bottom level consists of the aspects brought to the meal experience by the patient. This includes the emotional benefits and personal promptings they are seeking to satisfy (Morgan, 2006:310). The left side covers the social relationships that include the interactions between visitors and the staff and the visitors themselves. The right side covers the interaction between cultural values of the hospital and those of the visitor (Morgan, 2006:310). The physical operation and service elements include aspects of the food, service and atmosphere (physical environment) offered by management.

The holistic impression and personality is a set of human characteristics that the hospital food service tries to create during the meal experience (Johns *et al.*, 2010:184; Kapferer, 2010:183). Culture congruity or

dissonance refers to the values the food service portrays during the meal experience (Kapferer, 2010:184). Emotional benefits are the customer/consumer perception of what the meal experience will offer (expectations from the meal experience) (Morgan, 2006:309; Kapferer, 2010:186). Personal meanings are how the meal experience makes you feel after the experience. Social relationships, as has been pointed out, are the interaction between customers and staff (service) and customers and other customers (social meeting) (Kapferer, 2010:186). The prism of experience is a dynamic and interactive model with all components interacting.

Table 2.1: Terminological differences between two prisms of experience models

(Morgan, 2006:309)	(Johns <i>et al.</i>, 2010:182)
Physical operations	Physical and service elements
Relationships	Social relationships
Personal benefits	Emotional benefits
Personality	Holistic impression and personality
Culture	Cultural congruity or dissonance
Meaning	Personal meaning
Picture of destination: pull factors	Picture of patient
Picture of the visitors: push factors	Picture of food service management

In the prism of experience the food, service and atmosphere (physical environment) forms one dimension. The personal meaning and emotional benefits are what Hansen *et al.* (2005:145) calls the restaurant atmosphere. The personal meaning can be seen as the customer's/consumer's perception of the meal experience that may result in a satisfactory evaluation of the meal experience. In this model the emotional benefits can be seen as the outcome of satisfaction with the meal experience. The social relationships dimension is similar to what Gustafsson (2004:11) calls the meeting but the social relationships of Johns *et al.* (2010:184) includes only the staff interaction with the customer. The strength of this model is that it considers both the management and the customer/consumer perspectives and their interactions that influence the meal experience. This model is not suitable for this research study as it considers the food service management's perspective which is not studied in this research.

2.3.1.5 The 4M meal experience model

The main criticisms by Kivits, Stierand and Wood (2011:42) of meal experience models in general are that models are presented as static models. The influence of external factors on the meal experience is underrated. All of the elements are divisible and separate. The 4M meal experience model is presented in Figure 2.4. The model consists of a conceptual core with four broad meta-constructs consisting of moment, mood, meal and money. Moment refers to the biological imperative (hunger), cultural conventions (habits, meal times) and psychological influences (impulses) that influence the timing of food consumption of the meal. Mood refers to the different states of mind such as alertness, tiredness or stress which can be influenced by biological, physiological, cultural, emotional and psychological factors. Meal includes all aspects of the meal such as food, sensory characteristics, service quality, ambience and value proposition (price). Money refers to the economic aspect of the meal experience including market economics, income, price and pricing methods (Kivits *et al.*, 2011:46). These meta-constructs (moment, mood and money)

influence the meal (the basis of the meal experience) and the meal will also influence the meta-constructs (moment, mood and money) as shown in Figure 2.4. In addition to these meta-constructs there are also sub-meta-constructs which also affect the meal experience and which constitute part of the wider food service system as shown in Figure 2.4. The food service management and the consumer/customer are two main forces that influence and are influenced by the meta-constructs and sub-meta-constructs. For example, if the consumer/customer does not order certain meals there will be too many of these meals left and the food service will then offer these specific meals at a reduced price after which they will change the meals offered. A possible sub-meta-construct of this example is the supplier. These interactions between the meta-constructs, sub-meta-constructs, the food service management, the wider food system and the customer/consumer create the meal experience. One of the strengths of the model is the recognition of all the contextual variables that influence the meal and eventually the meal experience. The model also considers the meal experience from the perspective of the customer and management as in Johns' *et al.* (2010:182) model. This model is not suitable for this research study either as it considers the food service management's perspective which is not studied in this research.

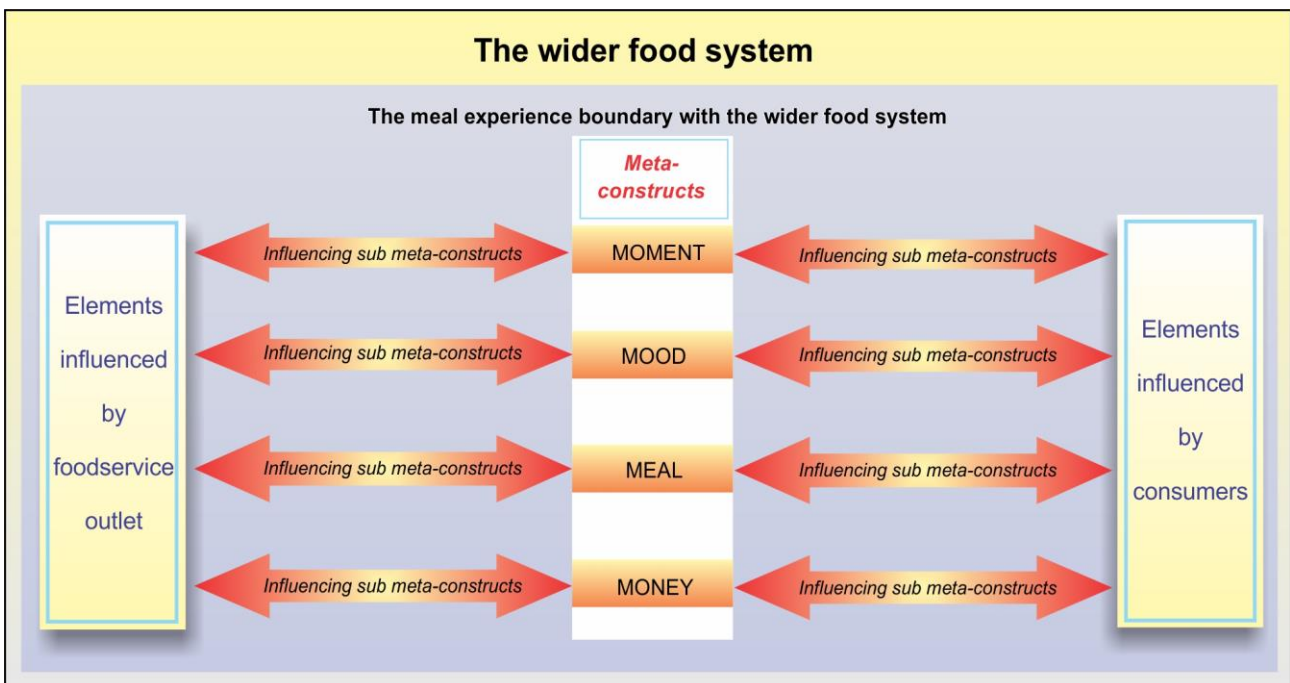


Figure 2.4: The 4M model of the meal experience (Kivits *et al.*, 2011:44)

2.3.1.6 Conclusion regarding the meal experience models

The meal experience models discussed above are summarized in Table 2.2. These include the food, service and ambience as basic elements of the meal experience but the table shows that certain meal experience models include the social interaction between customers/consumers and between customers/consumers and staff (Hansen *et al.*, 2005:140; Gustafsson *et al.*, 2006:86; Johns *et al.*, 2010:184). The five aspect meal model (Gustafsson *et al.*, 2006:86) focused on the perspective of the food service management. The customers' meal experience model (Hansen *et al.*, 2005:149) concentrated on the customers' perspective. The prism of experience (Johns *et al.*, 2010:182) gave attention to both the perspective of the

customer/consumer and the food service management. The 4M model of the meal experience (Kivits *et al.*, 2011:44) added the wider food system to their model. The model used for this study is the Campbell-Smith (1967:85-109) meal experience model because of its simplicity and its focus on the customer/consumer. The Campbell-Smith model is also represented in all the other models of the meal experience. Although it does not make provision for the specific context it can still be applied to many contexts due to its simplicity.

Table 2.2: Meal experience models

Meal experience (Campbell-Smith, 1967:85-109)	Five aspects meal model (Gustafsson <i>et al.</i> , 2006:86)		Customers meal experience model (Hansen <i>et al.</i> , 2005:140)	Prism of experience (Johns <i>et al.</i> , 2010:182)	4M model of meal experience (Kivits <i>et al.</i> , 2011:44)					
Food Food	Food Product	Atmosphere	Food Core product	Food	Food					
Ambience Atmosphere	Room		Restaurant interior	Ambience	Ambience					
Service	Service		Meeting	Service	Service	Service				
		Social meeting					The personal and social meeting	The restaurant atmosphere	Other service elements	Physical and service elements
	The company		The company	Staff interaction of service	Social meeting					
						Management control system				
	The company	The company	Social meeting	The company	Mood		Moment	Money		
Management control system						Picture of hospital food service management			Holistic impression and personality	Cultural congruity or dissonance
	Management control system	Picture of hospital food service management	Holistic impression and personality	Cultural congruity or dissonance	Picture of the patient		Emotional benefits	Personal meaning		

2.3.1.7 Food

Food is defined as the characteristics of any liquid/solid eaten/served for nourishment. Food includes the sensory attributes, meal offering and food production as described in more detail in section 2.6.1.1. A review of research results found that the food is the most important dimension influencing customer/consumer satisfaction with non-commercial meal experiences (Lam & Heung, 1998:8; Kim *et al.*, 2004:97; Andaleeb &

Caskey, 2007:58; Kim *et al.*, 2009:15; Liang & Zhang, 2009:121). As explained in Section 2.6.1.1 these authors refer to food as a collection of attributes that have the ability to satisfy customers/consumers. Food as referred to by these authors is described as the food dimension in this research study. Residential students may also consider the food dimension as the most important aspect of the meal experience. The results also reveal that customers/consumers rated the food dimension of non-commercial food services the lowest of all dimensions of the meal experience (Estepa, Shanklin & Back, 2005:12, 13). Residential students may also rate the food dimension the lowest dimension of the meal experience.

The research articles reviewed are listed in Appendix B and revealed the following findings:

- The attributes of the food dimension that are frequently mentioned are the menu variety, appropriate temperature, healthy/nutritional choices, taste, portion size and price (Kim *et al.*, 2004:104; Estepa *et al.*, 2005:11; Gramling *et al.*, 2005:28; Kim *et al.*, 2009:16; Lülfs-Baden & Spiller, 2009:39).
- The attributes of the food dimension that explained most of the variance in satisfaction were the price, variety of food, healthy/nutritional choices, appropriate temperature, presentation, freshness, flavour, taste and convenience choices (Lam & Heung, 1998:3; Lau & Gregoire, 1998:1305; Meyer & Conklin, 1998:1427; Azanza, 2001:519; Kim *et al.*, 2004:104; Kim *et al.*, 2009:16; Liang & Zhang, 2009:121; Porter & Cant, 2009:87; Kwun, 2011:260).
- The attributes of the food dimension that customers/consumers were dissatisfied with were price, variety of choices, healthy/nutritious choices, presentation, appropriate temperature, taste, flavour, freshness of food, ingredient quality, portion size, food production, special dietary requirements and trendy food (Lee, Shanklin & Johnson, 2003:9; Estepa *et al.*, 2005:12; Gramling *et al.*, 2005:29; Andaleeb & Caskey, 2007:61; Donini, Castellaneta, De Guglielmi, De Felice, Savina, Coletti, Paolini & Cannella, 2008:105; Johns *et al.*, 2010:183; Jessri, Mirmiran, Jessri, Johns, Rashidkhani, Amiri & Barfmal, 2011:537; Binge, Xufen, Guoying, Chunyue & Tingting, 2012:142).
- The attributes of the food dimension that customers/consumers listed as most important were healthy/nutritious choices, price, menu variety, convenience choices, consistency, presentation, flavour, temperature and taste (Lam & Heung, 1998:7; Knutson, 2000:72; Soriano, 2002:1062; Klassen *et al.*, 2005:598; Marquis, 2005:55; Shanka & Taylor, 2005:333; Walton, Williams & Tapsell, 2006:212; Cranage & Lee, 2007:62; Bryant & Dundes, 2008:328; Choi, Wilson, Fowler, Yuan & Goh, 2011 :7).

2.3.1.8 Service

For the purposes of this study service is defined as the process involved in delivering the food to the consumer and includes interaction with staff and equipment as described in Section 2.6.1.2. Research results showed that the service dimension is the second most important dimension that affects customer/consumer satisfaction with the meal experience (Kim *et al.*, 2004:60; Andaleeb & Caskey, 2007:106). Residential students may also consider the service dimension as the second most important dimension of the meal experience. Research also showed that customers/consumers rated the service dimension lowest of the meal experience following the food dimension (Meyer & Conklin, 1998:1427; Estepa

et al., 2005:14; Gramling *et al.*, 2005:28). Residential students may also be most dissatisfied with the service dimension of the meal experience following the food dimension. Results also show that three service dimensions may be more appropriate for the food service sector namely tangibles, reliability-responsiveness and empathy-assurance (Fu & Parks, 2001:328; Aigbedo & Parameswaran, 2004:888).

The research articles reviewed listed in Appendix B revealed the following findings:

- The attributes of the service dimension used most often were the fast/quick service and staff's knowledge about the food (Lee & Lambert, 2000:245; Aigbedo & Parameswaran, 2004:884; Estepa *et al.*, 2005:16; Gramling *et al.*, 2005:29; Andaleeb & Caskey, 2007:60).
- The attributes of the service dimension that explained most of the variance in satisfaction were getting the food that you ordered, knowledge of the food, fast service, convenient operating hours and friendly and courteous staff (Lau & Gregoire, 1998:1305; Meyer & Conklin, 1998:1427; Kim *et al.*, 2004:104; Shanka & Taylor, 2005:333; Kim *et al.*, 2009:16).
- The attributes of the service dimension that customers/consumers were dissatisfied with were the inconvenient operating hours, staff's lack of knowledge about the food, the slow service, the unkempt appearance of staff, unfriendly and discourteous staff, unhygienic cutlery and crockery, lack of team work of staff, listening to customers/consumers and staff attitude (Estepa *et al.*, 2005:13; Gramling *et al.*, 2005:28; Andaleeb & Caskey, 2007:61; Jessri *et al.*, 2011:544; Binge *et al.*, 2012:142).
- The attributes of the service dimension that customers/consumers listed as important were the fast/quick service, competent staff, friendly staff, convenient operating hours and appearance of staff (Lam & Heung, 1998:7; Soriano, 2002:1062; Aigbedo & Parameswaran, 2004:884; Klassen *et al.*, 2005:598; Shanka & Taylor, 2005:333; Zopiatis & Pribic, 2007:770; Choi *et al.*, 2011 :7).

2.3.1.9 Ambience

Ambience is defined, according to Heide *et al.* (2007:1316), as the customer's/consumer's interaction with the environment/physical facility in which the service is delivered (described in Section 2.6.1.3). The results from this research show that customers/consumers rated the ambience dimension the highest of the meal experience (Aigbedo & Parameswaran, 2004:886). Residential students may also be most satisfied with the ambience dimension of the meal experience. The research articles reviewed listed in Appendix B revealed the following findings:

- The attribute of the ambience dimension that was cited most often was the cleanliness of the dining hall (Aigbedo & Parameswaran, 2004:84; Klassen *et al.*, 2005:586; Zopiatis & Pribic, 2007:770; Lülfs-Baden & Spiller, 2009:39).
- The attributes of the ambience dimension customers/consumers were dissatisfied with were the cleanliness of dining hall, comfort of the dining hall and the ease with which one could move around in the dining hall (Azanza, 2001:519; Gramling *et al.*, 2005:28; Lülfs-Baden & Spiller, 2009:39; Binge *et al.*, 2012:142).

- The attribute of the ambience dimension that customers/consumers listed as most important was the cleanliness of the dining hall (Aigbedo & Parameswaran, 2004:884; Klassen *et al.*, 2005:586; Zopiatis & Pribic, 2007:770).

2.3.1.10 Customer/consumer

The characteristics of the customer/consumer perspective influence their perception of the meal experience. The reviewed articles in Appendix B found that gender, cultural background and socio-economic status may influence the perception of the quality of the meal experience. These three characteristics of the customer/consumer are discussed below.

The reviewed articles in Appendix B show contradictory results regarding the influence of gender on customer/consumer perceptions of the meal experience. O'Hara, Harper, Kangas, Dubeau, Borsutzky and Lemire (1997:404) and Marquis (2005:58) found that the gender of customers/consumers did not influence perception of the meal experience; whilst other authors (Gramling *et al.*, 2005:33; Kwun, 2011:258) found that the gender of the customer/consumer did influence their perception of the meal experience. Thus, whilst gender of the customers/consumers may influence perception of the meal experience, and residential students' gender may also influence their perception of the quality of their meal experiences, the research in this regard is not conclusive.

Reviewed research found that cultural background influences customers/consumer's perception of the meal experience in a health care food service (Lau & Gregoire, 1998:1305; Gramling *et al.*, 2005:34). Specific cultural background differences were found with African-American and Hispanic patients who gave higher quality ratings than whites at a Midwestern teaching hospital food service in the United States of America (Lau & Gregoire, 1998:1305).

Further research revealed that Indian customers/consumers are specifically concerned with the seasoning and preparation methods of the food items as well as the availability of vegan or vegetarian food (Ruetzler, 2007:42; Ruetzler, 2008:319; Ruetzler, Hertzman & Taylor, 2009:206). Significant differences between cultural backgrounds were also found with regard to food dislikes, drinks, price and crowding at the facility (Ruetzler, 2007:42,43; Ruetzler, 2008:319). Thus cultural background does appear to influence customers/consumers perception of the meal experience. Residential students' cultural background may also influence their perception of the quality of the meal experience.

Research with regard to the socio-economic status is limited. National research conducted in the United States of America found that lower income groups rated cost and convenience more important than higher income groups (Glanz, Basil, Maibach, Goldberg & Snyder, 1998:1125). Tehran patients from lower socio-economic status groups were more satisfied with specific attributes of their meal experience in hospitals in their area than patients from higher socio-economic status groups (Jessri *et al.*, 2011:532). Socio-economic status does appear to influence customers/consumers perception of the meal experience. Residential students' socio-economic status may also influence their satisfaction with the meal experience.

2.4 SATISFACTION WITH THE MEAL EXPERIENCE

Satisfaction is, for the purpose of this study, defined as the customer’s evaluation of a product or service by means of a subjective comparison of their expectations and the actual performance of the product or service that results in a level of fulfilment (also called customer satisfaction) which can be over-fulfilment (satisfaction/ highly satisfied) or under fulfilment (dissatisfaction/ highly dissatisfied). Figure 2.5 presents the conceptualisation of satisfaction. Figure 2.5 illustrates that this definition has two components: the evaluation process (indicated by the yellow area) and the outcome (indicated by green and purple). Parker and Mathews (2001:38) highlight the evaluation process of an experience and the outcome of satisfaction. The next section will discuss the evaluation process of satisfaction.

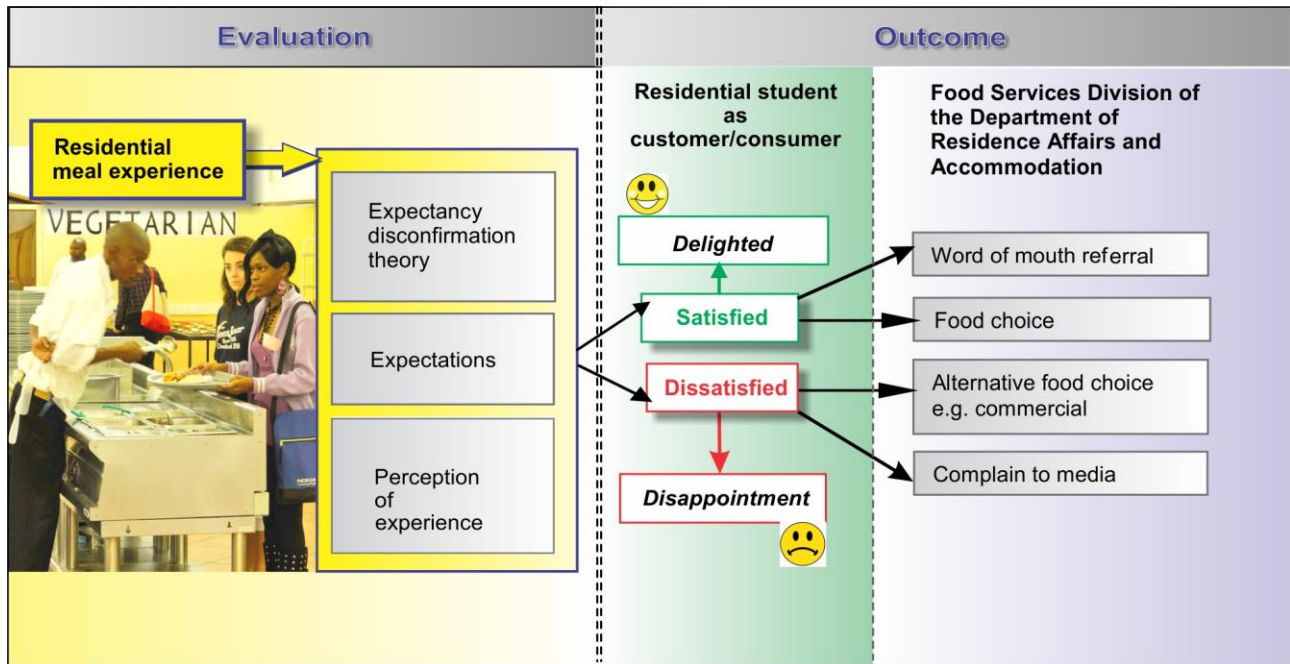


Figure 2.5: Satisfaction conceptualisation

2.4.1 Satisfaction as an evaluation process

Satisfaction can be defined as an evaluation of what was received compared to what was expected (Oliver, 1981:27). The evaluation of the satisfaction with the residential meal experience is a comparison between the expectations of the residential student as customer/consumer of the residential meal experience, and the perceived actual residential meal experience. This evaluation process is indicated by the yellow areas in Figure 2.5. Literature reveals assimilation, contrast, assimilation–contrast and expectancy-disconfirmation theories to describe the evaluation of experience to form satisfaction (Kivela, Inbakaran & Reece, 1999:206; Pizam & Ellis, 1999:327). The sections that follow describe the formation of satisfaction and related concepts such as expectations and expectancy-disconfirmation.

2.4.1.1 Expectation as a standard of evaluation

A number of frameworks for the conceptualisation of expectations exist (Teas, 1993:19; Wilson, Zeithaml, Bitner & Gremler, 2008:56; Oliver, 2010:66). Expectations are represented on a continuum with desired expectations and adequate expectations on either side (Wilson *et al.*, 2008:56). This is because it is unlikely

that customers/consumers would patronize an establishment where intolerable service (meal experience in this case) is expected (Oliver, 2010:67). Ideal expectations are the desired level of service (meal experience in this case) the customer hopes to receive. It is a blend of what the customer expects the service (meal experience in this case) “can be” and what it “should be” (Parasuraman, Berry & Zeithaml, 1991:42). The adequate or acceptable expectation is the minimum tolerable level the customer is willing to accept (Wilson *et al.*, 2008:57). Between these two levels of expectations some authors have placed many different expectations (Teas, 1993:19, 25). Although expectations are placed on a continuum each separate one is influenced by many subjective aspects. Residential students may also have expectations of the meal experience that fall between these two extremes on the continuum.

The customer/consumer translates their needs into a series of expectations of the service or product they will experience (Davis *et al.*, 2008:372). Trymon (in Oliver, 2010:63) describes an expectation as “an anticipation of future consequences based on prior experience, current circumstances, or other sources of information”. Research conducted in two pizza restaurants found that customers have a mental checklist of expectations against which they tick off performance (Johns & Howard, 1998:261) and customers use their expectations as standards for evaluation. Residential students may also use expectations as evaluation standards for their residential meal experiences (yellow area in Figure 2.5).

Alterations in expectations can result from changes in needs (hunger versus satiety), changes in objectives (birthday celebration versus a normal meal), new personal or outstanding experiences and other influences that highlight a particular characteristic of the outcomes (McCallum & Harrison in Pizam & Ellis, 1999:329; Giese & Cote, 2002:14; Estepa *et al.*, 2005:17). The same customer/consumer may also have different needs and expectations of the meal experience on different meal occasions, or at different times of the day (Davis *et al.*, 2008:26). Consumer/consumer expectations are personally compiled and can therefore change for various reasons and this will influence the evaluation of the meal experience. Residential students’ personal expectations of the residential meal experience may also change for the same reasons as mentioned.

Customers/consumers personally prioritise their expectations (standard of evaluation) used to evaluate the meal experience (Swan & Combs, 1976:32). This results in customers concluding that they were satisfied with the service in spite of the absence of some technical or functional characteristic of the service (Lewis, 1987:84). Tourists also reported that they were satisfied even when the service performance did not meet their expectations (Pearce in Yuksel & Rimmington, 1998:63). This is explained by customer trade-offs between certain characteristics e.g. the customer may be willing to tolerate unhealthy food as long as the food is convenient and can be eaten if on the way to another appointment. Such trade-offs may further change customers’ expectations of specific experiences. Residential students may also have trade-offs between certain characteristics when evaluating their residential meal experience.

Expectations are used during the evaluation of meal experiences to form satisfaction (see in yellow areas in Figure 2.5). Customers purchase goods and services with pre-purchase expectations about the anticipated performance (Pizam & Ellis, 1999:328). Expectations of the meal experience serve as evaluation criteria

from which to evaluate the meal experience (Shoemaker, 1996:46). Wilson *et al.* (2008:55) add that customer expectations are beliefs about service delivery that serve as standards or reference points against which performance is evaluated. The customer will use these expectations to evaluate the performance of the product or service once they have experienced it (Pizam & Ellis, 1999:328). Residential students may also evaluate their meal experience in terms of pre-defined expectations. However, expectations are only the starting point for the evaluation of meal experiences and formation of satisfaction.

2.4.1.2 The nature of the evaluation

The evaluation that takes place during expectancy/disconfirmation is a cognitive evaluation process that is subjective in nature. Consumers cognitively compare their experience of the service with their expectation of the service performance (Loudon & Della Bitta, 1993:580; Parker & Mathews, 2001:43; Giese & Cote, 2002:14; Oliver, 2010:267). Erasmus and Donoghue (1998:38) explain that cognitive evaluation results from a comparison of the experience with the expectations of features of the product (in this case the meal experience). Although academics have tried to calculate satisfaction, that the actual process is subjective in nature makes it difficult.

Subjective disconfirmation (also called direct/performance only disconfirmation) is the customer's/consumer's comparison of the actual experience (performance) with the pre-purchase expectations calculated subjectively (Yuksel & Rimmington, 1998:63; Oliver, 2010:101). There was no direct relationship found between the consumer's level of expectation of a product or service and the eventual level of satisfaction experienced (Loudon & Della Bitta, 1993:580). Loudon's and Della Bitta's findings demonstrate the subjective nature of the formation of satisfaction (Loudon & Della Bitta, 1993:580; Oliver, 2010:104). Residential students may also make this subjective cognitive evaluation of the meal experience. The next sections will discuss the four theories related to the formation of satisfaction.

2.4.1.3 Theories on the evaluation formation

The satisfaction evaluation formation can follow one of the following theories:

1. The assimilation theory (or cognitive dissonance) found that a difference between expectations of a performance and the actual performance will be rationalised or assimilated by the customer/consumer, by changing their perceptions of the actual performance to bring it more into line with their expectations of the performance (Raats, Dailliant-Spinnler, Deliza & MacFie, 1995:245; Oliver, 2010:98).
2. Contrast theory found that the customer will magnify the difference between the performance received and the performance expected. When expectations differs from the actual performance, the consumer will evaluate the performance less favourably than if they had no prior expectations about it. Contrast is thus the reverse of assimilation (Raats *et al.*, 1995:245; Oliver, 2010:98).
3. The assimilation-contrast theory is a combination of assimilation and contrast theory. Assimilation-contrast theory assumes that there are limits of acceptance or rejection in consumer/customer perception. If the disparity between expectation and performance is sufficiently small to be in the consumer/customer limit of acceptance, they will rate the performance based on the assimilation

theory, by putting the product more in line with expectations. If the discrepancy between expectations and actual performance is so large that it falls into the zone of rejection, then contrast theory comes into play and the consumer/customer exaggerates the perceived disparity between the performance and their expectation of it (Raats *et al.*, 1995:245; Oliver, 2010:98). In addition to these theories there is also the expectancy–disconfirmation theory.

4. The most widely used theory to describe the formation of satisfaction is expectancy–disconfirmation theory (Pizam & Ellis, 1999:327; Heung, 2000:903; Ha & Jang, 2010:552; Oliver, 2010:117). The expectancy-disconfirmation model asserts that customers purchase goods and services with pre-purchase expectations about the anticipated performance. Once the product or service has been purchased and used, the outcomes are compared with the expectations. When the outcome matches the expectations, confirmation occurs. Disconfirmation occurs when there are differences between the expectations and outcomes (Pizam & Ellis, 1999:328). Negative disconfirmation occurs when product/service performance is less than expected. Positive disconfirmation occurs when product/service performance is better than expected. Satisfaction is caused by confirmation or positive disconfirmation of consumer expectations, and dissatisfaction is caused by negative disconfirmation of consumer expectations (Pizam & Ellis, 1999:328).

Expectancy–disconfirmation is influenced by the level of exposure to service experience. The service experience comprises many service transactions which are selected from an offering (Lewis, 1987:84). The satisfaction that is formed during a service transaction is referred to as encounter or transaction satisfaction (Andaleeb & Conway, 2006:4; Oliver, 2010:10). The satisfaction that is formed after many occurrences of the same experience is called summary, long-term, overall or global satisfaction (Oliva, Oliver & MacMillan, 1992:10; Oliver, 1997:15; Andaleeb & Conway, 2006:4). Residential students may also form a summary satisfaction of their meal experience in the residential dining halls.

Customers/consumers who continually use a service will have expectations that remain passive, and therefore disconfirmation will not arise. Customers/consumers are simply not motivated to evaluate the service with every experience. Consumers/consumers will draw on earlier evaluation of the experiences when determining their level of satisfaction (Oliver, 2010:365). Fu and Parks (2001:333) confirmed these findings with elderly respondents from a restaurant who commented that their expectations were always the same because they were familiar with the restaurant. These respondents commented that they believed that this restaurant's service quality was very good, even when the performance was just the same as they had expected (Fu & Parks, 2001:333). Residential students who regularly experience the residential meal experience may also use earlier evaluations of their residential meal experiences to determine the level of satisfaction with the current residential meal experience.

Expectancy-disconfirmation will only operate in consumers who regularly use a product or service when the performance is clearly outside the range of the previous evaluation of the experience (Halstead, Hartman & Schmidt, 1994:126). Satisfaction (summary satisfaction) with a service/ product can change as a result of more positive/negative (transactional satisfaction) service/product received from an establishment (Oliver, 2010:15). Satisfaction with a hospitality experience (the meal experience in this case) such as a restaurant

meal is therefore the sum total of satisfaction with the individual elements or attributes of all the products and services that make up the experience (Lewis, 1987:85; Pizam & Ellis, 1999:329). Residential students may re-evaluate their summary satisfaction with the residential meal experience (many experiences) when their satisfaction level with a residential meal experience (one experience) falls outside the range of their summary satisfaction. This evaluation process results in outcomes discussed in the next section.

2.4.2 Satisfaction as an outcome

Satisfaction can also be described as an outcome (Parker & Mathews, 2001:38). Figure 2.5 shows that the result of the evaluation of a meal experience has outcomes for the residential student as customer/consumer (indicated in green) and for the Food Services Division of the Department of Residence Affairs and Accommodation (indicated in purple).

2.4.2.1 Outcomes for the customer

The evaluation of a service performance (the meal experience in this case) will result in either satisfaction or dissatisfaction (Pizam & Ellis, 1999:328). The evaluation process of expectancy-disconfirmation brings forth emotional reactions (Loudon & Della Bitta, 1993:579; Parker & Mathews, 2001:39; Giese & Cote, 2002:14; Oliver, 2010). The emotions that result are either positive e.g. delighted as in the case of satisfaction or negative e.g. disappointed as in the case of dissatisfaction (green area of Figure 2.6). Davis *et al.* (2008:372) adds that when customers' are satisfied they feel they have received quality. Ladhari *et al.* (2008:572) confirm that emotions are aroused when customers/consumers evaluate restaurant meal experiences. Not all customers/consumers experience the same level of satisfaction from the same hospitality experience (the meal experience in this case) (Pizam & Ellis, 1999:328). The reason for this is that customers/consumers have different needs, objectives and past experiences that influence their expectations of the meal experience (Pizam & Ellis, 1999:328) and subsequently their re-evaluation of the meal experience. Meiselman (2008:18) adds that cultural background contributes to customers/consumers expectations, and thus, to customer/consumer satisfaction with the meal experience. The end result of the evaluation of the meal experience will cause customers to behave in certain ways. The behaviour will have either positive or negative outcomes for the food service establishment. The residential students could also be satisfied or dissatisfied with the residential meal experience and this would also cause them to behave in certain ways.

2.4.2.2 Outcomes for the service establishment

Satisfaction influences the customer's/consumer's behaviour in terms of recommendations to other customers, loyalty to the establishment and willingness to pay (Ladhari *et al.*, 2008:571). These outcomes are shown in the purple area of Figure 2.5. Customer/consumer satisfaction is often used as an indicator of whether or not a customer/consumer will return to a food service operation. Although there is no guarantee of this happening, it is almost certain that a dissatisfied customer/ consumer will not return (Meyer & Conklin, 1998:1431). Satisfied customers/consumers return to a food service (Halstead, 1999:13; Oh, 1999:77; Iglesias & Guillen, 2004:293; Kim *et al.*, 2009:17), recommend the service to others (word of mouth) (Fornell, 1992 ; Kim *et al.*, 2009:17). The result of this satisfaction will affect economic returns (Oliver, 2010:455). Residential students may also express their satisfaction or dissatisfaction with the residential meal

experience by choosing the food provided by the Food Services Division, by recommending the service offered by the Food Services Division, by complaining in the media or by choosing the food offered by alternative food services. These behaviours can be seen in Figure 2.5 in the purple area. The next section describes and discusses the conceptual framework and main concepts of the meal experience.

2.5 CONCEPTUALISATION AND CONCEPTUAL FRAMEWORK

The key concepts as conceptualised for this study are accommodated in the conceptual framework (Figure 2.6) that is based on Meiselman’s (2003:99) organisation of contextual variables and Campbell-Smith’s (1967:85-102) meal experience model. Meiselman (in Bell & Meiselman, 1995:292) divided the context into the food variables, people variables (customer/consumer) and environmental variables. According to Meiselman (2007:3) eating (meal experience) research should be divided into these three factors. “Context (situation) refers to all the variables of a specific eating occasion” (Meiselman *et al.*, 2000b:237). In this study it includes the food, the service and the ambience although all the contextual variables interact and influence each other and cannot be separated. Campbell-Smith (1967:85-102) proposed that meals should be presented as experiences consisting of the interaction between food, service and ambience as described in Section 2.3.1.1. The conceptual framework was used to guide this research study. The main concepts of the conceptual framework are the university residential student as customer, the residential meal experience and the satisfaction with the meal experience. These concepts are discussed and described in the sections that follow except for satisfaction with the meal experience is discussed in more detail in Section 2.4.

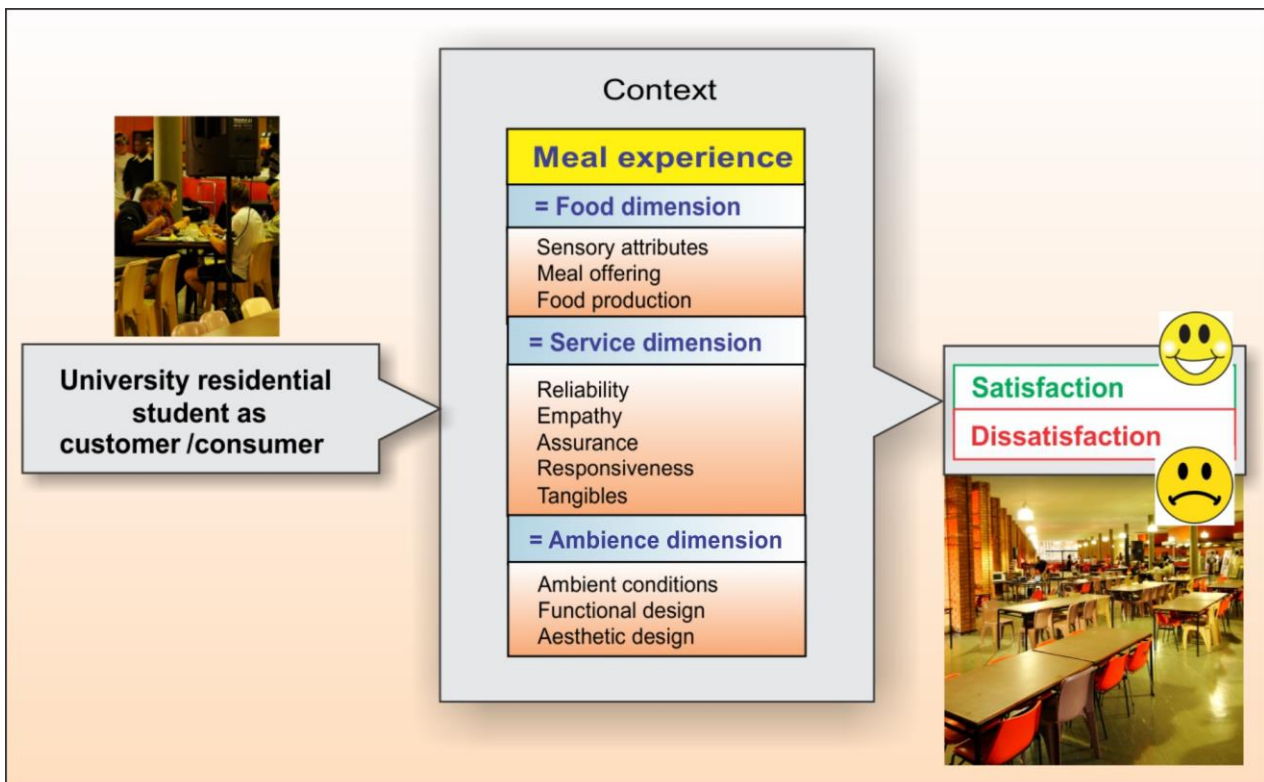


Figure 2.6: Conceptual framework adapted from Randal and Sanjur in (Mac Fie & Thomson, 1994:203)

2.5.1 Residential meal experience (context)

The meal experience is defined as all the elements that make a meal something more than satisfying the appetite (Cracknell *et al.*, 2000:36) Section 2.1). A deeper understanding of what a meal experience comprises is necessary to design an effective experience since many institutions have experienced failure after the novelty of the meal experience has worn off (Gupta & Vajie in Hanefors & Mossberg, 2003:250). The residential meal experience has certain unique characteristics (as described in Chapter 1: Section 1.1 and 1.4).

In general a university's residential students, and residential students of the University of Pretoria in particular, are restricted in some ways of making use of the food service provided to them (Kim *et al.*, 2004:98; Shanka & Taylor, 2005:329; Coertze, 2012, pers. comm., 17 Aug.). As discussed in Chapter 1 (Section 1.1 & 1.4.3) residential students are offered three meals a day using a menu cycle (booked meals) that repeats every 16 days with snack options sold throughout the day (Coertze, 2012, pers. comm., 17 Aug.). When the menu repeats too often, that is, a short cycle, the customers may become bored with the food offered (Meiselman, De Graaf & Leshner, 2000a:123; Cousins *et al.*, 2002:64; Hirsch *et al.*, 2005:42; Martin & Oakley, 2008:383). Customers/consumers of non-commercial institutional food services are generally more culturally, ethnically and economically diverse and have many and more specific food preferences (Payne-Palacio & Theis, 2009:165). This may also be the reason for the frequency of residential students' media complaints.

Food is prepared in large quantities in the dining halls of the university residences according to a conventional food service system. Onderstepoort, Medical and Groenkloof campuses use this system (Martin, 2012, pers. comm., 7 Sept.). At Hillcrest and Hatfield campuses a combination of the conventional and ready-prepared food service system is used (Martin, 2012, pers. comm., 7 Sept.). On these two campuses all the food is prepared in the conventional way but selected menu items are put in a blast chiller and stored refrigerated for a maximum period of two days (Martin, 2012, pers. comm., 7 Sept.). These menu items are distributed from the central production unit at Hillcrest to the various residences for rethermalisation. Although limited in number, studies done on food service systems show that there are contradictory results regarding the influence of the use of the cook-chill food service system on customer/consumer satisfaction with regard to the quality attributes of the food (Lülfes-Baden & Spiller, 2009:37; Porter & Cant, 2009:86). When food production is not correctly monitored the quality attributes may be affected in such a way that customer/consumer dissatisfaction results. The meal experience consists of a food dimension, a service dimension and an ambience dimension that are inter-related to create the meal experience as discussed and explained in Section 2.1. These aspects will be discussed in detail.

2.5.1.1 The food dimension

Food is defined for the purpose of this study according to the Shorter Oxford English dictionary on Historic Principles, "is any substance liquid/solid eaten by/served to humans for nourishment" (Brown & Stevenson, 2007b:1008). The food dimension describes all the characteristics of food that have that ability to satisfy customers/consumers. Figure 2.7 presents the food dimension's conceptualisation showing three main

sections (over lined in red) of sensory attributes, meal offering and food production. However food is primarily experienced through the sensory criteria.

Sensory attributes

Sensory is defined according to the Shorter Oxford English Dictionary on Historic Principles as “pertaining to sensation or to the senses” (Brown & Stevenson, 2007a:2754). Sensory attributes refer to the characteristic sensations experienced by the senses. The sensory attributes traditionally used by consumers to evaluate food include texture, flavour and appearance (Gregoire, 2010:518). Cardello (1994:254) also lists temperature as a sensory attribute. Temperature also influences the flavour of the food (Brown, 2011:4) and is therefore included in this study as one of the attributes in the sensory attributes. The sensory attributes identified for this study are appearance, aroma, flavour, taste, temperature and texture and are seen to influence each other (Figure 2.7).

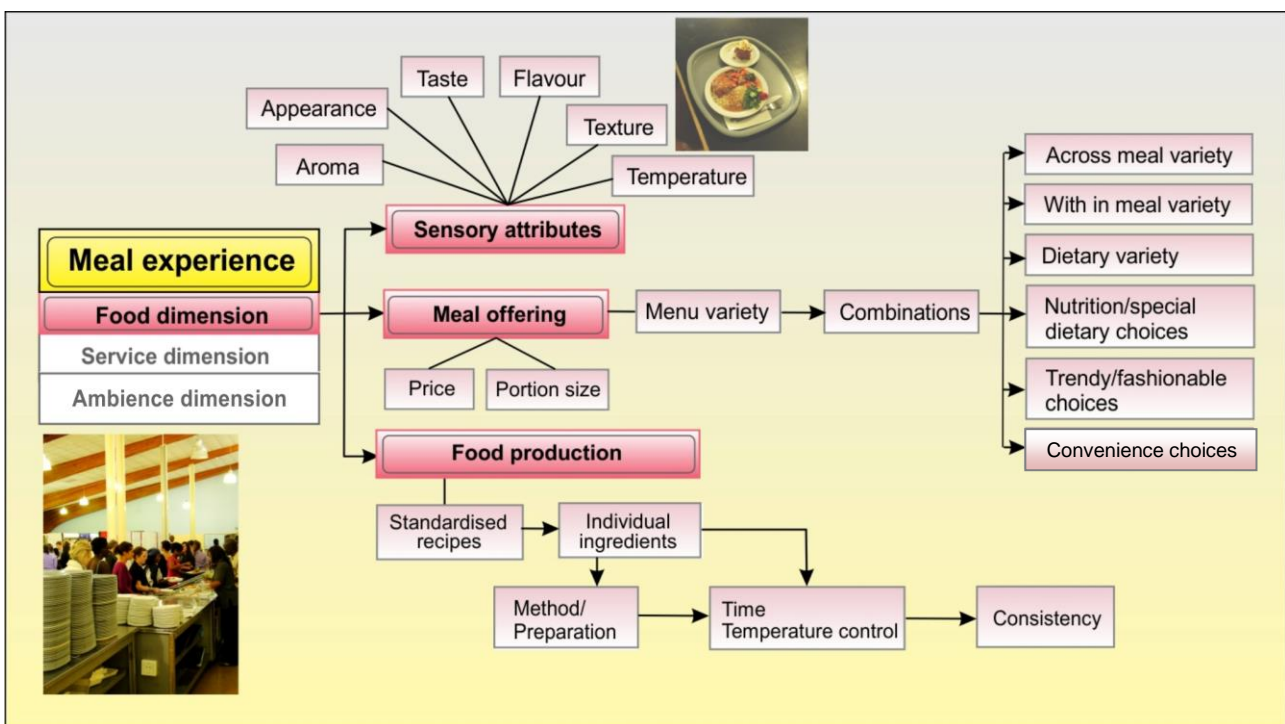


Figure 2.7: Food dimension conceptualisation

Appearance refers to “the visual properties of the product including size, shape, colour, texture, sheen, transparency and opacity” (Schröder, 2003:140; Lawless & Heymann, 2010:286). Consumers frequently use appearance to make inferences regarding the taste of food (Meyer & Conklin, 1998:1431; Schröder, 2003:138). Customers/consumers may draw inferences about qualities such as freshness using appearance characteristics such as colour or surface texture (Schröder, 2003:138) especially in non-commercial institutional food service systems where food is traditionally characterised as having far poorer sensory attributes with poor food presentation as being one of the main reasons for this state of affairs (Cardello, Bell & Kramer, 1996:14,19). The visual appeal of food also has a strong effect in creating an appetite (Cracknell *et al.*, 2000:41). For this reason, counter service staff must be capable of serving food neatly on the plates

(Cracknell *et al.*, 2000:43). The appearance of the food creates expectations in customers of what the food will taste like.

Aroma is the characteristic smell of a substance (Lawless & Heymann, 1998:811). Aroma is the fragrance or odour of food as perceived by the nose from sniffing the food (Lawless & Heymann, 1998:804; McWilliams, 2009:53). The smell (aroma) influences the expectations about the other sensory attributes of food (Schröder, 2003:138; Stroebele & De Castro, 2004:828). After smelling the food the customer will taste it, after which it is determined whether or not the sensory attributes are satisfying.

Taste is the one of the two sensory attributes most important for the enjoyment and acceptance of food (Clark, 1998:639). Taste comprises the four basic tastes of sweet, sour, salty, bitter (Lawless & Heymann, 2010:30; Brown, 2011:3). Taste preferences vary depending on the region of the country, the culture and individual preferences (Meyer & Conklin, 1998:1428). Taste does not function in isolation but the combination of aroma and taste provides the perception of flavour.

Flavour is the second of the two most important sensory attributes influencing enjoyment and acceptance of food (Clark, 1998:639). Flavour is “a complex group of sensations comprising the olfactory sense, taste and other chemical sensations e.g. the irritation or heat caused by chillies” (Lawless & Heymann, 1998:808; Schröder, 2003:242; McWilliams, 2009:53). Consumers can often not separate these two sensory sensations. Cardello (1996:5) found that, in the case of sensory characteristics, the terminology used by untrained individuals to describe sensations is often poor and varies considerably. Consumers often express other characteristics of the food by referring to these sensations. Payne–Palacio and Theis (2009:179) use words such as mild, spicy and chilli-like to refer to flavour indicating the seasoning used. Indian students from the University of Southern Mississippi food service had greater levels of dissatisfaction with the seasoning compared to the Asians and Latin Americans (Ruetzler, 2008:319). Wynant and Meiselman also observed ethnic group differences, with Africans who liked fruit and fruit juices more than whites did (Meiselman & Schutz, 2003:209). Residential students may be dissatisfied with the flavour of the food due to their cultural background.

The temperature at which food is served influences the customer’s perception of flavour and taste. Temperature is defined according to the Shorter Oxford English Dictionary on Historic Principles as “the state of a substance with regard to its sensible warmth or coldness” (Brown & Stevenson, 2007a:3203). Warm food brings out the pleasant flavour of the food (Stroebele & De Castro, 2004:827). When food and beverage temperatures are below 20°C and above 30°C it is harder to distinguish their tastes (Brown, 2011:4). This explains why melted ice-cream tends to taste sweeter (Brown, 2011:4). The temperature at which food is served is based on consumer’s previous experience. The temperature at which food is consumed is mostly affected by personal preference. Consumers/customers like certain foods at certain familiar temperatures and dislike them at others (Stroebele & De Castro, 2004:827). It is therefore important that food is served at the temperature at which consumers/customers usually consume them. It would also be important for residence students to receive their food at the correct temperature.

Texture refers to “the physical structure of foods that is detected by the feel of foods in the mouth also referred to as ‘mouth feel’ ” (Schröder, 2003:144; McWilliams, 2009:54; Gregoire, 2010:57). The texture of food can also be experienced by sight, touch (holding food with a fork or cutting into food with a knife) and mouth feel (Schröder, 2003:144; Lawless & Heymann, 2010:259; Brown, 2011:5). Consumers/customers enjoy certain foods with specific textural attributes (Shepherd & Sparks, 1994:205) e.g. crisp lettuce, grainy porridge. This specific aspect did not appear to be touched on in the studies that researched the educational non-commercial food service sector. However it was found in work based on other non-commercial food service sectors that used similar large scale production methods as the educational non-commercial food service sector does. One complaint in a continuing-care retirement community facility in a state in the United States of America Midwest related to the toughness of the meat (Lee *et al.*, 2003:9), while customers/consumers in Queensland hospital in Australia also complained about this (Capra, Wright, Sardie, Bauer & Askew, 2005:8, 11). It is important that the food has the correct texture since all sensory attributes affect each other.

Meal offering

The meal offering, as shown in Figure 2.7, refers to the variety of items on the menu, portion size and the price paid. A menu is a detailed list of foods to be served at a meal or in a broader sense, it is a total list of food items offered by a food service (Payne-Palacio & Theis, 2009:158) at a price (Gregoire, 2010:45). The efficiency of a menu is the selling tool for the food service establishment (Bowen & Morris, 1995:4; Davis *et al.*, 2008:145). Different food service operations will have different menus because organisational objectives and customers are different (Gregoire, 2010:45). The overriding concern in all facets of planning should be the satisfaction of customers’ desires (Knight & Kotschevar, 2000:53; Gregoire, 2010:52). The menu should reflect the place where it is to be used, bearing in mind the kind of customer who will order from it, the prices, and the dishes that will satisfy the customers (Cracknell *et al.*, 2000:38). It is therefore important to design the menu according to the characteristics of the customers’/consumers’ preferences.

The customers/consumers of the non-commercial institutional food services are captive customers/consumers (as discussed in Section 1.1) (Kim *et al.*, 2004:98; Shanka & Taylor, 2005:329). In the case of residential students, they are offered three meals a day in the dining halls using a cycle menu which repeats every 16 days with snack options being sold throughout the day (Coertze, 2012, pers. comm., 17 Aug.). When a menu cycle is too short and repeats itself too often, customers may become bored with food offered (Cousins *et al.*, 2002:64; Martin & Oakley, 2008:383) and rate the merit of the food experience considerably lower (Kramer, Leshner & Meiselman, 2001:239).

Another characteristic of the consumers/customers who use the non-commercial institutional food service sector is that they are generally individuals from different cultural, ethnic and economic backgrounds, most of whom have definite food preferences (Payne-Palacio & Theis, 2009:165; Kwun, 2011:252). This is also the case with the culturally diverse residential students using the Food Services Division of the Department of Residence Affairs and Accommodation (Van der Watt, 2008:192) . The menu planner must keep this in mind when selecting foods to satisfy this diverse group (Knight & Kotschevar, 2000:53; Payne-Palacio & Theis, 2009:165). The menu should include main dishes that satisfy most of their customers’ expectations (Cracknell

et al., 2000:38). Satisfying the expectations of a diverse group of customers/consumers requires a wide variety of menu choices.

Menu variety

Providing menu variety is generally recommended as an important consideration for the improvement of a food service but more specifically for captive diners (Williams, 2009:51). Consumers/customers of non-commercial institutional food services perceived the food to be offering less variety than foods from commercial food service. (Cardello *et al.*, 1996:14). Research from the Coker College (USA) dining hall concludes by recommending the addition of new menu items on a rotating schedule to improve menu variety (Gramling *et al.*, 2005:36). Students using the dining halls of Shantou University in China requested menus to be better designed by chefs and renewed regularly (Binge *et al.*, 2012:142). Menu variety is an important consideration of menus, especially for captive customers/consumers. There are many ways to improve the menu variety offered.

The way in which food is combined can increase the variety of menu choices (McWilliams, 2009:56). The combinations of food used and seasonings added increase the consumers' perceptions of variety and make the meal more enjoyable (Gregoire, 2010:57). In a food service environment where complete meals are served there are a number of interactions between meal components (Creed, 2010:321) that influence variations in the attributes of the food. The components served together in a meal interact with each other. Research conducted in a restaurant in Baltimore and 40 other restaurants in United States of America, found that the presentation of individual items as part of a meal significantly increased the overall score for several of the items (King, Meiselman, Hottenstein, Work & Cronk, 2007:63). Similar findings came to the fore in research conducted at the Sensory Science Centre in Baltimore (King, Weber, Meiselman & Lv, 2004:651). Research in Gothenburg attributes some of the dissatisfaction to the unusual combinations served in school meals rather than to the individual items served (Ahlström, Baird & Jonsson, 1990:164). Unusual combinations should be avoided when planning menus (Cracknell *et al.*, 2000:42) as these are influenced by the culture of the group for whom the food is served (Rozin, 2000:134,135). The way in which foods are combined can result in different perceptions of variety.

There are roughly three ways in which foods are combined to offer variety (Meiselman *et al.*, 2000a:119). First, variety is achieved through changing the basic components such as starches, vegetables or meat used (Meiselman *et al.*, 2000a:119). This is referred to as within-meal-variety (Meiselman *et al.*, 2000a:119). In this context, there should be no repetition of any ingredients on a set menu (Cracknell *et al.*, 2000:42). Second, menu variety can be achieved through variety across meals in a day or across meals served on different days of the week (Meiselman *et al.*, 2000a:119). This is referred to as across-meal variety (Meiselman *et al.*, 2000a:119). Civilian employees from the Soldier System Command in Massachusetts rated lunch meals lower when they were served the same lunch for a week (Meiselman *et al.*, 2000a:121). Third, variety can be achieved over very long periods, such as months or years, referred to as dietary variety (Meiselman *et al.*, 2000a:119). Research over a seven year period was done to evaluate the United States of America's army soldiers' ration scales (Hirsch *et al.*, 2005:38). The research found evidence for rating food lower and reduced intake after short-term and long-term exposure to food rations (Hirsch *et al.*, 2005:38).

Research conducted at the Sensory Science Centre in Baltimore, found that choice significantly influenced consumers'/customers' perceptions of food (King *et al.*, 2004:651). This finding was confirmed by research conducted in a restaurants in Baltimore and 40 other restaurants in United States of America (King *et al.*, 2007:64). Consumers/consumers do not only expect menu variety with regard to ingredients and flavours and their combinations, but also with regard to specific characteristics of the food, such as nutritional value and special dietary, convenience and fashionable choices.

Nutritional and special dietary choices increase the number of menu options. By making provision for students with special dietary requirements or students requiring more nutritious food, all students will have more choices from which to choose. The diverse cultures within the student body will also contribute to the need for a varied menu which caters for their special dietary requirements. Payne-Palacio and Theis (2009:53) predict that university food services will see more authentic vegetarian dishes and full-flavoured ethnic choices in future. Requirements for special diets are dictated by religion, indigenous cultural background and health concerns (Azanza, 2001:519). In addition, dietary issues are playing an increasingly important role for consumers in full service restaurants; this includes aspects such as low fat, low in carbohydrates, vegetarian and vegan foods (Siguaw & Enz, 1999:55). Students at Shantou University (China) dining hall requested that more nutritious food be provided. Students referred specifically to modest oil and salt content and sufficient vegetables (Binge *et al.*, 2012:142). Findings from the cafeteria at the Midwestern University in the United States of America reported that a wider variety of fruits and vegetables should be offered to ensure that students were able to meet their dietary needs (Andaleeb & Caskey, 2007:61). They concluded their research by saying that, given the diverse student population, the food service providers should be far more concerned about offering a more diverse menu. At the University of Southern Mississippi research pointed out that food services should accommodate religious requirements such as kosher foods or no pork or beef products as a major concern and specifically the availability of vegan meals for Indian students (Ruetzler, 2007:42). The person planning the menu, regardless of the sector they are working in, needs sound knowledge of nutrition and should try to satisfy the customers' nutritional and special dietary requirements (Cracknell *et al.*, 2000:44). Food service customers also require a healthy, varied menu that caters for their special dietary requirements such as diabetes, vegetarianism and kosher or Halaal prescriptions.

Convenience choices are becoming increasingly popular. Customers are expecting convenience food that can be eaten whilst they are busy with other tasks (Payne-Palacio & Theis, 2009:53; Gregoire, 2010:46). Students are looking for food that is suitable for pick up or grab-and-go options (Buzalka, 2005:42). Marshall and Bell (2003:16) found that students from two universities in Scotland and Australia expected lunch to be more 'portable' than dinner (supper). For both male and female university students, convenience appears to be a vitally important factor for students living in residence (Marquis, 2005:58).

Trendy/fashionable choices. Trend is defined according to the Shorter Oxford English dictionary as "a tendency of behaviour" (Brown & Stevenson, 2007a:3337). Fashion is defined by the Shorter Oxford English dictionary on Historic Principles as "a current usage among a particular socio-economic class" (Brown & Stevenson, 2007b:933). Applying these definitions to food, trendy, fashionable choices appear to be a

tendency in the type of substances, liquid and/or solid, eaten by or served to humans for nourishment at commercial food services such as restaurants and coffee shops - in this case, to those around the University of Pretoria. Klassen *et al.* (2005:580) asserts that university food service directors should be knowledgeable about the trends and current fads of the students to provide for their needs which determine their expectations. The selection of food served in the Penn State Erie College in Pennsylvania cafeteria was very traditional (Andaleeb & Caskey, 2007:61) thus not trendy enough. The students from Shantou University in China recommended that the dining hall update the menu with more trendy food (Binge *et al.*, 2012:133). Customers do not only eat to enjoy a variety of trendy/fashionable choices but also to satisfy their hunger and therefore the portions sizes should be adequate.

Portion size

Appropriately sized portions should at least be sufficient to appease the customers' hunger. In the dining halls of Coker College situated in South Carolina the observation was made that food portions were very small and students had to make several return trips (Gramling *et al.*, 2005:27). Regarding food service satisfaction at the Midwestern University (USA) students specifically mentioned that portion size was a definite aspect that management needed to concentrate on to improve the students' perceptions of the food service offered (Estepa *et al.*, 2005:12). Customers could also be dissatisfied if portions are not the same for everybody (Gregoire, 2010:207). In the institutional food service sector, staff serving at the counter had to be skilled at portioning food (Cracknell *et al.*, 2000:43). Customers should thus receive sufficient and uniform portions.

Price (value for money)

The price of the menu needs to meet the customers' need to get value for money (Davis *et al.*, 2008:156). Value is the customers overall assessment of the utility of a service or product based on perceptions of what is received and what is given (Zeithaml & Bitner, 2003:491). However, customers' perceptions of what is served as a helping varies; some may want large portions, while others want convenience. What the customer pays is also perceived differently as some customers are not concerned about money. Value represents a trade-off between what the customer wants and what it costs (Zeithaml & Bitner, 2003:491). Customers will evaluate a restaurant as a place to eat-out or as a place to dine-out. If a restaurant is considered an eat-out operation during the week, (a substitute for cooking at home) customers will be more price conscious. If a restaurant is considered a dining-out operation, the visit is regarded more as a social occasion or entertainment and price is not so much of a factor (Pavesic in Wood, 2000:36). Pavesic's findings indicate that value perception is influenced by the purpose of eating. In the residential food service where customers eat out due to necessity they will be more price-sensitive. Price or (value for money) prompts customers to select a particular item from the menu and this practice cannot be ignored in menu planning (Gregoire, 2010:52).

Students using the East Coast University Food Service in Carnegie (USA) rated reasonable pricing as the second most important attribute (Shoemaker, 1998:9). Similarly, students using the café service of an Australian University were least satisfied with the price of the food offered at the café (Shanka & Taylor, 2005:335). Research for the North-eastern University in Boston (USA) found that students too were least

satisfied with the price of the meal experience (Lee & Lambert, 2000:248). Menus can be designed to include different price ranges to satisfy a range of customers (Cracknell *et al.*, 2000:41). Menu choices selected should be made according to quality standards and to satisfy the customers/consumers patronising the service.

Food production

In the context of food services, food production is defined as “the preparation of menu items in the required quantity and the desired quality at a cost appropriate to a particular operation” (Gregoire, 2010:165). “Food production is the phase of the food flow mainly concerned with the processing of raw, semi-prepared or prepared food” (Davis *et al.*, 2008:203). “Production in the generic sense is the process by which products are created” (Gregoire, 2010:166). In this study food production is defined as all the processes in which staff members convert purchased materials into menu items that are ready for consumption by consumers/customers.

The main purpose of food production is to improve the characteristics of food. This can be done in a number of ways. The application of heat for cooking not only makes the food safe to eat but also makes it more appetising by improving the taste, texture, flavour, aroma and appearance (Gregoire, 2010:166). Meiselman (2000:333) adds that preparation is also a way to keep customers interested by adding variety to a menu. This is substantiated by Gregoire (2010:58) when she asserts that using different methods of preparation can add variety to the menu. Rozin (2000:135) showed that cultures will use different cooking or preparation methods thereby diversifying food production methods. Customers expect that a menu item will be consistent in quality in terms of flavour or taste and texture each time it is selected (Payne-Palacio & Theis, 2009:260). In summary then, food production improves eating characteristics by making food safe to eat, more palatable, adding variety and by ensuring consistency of menu items.

The eating characteristics of any prepared food depend primarily, according to Gregoire, (2010:195) on the type and characteristics of raw ingredients, the recipe or formulation of the product, the techniques used in preparation, the method and duration of holding food items in all stages from procurement through to service, and on the expertise of the production staff. The standardised recipe also referred to as a recipe formulation, is considered the most important control tool in food production (Payne-Palacio & Theis, 2009:260). A standardised recipe is a recipe that consistently delivers the same quantity and quality of a product when it is followed precisely (Knight & Kotschevar, 2000:12; Gregoire, 2010:177). Standardised recipes provide specifications for the type and quality of ingredients, the formulation of the product (quantity of ingredients) and the techniques used in preparation. Therefore eating quality of food will depend on a standardised recipe, the method and duration of holding food items in all stages from procurement to service and on the expertise of the production staff.

The standardised recipe should be followed exactly, as variation in any part of the recipe can influence the quality of the food. Having quality food and satisfied customers as outputs depends on the success of the food production process (Gregoire, 2010:165). The process and product characteristics are closely related

because both determine the characteristics of the final menu item (Gregoire, 2010:167). The aesthetic characteristics and the sensory attributes of menu items can be enhanced or diminished by the production procedures (Gregoire, 2010:194). Even high quality ingredients can be ruined by improper handling (Chefsworld, 2012). To ensure that quality food is produced attention should be given to the following key aspects:

- The characteristics of food and the desired end result that is produced is ensured by the correct control of time and temperature from preparation to service (Knight & Kotschevar, 2000:228; Gregoire, 2010:194). One of the major challenges is to adhere to time and temperature control to ensure the desirable sensory attributes of food (Gregoire, 2010:194). Time and temperature are closely related elements in cooking (Gregoire, 2010:204).
- The holding stage, particularly in a ready-prepared food services system, is another critical component affecting the aesthetic quality and acceptability of food (Gregoire, 2010:195).
- Temperature is also recognized as the common denominator for producing the correct degree of 'doneness'. To assure this degree, temperature gradations vary dramatically for different food categories, depending on the physical and chemical changes that occur as food components reach certain temperatures (Gregoire, 2010:202). Constant observation is required to make certain the food is cooked to the correct degree of 'doneness' and not held too long before service (Payne-Palacio & Theis, 2009:259).

There are many ways to determine if the production process was efficient or not. One way is to find out whether the food is acceptable to the customer/consumer or not (Gregoire, 2010:193). Research conducted at Penn State Behrend College cafeteria in Erie concluded that the main area for improvement was reducing the number of menu items that are deep-fried, covered with cheese and very greasy (Andaleeb & Caskey, 2007:61). Indian students from the University of Southern Mississippi indicated higher levels of dissatisfaction with the food production methods of the food items compared to Asians (excluding Indians). (Ruetzler, 2008:319). At Shantou University food service students suggested that the characteristics of food served should be consistent (Binge *et al.*, 2012:142). The production of food should provide food that is not over- or under-cooked and consistently tastes the same.

2.5.1.2 The service dimension

Services are generally seen as deeds, processes and performances (Johns, 1999:959; Wilson *et al.*, 2008:5). Service may be defined as the process of the food flow, mainly concerned with the delivery of the food to the customer/consumer (Davis *et al.*, 2008:222). Service, in a food service context, is defined according to Gregoire (2010:231) as the delivery of food to the customer/consumer. This study defines service as the process involved in delivering the food to the consumer which includes interaction with staff and equipment. The service dimension describes all the characteristics of service that have that ability to satisfy customers/consumers. Figure 2.8 presents this latter service dimension conceptualisation. As discussed earlier, quality in this study involves the characteristics of a product/service that have the ability to satisfy stated or implied needs. Service quality is therefore defined for the purpose of this study as the

characteristics of the delivery process of the food to the customer/consumer that have the ability to satisfy stated or implied needs. Many models were used to study the service quality concept. Some of the models to evaluate service quality are Grönroos's (1990) perceived service feature model, Gummesson's (1992) model and Parasuraman *et al.* (1986:1-37) service quality model (SERVQUAL).

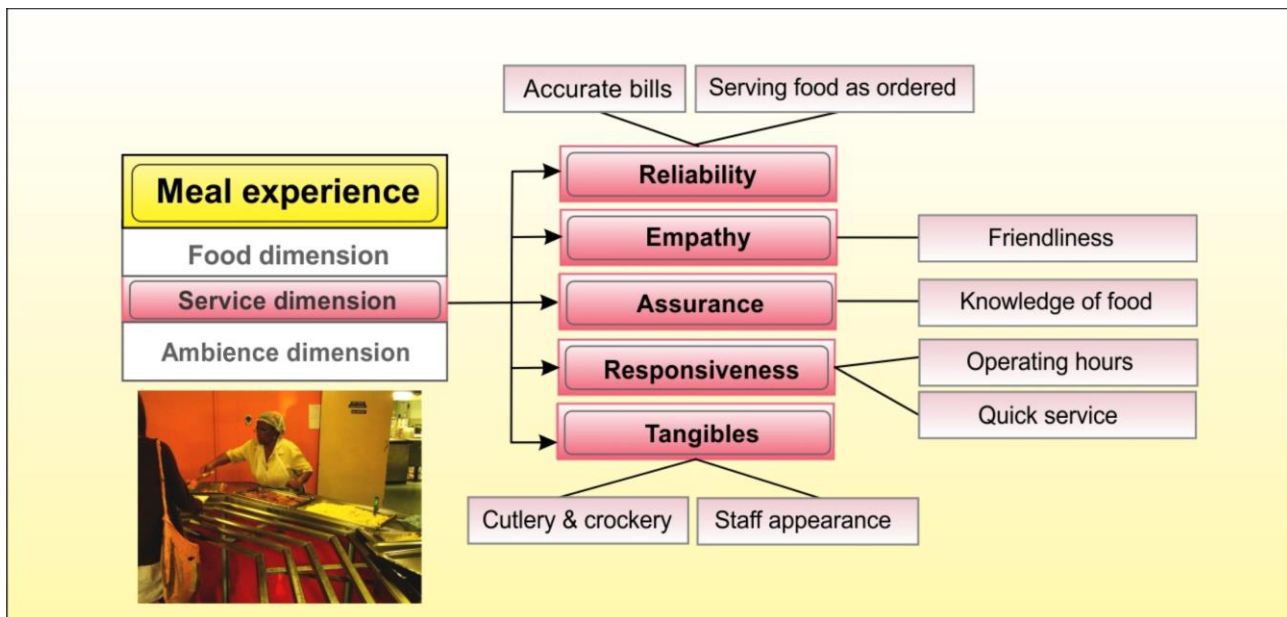


Figure 2.8: Service dimension conceptualisation

One of the widely used models for measuring service quality is SERVQUAL (Lee *et al.*, 2003:5; Keith & Simmers, 2011:21). SERVQUAL is considered a gap theory model, due to the measurement of the difference between the consumers' expectations and their perceptions of the performance (Clow & Vorhies in Keith & Simmers, 2011:21). The SERVQUAL instrument identified reliability, empathy, assurance, responsiveness and tangibles as the five dimensions of service quality (Parasuraman *et al.*, 1986:14,15). Parasuraman *et al.* (1985:42) differentiate products from services using three characteristics namely the intangible, the heterogeneous and the inseparable. Wilson *et al.* (2008:15) adds the characteristic of perishable. The names given to the characteristics differ slightly from author to author. Bebeko (2000:9) for instance refers to heterogeneity as variability. While inseparable may be referred to as simultaneous and heterogeneous may be referred to as variable. Therefore the characteristics of service are intangible, heterogeneous or variable, inseparable or simultaneous and perishable.

First, intangible refers to the characteristic that a service cannot be held, touched, stored or seen (Schneider & White, 2004:6; Gregoire, 2010:504). Services are performances or actions rather than objects, they cannot be seen, felt, tasted or touched in the manner that tangible products can (Wilson *et al.*, 2008:16). Not all services are "pure services", and many have a tangible component but a service in its purest form is intangible (Schneider & White, 2004:6). Second heterogeneous refers to the human element of staff interacting with consumers (Barrington & Olsen, 1987 : 134). Services are heterogeneous because the employees delivering the service are frequently in the public eye, and people differ in their performance from one performance event to the next (Wilson *et al.*, 2008:16; Gregoire, 2010:505). Service production and

delivery frequently involve the interaction of both service personnel and customers, and the human element in this production and delivery process can result in no two service instances being identical (Schneider & White, 2004:8). Services are also heterogeneous because customers are not precisely alike; each will have unique demands and will experience a service in a unique way (Wilson *et al.*, 2008:16). The heterogeneity is partly responsible for the inseparable characteristic of a service. Third, inseparable refers to the fact that services involve a delivery experience, which cannot be produced at one time and place and then stored for later use at another place (Barrington & Olsen, 1987 :134; Schneider & White, 2004:7; Gregoire, 2010:504). In other words customers are present in the food service's establishment, interact directly with the food service's personnel and are actually part of the service production process (Wilson *et al.*, 2008:21). The inseparable characteristic of a service causes the perishable characteristic of a service. Fourth, perishable refers to the fact that services cannot be saved, stored, resold and returned (Wilson *et al.*, 2008:17; Gregoire, 2010:505).

The perceived service quality model was first presented by Grönroos in 1982 which he then later renamed as the Perceived Service Feature Model (Grönroos, 2001:151). The model consists of six dimensions for experience service quality which focus more on the functional (delivery) than on the technical (service product issues) (Schneider & White, 2004:30). The criteria are professionalism and skill, attitudes and behaviours, accessibility and flexibility, reliability and trustworthiness, recovery and reputation and credibility (Schneider & White, 2004:32). These dimensions reflect some of the same themes of Parasuraman *et al.* (1986:14,15) service quality dimensions, however, the tangible dimension of service is not addressed. The service quality dimensions of Parasuraman *et al.* (1986:14, 15) are then arguably superior to Grönroos's (1990) Service Quality Dimensions. Gummesson (in Schneider & White, 2004:35) refers to the customer-perceived quality of total offering. Service is then divided into service elements, tangible elements and software elements. One reason why his dimensions were not used in this study is that the model provides too complex a presentation of the tangible dimension, which consists of nineteen attributes.

Parasuraman *et al.* (1986:1-37) also received criticism for their SERVQUAL instrument. This included criticism with regard to the ideal expectations used (Teas, 1993:30; Oh, 1999:69), the applicability of dimensions to other industries (Cronin & Taylor, 1992:58; Brown, Churchill & Peter, 1993:138), the amount of experience with the product (Oliver, 1997) and the reliability and discriminant validity problems caused by difference scores when using gap methodology (Brown *et al.*, 1993:138; Peter, Churchill & Brown, 1993:659).

Despite the criticism that the SERVQUAL instrument received, the dimensions of the developed model of service quality are well researched. Some authors still question the applicability of these dimensions to other industries (Cronin & Taylor, 1992:58; Brown *et al.*, 1993:138). Many researchers have tried to adapt and improve the applicability to specific fields of interest by using the SERVQUAL dimensions as a starting point for their research (Ladhari, 2008:65). This led to the development of variations of the SERVQUAL instrument such as LODGSERV (Knutson, Stevens, Wullaert, Patton & Yokoyama, 1990:277) developed for hotel experience, SERVPERF (Cronin & Taylor, 1992:63) which only measures performance without expectation,

DINESERV (Stevens, Knutson & Patton, 1995:60) that is similar to SERVPERF but adapted for food service and TANGSERV (Raajpoot, 2002:109) measuring tangible quality in the food service. This study builds on previous research that adapted the dimensions of SERVQUAL to suit the specific food service industry context.

Dimensions of service

The dimensions used in this study derive from the Parasuraman, Zeithaml and Berry (1988:23) five dimensions. Figure 2.8 shows that the dimensions used for this study, reliability, empathy, assurance, responsiveness and tangibility. The service category used will influence the attributes identified in each service dimension. Service category is the type/manner of service which is used by the food service to deliver the food to the customer/consumer (Spears & Gregoire, 2007:289). In institutional food services the self-service category is used most often and ranges from traditional self-service, assisted cafeteria, counter and buffet service (Edwards & Hartwell, 2009:110).

Self-service is the simplest of service category and involves customers carrying their own food selection from the place of display or assembly to the dining hall (Payne-Palacio & Theis, 2009:312). Cafeteria service is a service where customers collect trays and plates and help themselves to most or all of the menu items that are prepared in advance. This is the service used predominantly in institutional food services (Gregoire, 2010:239). Buffet is a type of service where the customer collects all or a portion of their food from a communal buffet table (Gregoire, 2010:239). University food services are changing their service from the traditional cafeteria to multiple retail venues which includes food courts, delicatessen, kiosks and convenience stores (Cracknell *et al.*, 2000:282; Gregoire, 2010:16). Each of these dimensions and aspects requiring consideration in institutional food service are described more fully.

Reliability means that the company delivers the promised performance dependably and accurately (Parasuraman *et al.*, 1988:23; Schneider & White, 2004:32). Of the five SERVQUAL dimensions, reliability has been consistently shown to be the most important determinant of perceptions of service quality (Wilson *et al.*, 2008:84). To be reliable a company needs to deliver on its promises – promises about delivery, service provision, problem resolution and pricing (Wilson *et al.*, 2008:84). No research was located regarding the reliability in the educational non-commercial food service sector, but some research was found in the commercial food service sector. In Chinese restaurants in America, reliability was found to be an important contributor to customer satisfaction. This included attributes such as serving the food as ordered, accurate billing and dependable and consistent service (Liu & Jang, 2009:346). Tourist diners from Britain, Scandinavia and Germany at an International airport in Turkey, reported the availability of items as a significant contributor to their perception of the meal experience (Yuksel, 2003:13). Some institutional food services offer students the opportunity to pay only for those foods eaten each day with a declining-balance account systems being used (Gregoire, 2010:16). This requires that customers receive an accurate bill for their purchases. Residential students may perceive the food service as reliable when all items on the menu are available; when they receive their meal as they booked it, and when their bill is correct.

Empathy refers to personalised attention given to a customer (Schneider & White, 2004:32). Parasuraman *et al.* (1988:23) define empathy as “caring, individualized attention”. The essence of empathy is conveying, through personalised or customised service, that customers are important, unique and that their needs are understood (Wilson *et al.*, 2008:86). Winsted (2000:401) asserts that interaction with the service provider has a substantial impact on customer satisfaction with the service provided. Knutson (2000:72) found that students at Michigan State University often felt like a number when using fast-food restaurants, thus they appreciated the impression of being cared for by food service personnel who gave individual attention. In a University cafeteria in North-eastern United States of America students rated empathy as being the weakest performance in comparison to all other service quality dimensions (Lee & Lambert, 2000:246). Measuring the service at an institutional food service using the DINESERVE measuring instrument, Kim *et al.* (2009:16) found that staff should be trained to address customers in a polite manner in order to deliver better service. Residential students may also consider empathy as an important attribute of the service provided during the meal experience.

Limited research exists regarding the cultural aspect of the personalised attention in the non-commercial food service sector. Research in the commercial hospitality sector found that Asian customers/consumers tend to be more sensitive to personal interaction during service than other nationalities. In this regard, Asian customers/consumers experienced greater dissatisfaction than Western diners with the service provided at a first-class hotel in Singapore. This was explained by critical evaluation of their personal service interactions (Mattila, 2000:270). Young adult Asians from Hong Kong also placed far more importance on a respectful service when eating at restaurants than other nationalities (Becker, Murrmann, Murrmann & Cheung, 1999:248). The Asian residential students may expect more personalised attention during residential meal experiences.

Assurance is “the ability of the organisation’s employees to inspire trust and confidence in the organisation through their knowledge and courtesy” (Parasuraman *et al.*, 1988:23; Schneider & White, 2004:32). Assurance is especially important in institutional food services where the cafeteria service style is often used and service staff are required to serve food professionally using the proper service techniques (Gregoire, 2010:239). Research conducted in Cyprus found that food service establishments could redesign their service delivery process by improving employees’ knowledge and ability to convey trust and honesty to provide assurance to college students (Zopiatis & Pribic, 2007:773). Institutional research with the DINESERV instrument found that increasing employee’s knowledge about food will help them improve customers’ perception of the service (Kim *et al.*, 2009:16). Residential students may also consider assurance important as they could require assistance during a service and request information about the ingredients used to produce the food. The food provider should have such knowledge and be able to communicate it to the enquirer.

Food knowledge was more important to students from the United States of America than students from Hong Kong during comparative research conducted in both cities (Becker *et al.*, 1999:251). This was explained by the nutritional and health consciousness of American consumers/customers (Becker *et al.*, 1999:251).

American customers/consumers expect service personnel to make eye contact as failure to do so is associated with dishonesty (Becker *et al.*, 1999:250). At Shantou University the students suggested that staff receive professional training regarding the hygiene at the time of service (Binge *et al.*, 2012:142). Assurance is shown when the staff know the ingredients in the food served, are courteous, serve food in a professional manner and follow hygienic procedures while serving food (e.g. do not touch your hair while serving food).

Responsiveness is the willingness of the organisation to provide prompt service and to help customers (Parasuraman *et al.*, 1988:23; Schneider & White, 2004:32). Responsiveness also captures the notion of flexibility and the ability to adapt the service to customer needs (Wilson *et al.*, 2008:85). Responsiveness is communicated to customers by the length of time they have to wait for assistance, to have answers to questions or to have attention to problems (Wilson *et al.*, 2008:85). Responsiveness embodies the three features of an efficient response to customer's needs, namely, attitude, speed and flexibility.

The importance of responsiveness in food services is substantiated by research in different sectors of the food service industry. It is important that staff help customers with a positive attitude. Research at Coker college in South Carolina found that students expected a better attitude from the staff serving them (Gramling *et al.*, 2005:29). University students in Cyprus highlight employees' attitude as one of three most influential factors of students' dining choices (Zopiatis & Pribic, 2007:773). At Shantou University students were most dissatisfied with the staff being impatient when serving them of all the service aspects (Binge *et al.*, 2012:142). The attitude of service staff can make students feel welcome when using the food service.

It is also important that when staff provides a service they do so quickly without wasting time. Self-service, that is usually used by intuitional food services, reduces serving time which is beneficial when meal breaks are short (Edwards & Hartwell, 2009:110). Institutional food services are now moving to multiple retail venues such as food courts, having a delicatessen, kiosks and convenience stores (Cracknell *et al.*, 2000:282). This may require institutional food services to use alternative means to provide fast service to customers as these types of retail establishments tend to cook food to order. In food service operations the speed of service or the process has been highlighted as the main element of responsiveness (Bell, Gilbert & Lockwood, 1997:413). Research at the California State University found that students regard quick service as important (Klassen *et al.*, 2005:598). Research found at Michigan State University that students regard quick service as important when using fast-food restaurants (Knutson, 2000:72) and this is likely to be true also for residential students at Pretoria University.

One way to improve service is to be responsive to the time constraints experienced by students by providing longer operating hours. Customers might have to wait for the operation to open at certain times of the day but the facility should accommodate their studying commitments. Assessment of a university campus café in Australia found that timing operating hours was one of the main attributes influencing student satisfaction (Shanka & Taylor, 2005:339). Students from Shantou University in China complained that the operating hours of the dining hall were unreasonable and suggested that students should be able to have meals at any time of the day (Binge *et al.*, 2012:142). With residential students, their schedules may change as the year

goes on and therefore there may be times when they are not satisfied with the operating hours of the food service at certain periods. Institutional food services have responded to their customers' requirements by offering them more flexible options (Gregoire, 2010:16). These include options such as changing from the traditional cafeteria service style to multiple retail venues offering extended hours, and a takeout or delivery service for non-traditional meal times and places (Payne-Palacio & Theis, 2009:53; Gregoire, 2010:16). Institutional food services can also provide more flexible meal plans, giving students the option to eat in any of the on-campus food venues (Gregoire, 2010:16). Residential students should be entitled to expect the food service to be responsive to their needs by responding promptly, being available for special requests and operate at hours that suit the students' schedules.

Tangible is usually defined as the physical facilities, equipment, appearance of service personnel and communication (Parasuraman *et al.*, 1988:23; Schneider & White, 2004:32; Wilson *et al.*, 2008:86). This definition is adapted to include the equipment (cutlery, crockery and booking system) and the interaction with staff (staff's physical appearance) necessary to provide students with quality service, but excluding the physical facilities as this is a separate dimension.

It is important to maintain equipment so that a meal can easily be booked in the dining hall. Researchers have found that if the effort to obtain food items is too onerous, customers will change their choices. Hirsch *et al.* (2005:43) found that the effort to obtain food influenced United States of America soldiers food consumption. At Bournemouth University cafeteria, students ate less candy due to the effort to obtain it (Meiselman, Hedderley, Standdon, Pierson & Symonds, 1994:49). The equipment used to book a meal should work effectively and simply to ensure students do not make use of alternative meal options in view of the difficulties they experience with the booking facility equipment.

The cleanliness of cutlery and crockery and the appearance of staff convey a sense of the level of hygienic procedures applied in the food service operation. Students from Shantou University were dissatisfied with the appearance of staff as they did not wear their masks properly and wore nail polish and earrings (Binge *et al.*, 2012:142). These students mentioned the appearance of staff was unsatisfactory and the absence of sound hygienic practices was a health concern. These findings were confirmed by two research studies from universities in the mid-western part of the United States of America (Aigbedo & Parameswaran, 2004:884; Kim *et al.*, 2009:16,17). In a case study at Coker College in South Carolina (USA), it was considered a health issue that only one employee was seen to be wearing a head visor, and no employees were ever seen wearing hairnets (Gramling *et al.*, 2005:28). Students from the university food service operation also reported unhappiness with the cleanliness of the dinnerware, and they noted lack of care for clean dishes, silverware and glasses in the dining hall (Gramling *et al.*, 2005:27). The research found that cleanliness was more important to Hong Kong customers/consumers due to the high level of importance placed on the grooming of the server's hands (Becker *et al.*, 1999:248) The residential students' perception of food service may be influenced by the cleanliness of the staff, cutlery and crockery. Reported research thus shows that cleanliness is important to customers/consumers using university food services. Research regarding cultural differences was only found in relation to young adults and their restaurant experiences. The residential

students' cultural background could also influence their perception of cleanliness in the residential food service.

The tangible component of the service can communicate or influence intangible components of service. The residential students may use the condition of tangible aspects such as the staff uniform, cutlery and crockery to make inferences about the hygiene principles applied. The electronic booking system may affect the residential students' perception of speed of service, professionalism and reliability.

2.5.1.3 The ambience dimension

Ambience is created by the interaction between individuals (the service personnel and guests) and their environment (Heide *et al.*, 2007:1316). A key point in the definition is that ambience has to be perceived and experienced (Heide *et al.*, 2007:1316). In this study ambience is defined according to Heide *et al.* (2007:1316) as the customer's/consumer's interaction with the environment/physical facility in which the service is delivered. Figure 2.9 presents the ambience dimension as conceptualised. The ambience should be designed to contribute to the service experience. The consideration of the ambience dimension is important for the non-commercial institutional food service context as ambience (the physical dining hall) influences customers'/consumers' ratings of the sensory attributes of food (Cardello *et al.*, 1996:14).

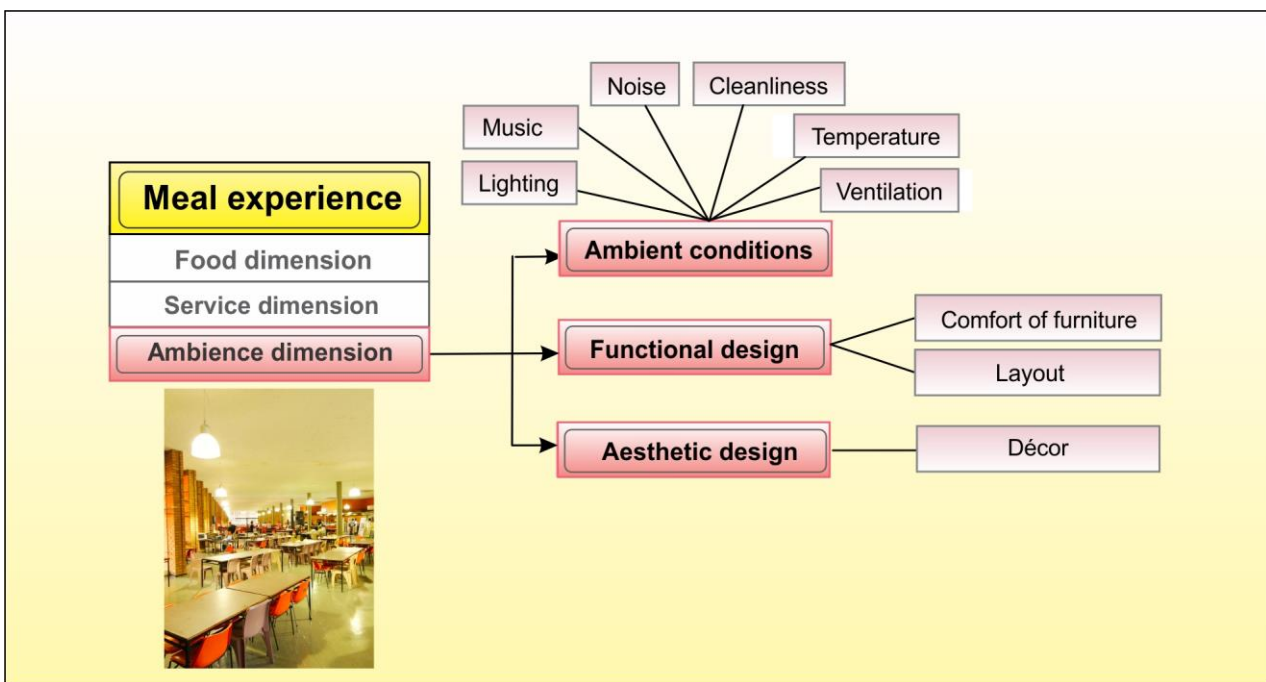


Figure 2.9: Ambience dimension conceptualisation

A number of research studies exist that investigated the customers' perception of ambience. These studies provided a basis for a structure of ambience from which to conduct this research. Table 2.3 provides a short summary of dimensions and attributes of the research studies that were reviewed. Regarding ambience Table 2.3 shows that ambient conditions, functional design and aesthetic design are most often used as

dimensions of ambience, that are now discussed to hopefully provide a clearer view of what it is and its role in the food service industry.

Table 2.3: Ambience research, models and measurement instruments

Author(s)	Dimension	Description of definition
(Bitner, 1992:60)	Ambient conditions	The background characteristics such as lighting, temperature, music and scent
	Spatial layout and functionality	The placement of furnishing and equipment in order to accomplish service goals
	Signs, symbols and artefacts	The items that communicate to the users about the place
(Baker in Ryu & Jang, 2008:6)	Ambient conditions	The background factors such as temperature, aroma and lighting
	Design factors	The functional and aesthetic components
	Social factors	Includes both customers and employees
(Wakefield & Blodgett, 1996:53)	Layout accessibility	The way in which the furnishings and equipment, service areas and passageways are placed in order to make services more accessible
	Facility aesthetics	The décor, colour, and pictures used to improve the perceived quality of the ambience
	Facility cleanliness	The cleanliness throughout the experience
(Heide <i>et al.</i> , 2007:1316)	Atmospheric factors	The background aspects such as temperature, aroma, noise, music and lighting
	Design factors	The functional and aesthetic components
	Social factors	The interaction amongst people
(Ryu & Jang, 2008:2, 3)	Facility aesthetics	The décor and the physical attractiveness of the dining environment
	Layout	The functional layout
	Ambience (ambient conditions)	The background characteristics such as music, aroma and temperature
	Lighting	The level of light perceived by customers
	Service product	The quality of cutlery and crockery, quality of linen and overall table setting
	Social factors	The characteristics of staff and other customers present

First in 1987 Baker (in Ryu & Jang, 2008:6) divided the physical environment, experienced as the ambience, into the ambient factors, the design factors (which include both aesthetic and functional design) and social factors. Second, Bitner (1992:58, 65) reviewed theories and empirical findings from diverse disciplines in order to compile a framework that describes the 'servicescape' or physical environment and its effect on consumers and employees in service organisations. Bitner (1992:58, 68) describes the servicescape in terms of: (1) ambient conditions; (2) spatial layout and functionality; and (3) signs, symbols and artefacts. These dimensions are similar to those of Baker (in Ryu & Jang, 2008:6) except that the social component is omitted and design is split into the layout and functionality and signs, symbols and artefacts.

The third study tested a hypothesis of the influence of the physical environment on perceived quality and satisfaction in leisure settings (Wakefield & Blodgett, 1996:49). Data collected originated from five different major university football stadiums in a large southern city in the United States of America and three different casinos in Reno, Nevada (Wakefield & Blodgett, 1996:50). The research found the dimensions of layout accessibility, facility aesthetics and cleanliness influenced customers'/consumers' perception of ambience

quality (Wakefield & Blodgett, 1996:53). This research omitted the basic dimension of ambient conditions by excluding, for example, lighting, ventilation and temperature. This is most probably because its specific design was for leisure settings such as amusement parks and sporting events. The research does however, include cleanliness which is often omitted by other studies. A fourth study by Heide *et al.* (2007:1315) explored the influence and role of ambience from the perspective of architects and hospitality managers, describing ambience in terms of atmospheric factors, design factors and social factors (Heide *et al.*, 2007:1316). Ryu and Jang (2008:2,3) developed the DINESCAPE measurement instrument to assess the DINESCAPE of upmarket restaurants. The measurement instrument used the dimension service product which included such dimensions as the table settings, table linen, cutlery and crockery. Some aspects were irrelevant to a residential food service setting although part of a wider service sector. The three dimensions most often used to investigate the ambience are the ambient conditions, the design, which is sometimes split into functional and aesthetic design and the social factors (Heide & Grønhaug, 2006:274; Heide *et al.*, 2007:1316; Ryu & Jang, 2008:2,3). The reviewed research indicates that the ambience dimension consists of the ambient conditions, functional design and aesthetic design as shown in Table 2.3. It is important first to be aware if the characteristics of the non-commercial (institutional) food service as its context will definitely influence the characteristics of these three aspects.

In the non-commercial (institutional) food service a completely different ambience is created to that found in a fine dining restaurant. Usually institutional food service dining halls reflect the need to keep costs to a minimum and so reflect the idea of institutional meals (Edwards & Hartwell, 2009:110) with faster food consumption and no lingering at the table as characteristic (Edwards & Hartwell, 2009:106). In institutional food services using self-service styles the food is displayed or assembled, and the kitchen and dining hall are partly combined (Edwards & Hartwell, 2009:110). The design of the ambience at an institutional food service venue has to make provision for the unique challenges accompanying this self-service style (Edwards & Hartwell, 2009:110, 111) The design of the physical facility will impact on, amongst other things, marketing goals such as customer attraction and customer satisfaction (Bitner, 1992:58). The ambience, i.e. the physical environment, contributes significantly to the enjoyment of food, both to specific attributes, as well as to overall enjoyment of the meal experience (Edwards, Meiselman & Leshner, 2003:651) Therefore the ambience in institutional food services should also be designed to contribute to the meal experience positively.

Cultural backgrounds also affect customers'/consumers' perception of the ambience. A study conducted in Australia to examine the perceptions of multi-cultural university students with respect to fast-food restaurants found differences between cultures with the evaluation of service and ambience (Mohammad, Barker & Kandampully, 2005:93). Their main findings were that Australian, Malaysian and Singaporean students were all satisfied with indicators of service and atmosphere whereas Indonesian students were most satisfied with only certain indicators of service (Mohammad *et al.*, 2005:106). Research conducted at fast-food restaurants and grocery stores found that the physical environment positively affected behavioural intentions of customers from Australia, China, Germany, Morocco, Netherlands, Sweden and the USA (Keillor, Lewison, Hult & Hauser, 2007:458). Customers from India did not show a positive correlation between the physical environment and behavioural intentions (Keillor *et al.*, 2007:458). Some evidence shows that cultural

background affects the customers'/consumers' perception of the ambience. The cultural background may also affect the residential students' perception of the ambience dimension of the meal experience. This aspect and its attributes as identified from research will be discussed in the following section as will the relevance of each to the institutional meal experience.

▪ **Ambient conditions**

The ambient factors are defined as “the background conditions creating the ambience “ (Heide & Grønhaug, 2006:274). Raajpoot (2002:122) stresses the importance of ambient variables as their absence can possibly make customers feel anxious and concerned or simply cause discomfort for them. In this study ambient conditions include the intangible aspects of the ambience: the lighting, music and noise, cleanliness, temperature and ventilation.

Lighting can be used to create a pleasant ambient condition in dining halls. Warm light has been found to make people feel more comfortable, leading them to stay longer in the location which could mean increased food intake, whereas glaring light decreases the length of time people would spend in an eating environment (Stroebele & De Castro, 2004:827). Lee *et al.* (2003:9) draw attention to the use of appropriate lighting in dining areas of continuing-care retirement community care. Lighting does not only have the role of making the ambience comfortable but it is also necessary to improve functionality. In institutional food services where food is often on display in the dining hall, additional lighting may be required (Edwards & Hartwell, 2009:110). The correct use of lighting in food service settings may also improve the comfort and functionality of the meal experience for residential dining halls.

Music is positively correlated with the customers' evaluation of satisfaction (Caldwell & Hibbert, 2002 :913). Playing inappropriate music for the situation could cause consumers to avoid the establishment (Smith & Curnow in Milliman, 1986:289). Appropriateness and preference are dependent on the situation and the individual (Sullivan, 2002:329). In Penn State Behrend College cafeteria in Erie,USA the students were primarily concerned about having music of the genre and volume that appealed to them (Andaleeb & Caskey, 2007:61). Sullivan (2002:330) argues that the volume of music is more important than its tempo and style. Despite the argument posed by Sullivan, Milliman concludes that generally providing background music contributes to a favourable ambience regardless of its tempo (Milliman, 1986:288, 289). While some customers/consumers like to have music whilst eating, others prefer a quiet ambience (Andaleeb & Caskey, 2007:62; Binge *et al.*, 2012:129). However, soft background music can be used to improve the ambience. The effective use of furnishings can aid in noise reduction and is advisable as noise has been found to have negative effects (Edwards & Gustafsson, 2008:24) such as fatigue, headache, loss of appetite and irritation (Yoshida, Osada, Kawaguchi, Hoshiyama, Yoshida & Yamamoto, 1997:497). When noise cannot be eliminated the alternative is to reduce noise by using sound-absorbent furnishings. This creates a more comfortable and peaceful ambience, and on which invites conversation.

Cleanliness was indeed a factor considered by students from Michigan State University as being very important when deciding whether or not to patronize a fast food establishment (Knutson, 2000:72). Students

who used a Philippine university fast food outlets complained about the unsanitary ambience of these food services (Azanza, 2001:519). Students from a study done in the Penn State Behrend College cafeteria in Erie indicated that tables from the dining hall should be cleaned more frequently (Andaleeb & Caskey, 2007:62). One health concern that was mentioned by students was that the employees were not wiping off counters frequently enough (Gramling *et al.*, 2005:28).

Temperature is also important. Heide and Grønhaug (2006:275) explain that too hot or too cold a temperature results in uncomfortable leisure experiences. Similarly residential students also view the meal experience as an experience to relax and escape and they will not enjoy their meal experience in uncomfortable, too hot or too cold, temperatures. An additional aspect closely related to temperature is the quality of the air. Good ventilation too is important for enjoyment of hospitality experiences (Heide & Grønhaug, 2006:275) as available fresh air creates a comfortable environment.

▪ **Functional design**

Functional design is defined “as the way in which equipment and furnishings are arranged, and the ability of the items to facilitate consumers’ enjoyment of the experience” (Wakefield & Blodgett, 1996:46). The functional layout (design) involves the definition of personal space and this regulates general interaction (Robson, 2002:60,61). In other words, the functional design affects the consumer’s perception of being overcrowded and being comfortable in the environment of the meal experience. The study mentioned considered only the comfort of the furniture and the layout and personal space.

In the Midwestern University in the United States of America it was found that the food service should design dining halls carefully to deliver a relaxed and comfortable ambience to attract and retain customers/consumers (Kim *et al.*, 2009:17). While Ullo (2000:32) emphasizes the comfort of chairs for the enjoyment of the meal experience, Wakefield and Blodgett (1996:48) note that seating comfort involves both the physical seat itself and the space between seats. The amount of space between rows of seats is also important as it affects the ease with which customers may exit their seats to use ancillary services (Wakefield & Blodgett, 1996:48). Research from The University of Southern Mississippi food service found that the feeling of being crowded-in also affected meal experience perceptions of consumer/customer, since personal space requirements vary greatly between cultures (Ruetzler, 2007:43). Limited research exists in the non-commercial food service sector that describes specific attributes of the consumer/customer and the ambience that influences the perception of crowdedness. In a national survey conducted in the United States of America it was found that consumers disliked restaurant tables being too closely spaced. Survey respondents consistently indicated that they felt uncomfortable, crowded and generally negative toward the restaurant when tables are too closely spaced (Robson, Kimes, Becker & Evans, 2011:260). Most consumers may not enjoy their meal experience when they perceive it to be too crowded. Research conducted with students from the Midwestern University (USA) found cultural differences between American and Chinese students’ perceptions of crowdedness and the level of satisfaction in restaurants (Kim & Park, 2007:137). The Chinese students tended to perceive crowding more readily than American students resulting

in more dissatisfaction from Chinese students (Kim & Park, 2007:152). Residential students' perception of crowdedness is also influenced by their cultural background.

Customers using a food service establishment, although surrounded by other consumers and personnel, prefer some personal space which is regulated by the layout of the dining hall. In a university cafeteria in California students perceived the dining hall to be crowded even when only half of the seats were being used (Mehrabian & Russel in Robson, 2002:60). Sufficient room between tables, making it possible to cope with the demand, would be important in a food service setting (Edwards & Gustafsson, 2008:29) as this would influence customers' perception of crowdedness of the environment. Appropriate layout in dining halls facilitates the flow of students (flow of traffic) through the dining hall and reduces the perception of crowdedness. Bitner (1992:66) adds that the effects of functional design are salient in self-service settings, especially when customers are deprived of assistance from staff. This may also be the case with residential students using the food service with limited or no assistance from staff in some sections. Residential students' level of satisfaction with the ambience may also be affected by the level of crowdedness perceived.

- ***Aesthetic design***

Aesthetic design includes aspects that give consumers the general perception of the style of the dining hall. Aesthetics seems to be the important satisfier and dissatisfier in food service establishments (Johns & Howard, 1998:258). The characteristics of the materials, artwork and floor coverings communicate symbolic meanings (Bitner, 1992:66). Even residential students who are familiar with the establishment will make inferences from the aesthetic design about the level of service and quality of food that will be received. Wakefield and Baker (1998:531) confirm the importance of décor to regular users of a service. They also recommend that customers are periodically asked about their perception of the décor as it specifically influences the consumer's desire to stay longer (Wakefield & Baker, 1998:531). Similarly residential students should be asked about their opinion of with the aesthetic aspects such as décor as it may influence their desire to use the dining hall for longer periods.

2.5.2 The University residential student as a customer/consumer

The residential students of the University of Pretoria are the customers/consumers of this study. Figure 2.10 presents a conceptualisation of the university residential student as customer/consumer. It is important to study their demographic characteristics as these influence their evaluation of the meal experience. According to Erasmus and Donoghue (1998:39) characteristics of the individual (person/student) influence customer satisfaction. The socio-demographic variables of gender, age, cultural background and socio-economic status are used in this study (Figure 2.10). The needs of customers (which are translated into expectations) can be identified on the basis of socio-economic variables such as religious background, age, disposable income and ethnic background (Knight & Kotschevar, 2000:52). From a food service perspective the menu planner needs this information about customers to plan a satisfying menu (Knight & Kotschevar, 2000:52) and meal experience.

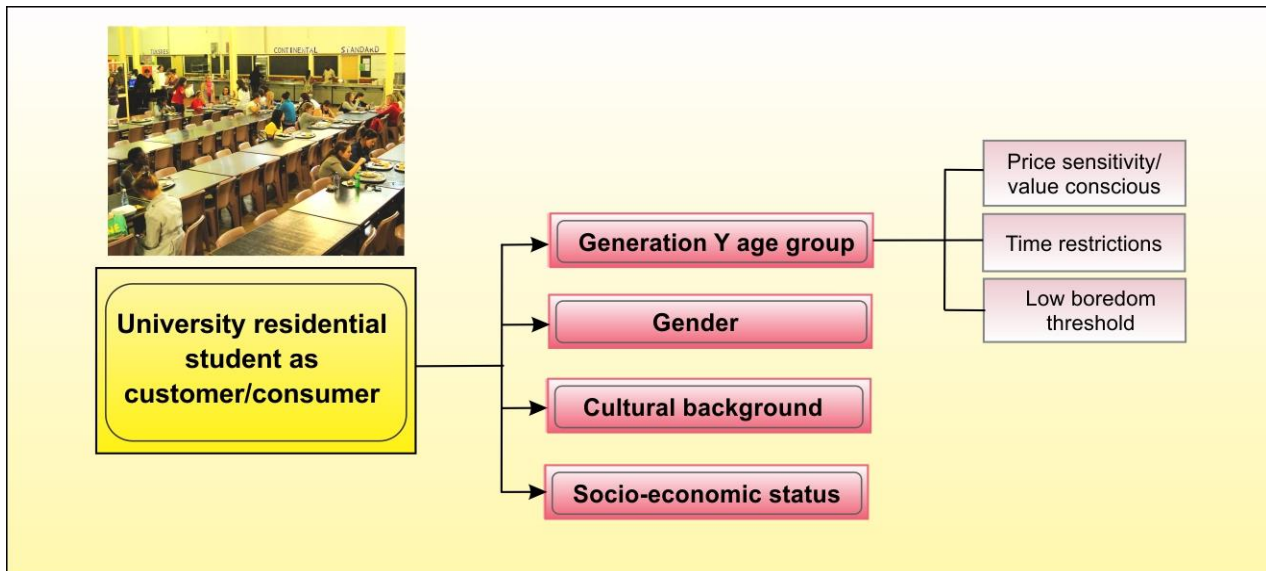


Figure 2.10: The university residential student as customer/ consumer: conceptualisation

2.5.2.1 Gender

Females and males evaluate products and services differently (Fontenelle & Zinkham, 1993 ; Kwun, 2011:252). They have different expectations and different evaluation criteria and this influences satisfaction levels. Gender predicts the importance of taste, nutrition, cost and weight control and all these were rated higher by American women than men (Glanz *et al.*, 1998 1124). Male students primarily based their satisfaction evaluation on the quality of food and perceived value (Kwun, 2011:259). This indicates that men may be more cost-conscious (component of value) than expected.

Men usually eat to satisfy hunger and to provide for energy needs (Kissileff, 2000:65). A qualitative focus group discussion with adolescent males from two inner-city schools in St Paul in Minnesota (USA) found that men eat to grow taller, build muscles and gain weight (Neumark-Sztrainer, Story, Perry & Casey, 1999:932). This most probably means a high protein intake. Wynant and Meiselman (in Meiselman & Schutz, 2003:209) verified that men preferred meat items to vegetables, salads and fruits, thus confirming this. In contrast to this a more recent study with men from Vancouver, found an increased emphasis on healthy eating among professional men (Sellaage & Chapman, 2008:125). Differences in satisfaction levels between male and female residential students may be due to the portion size or the portion sizes of meat or vegetables offered.

These findings are confirmed by Neumark-Sztrainer *et al.* (1999:932) who conducted research at two inner-city schools in St Paul in Minnesota by means of focus groups discussions during which adolescent females expressed their concerns about eating for weight control. Wynant and Meiselman (in Meiselman & Schutz, 2003:209) confirmed that women preferred vegetables, salads and fruits to meat items.

It is therefore important to determine the gender of the residential students as males may expect food with high energy content and larger portions while females might expect healthier food (more fruits and vegetables) and smaller portions.

2.5.2.2 The Generation Y age group

Generations refer to people of similar ages who have undergone similar experiences (Solomon *et al.*, 2006:456). Generation Y people were born between 1979 and 1994 (Neuborne & Kerwin, 1999:80; Smith, 2008:1) and those born between 1986 and 1990 are described as the desirable university market (at time of the study in (Noble *et al.*, 2009:617). The University of Pretoria's residential student population would also have students of this Generation Y who have different characteristics from previous Generations and have limited representation in research (Noble *et al.*, 2009:618). The main factor affecting Generation Y's purchases was price followed by convenience (Smith, 2008:3). The main characteristics that influence Generation Y are value-consciousness, convenience-orientation and a low boredom threshold (Figure 2.10).

- **Value conscious**

Research reveals that the female Generation Y consumer is concerned about price and value for money (Bakewell & Mitchell, 2003:102). The importance of cost was highest for younger respondents in a study on Americans (Glanz *et al.*, 1998:1124). South African consumers have been found to display the same price sensitive behaviour (Human Development Index youth marketeers, 2011:3). Generation Y is not only price sensitive they are looking for value for money. Generation Y is willing to pay for products that offer them added benefits. In a specific study Generation Y participants illustrated the desire to make the best decision with regard to not only price and quality but also to making good investments for the future (Noble *et al.*, 2009:619). Quantitative findings indicate that Generation Y is largely motivated by objective, functional and economic motivations to consume (Martin & Turley, 2004:472).

Added benefits should be offered to Generation Y who require flavour, quality and ambience, yet they want it at the lowest price possible (Smith, 2008:1). The main factor affecting their purchases was price but they are simultaneously drawn to products that offer added value such as enhanced memory and focus, relief of stress and enhanced viral immunity (Smith, 2008:2). When Generation Y buys items their primary considerations are quality and value for money (Morton, 2002:47; Noble *et al.*, 2009:624). Residential students may perceive added value as aspects such as properly flavoured food, slow energy release (low GI), low fat food items and a stylish ambience in the institutional food service environment.

- **Convenience orientation**

"Living in the moment" young South Africans are seeking ways to maximise every hour of their day (Human Development Index youth marketeers, 2011:2). In South Africa Generation Y consumers are very enthusiastic about supporting brands that offer them convenience and health (Human Development Index youth marketeers, 2011:3). They also view healthy eating as important as long as it is practical and fits into their busy lifestyle (Human Development Index youth marketeers, 2011:3). The ideal product is conveniently located and self-contained in order for it to be able to be eaten while using all their technological devices (Smith, 2008:3).

- **Low boredom threshold**

A larger variety of television shows available at any time of the day and night have contributed to a low boredom threshold and increased Generation Y's need for a wider variety of products (Sutherland &

Thompson, 2003:71). They want food products to be visually appealing and are willing to experiment with unfamiliar products (Smith, 2008:1). This is likely to cause residential students to expect a larger variety of food provided for them.

2.5.2.3 Cultural background

Culture is defined as “that complex whole which includes knowledge, belief, art, morals, law, customs, and any other capabilities and habits acquired by man as a member of society” (Tylor in Fieldhouse, 1995:2). Culture is “the accumulation of shared meanings, rituals, norms and traditions among the members of an organisation or society” (Solomon *et al.*, 2006:498). It is “the sum total of a group’s learned or shared behaviour” (Fieldhouse, 1995:2). Fieldhouse (1995:2) describes culture as patterns of behaviour and society refers to the people who participate in the culture and give it concrete expression. There are a number of characteristics that clarify the concept of culture.

Culture is a learned experience that is acquired by people as they live their everyday lives (Fieldhouse, 1995:2). It is not genetically or biologically determined and therefore can be changed or unlearned (Fieldhouse, 1995:2). Culture is a group phenomenon that is transmitted from one generation to the next through the process of socialization (Fieldhouse, 1995:2). It may be transmitted formally or informally by verbal instruction or by non-verbal cues and through personal example (Fieldhouse, 1995:2). These characteristics give indications of a consumers’/customers’ culture.

Culture is a group phenomenon that is learned by people as they live their everyday lives (non-verbal). Therefore the group of people among which consumers/customers live will determine, amongst other things, their knowledge, beliefs and habits. Nationality, religion and ethnicity are amongst some of the groups to which people can belong that will influence their culture (McWilliams & Heller, 2003 :17). Culture can also be transmitted by verbal instruction. To verbally transmit culture the same language is required. Therefore people speaking the same language will, amongst other things, share similar knowledge, beliefs, habits and morals. This study will use ethnicity and home language as the indicators of culture. Culture influences many aspects of consumer’s/ customer’s behaviour (Solomon *et al.*, 2006:449).

Cultural differences represent some of the greatest differences in meal preferences (Meiselman, 2008:18). Cultural background influences consumers’/customers’ perception of meals with regards to food, service and ambience. The influences of cultural background on their perception of each of the three dimensions of the meal experience are described in the Section 2.5.1 that describes the meal experience.

2.5.2.4 Socio-economic status

Socio-economic status is defined as “the overall rank of people in society; people who are grouped within the same social class are approximately equal in terms of their social standing, occupations and lifestyles” (Solomon *et al.*, 2006:655). For the purpose of this study socio-economic status is measured by the Living Standards Measure (LSM) which is “an instrument developed by the South African Advertising Research Foundation (SAARF) to segment the market and to determine the economic status of customers. It uses

surrogate indicators such as the degree of urbanisation and ownership of major household appliances to determine consumer lifestyle levels” (South African Advertising Research Foundation, 2006). The consumers’ LSM level is determined by means of a questionnaire. The South African Advertising Research foundation publishes characteristics of the consumers in the different LSM levels. These characteristics provide additional information on the consumer. When certain LSM levels are not sufficiently represented in a sample for data analysis, certain LSM levels can be grouped together. SAARF (in Martins, 2006:3) groups the following LSMs together: LSM groups 1-4 can be considered poor, LSM group 5-7 are the emerging middle class and LSM 8-10 can be regarded as the wealthy.

The All Media and Products Study (AMPS) report indicates that higher LSM levels spend more money eating out than those at a lower LSM level (South African Advertising Research Foundation, 2006). Thus consumers with a higher LSM level have more firsthand knowledge about the meal experience. Consumers use experience to form expectations that will be used to evaluate their satisfaction with the meal experience. This is supported by Williams (2002:270) stating that expectations used to evaluate services/products varied according to social class.

Research has found that food is one way to enact economic status. Income predicts the importance of cost and convenience, both of which matter most to Americans with lower incomes (Glanz *et al.*, 1998:1125). In Bisogni, Connors, Devine and Sobal’s (2002:133) study with middle class adults, group association was found to be a source of identity for some participants. Their comments include statements that they ate what hairdressers eat. In Iran patients from lower socio-economic status had lower expectations and were more satisfied than those from higher socio-economic status. Associations included age, gender, occupation, interest groups and social class (Jessri *et al.*, 2011:542). Food or other dimensions of the meal experience may be chosen by residential students to endorse their socio-economic status.

2.6 CONCLUSION

This chapter described the concepts of the meal experience, satisfaction with the meal experience and its quality. It has described the conceptual framework and conceptualised specific terminology used in this study and contextualised the literature concerning the residential meal experience.

The next chapter outlines and describes the methodology used to conduct the research.

CHAPTER 3 : Research methodology

3.1 INTRODUCTION

This chapter outlines the methodology used in this research and it describes the research design of the study. The aim, objectives and sub-objectives, conceptualisation and operationalisation are set out and the development of the measurement instrument and the population are discussed. Finally the data collection procedures and the strategy are presented with reference to ethical considerations.

3.2 RESEARCH DESIGN

In order to achieve the aim set for this study an explorative, descriptive and cross-sectional approach was chosen. An explorative design is typically used when a researcher examines a relatively new field of investigation (Babbie, 2010:92; Neuman, 2011:38). The meal experience in an institutional food service sector in South Africa can be considered in this light. Focus group discussions were used to explore this research field as done globally (Shanka & Taylor, 2005:330). An explorative design can be used for various reasons, as explained by researchers (Ivankova, Creswell & Plano Clark, 2007:265; Babbie, 2010:92). Two of these reasons were applicable to this research. First, focus group discussions improve the researcher's understanding of the study topic (the residential meal experience in this case), elucidate the central concepts of the residential meal experience (Ivankova *et al.*, 2007:265; Babbie, 2010:92; Neuman, 2011:38) and facilitate identifying the important variables for the study. Second, information gathered during focus group sessions helps guide the development of a survey questionnaire to use as a measurement instrument (Ivankova *et al.*, 2007:265; Babbie, 2010:92; Neuman, 2011:38).

Two pertinent attributes of a descriptive design, are the description of the characteristics of a population, and determining and describing observed patterns and their frequency (Babbie, 2010:106; Neuman, 2011:44), were useful for compiling a profile of the residential student population, the level of satisfaction and the importance of attributes of the meal experience. Descriptive data was collected by means of a survey questionnaire.

Cross-sectional research is commonly used when an explorative and descriptive design is followed as data is collected at a specific point in time (Babbie, 2010:106; Neuman, 2011:44). This research can be considered cross-sectional as the survey was administered from May to September 2009. Cross-sectional research was chosen according to Babbie's (2010:106) recommendation that it was the best way to collect data from a large population (in this case 6 500 residential students).

3.3 RESEARCH AIM AND OBJECTIVES

The aim of the study was to determine and describe the level of satisfaction of the University of Pretoria's residential students regarding the meal experience in dining halls, in order to provide the Department of Residence Affairs and Accommodation at the University of Pretoria with recommendations for an improvement in the quality of the meal experience. The aim indicates why you want to conduct the research study and what is intended to be accomplished by it (Creswell, 2009:111). It is the overall statement of the driving force of the study. The aim is divided into objectives and sub-objectives (Leedy & Ormrod, 2010:3). Sub-objectives list specific aspects of the main-objective (Kumar, 2005:50). The main objectives and sub-objectives give added focus to the study (Jansen, 2007:12) and make the study more manageable (Leedy & Ormrod, 2010:3).

The following main objectives and sub-objectives were set in order to achieve the aim of this study:

1. To determine and describe the **socio-demographic** profile of the University of Pretoria's residential students
 - To determine and describe the socio-demographic profile of the University of Pretoria's residential students in terms of age
 - To determine and describe the socio-demographic profile of the University of Pretoria's residential students in terms of gender
 - To determine and describe the socio-demographic profile of the University of Pretoria's residential students in terms of cultural background
 - To determine and describe the demographic profile of the University of Pretoria's residential students in terms of socio-economic status.
2. To determine and describe the **utilisation of dining facilities** of the University of Pretoria's residential students
 - To determine and describe the utilisation of dining facilities of the University of Pretoria's residential students in terms of number of years of using the residential dining hall
 - To determine and describe the utilisation of dining facilities of the University of Pretoria's residential students in terms of the specific residential dining hall used.
3. To determine and describe the **special dietary requirements** of the University of Pretoria's residential students.
4. To determine and describe the **level of satisfaction** of the University of Pretoria's residential students with the attributes of the dimensions of the meal experience
 - To determine and describe the level of satisfaction of the students with the attributes of the food dimension
 - To determine and describe the level of satisfaction of the students with the attributes of the service dimension
 - To determine and describe the level of satisfaction of the students with the attributes of the ambience dimension.

5. To determine and describe the **relationship** between the **socio-demographic profile** of the residential students of the University of Pretoria and **their level of satisfaction with the meal experience**
 - To determine and describe the relationship between the gender of the students and their level of satisfaction with the meal experience
 - To determine and describe the relationship between the cultural background of the students and their level of satisfaction with the meal experience
 - To determine and describe the relationship between the socio-economic status of the students and their level of satisfaction with the meal experience.
6. To determine and describe the relationship between **the utilisation of dining facilities** of the residential students of the University of Pretoria and their level of satisfaction with the meal experience
 - To determine and describe the relationship between the number of years of using the residential dining hall and the level of satisfaction with the meal experience.
 - To determine and describe the relationship between the specific residential dining hall used and the level of satisfaction with the meal experience.
7. To determine and describe the **importance of the attributes of the dimensions of the meal experience** to the University of Pretoria's residential student
 - To determine and describe the importance of the attributes of the food dimension to residential students
 - To determine and describe the importance of the attributes of the service dimension to residential students
 - To determine and describe the importance of the attributes of the ambience dimension to residential students.
8. To determine and describe the **relationship between the level of satisfaction** with the **dimensions of meal experience** and the **importance of the dimensions of the meal experience** for the students at the residential dining halls of the University of Pretoria
 - To determine and describe the relationship between the level of satisfaction with the attributes of the food dimension and the importance of the attributes of the food dimension for the students at the residential dining halls
 - To determine and describe the relationship between the level of satisfaction with the attributes of the service dimension and the importance of the attributes of the service dimension for the students at the residential dining halls.
 - To determine and describe the relationship between the level of satisfaction with the attributes of the ambience dimension and the importance of the attributes of the ambience dimension for the students at the residential dining halls.
9. To make **recommendations for the improvement** of the meal experience in terms of food, service and ambience in the residential dining halls at the University of Pretoria.

3.4 CONCEPTUALISATION AND OPERATIONALISATION

This section describes the conceptualisation and operationalisation of this research study. Conceptualisation is the cognitive process of developing clear, rigorous, systematic conceptual definitions for imprecise, abstract ideas/concepts (Babbie, 2010:130; Neuman, 2011:201). Operationalisation is the process of moving from a construct's conceptual definition to specific activities (operations) or measures that allow a researcher to measure a variable empirically (Babbie, 2010:46; Neuman, 2011:203). Researchers may sometimes use operational definitions to specify something in terms of the operations by which observations are categorised (Babbie, 2010:47). Table 3.1 provides the operationalisation by first listing the eight objectives and their sub-objectives and then linking the objectives to the questions used in the questionnaire. The descriptive and inferential statistical calculations required for data analysis are also provided in Table 3.1.

3.5 DEVELOPMENT OF THE MEASUREMENT INSTRUMENT

Focus group discussions were used to identify variables for the study and to aid the researcher with the development of a survey questionnaire used as the measurement instrument.

3.5.1 Focus group discussions

Focus group discussions give insight into the participants' experiences, their cultural differences and explicate terminology not used in the theory of the subject studied (Nieuwenhuis, 2007:91; De Vos, Strydom, Fouché & Delpont, 2011:362) and were used for this study. Focus group discussions have the added advantages that participants can activate forgotten details of experiences, inhibitions can be released by other participants and participants can build on each other's ideas (Nieuwenhuis, 2007:90; Babbie, 2010:323; Lawless & Heymann, 2010:383). These advantages were used to ensure that all the important aspects of the current residential meal experience were covered in the questionnaire. The focus group method has effectively been used by other researchers to determine attributes that should be measured (Lee *et al.*, 2003:7; Gramling *et al.*, 2005:24; Hansen *et al.*, 2005:138; Walton *et al.*, 2006:214). The focus group method was chosen due to its effective use in related research areas and the added advantages highlighted in literature.

One of the main limitations of focus group discussions is that the data collected may be biased through group dynamics such as the domination of the discussion by more outspoken individuals, group thinking and the difficulty of assessing the viewpoints of less assertive participants (Nieuwenhuis, 2007:91). However, the researcher was attentive to this point when recording information gathered in this manner.

3.5.1.1 Focus group discussion preparation

Sampling method: Focus group sampling uses non-probability purposive sampling to ensure that a relatively heterogeneous sample is recruited (Cooper & Schindler, 2011:385). Purposive sampling ensures that the sample includes individuals according to specific characteristics of the population (Maree & Pietersen, 2007b:178; Babbie, 2010:193). The prerequisites for this study were that participants had to be enrolled for an undergraduate course at the University of Pretoria and should stay in one of the residences.

Table 3.1: Operationalisation

Research objective/ sub-objective	Concept	Dimension	Indicator	Questions and Variable numbers	Data analysis
To determine and describe the socio-demographic profile of the University of Pretoria's residential students in terms of age, gender, cultural background and socio-economic status					Frequency and percentage breakdown of the socio-demographic variables for the entire residential student sample
To determine and describe the socio-demographic profile of the University of Pretoria's residential students in terms of age	Socio-demographic profile	Socio-demographic profile	Age	Section A Q1 (V2)	Frequency and percentage breakdown of the age variable for the entire residential student sample
To determine and describe the socio-demographic profile of the University of Pretoria's residential students in terms of gender			Gender	Section A Q2 (V3)	Frequency and percentage breakdown of the gender variable for the entire residential student sample
To determine and describe the socio-demographic profile of the University of Pretoria's residential students in terms of their cultural background			Language Ethnic group	Section A Q3,4 (V4, 5)	Frequency and percentage breakdown of the cultural background (home language and ethnic group) variables for the entire residential student sample
To determine and describe the demographic profile of the University of Pretoria's residential students in terms of socio-economic status			socio-economic status	Section A Q8 (V9- 38)	Determine each residential student in the sample's LSM level. Frequency and percentage breakdown of the socio-economic status variable (LSM level) for the entire residential student sample
To determine and describe the utilisation of dining facilities of the University of Pretoria's residential student					
To determine and describe the utilisation of dining facilities of the University of Pretoria's residential student in terms of number of years of using the residential dining hall	utilization of dining facilities	utilization of dining facilities	number of years of using residential dining hall	Section A Q6 (V7)	Frequency and percentage breakdown of the number of years of using residential dining hall variable for the entire residential student sample
To determine and describe the utilisation of dining facilities of the University of Pretoria's residential student in terms of the specific residential dining hall used			the specific residential dining hall used	Section A Q7 (V8)	Frequency and percentage breakdown of the specific residential dining hall used variable for the entire residential student sample

Research objective/ sub-objective	Concept	Dimension	Indicator	Questions and Variable numbers	Data analysis	
To determine and describe the special dietary requirements of the University of Pretoria's residential student	special dietary requirement	special dietary requirement	special dietary requirements	Section A Q5 (V6)	Frequency and percentage breakdown of the special dietary requirements variable for the entire residential student sample	
To determine and describe the level of satisfaction of the University of Pretoria's residential student with the attributes of the dimensions of the meal experience	Satisfaction Meal experience	Food Service Ambience	Meal experience Food Service Ambience	Meal experience	Section E Q4 (V118)	Rank the meal experience dimensions from highest level of dissatisfaction to the highest level satisfaction. Provide a break down for each dimension of the frequency, percentages, mean and median for the entire student sample
				Meal experience residential setting	Section E Q5 (V119)	
				Food Service Ambience	Section E Q1 (V115) Section E Q2 (V116) Section E Q3 (V117)	
To determine and describe the level of satisfaction of the student with the attributes of the food dimension	Satisfaction Food	Food	Food Sensory criteria Menu choices and meal offering Food production	Food	Section E Q1 (V115)	Rank the food attributes from highest level of dissatisfaction to the highest level satisfaction. Provide a break down for each dimension of the frequency, percentages, mean and median for the entire student sample.
				Sensory criteria	Section B: Q1-8 (V39 - 46)	
				Meal offering	Section B: Q 16-35 (V54 -73)	
				Food production	Section B: Q9-15 (V47 - 53)	
To determine and describe the level of satisfaction of the student with the attributes of the service dimension	Satisfaction Service	Service	Service Empathy Assurance Responsiveness Reliability Tangibles	Service	Section E Q2 (V116)	Rank the service attributes from highest level of dissatisfaction to the highest level satisfaction. Provide a break down for each dimension of the frequency, percentages, mean and median for the entire student sample
				Empathy	Section C, Q 2,4,5,9 (V75,77,78,82)	
				Assurance	Section C, Q1,3,13 (V74 ,76,86)	
				Responsiveness	Section C, Q6-8,17-21 (V79 - 81, 90 - 94)	
				Reliability	Section C, Q14,15,26,27 (V87,88,99,100)	
				Tangibles	Section C, Q10-12,16, 24,25 (V83 - 85,89, 97, 98)	
To determine and describe the level of satisfaction of the student with the attributes of the ambience dimension	Satisfaction Ambience	Ambience	Ambient conditions Functional design Aesthetic design	Ambience	Section E Q3 (V117)	Rank the ambience attributes from highest level of dissatisfaction to the highest level satisfaction. Provide a break down for each dimension of the frequency, percentages, mean and median for the entire student sample
				Ambient conditions	Section D Q1,4,5,6,9,10 &11 (V101,104,105,106, 109, 110,111) Section C Q22,23 (V95, 96)	
				Functional design	Section D Q2,3,7&8 (V102,103,107, 108)	
				Aesthetic design	Section D Q12-14 (V112, 113, 114)	

Research objective/ sub-objective	Concept	Dimension	Indicator	Questions and Variable numbers		Data analysis
To determine and describe the relationship between the socio-demographic profile of the residential students of the University of Pretoria and their level of satisfaction with the meal experience	Relationship Socio-demographic profile Satisfaction	Socio-demographic profile	Gender Cultural background Socio –economic status Meal experience			Two way cross tabulation (also called the contingency table). Use Chi-square test and effect size to calculate the correlation between the socio demographic profile and the level of satisfaction with the meal experience.
To determine and describe the relationship between the gender of the student and their level of satisfaction with the meal experience	Gender Meal experience Satisfaction	Gender Meal experience	Gender Meal experience	Gender Meal experience	Section A Q2 (V3) Section E Q4 (V118)	Two way cross tabulation (also called the contingency table). Use Chi-square test and effect size to calculate the correlation between the gender and the level of satisfaction with the meal experience.
To determine and describe the relationship between the cultural background of the student and their level of satisfaction with the meal experience	Meal experience Satisfaction	Cultural background Meal experience	Ethnic group Meal experience	Ethnic group Meal experience	Section A Q4 (V5) Section E Q4 (V118)	Two way cross tabulation (also called the contingency table). Use Chi-square test and effect size to calculate the correlation between the cultural back ground (home language and ethnic group) and the level of satisfaction with the meal experience.
To determine and describe the relationship between the socio-economic status of the student and their level of satisfaction with the meal experience	Meal experience Satisfaction	Socio – economic - status Meal experience	LSM groups Meal experience	LSM instrument Meal experience	Section A Q8 (V9-38) Section E Q4 (V118)	Two way cross tabulation (also called the contingency table). Use Chi-square test and effect size to calculate the correlation between the socio-economic and the level of satisfaction with the meal experience
To determine and describe the relationship between the utilisation of dining facilities of the residential students of the University of Pretoria and their level of satisfaction with the meal experience	Relationship Utilisation of dining facilities Satisfaction	Utilisation of dining facilities	Number of years of using the residential dining hall Specific residential dining hall used			Two way cross tabulation (also called the contingency table). Use Chi-square test and effect size to calculate the correlation between the utilisation of dining facilities and the level of satisfaction with the meal experience.
To determine and describe the relationship between the number of years of using the residential dining hall and their level of satisfaction with the meal experience	Relationship Utilisation of dining facilities Satisfaction	Utilisation of dining facilities	Number of years of using the residential dining hall	Number of years of using the residential dining hall Meal experience	Section A Q6 (V7) Section E Q4 (V118)	Two way cross tabulation (also called the contingency table). Use Chi-square test and effect size to calculate the correlation between the number of years of the student using the dining hall and the level of satisfaction with the meal experience
To determine and describe the relationship between the specific residential dining hall used and their level of satisfaction with the meal experience	Relationship Utilisation of dining facilities Satisfaction	Specific residential dining hall used	Specific residential dining hall used	Specific residential dining hall used Meal experience	Section A Q7 (V8) Section E Q4 (V118)	Two way cross tabulation (also called the contingency table). Use Chi-square test and effect size to calculate the correlation between the specific residential dining hall used and the level of satisfaction with the meal experience.

Research objective/ sub-objective	Concept	Dimension	Indicator	Questions and Variable numbers			Data analysis
To determine and describe the importance of the attributes of the dimensions of the meal experience for the University of Pretoria's residential student	Importance Meal experience	Food Service' Ambience	Food Service' Ambience	Section E Q6 (V 121-123)			Rank the meal experience dimensions from most to least important. Provide the means, median, minimum, maximum, and standard deviation for the meal experience dimensions.
To determine and describe the importance of the attributes of the food dimension for residential students	Importance Food	Food	Variety Trendy new recipes Cost (Value for money) Nutritional value/Healthy options Freshness Convenience	Section E Q 8 (V 124-130)			Rank the food attributes from most to least important. Provide the means, median, minimum, maximum, and standard deviation for the food attributes.
To determine and describe the importance of the attributes of the service dimension for residential students	Importance Service	Service	Speed of service Responsiveness to questions and requests Friendly service Operating hours Convenient booking system	Section E Q 9 (V131-V135)			Rank the service attributes from most to least important. Provide the means, median, minimum, maximum, and standard deviation for the service attributes.
To determine and describe the importance of the attributes of the ambience dimension for residential students	Importance Ambience	Ambience	Layout Appealing décor Homely atmosphere Controlled noise level Neatness and cleanliness	Section E Q 10 (V136-V140)			Rank the ambience attributes from most to least important. Provide the means, median, minimum, maximum, and standard deviation for the ambience attributes
To determine and describe the relationship between the level of satisfaction with the attributes of the dimensions of meal experience and the importance of the attributes of the dimensions of the meal experience for the students at the residential dining halls of the University of Pretoria	Relationship Importance Satisfaction Meal experience	Food ,Service Ambience	Food Service Ambience		Importance	Satisfaction	Two way cross tabulation (also called the contingency table). Use the means to draw scatter graphs to analyse and interpret results (Satisfaction =X-axis Importance Y-axis).
				Food	Section E Q7 (V121)	Section E Q1 (V115)	
				Service	Section E Q7 (V122)	Section E Q2 (V116)	
				Ambience	Section E Q7 (V123)	Section E Q3 (V117)	
To determine and describe the relationship between the level of satisfaction with the attributes of the food dimension and the importance of the attributes of the food dimension for the	Satisfaction Importance Food	Food	Variety Trendy new recipes Cost (Value for money) Nutritional value/ Healthy options		Importance	Satisfaction	Two way cross tabulation (also called the contingency table) Use the means to draw scatter graphs to analyse and interpret results (Satisfaction =X-axis Importance Y-axis).
				Variety	Section E Q 8 (V124)	Section B Q 16-19, 34 (V54-57,72)	
				Trendy new recipes	Section E Q 8 (V125)	Section B Q 23 (V61)	

Research objective/ sub-objective	Concept	Dimension	Indicator	Questions and Variable numbers			Data analysis
students at the residential dining halls.			Freshness Convenience Availability of menu options for special dietary requirements (vegetarian, Kosher, Halaal)	Cost (Value for money)	Section E Q 8 (V126)	Section B Q 29-33, 35 (V67-71,73)	
				Nutritional value/ Healthy options	Section E Q 8 (V127)	Section B Q22 (V60)	
				Freshness	Section E Q 8 (V128)	Section B Q 1,3(V39, 41)	
				Convenience	Section E Q 8 (V129)	Section B Q 24-26 (V62, 63, 64)	
				Availability of menu options for special dietary requirements (vegetarian, Kosher, Halaal)	Section E Q 8 (V130)	Section B Q 27 (V65)	
To determine and describe the relationship between the level of satisfaction with the attributes of the service dimension and the importance of the attributes of the service dimension for the students at the residential dining halls.	Satisfaction Importance Service	Service	Speed of service Responsiveness to questions and requests Friendly service Operating hours Convenient booking system		Importance	Satisfaction	Two way cross tabulation (also called the contingency table) Use the means to draw scatter graphs to analyse and interpret results (Satisfaction =X-axis Importance Y-axis).
				Speed of service	Section E Q9 (V131)	Section C Q 8 (V81)	
				Responsiveness to questions and requests	Section E Q 9 (V132)	Section C Q6,7(V79,80)	
				Friendly service	Section E Q 9 (V133)	Section C Q2,4 (V75,77)	
				Operating hours	Section E Q 9 (V134)	Section C Q 17-21 (V90,91,92,93,94)	
				Convenient booking system	Section E Q 9 (V135)	Section C Q 14,16 (V87,89)	
To determine and describe the relationship between the level of satisfaction with the attributes of the ambience dimension and the importance of the attributes of the ambience dimension for the	Satisfaction Importance Ambience	Ambience	Layout Appealing décor Homely atmosphere Controlled noise level Neatness and		Importance	Satisfaction	Two way cross tabulation (also called the contingency table) Use the means to draw scatter graphs to analyse and interpret results (Satisfaction =X-axis Importance Y-axis).
				Layout	Section E Q 10(V136)	Section D Q8,14 (V108,114)	

Research objective/ sub-objective	Concept	Dimension	Indicator	Questions and Variable numbers			Data analysis
students at the residential dining halls.			cleanliness	Appealing décor	Section E Q 10(V137)	Section D Q12,13 (V112,113)	
				Homely atmosphere	Section E Q 10(V138)		
				Controlled noise level	Section E Q 10(V139)	Section D Q 6 (V106)	
				Neatness/ Cleanliness	Section E Q 10(V140)	Sec C Q22,23 (V95,96)	
To make recommendations for the improvement of the meal experience in terms of food, service and ambience in the residential dining halls at the University of Pretoria				Section E Q6 (V120)			Discuss the aspect that students are most satisfied and most dissatisfied with. Provide possible solutions to areas of dissatisfaction. Prioritize the areas for improvement

Heterogeneity of the sample in terms of gender of participants as well as inclusion of the major racial groups, black, coloured, Indian and white in the residence, was achieved using this method. Focus groups were conducted until data saturation was achieved.

Sample size: The total population consisted of approximately 6 500 students from which the sample was drawn. The focus group discussions were conducted according to the recommendation that groups should consist of between 6 to 12 people but not more than 15 people per group (Babbie, 2010:322; Leedy & Ormrod, 2010:148; Neuman, 2011:459). A total of five focus group sessions were held consisting of between 8-12 participants. One in-depth discussion was held with an Indian participant and his friend as not enough participants from the Indian minority group could be recruited to conduct a fully functional focus group meeting. In the literature, authors recommend that 6-8 groups should be used when doing content analysis or a minimum of 2 groups per population segment (De Vos *et al.*, 2011:367). It is recommended that 20% more participants than needed should be recruited to ensure that enough participants are available (Babbie, 2010:237; De Vos *et al.*, 2011:366).

Selection procedure: Firstly, student participants were recruited from all the undergraduate residences by the Primaria and Chairmen (the head of each house's residence committee). They compiled a list of possible participants for the focus group for their residence. Secondly, the researcher recruited additional participants needed from dining halls. The researcher asked every student in the dining hall if they were available at the time of the focus group applicable to them and whether they were willing to participate in a focus group session. They were then asked to write their name and contact cellphone number on a list. A text message reminder about the focus group's meeting was sent nearer the time. The participants of the focus group were asked to set aside two hours at a given time for the session. This was to ensure that the researcher, as interviewer, would have enough time to facilitate discussion without feeling stressed and to ensure that participants would be focused on the matter in hand and not be concerned about appointments that might be missed. This was heeding advice given by Cooper and Schindler (2011:141).

The interview schedule that was used during the focus group discussions consisted of a list of questions arranged according to food, service and ambience attributes to ease the coding of data in preparation for further use. Following accepted practice, questions were adapted from data received from a previous study (Gramling *et al.*, 2005:43) and an interview schedule was used as a guide for the focus group discussions to ensure that all the topics were covered (Babbie, 2010:318; Leedy & Ormrod, 2010:149). The interview schedule was first tested on a small sample of residential students to gauge the student's reaction to the questions. Appendix C contains a copy of the focus group interview schedule reflecting the discussion probes that were used during the first exploratory stage of the study.

3.5.1.2 Focus group discussion procedure

Standard focus group procedure (De Vos *et al.*, 2011:371; Neuman, 2011:429) was followed and sessions were held at venues with a quiet and peaceful atmosphere to avoid distraction. They were close to the respondents' residence so little travelling was required and they were familiar with the setting. The participants were thanked upon entering the venue and handed a consent form explaining the research and asking consent for using data for research purposes. Participants were offered some refreshments to make them feel comfortable and to avoid fatigue. After all the students had signed the consent forms the discussion started. The proceedings were audio-recorded and respondents were asked for additional comments before the session was brought to a close. Focus groups were conducted between September and October 2008.

3.5.1.3 Data recording, analysis and findings

The focus group sessions were recorded on an audio-recorder. The audio-version was transcribed and amounted to 50 typed pages that are available from the researcher on request. Directed content analysis was used to analyse the transcribed communications. Directed content analysis involves the use of existing theory or research in the area of study to guide the coding of the communication under study (focus group) which is best for areas where prior research exists but is incomplete or would benefit from further description (Hsieh & Shannon, 2005:1281). The researcher did the analysis herself as even the simplest and most mechanistic forms of content analysis require the investigator to use judgement in making decisions about the data, an important observation made by Kondracki, Wellman and Amundson (2002:227).

The following steps were followed to analyse data from literature sources:

1. The text was read and open-coded to identify the major themes (Babbie, 2010:401). Latent coding is where a researcher identifies subjective themes or ideas and then systematically locates them in a communication (Neuman, 2011:365).
2. The major themes were identified and coded. Alternative offerings and new ideas for food service provision were not considered for coding as it was not part of the purpose of the research.
3. Since some respondents mentioned more than one aspect in a single paragraph some pieces of text were classified under more than one heading.
4. When uncertainty existed as to where the phrases and/or paragraphs belonged they were classified as 'all possible alternatives'.
5. The text was then examined to code additional themes that might have been overlooked.
6. The themes were then divided into the major subcategories of food, service and ambience as specified in the conceptual framework (Section 2.5 Figure 2.6).
7. Operational definitions for broad categories were established using existing theory (Hsieh & Shannon, 2005:1281).

8. The coding was refined by using existing research and theory to identify key concepts and variables (Potter & Levine-Donnerstein, 1999).

The findings of the analysis of the focus group discussions are presented in Appendix D. It indicates the main themes that students wished to highlight for the food service management of the residential dining halls. These findings were used to compile the questionnaire for the quantitative survey.

3.5.2 Development of the questionnaire

The questionnaire was developed following a number of steps:

1. A thorough literature review was conducted to examine previous research and to consult questionnaires previously used in food services research (the reviewed articles are listed in Appendix B).
2. Focus group discussions were conducted to identify the attributes used in the questionnaire.
3. A provisional questionnaire was pilot-tested for language ambiguity.
4. A second provisional version of the questionnaire was reviewed by subject experts as recommended by Pietersen and Maree (2007a:217). The subject experts included statisticians from the Department of Statistics at the University of Pretoria, operations managers of the Food Services Division of the Department of Residence Affairs and Accommodation at the University of Pretoria (Kempff & Coertze, 2009, pers. comm., 6 April) and a houseparent mother at the University of Pretoria residences who deals with complaints daily.
5. The final version of the questionnaire (Appendix E) was compiled and thereafter approved by the Head of the Food Services Division of the Department of Residence Affairs and Accommodation and the Director of the Department of Residence Affairs and Accommodation

A summary of the structure of the final questionnaire is provided in Table 3.2. The questionnaire started with a cover letter which was consistent with Given's (2008:847) guidelines, giving the title of the survey, organisation conducting the survey, legitimacy of purpose, a request for cooperation, benefits for respondent and the degree of confidentiality. This, it was hoped, promoted the credibility of the research thereby encouraging student consumers' participation in the survey.

The approved questionnaire consisted primarily of closed-ended questions because they are faster for respondents to complete and easier for researchers to analyse. Therefore they are more practical when such a large-scale survey is to be conducted (De Vos *et al.*, 2011:198; Neuman, 2011:324). Closed-ended questions also provide a greater uniformity of responses and are therefore more easily processed during data analysis (Babbie, 2010:256; De Vos *et al.*, 2011:198; Neuman, 2011:325). An open-ended question would prevent the questionnaire from becoming too long and provide the opportunity to highlight attributes not covered in the questionnaire (Oliver, 1997:44; Babbie, 2010:256; Neuman, 2011:324). Therefore an open question was placed at the end of the questionnaire.

Table 3.2: Summary of sections in questionnaire

Section	Type of question	Scale
Section A	Demographic	22 indicators on LSM measurement instrument (yes/no scale) Ratio scale. (Open ended question age in years) Nominal scale / Classificatory
Section B	Satisfaction of food	Satisfaction 4 point type Likert-type scale
Section C	Satisfaction of service	Satisfaction 4 point type Likert-type scale
Section D	Satisfaction of ambience	Satisfaction 4 point type Likert-type scale
Section E	Overall satisfaction Importance ranking Open-ended question	Importance 3/5/7 point ranking scale/ Ordinal scale Satisfaction 4 point type Likert-type scale

The placement of demographic questions in a questionnaire is open to debate. Demographic questions can be placed at the end of a survey questionnaire as was done in some research (Shanka & Taylor, 2005:332; Zopiatis & Pribic, 2007:769; Babbie, 2010:266). In this instance the demographic questions were placed in the first section to comply to the guidelines of Given (2008:847) that the opening questions should be easy, broadly applicable and should relate to the introduction and to the study objective. In addition to this other hospitality researchers have successfully placed the demographic section first (Klassen *et al.*, 2005:605; Kasapila, 2006:144; Kim *et al.*, 2009:12).

This study used a Likert type scale commonly used by other researchers (Lee & Lambert, 2000:248; Maclaurin & Maclaurin, 2000:78; Skogland & Sigauw, 2004:225). Dichotomous (e.g. Satisfied/Dissatisfied) response options lead to low discrimination across levels of satisfaction and artificially high levels of satisfaction are often reported (Ferguson, Capra, Bauer & Banks, 2001). A four to seven category scale is more common in surveys (Maree & Pietersen, 2007c:167). It has been found that fewer categories (four and five categories) are commonly used in research (Lee *et al.*, 2003:7; Capra *et al.*, 2005:4; Kim *et al.*, 2009:12; Lülfs-Baden & Spiller, 2009:7). Babakus and Mangold (1992) argued that fewer categories in the scale reduced residents' frustration and increased the response rate. The selection of a four point scale (consisting of highly dissatisfied [1], dissatisfied [2], satisfied [3] and highly satisfied [4]) was due to the residential setting as advised by Chang (1994). In residential settings students have sufficient experience with the establishment to provide a definite answer to the level of satisfaction experienced. The elimination of the mid-point and use of the four point scale also reduces the social desirability bias arising from respondents trying to please the researcher by marking the middle point (Garland, 1991:70).

Importance can be ranked either as absolute or as of relative importance. Absolute importance involves ranking the importance of each attribute on a Likert-type scale. There is therefore little variation between importance scores of attributes. Attributes also tend to have little variation due to the fact that researchers choose more important attributes (Oh, 2001: 622) as was done in this study. The ranked value elicitation method has the advantage that there is larger differentiation between attributes. A disadvantage of using this method is that only a small number of attributes can be used

(Oh, 2001:622). An additional advantage for this research was that it reduced the length of the questionnaire by limiting the number of attributes respondents had to rank. Aigbedo and Parameswaran (2004:879) add that ranking of attributes provides a valuable alternative for most of the problems experienced with other important measurements.

3.6 POPULATION AND UNIT OF ANALYSIS

The unit of analysis is a student residing in one of the undergraduate residences of the University of Pretoria. The population of the University of Pretoria residential students totals approximately 7 200 students of which 6 500 students reside in undergraduate residences with the residential food service as a main source of food provisioning. Although not all undergraduate students utilise the service to the same degree, the majority of these students have eaten the food the food service facility offers at some time or another. All undergraduate students residing in the residences were included in the population from which the sample was drawn regardless of their frequency of use of the dining hall. The target population is described as students residing in the undergraduate residences of the University of Pretoria.

3.7 DATA COLLECTION

Data was collected by means of self-administered paper-based survey questionnaire. The survey questionnaire provides a researcher with the advantage of reaching a large sample with limited time and funds (Maree & Pietersen, 2007c:157; Cooper & Schindler, 2011:249). The group administration of questionnaires makes it possible for assistants to check questionnaires for accuracy and completeness (Maree & Pietersen, 2007c 157). Self-administered questionnaires have the advantage of a higher response rate than telephone or internet surveys (Cooper & Schindler, 2011:249). Paper-based questionnaires make it possible to survey students at any time as they characteristically have limited computer access.

It is recommended that the researcher maintains optimal control over the survey environment by carefully planning the sampling method, sample size, intervals at which respondents will be surveyed, data collection procedure and follow-up on administration (Maree & Pietersen, 2007c:155). The following sections will address how these aspects were accommodated in this research.

3.7.1 Sampling

Sampling method: A stratified random sampling method was used. Random sampling techniques give the most reliable representation of the whole population and enable the researcher to generalise findings to the rest of the population (Walliman, 2005:276; Given, 2008:848). Stratification reduces the probability of sampling errors by ensuring a greater representative sample (Babbie & Mouton, 2007:191). Stratification was done according to ethnic group and residence. However, the stratification

was adapted to include the entire population of two minority groups to ensure that statistical analysis of these groups' characteristics could be undertaken as these two groups were extremely small. The stratified random sampling procedure was used as a check on unconscious bias on the part of the researcher as recommended by Babbie and Mouton (2007:191).

The sampling method and strategy selected was determined in consultation with the statistician at the Department of Statistics at the University of Pretoria. The sample was drawn from the population by a statistician using a Proc Survey Select in Statistical Analytical System (SAS) software version 9.2 procedure.

Sample size: A sample size of between 400 and 450 is generally suggested for a population size of 5 000-10 000 (Leedy & Ormrod, 2010:214; De Vos *et al.*, 2011:225). Seaberg, Grinnell and Williams (in De Vos *et al.*, 2011:225) state that a sample of 10% of the total population is sufficient to control sampling errors. Stratified random sampling often has a very low response rate (Cooper & Schindler, 2011:379). A 10% stratified sample was drawn from the residence. In addition the entire population of two extremely small ethnic groups was sampled as a whole. This resulted in a total sample size of 1 200 students.

3.7.2 Procedure

Surveys were administered by the researcher and two assistants. The Primaria and Chairman of each residence received a list of names that were selected by stratified random sampling (as discussed in Section 3.7.1). The dates on which data collection would take place were similarly determined. They had to inform these students that they had been selected and they had to convey the time that data collection would take place. At the appointed time allocated to the residence, the researcher and assistants met the Primaria or Chairman as well as the student respondents at their residences to collect data. If a student was uncertain whether or not they had been chosen to participate they gave their surname to the assistant who would indicate whether the student was chosen or not. The researcher handed them the questionnaire and explained certain questions to them. The respondent completed the questionnaire and an assistant checked the questionnaire to ensure all questions were answered. The student was then marked off on the list and received a chocolate as a gift to thank them for their response. The survey was administered from May to September 2009.

3.7.3 Coding and data entry

The questionnaires consisted of close-ended questions and one open-ended question, and were coded to facilitate the data entry and analysis. Cooper and Schindler (2011:405) and Neuman (2011:384) suggest this as a useful possibility. All codes used during the coding process are provided in Appendix G.

The data coding should be edited to detect errors and omissions to achieve the maximum data quality standards (Cooper & Schindler, 2011:415). Errors made during data coding can threaten the validity of the measures and cause misleading results (Neuman, 2011:386). A random sample of 10 % should be cleaned (checked) in order to reduce possible errors that could threaten validity (Neuman, 2011:386). A random sample of 10% of the questionnaires was checked for any possible errors and to ensure optimum quality of data. Whenever a mistake or an omission was found it was corrected and an additional questionnaire was checked for errors.

Each comment of the open-ended questionnaire was captured in a Microsoft Office Excel file. Latent coding, in which a researcher identifies subjective meaning such as themes and then systematically locates them in a communication (Neuman, 2011:365), was used. The data was coded according to 42 themes identified in the transcript of the responses (Appendix E). All possible themes from each comment were coded and recorded in a separate column. The codes were counted for each column. Next the codes for all the columns were counted. Certain themes were grouped together.

Data entry: Data typists can enter the codes of the completed questionnaires into a computer for viewing and manipulation (Cooper & Schindler, 2011:417; Neuman, 2011:386). This was done and the data was imported into a data file of the Statistical Analysis System (SAS) statistical software package. It was important to be aware that errors made during data entry can threaten the validity of the measures and cause misleading results (Neuman, 2011:386). However, after the data was entered into the data file 20% of the data was checked for possible code cleaning, contingency cleaning and typing errors as recommended by Neuman (2011:386).

3.7.4 Data analysis

The purpose of data analysis is to uncover concepts of interest concerning the social world according to the purpose of the research (Babbie, 2010:383). This can be done by means of a computer according to the data analysis plan by reducing data to an intelligible and interpretable form so that the details of research problems can be studied and conclusions drawn (De Vos *et al.*, 2011:249). This was done as described in the conceptualisation and operationalisation of the research in Section 3.4. The computer programme Statistical Analysis System (SAS) software version 9.2 was used for analysis of the data. Statisticians at the Department of Statistics of the University of Pretoria provided advice on the necessary statistical calculations and tests needed for data analysis which they provided. Data analysis does not provide answers to research questions but the answers are found in the interpretation of the results (De Vos *et al.*, 2011:249). The statistician also provided guidance on the reading and meaning of the data.

The data analysis consisted of five groups of analysis namely:

- Demographic (frequency distribution and percentages)

- Satisfaction (frequencies, percentages, mean and medians)
- Relationships/associations between satisfaction and demographics of the consumer (Chi-square test and effect size)
- Importance (mean and medians)
- Relationships/associations between satisfaction and importance (means)

Descriptive statistics are used to describe basic patterns in the data (Neuman, 2011:386). The descriptive statistics used included frequency distributions, percentages, mean, median, mode and two-way cross-table (also called the contingency table).

Importance satisfaction analysis: Each identified attribute (e.g. variety of starch on the menus; variety of meat dishes on the menus) was rated by the consumer on a satisfaction scale. The attributes were grouped together (e.g. variety of starch on the menus and variety of meat on the menus) and ranked on an absolute importance scale. A combination of each mean of the satisfaction with an attribute (e.g. variety of starch on the menus) and the mean of the importance grouped attributes (e.g. variety of starch on the menus) for the specific attribute was plotted on the scatter graph. Each attribute was analysed according to its place relative to other attributes.

Hypotheses tested: The researcher compiled objectives and sub-objectives to accomplish the aim of providing the Food Services Division of the Department of Residence Affairs and Accommodation with recommendations for an improved quality of meal experience (according to the profile of students). Certain objectives required that hypotheses be tested.

Customers/consumers of the non-commercial institutional food service sector generally comprise individuals from different cultural, ethnic and economic backgrounds, most of whom have definite food preferences (Payne-Palacio & Theis, 2009:165). It is important to keep such a diverse group in mind when planning a menu for such a food service (Knight & Kotschevar, 2000:53). Three profile characteristics that may contribute to the expectations of students are gender (Wyant & Meiselman in Meiselman & Schutz, 2003:209; Kwun, 2011:258), cultural background (Ruetzler, 2008:319; Van der Watt, 2008:192; Schutte in Ellis, 2009) and socio-economic status (Glanz *et al.*, 1998:1125; Bisogni *et al.*, 2002:133; Jessri *et al.*, 2011:532).

The following five hypotheses determined the relationship of the residential student's profile and their level of satisfaction with the meal experience.

H 1: There is a relationship between the gender of the student using the residential dining hall and the level of satisfaction with the meal experience.

H 2: There is a relationship between the ethnic group of the student using the residential dining hall and the level of satisfaction with the meal experience.

H 3: There is a relationship between the living standards measurement group of the student using the residential dining hall and the level of satisfaction with the meal experience.

The customers/consumers of this food service sector are regarded as captive customers/consumers (Kim *et al.*, 2004:98; Shanka & Taylor, 2005:329). The customers/consumers are served a cycle menu (Gregoire, 2010:48) as is the case with residential students at the University of Pretoria (Coertze, 2012, pers.comm., 17 Aug.). When the menus in the cycle menu repeat too often customers/consumers become bored with the menu (Cousins *et al.*, 2002:64; Martin & Oakley, 2008:383) and this can result in lower ratings of food (Meiselman *et al.*, 2000a:123; Hirsch *et al.*, 2005:39). The context in which the meals were eaten will also influence the rating of the food (Meiselman *et al.*, 2000b:235; King *et al.*, 2004:651; King *et al.*, 2007:64). The following hypotheses determined the relationship of the residential food service context to their level of satisfaction with the meal experience.

H 4: There is a relationship between the level of satisfaction with the meal experience and the number of years of the student had been using the residential dining hall.

H 5: There is a relationship between the level of satisfaction with the meal experience and the residential dining hall used.

The hypotheses were tested by means of inferential statistics to determine if any relationship/association existed. The non-parametric chi-square test was used to examine the relationship/association between respondents' demographics and their level of satisfaction with the residential meal experience. This test is based on the two-way cross-tabulation (also called the contingency table) of the respondents' demographics and their level of satisfaction with the residential meal experience (Pietersen & Maree, 2007b:185; Næs, Brockhoff & Tomic, 2010:180). The chi-square test measures whether the difference between the expected level of satisfaction with the residential meal experience and observed level of satisfaction with the residential meal experience was due to a sampling or random error or not (Mazzocchi, 2008:197; Næs *et al.*, 2010:180). The null hypotheses is rejected when the p-value is below a 5% (0.05) level (Mazzocchi, 2008:197; Næs *et al.*, 2010:171). When the null hypothesis was rejected it was assumed that a relationship/association between the respondents' demographics and their level of satisfaction with the residential meal experience existed (Babbie & Mouton, 2007).

The results of chi-square tests are challenging to interpret, because of the large sample size (Humburg & Young, 1994 ; Gravetter & Wallnau, 2002). The use of effect size by means of Cramer's V (International Food Policy Research Institute, 2009) is often recommended for studies with large samples and to give more meaning to the relationships/associations found by means of the chi-square test (Meyer, 2004 ; Mazzocchi, 2008:137). The general guideline for analysis that was proposed by Cohen (1969 ; 1977 ; 1988) can be used when the effect size cannot be expressed in practical terms (Steyn, 2009:3). The guidelines can be determined by statistical procedures and Cramer's $V=0.1$ is considered small, $V=0.3$ was considered medium and $V=0.5$ was considered large (Steyn, 2009:46; Ellis, 2010:41).

3.7.5 Quality of research

The quality of research influences the probability of attaining statistical significance with data analysis and the degree to which meaningful conclusions can be drawn from data (Leedy & Ormrod, 2010:28). The quality of quantitative data is concerned with the validity and reliability of the research.

The reliability of the survey questionnaire was improved by following documented comments:

- A thorough literature review was done before the questionnaire was compiled. Clear conceptualisation and theoretical definitions of all concepts were compiled according to recommendations of De Vos *et al.*, (2011:117) and Neuman (2011:209). Well-established data collection methods that were proven to be reliable in other research was used as recommended by Babbie (2010:153). Indicators of previous research studies were used as recommended by Neuman (Neuman, 2011:211) and new indicators added.
- The questionnaire was compiled according to Neuman's (2011:210) recommendations by using predominantly closed-ended questions. Indicators in the questionnaire used adjectives and examples to increase the detail measured by the indicators. This can be seen in the questionnaire in Appendix E. The questionnaire also used more than one indicator to measure a variable also recommended by Neuman (2011:210). This can be seen in the operationalisation process as described in Section 3.4.
- The questionnaire was subjected to pilot testing to eliminate language ambiguity and confusing questions as recommended by Neuman (2011:211).

Validity can be internal or external (Maree & Pietersen, 2007a:151; Leedy & Ormrod, 2010:97). Internal and external validity was ensured by the correct sampling procedure that was followed as described in Section 3.7.1. Proper conceptualisation and operationalisation is important (Walliman, 2005:295) and is described in Section 3.4. Furthermore, the quality of the research was improved by applying face, construct and content validity.

Face validity refers to the quality of an indicator that makes it appear a reasonable measure of a variable (Pietersen & Maree, 2007a:217; Babbie, 2010:153; Neuman, 2011:212). The questionnaire was evaluated by statisticians from the Department of Statistics at the University of Pretoria for face validity as recommended by Neuman (2011:212) and Ranjit (2011:180). Items that did not accurately measure what was supposed to be measured were adapted or omitted.

Construct validity is described as the degree to which a measure relates to other variables as expected within a system of theoretical relationships (Babbie, 2010:154). Construct validity is established by interrogating the meaning of the concepts in the instrument and the propositions the theory makes about the relationships between the measured concepts and other concepts (De Vos *et al.*, 2011:175). Clear conceptualisation and definitions of all concepts were supplied (Section 3.3).

Content validity refers to the extent to which the instrument covers the complete content or range of meanings of the particular construct that it set out to measure (Pietersen & Maree, 2007a:217; Babbie, 2010:155). Content validity was ensured by:

- Proper conceptualisation and operationalisation of the research being based on the objectives of the study (Section 3.4). Conceptualisation ensured that the concepts were properly defined. Operationalisation ensured that all central characteristics or indicators of the concepts were identified and that the objectives were met.
- Previous questionnaires being consulted while compiling the questionnaire used for the study (Aigbedo & Parameswaran, 2004:895; Kim *et al.*, 2004:105; Shanka & Taylor, 2005:336; Zopiatis & Pribic, 2007:770; Kim *et al.*, 2009:15; Lülfs-Baden & Spiller, 2009:38). This was done.
- Focus group sessions being conducted to ensure that the researcher understood the specific environment and its challenges. The discussions also highlighted topics that were not already included in the questionnaire.
- The provisional version of the questionnaire being reviewed (Section 3.5.2). Any questions that appeared to be ambiguous in terms of what it measured were either adapted or omitted from the instrument.
- Finally, an additional open question being added to the questionnaire to make provision for any additional aspects that might have been overlooked and which respondents wanted to add.

3.8 ETHICS

The goal of ethical research is to ensure that no one is harmed or suffers bad consequences from research activities (Cooper & Schindler, 2011:32). Measures were implemented to ensure that the research was conducted in an ethical manner.

Firstly, participants were provided with a letter prior to participation explaining the purpose of the research and the affiliation of the researcher. Furthermore advice from documented scholars was followed. Participation was voluntary and participants remained anonymous and their responses were treated as confidential (Babbie, 2010:67; Neuman, 2011:152). Participants granted informed consent to participate in the study (Babbie, 2010:66; Cooper & Schindler, 2011:34; De Vos *et al.*, 2011:117; Neuman, 2011:149). Student numbers were requested from participants but were not coded and only used to confirm that the respondents were indeed bona fide residents and a part of the actual sample drawn. This also enabled duplications to be eliminated.

Secondly, sensitive matters explored are to be treated with the necessary sensitivity (De Vos *et al.*, 2011:115; Neuman, 2011:146). Ethical issues may also occur due to the differentiation between ethnic groups (Babbie, 2010:78), an issue in this research, and a sensitive issue especially in South Africa. The research avoided any traditional negative connotations towards any of the ethnic groups studied. Referral to ethnic groups while conducting the research and in the research results avoided any humiliating terms. Great care was taken by the researcher to ensure that all participants and respondents had a positive perception of the research.

The proposal was submitted to an Ethics Committee of the Faculty of Natural and Agricultural Science at the University of Pretoria for ethical approval before data collection started.

3.9 CONCLUSION

This chapter has described the research design and methodology used to accomplish the aims and the objectives set for the research. The research methodologies used with the two phases of data collection were discussed independently and covered the topics of sampling, development of the instrument, procedures, analysis of data, combat errors and ensuring the quality of the data. A brief summary of the findings of the focus group method used for constructing the questionnaire was also included. Final comment referred to the measures put in place to endorse the ethical conduct of the researcher.

The chapter that follows focuses on data analysis, interpretation and discussion of the results of the survey questionnaire administered.

CHAPTER 4 : Data analysis, interpretation and discussion

4.1 INTRODUCTION

In this chapter the findings of the survey questionnaire are presented with graphs, tables and other numerical summaries to aid the analysis and discussion of the data collected. In the first section of this chapter the sample distribution and representation are discussed thereafter the results given according to the objectives set out in Chapter 3 Section 3.3. The results are first analysed and interpreted and then the results are compared with information found in the literature on the topic and discussed.

4.2 SAMPLE DISTRIBUTION AND REPRESENTATION

For the quantitative survey 1 200 self-administered questionnaires were distributed, 878 were returned and were usable which represents a 73% response rate. These 878 usable responses constitute 14% of the population of 6 428 residence students. The reason for this considerably high response rate may be due to the fact that questionnaires were self-administered an explanation suggested by Cooper & Schindler (2011:249). The percentage of the total population of each residential dining hall in the total sample (N = 6428) and the percentage participating as part of the sample (n = 878) in the residences are shown graphically in Figure 4.1. It shows that all residential dining halls were relatively adequately represented.

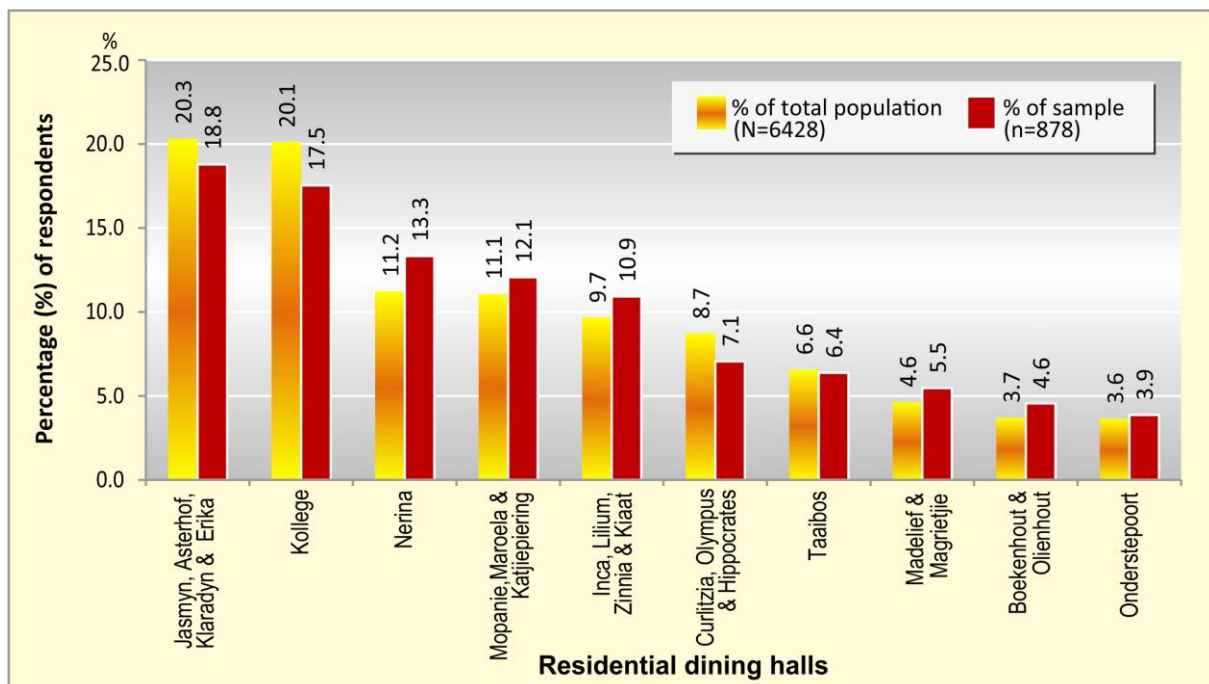


Figure 4.1: Percentages represented in each residential dining hall: the total population and the sample

4.3 SOCIO-DEMOGRAPHIC PROFILE OF THE RESPONDENTS

(OBJECTIVE 1)

The aim of this research was to provide recommendations for an improved residential meal experience that matched the socio-demographic profile of the respondents. To accomplish this the profile of the respondents was determined. In this section the socio-demographic profile of the respondents is described and analysed according to age, gender, cultural background and socio-economic status indicators. An overview of the socio-demographic profile of respondents is given in Figure 4.2.

4.3.1 Age

The ages represented in the data ranged from 17-38 years as can be seen from Figure 4.2a. The ages were then grouped together into three categories for the purpose of statistical analysis, i.e. 17-21 years (85.65%, $n_1=752$); 22-25 years (13.44%, $n_2=118$) and 26-38 years (0.91%, $n_3=8$). These descriptive statistics confirm the assertion by Noble *et al.* (2009:80) that Generation Y students born between 1986 and 1990 (19-23 years in 2009 the time of the data collection) represent the university target market. It also concurs with the general guidelines for placement in residences that students need to be 24 years and younger (Department of Residence Affairs and Accommodation, 2010:12) although there might be the occasional exception.

4.3.2 Gender

Female respondents comprised two-thirds of the sample and males one third (Figure 4.2b). These results confirm the composition of University of Pretoria's residences as there are more women's residences than men's: twelve ladies residences, seven men's residences and three mixed residences (Van Tonder, 2012a:1).

4.3.3 Cultural background

As was seen in the literature review (Chapter 2 Section 2.6.2) cultural background is a complex concept that comprises many different variables. For the purpose of this study it was captured by identifying home language and ethnic grouping.

4.3.3.1 Home language

The majority of respondents who participated in the study used either Afrikaans or English as home languages (Figure 4.2c). The remaining home languages were grouped together for statistical analysis. These home languages were grouped according to their origin as described in Viljoen (1996). The Nguni home language group consisted of isiZulu, Siswati, isiXhosa and isiNdebele. The Setswana, Northern-Sotho and Southern-Sotho languages formed the Sesotho home language group with the Xitsonga and Tshivenda home languages being grouped together. A final group of all the foreign home languages consisted of Shona, Oshiwambo, Chinese/Mandarin, Malayalam, Portuguese and French.

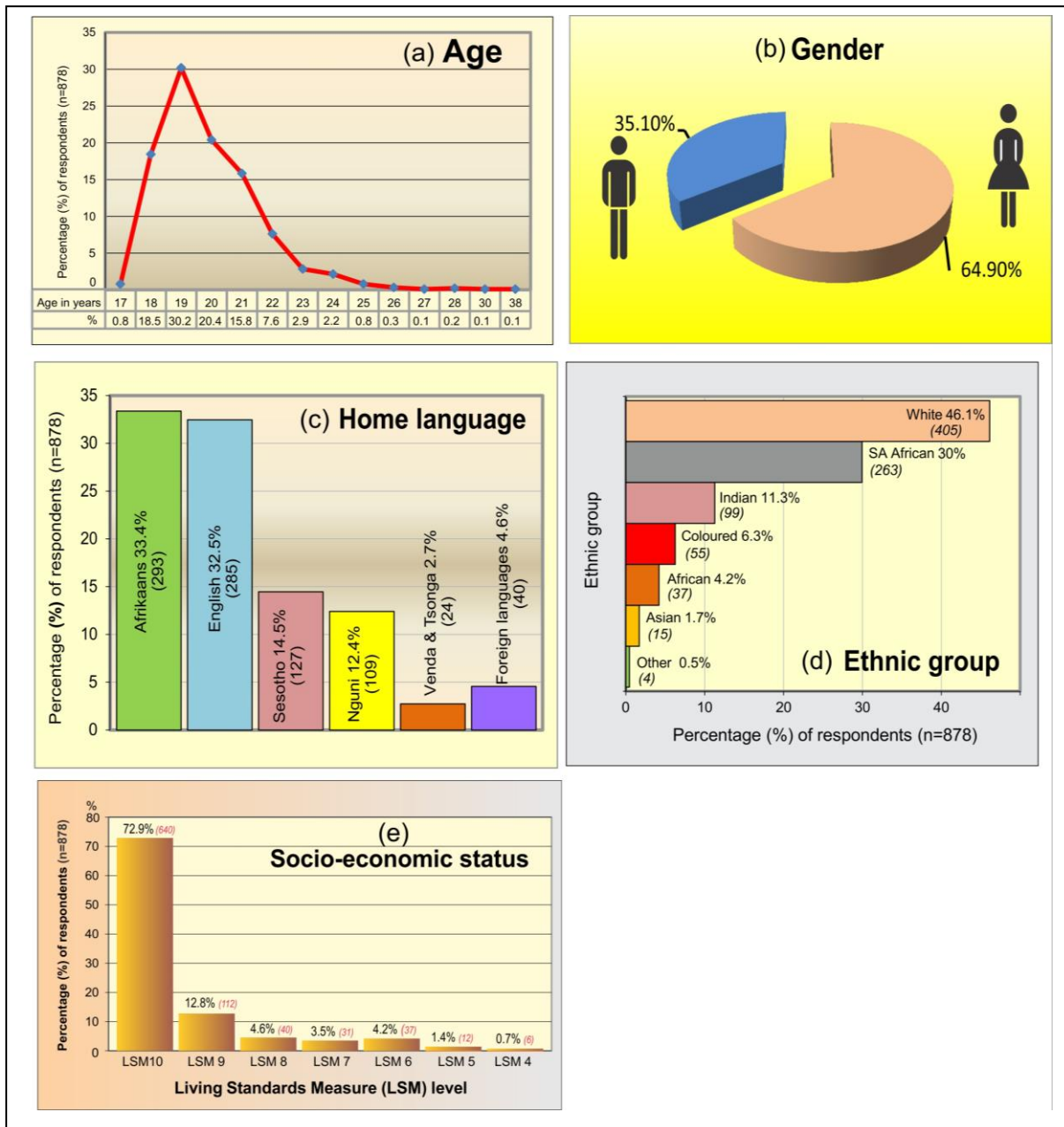


Figure 4.2: Overview of the socio-demographic profile of respondents

4.3.3.2 Ethnic group

In Section A of the questionnaire (Appendix E) White, South African African (referred to as SA African), Indian not Asian (referred to as Indian), Coloured, African not South African (referred to as African), Asian not Indian (referred to as Asians) and other were provided as options for ethnic groups. The White ethnic group was the largest ethnic group represented in the sample followed by SA African ethnic group (Figure 4.2d). The minority groups were Indians, Coloureds and Asians. The remainder of the students indicated other ethnic groups not specified in the questionnaire. Student enrolments at the University of Pretoria have reflected growing ethnic diversity (Van der Watt, 2008:192).

4.3.4 Socio-economic status

Socio-economic status was measured by using the Living Standards Measure (LSM) described in Chapter 2, Section 2.5.2.4. The socio-economic status questions were phrased to retrieve answers that reflected their socio-economic status when living with their parents/ guardians. Certain LSM levels were not sufficiently represented in the sample and were grouped together for statistical analysis, i.e. LSM level 8-10 group (90.2%, $n_1=792$); LSM level 5-7 group (9.1%, $n_2=80$) and LSM level 1-4 group (0.7%, $n_3=6$). The grouping of the Living Standards Measure levels were according to groups used by the South African Advertising Research Foundation (in Martins, 2006:3) with LSM levels 1-4 group considered as poor, LSM levels 5-7 group as the emerging middle class and LSM levels 8-10 group as wealthy. The majority of respondents belonged to LSM levels 8-10 group (Figure 4.2e). It can be concluded that most of the University of Pretoria's residence students come from more affluent backgrounds as considerable funds are required to attend the University (University of Pretoria, 2013:1). The presence of lower LSM levels may be due to the presence of students who are studying by means of bursaries or who receive financial support.

4.4 UTILISATION OF DINING FACILITIES BY RESPONDENTS (OBJECTIVE 2)

To accomplish the aim of this research it was necessary to determine the utilisation of dining facilities by respondents. In this section the data of the utilisation of dining facilities in terms of the number of years of using the residential dining hall and the particular residential dining hall used were analysed. In Figure 4.3 an overview of utilisation of dining facilities by respondents is presented.

4.4.1 Length of use of the residential dining hall

The length of the period of use is not related to how long the students stayed in that particular residence but respondents were not chosen according to the frequency with which they used the dining hall. The largest percentage of respondents had used the residential dining hall for one year and less (Figure 4.3b).

4.4.2 The specific residential dining hall used

The residential dining halls having the largest number of respondents using them are as follows (Figure 4.3a):

- JAKE (Jasmyn, Asterhof, Klaradyn, Erika)
- Groenkloof Campus (Inca, Liliium, Kiaat)
- Medical campus (Curlitzia, Olympus/ Hippocrates)
- Maroela production (Mopanie, Maroela, Katjeepering)
- Madelief and Magrietjie dining hall.

These dining halls have the largest number of respondents using them as they are the largest dining halls as they serve more than one residence.

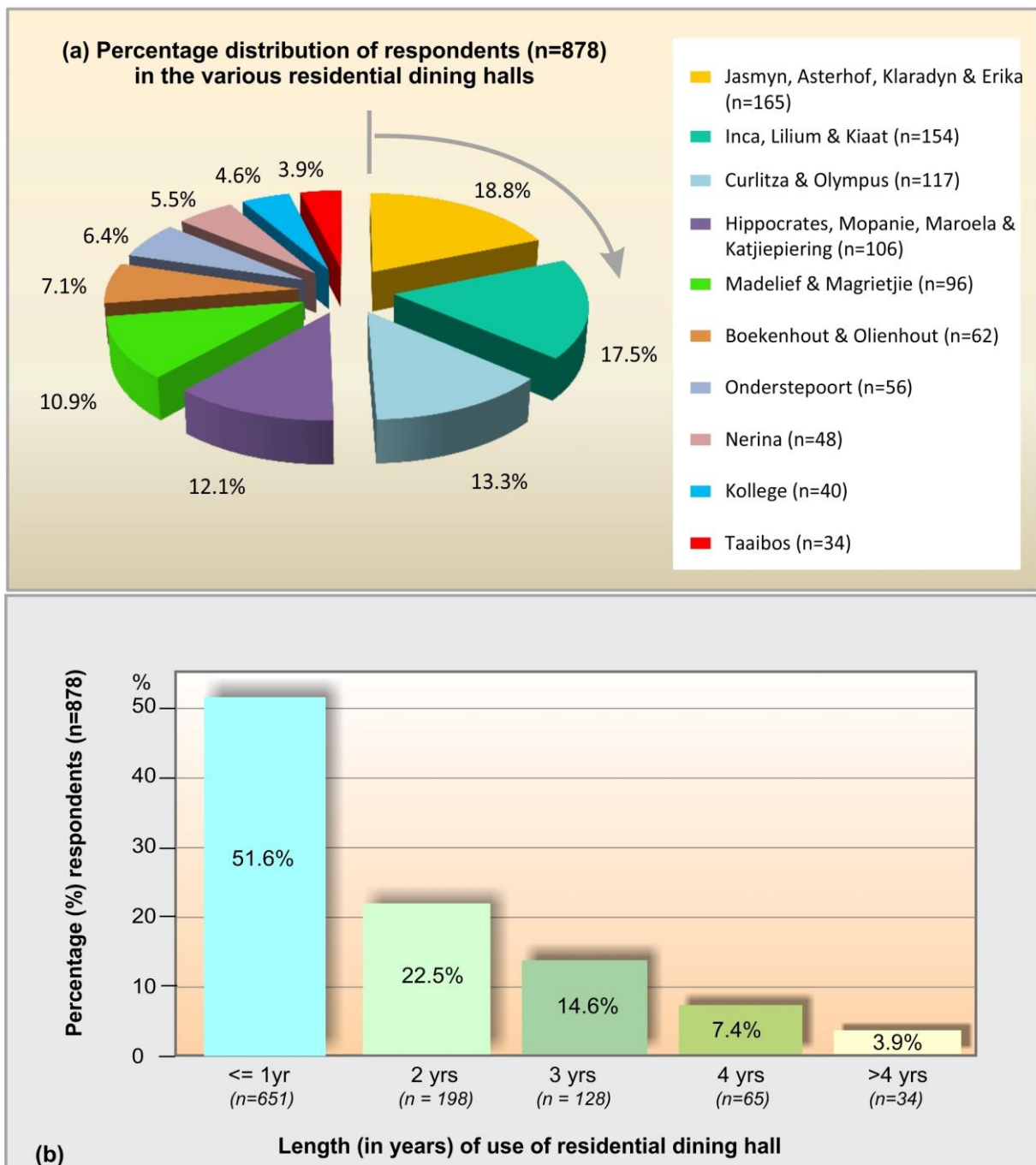


Figure 4.3: Overview of utilisation of dining facilities by respondents

4.5 THE SPECIAL DIETARY REQUIREMENTS (OBJECTIVE 3)

As part of determining the profile of residential students special dietary requirements were investigated. Table 4.1 presents respondents' special dietary requirements.

Table 4.1: Respondents' special dietary requirements

Special dietary requirements	n	%
None	788	88.6%
Vegetarian	31	3.53%
Halaal	23	2.62%
Kosher	9	1.03%
No beef	13	1.48%
No beef and no pork	8	0.92%
Diabetic	3	0.34%
Gluten intolerant	3	0.34%
Other requirements not listed	11	1.25%

The majority of respondents using the residential dining halls had no special dietary requirements (Table 4.1). Requirements for special diets are dictated by religion, indigenous cultural background and health concerns (Azanza, 2001:519). The reason for the limited dietary requirements of students could be due to acculturation or limited provision for special dietary requirements by the Food Services Division of the Department of Residence Affairs and Accommodation.

4.6 LEVEL OF SATISFACTION OF THE RESPONDENTS WITH THE ATTRIBUTES OF THE DIMENSIONS OF THE MEAL EXPERIENCE (OBJECTIVE 4)

In Section B- E of the questionnaire (Appendix E) the levels of satisfaction with the dimensions and attributes of the meal experience were determined by means of a 4 point Likert type scale (described in Section 3.5.2). The mean values of all the attributes of each dimension were calculated and ranked according to the means procedure from the highest level of dissatisfaction to the highest level of satisfaction. The results of these dimensions are discussed in Section 4.6.1 to 4.6.3. The attributes of each of these sections are grouped according to the conceptualisation of the research (Section 2.5 of Chapter 2). The median value for most attributes was 3. The mean values for the food, service and ambience dimensions ranged from 1.92 to 2.97; 2.31 to 3.25 and 2.63 to 3.38 respectively (copy of results included in Appendix G).

More than half of the respondents indicated that they were either highly dissatisfied or dissatisfied with food dimension of the meal experience (Figure 4.4a). It can be seen from Figure 4.4a that more than three quarters of the respondents were either highly satisfied or satisfied with the service dimension and even more respondents were either highly satisfied or satisfied with the ambience dimension. The results from this study support research findings as discussed in the literature review in which respondents rated the food dimension of non-commercial institutional food services the lowest (dissatisfied) of all dimensions of the meal experience (Lau & Gregoire, 1998:1305; Estepa *et al.*, 2005 12,13; Jessri *et al.*, 2011:530). They also rated the service dimension and ambience dimensions higher than the food dimension of the meal experience (Meyer & Conklin, 1998:1427; Aigbedo & Parameswaran, 2004:886).

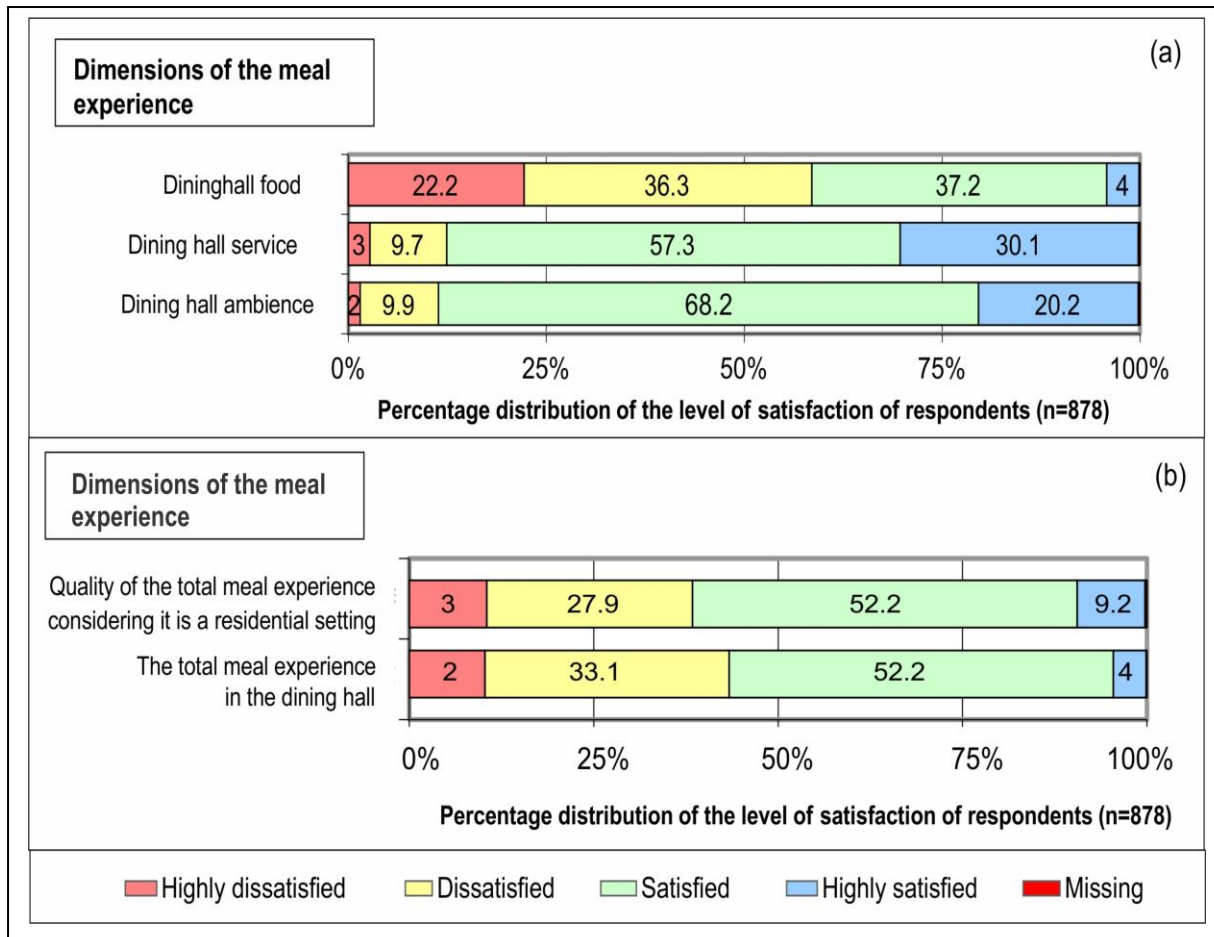


Figure 4.4: Percentage distribution of satisfaction with the meal experience and its dimensions

More than half of the respondents indicated that they were either highly satisfied or satisfied with the meal experience (Figure 4.4b). More than half of the respondents indicated that they were either highly satisfied or satisfied with the meal experience when they had to take into consideration the residential setting (Figure 4.4b). This supports findings from work done by other scholars (Meiselman *et al.*, 2000b:232; Edwards *et al.*, 2003:650; King *et al.*, 2004:651; King *et al.*, 2007:64). When comparing the results of Figure 4.4a and Figure 4.4b it can be seen that the food, service and ambience contribute to the meal experience as the level of satisfaction increased from when respondents only rated the food. The results of this study support the findings that the food, the service and the ambience contribute to the meal experience (Sulek & Hensley, 2004:242).

4.6.1 Level of satisfaction of respondents with attributes of the food dimension

In the following section the results of the satisfaction with the food dimension (Figure 4.5) are grouped according to the sensory, meal offering and food production attributes and these are now discussed.

4.6.1.1 Sensory attributes

It can be seen from Figure 4.5a that almost half of the respondents were satisfied with all of the sensory attributes except for the appetising texture of the food and distinctive flavour of food where responses were almost evenly split between satisfied and dissatisfied. Research from both the non-

commercial institutional food service sector and from the broader food service sector found dissatisfaction occurs with the sensory attributes of either the taste of food or temperature at which hot food is served or both and only one research study from the broader food service sector where there was dissatisfaction with the texture of food (Gramling *et al.*, 2005:29; Donini *et al.*, 2008:111; Johns *et al.*, 2010:183; Jessri *et al.*, 2011:536; Binge *et al.*, 2012:131).

4.6.1.2 Meal offering

Most respondents were satisfied with the meal offering attributes with most of the respondents being either satisfied or highly satisfied with eleven of the attributes (Figure 4.5b, c & d).

Menu variety

In this study most respondents were satisfied with the menu variety attributes although some respondents were dissatisfied with some of its attributes. Almost half of the respondents were dissatisfied with the regular incorporation of new menu items and trendy new food on the menu (Figure 4.5b). Almost a quarter of respondents were highly dissatisfied and more than a third were dissatisfied with the convenience of supper and lunch items available (Figure 4.5b). Responses regarding the variety of fruit and vegetables and the food appearing healthy and nourishing were almost equally split between either highly dissatisfied or dissatisfied and highly satisfied or satisfied (Figure 4.5b). Research findings from both the non-commercial institutional food service sector and from the broader food service sector found dissatisfaction with the regular incorporation of new menu items, trendy new food on the menu, the variety of fruits and vegetables available and special dietary requirements (Estepa *et al.*, 2005:16; Gramling *et al.*, 2005:36; Andaleeb & Caskey, 2007:61; Johns *et al.*, 2010:183; Jessri *et al.*, 2011:543; Binge *et al.*, 2012:142).

Portion size

Almost half of the respondents were satisfied with the four portion size attributes (Figure 4.4c). Research findings from both the non-commercial institutional food service sector and from the broader food service sector found dissatisfaction with portion sizes (Estepa *et al.*, 2005:12; Gramling *et al.*, 2005:27; Johns *et al.*, 2010:183; Binge *et al.*, 2012:138).

Price

More than a third of respondents were highly dissatisfied with the price paid for a booked meal and the price paid for commercial items were found to be unreasonable (Figure 4.5d). Dissatisfaction with the price in general was also found in the open-ended question at the end of the questionnaire (discussed in Section 4.11). These results comply with some research findings from both the non-commercial institutional food service sector and from the broader food service sector in which there was dissatisfaction with the price of food (Lee & Lambert, 2000:248; Estepa *et al.*, 2005:16; Andaleeb & Caskey, 2007:20). The dissatisfaction with the price of both booked and commercial items may

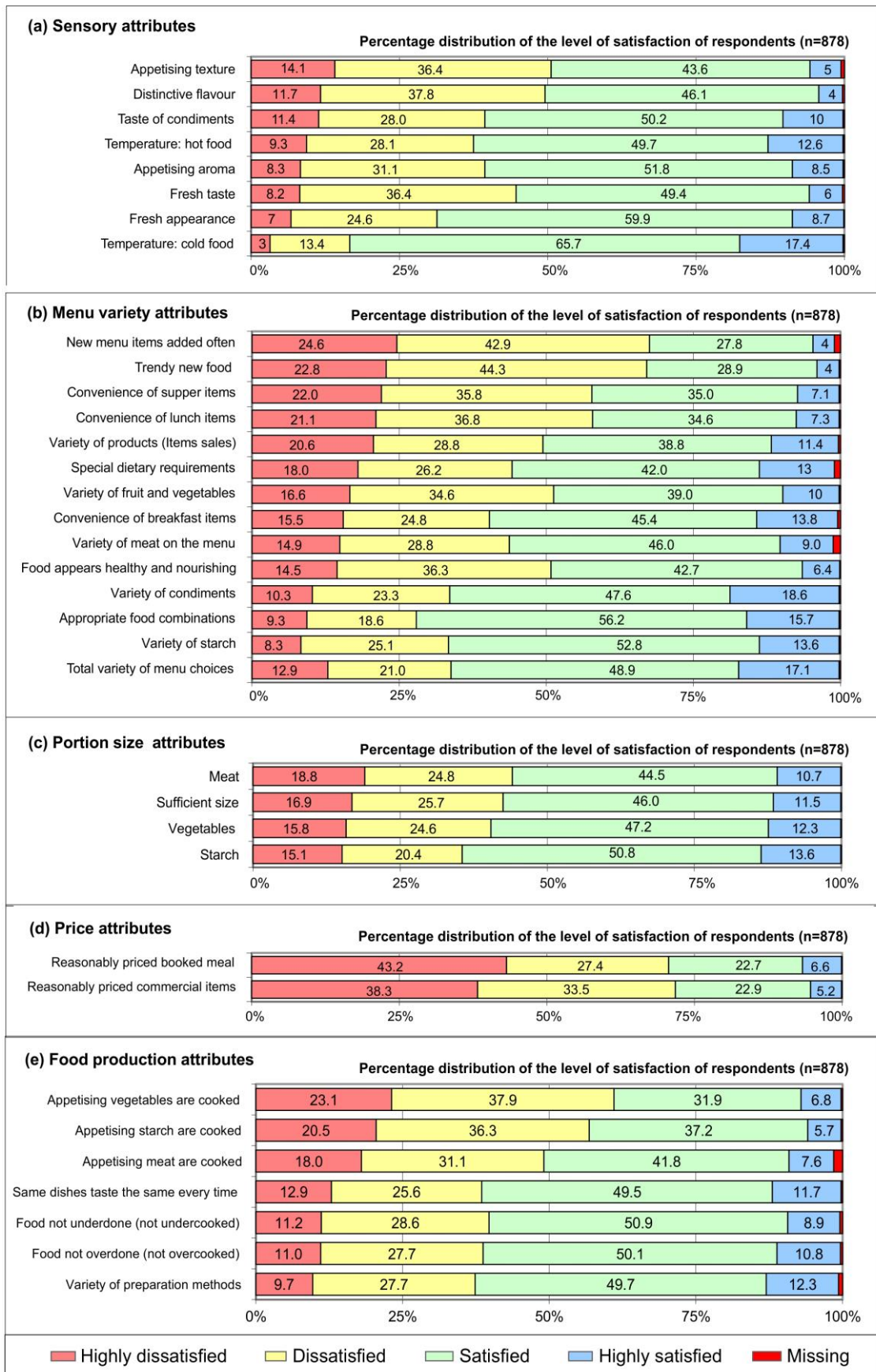


Figure 4.5: Percentage distributions of satisfaction with the attributes of the food dimension

be due to the price-sensitive and value-conscious characteristics of Generation Y (Morton, 2002:47; Bakewell & Mitchell, 2003:102; Martin & Turley, 2004:472; Noble *et al.*, 2009:619). Spears and Gregoire (2007:75) point out that customers may be dissatisfied with prices if portions of food are not the same for everybody.

4.6.1.3 Food production attributes

Most respondents were satisfied with five of the food production attributes (Figure 4.5e). The responses for attributes regarding the way in which vegetables and starch were cooked to make them taste appetising were almost evenly split with almost a third dissatisfied and a third satisfied (Figure 4.5e). Almost a quarter of respondents were highly dissatisfied with these attributes (Figure 4.5e). Respondents described their dissatisfaction with this aspect in the open-ended questionnaire by commenting that too much oil was used to prepare food and that they did not think the preparation in general was correct (discussed in Section 4.11). Research from both the non-commercial institutional food service sector and from the broader food service sector found dissatisfaction with the food production attributes in general (Lee *et al.*, 2003:9; Andaleeb & Caskey, 2007:61; Donini *et al.*, 2008:105; Johns *et al.*, 2010:183; Jessri *et al.*, 2011:536; Binge *et al.*, 2012:132).

4.6.2 Level of satisfaction of respondents with attributes of the service dimension

In this section the results of the satisfaction with the service dimension grouped into the reliability, empathy, assurance, responsiveness and tangible attributes are discussed. In Figure 4.6 the percentage distributions of the service attributes are presented.

4.6.2.1 Reliability

It can be seen from Figure 4.6a that almost half of the respondents were satisfied and almost a quarter of respondents were highly satisfied with most of the reliability attributes. Responses were almost evenly split between satisfied or dissatisfied for the availability of stock at item sales (Figure 4.6a). The availability of stock at item sales was part of the reliability of service. The availability of items was found to contribute to tourist diners' perception of the service (Yuksel, 2003:13). Although no research was found in this regard it may be because the availability of stock is considered an indispensable part of the service.

4.6.2.2 Empathy

In Figure 4.6b it can be seen that more than a third of respondents were highly satisfied with most of the empathy attributes. Research from the non-commercial institutional food service sector and from the broader food service sector indicates that attributes of empathy such as staff greeting you in a friendly manner influenced customer satisfaction (Meyer & Conklin, 1998:1427; Kim *et al.*, 2009:16; Lülfs-Baden & Spiller, 2009:40).

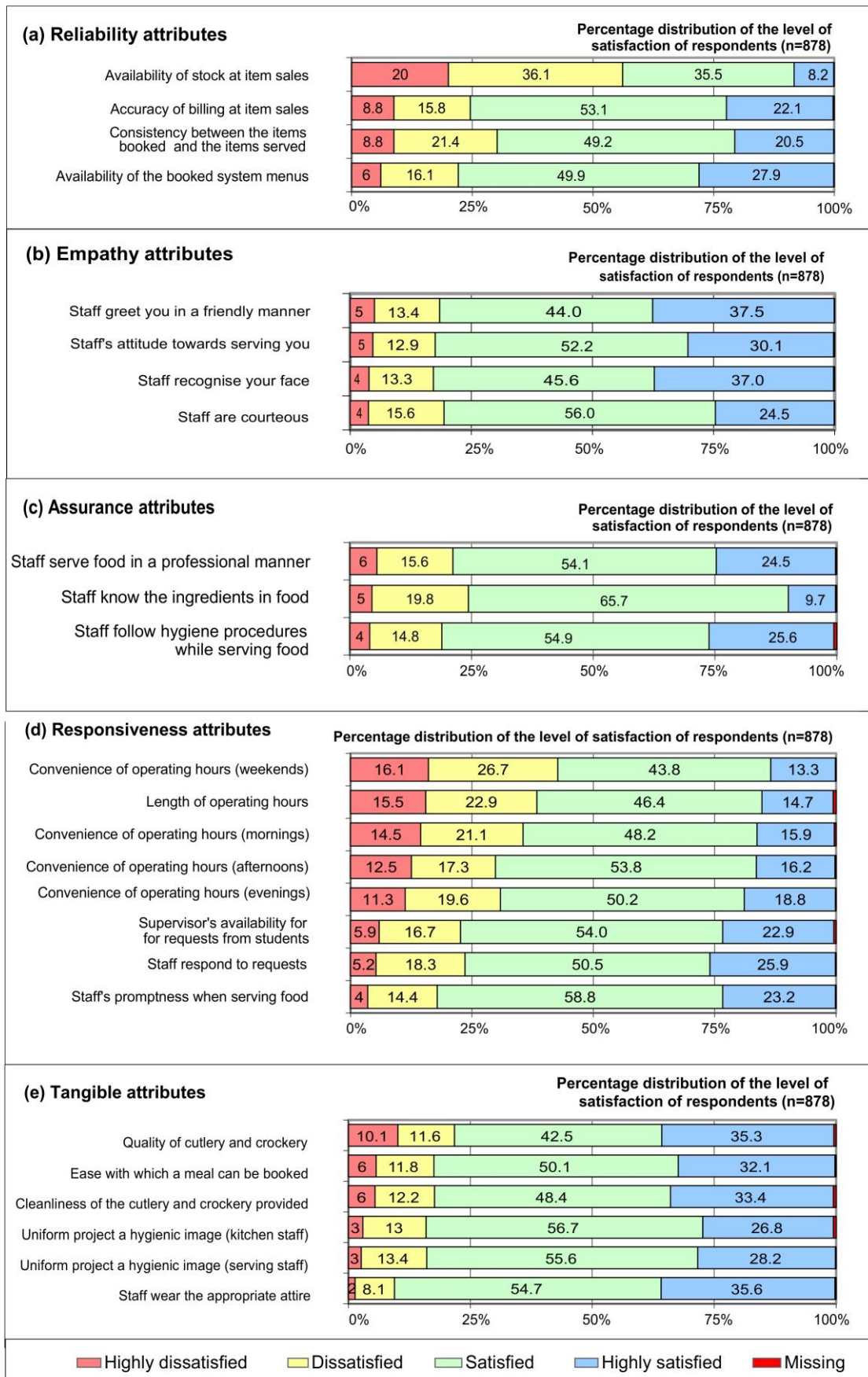


Figure 4.6: Percentage distribution of satisfaction with the attributes of service dimension

4.6.2.3 Assurance

It can be seen from Figure 4.6c more than half of the respondents were satisfied with all the assurance attributes of service. Research from both the non-commercial institutional food service sector and from the broader food service sector found dissatisfaction with assurance attributes of the service and influenced satisfaction (Johns & Howard, 1998:253; Gramling *et al.*, 2005:28; Kim *et al.*, 2009:16)

4.6.2.4 Responsiveness

It can be seen from Figure 4.6d that almost half of the respondents were satisfied with all of the responsiveness attributes. Some respondents did however indicate their general dissatisfaction with the operating hours in the open-ended questionnaire (discussed in Section 4.11). One eighth of respondents were highly dissatisfied with the convenience of operating hours over weekends, the length of operating hours, convenience of operating hours (mornings), convenience of operating hours (afternoons) and convenience of operating hours (evenings). The dissatisfaction with the discontinuation of a cooked meal provided as items sales is related to this aspect. Research from both the non-commercial institutional food service sector and the broader food service sector found dissatisfaction with the convenience of operating hours generally (Estepa *et al.*, 2005:16; Binge *et al.*, 2012:128). The dissatisfaction with the operating hours in general could be explained by Generation Y's busy schedules that results in them organising their day to maximise every hour (Smith, 2008:1; Human Development Index youth marketeers, 2011:3) leading to more convenient operating hours being called for. The lack of a common lunch break may further contribute to their level of dissatisfaction with the operating hours (Coertze, 2012, pers.comm. 17 Aug.). Research from the non-commercial institutional food service sector found dissatisfaction with attributes of the responsiveness of service (Estepa *et al.*, 2005:12; Andaleeb & Caskey, 2007:61; Binge *et al.*, 2012:132) specifically fast service and convenient operating hours.

4.6.2.5 Tangible

It can be seen from Figure 4.6e that almost half of the respondents were satisfied and more than a quarter were highly satisfied with all of the tangible attributes. Research from the non-commercial institutional food service sector found dissatisfaction and satisfaction with tangible attributes of service (Estepa *et al.*, 2005:13; Gramling *et al.*, 2005:28; Binge *et al.*, 2012:127). The satisfaction with the uniform and attire of the staff in this study may be due to the fact that, at the time of this specific research study, the Food Services Division of the Department of Residence Affairs and Accommodation changed the uniform of the food service staff and placed emphasis on staff wearing the correct attire (Martin, 2012, pers.comm., 5 Nov.)

4.6.3 Level of satisfaction of respondents with attributes of the ambience dimension

In this section the results of the satisfaction with the ambience dimension are presented in Figure 4.7 and discussed by referring to the ambient conditions, functional design and aesthetic design attributes.

4.6.3.1 Ambient conditions

Almost half of respondents were satisfied and almost a quarter were highly satisfied with all of the ambient conditions attributes (Figure 4.7a). Although almost half of respondents were satisfied with the type of music played and volume of music in the dining hall, more than an eighth were highly dissatisfied with these attributes. Research from the non-commercial institutional foodservice sector indicated that although students were satisfied with the ambience the music genre and volume was the main concern as far as ambience was concerned (Andaleeb & Caskey, 2007:61).

Responses regarding the lighting in the dining hall, cleanliness and neatness and the cleanliness of the tables were almost evenly split in half between satisfied and highly satisfied. Research from the non-commercial institutional food service sector found the lighting in the dining hall important to customers/consumers (Lee *et al.*, 2003:9). Respondents could have been highly satisfied with the lighting in the dining hall because the study was conducted not long after the Food Services Division had improved the lighting in some of the dining halls (Coertze, 2012, pers. comm., 17 Aug.). Research from both the non-commercial institutional educational food service sector and from the broader food service sector found both dissatisfaction and satisfaction with the cleanliness of the dining hall (Azanza, 2001:519; Gramling *et al.*, 2005:28; Andaleeb & Caskey, 2007:62).

4.6.3.2 Functional design

More than half of respondents were satisfied and almost a quarter were highly satisfied with all the functional design attributes (Figure 4.7b). Research from the broader food service sector indicates that customers'/consumers' perception of functional design attributes influence their meal experience (Wakefield & Blodgett, 1996:48; Robson *et al.*, 2011:260).

4.6.3.3 Aesthetic design

More than half of respondents involved with this study were satisfied with all of the aesthetic design attributes (Figure 4.7c). Research from the broader food service sector found that aesthetic design attributes are important satisfiers and dissatisfiers (Johns & Howard, 1998:258).

4.7 RELATIONSHIP BETWEEN THE SOCIO-DEMOGRAPHIC PROFILE OF RESPONDENTS AND THEIR LEVEL OF SATISFACTION WITH THE MEAL EXPERIENCE (OBJECTIVE 5)

The relationship/association between the socio-demographic profile of residential respondents and their level of satisfaction with the meal experience is discussed below. In order to determine relationships, sufficient frequencies are required in all the cells of the contingency tables (Howell, 2010:2). To fulfil this requirement the frequencies for highly dissatisfied and dissatisfied were added

together and the frequencies for satisfied and highly satisfied were added together. Relationships were tested by means of the chi-square tests that were calculated. A relationship exists if the p-value is equal to or is below 0.05 (Mazzocchi, 2008: 197).

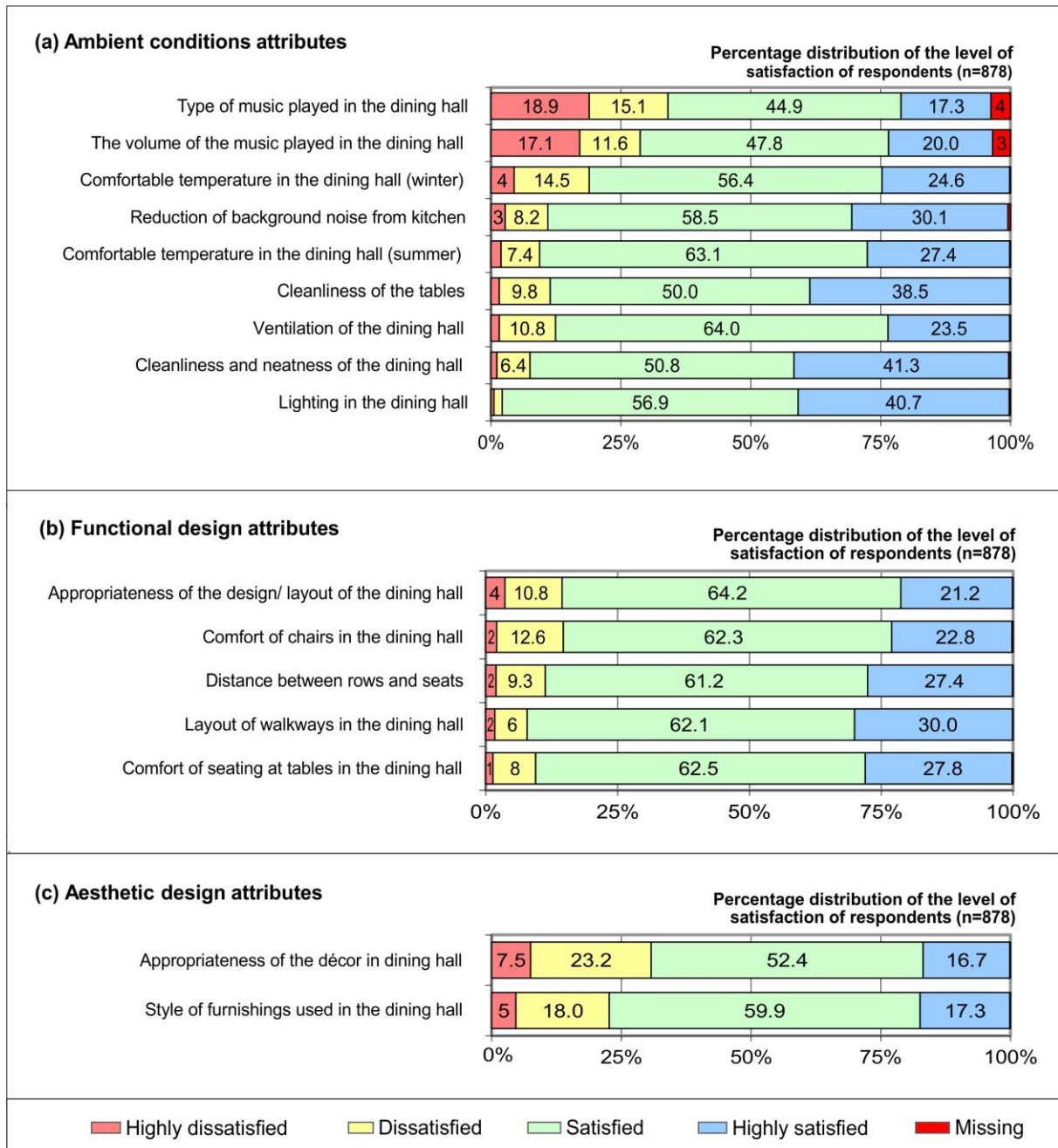


Figure 4.7: Percentage distribution of satisfaction with the attributes of the ambience dimension

The actual size of the degree to which this relationship exists, is referred to as the effect size and was tested by means of Cramer's V. The Chi-square test and Cramer's V are explained in Chapter 3 Section 3.7.4.1. The effect size is small between 0.1 and 0.3, medium between 0.3 and 0.5 and large

above 0.5 (Steyn, 2009: 46; Ellis, 2010: 41). The results for both the relationships/associations and effect size are provided and discussed. Graphs/figures were compiled from the contingency tables used for the Chi-square test to provide a graphical representation of the data. Discussion of the graphs provided more descriptive insight regarding the relationships/associations.

4.7.1 Relationship between the gender of the respondents and their level of satisfaction with the meal experience

The percentage distribution of the level of satisfaction with the meal experience in relation to the sample size of the gender of respondents is presented in Figure 4.8. A higher percentage of female than male respondents were satisfied with the meal experience provided at the residential dining halls (Figure 4.8).

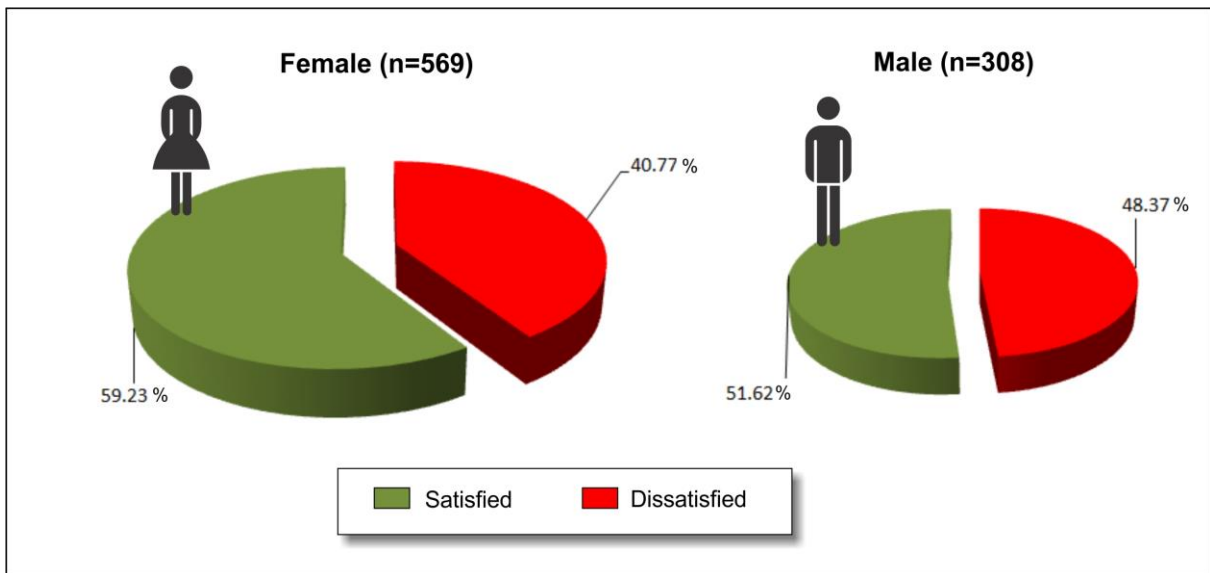


Figure 4.8: Percentage distribution of satisfaction with meal experience in relation to the gender sample

The following hypotheses were tested to determine the relationship between male and female respondents.

Null hypothesis: There is no relationship/association between the gender of the students and their level of satisfaction with the meal experience.

Alternative Hypothesis: There is considerable relationship/association between the gender of the students and their level of satisfaction with the meal experience.

The null hypothesis was rejected at 5% level of significance (Table 4.2) since the Chi-Square test statistic was 4.7018 with a p-value of 0.0301 which is smaller than 0.05. Therefore a strong relationship exists between the level of satisfaction with the meal experience and the gender of the students using the residential dining hall.

Taking the effect size of -0.0732 indicated in Table 4.2 into consideration and bearing in mind that Cramer's V indicates a small effect size below 0.1, it can be stated that the gender of a residential student has a small effect on the student's level of satisfaction with the meal experience.

Table 4.2 : Relationship between gender and meal experience satisfaction

Variables	Gender Satisfaction with meal experience
Chi –square test statistic	4.7018
P-value <0.05	0.0301
Effect size: Cramer's V	-0.0732

This marked relationship between the gender of the student and their level of satisfaction with the meal experience concurs with findings from previously done research (Wyant & Meiselman in Kissileff, 2000:65; Meiselman & Schutz, 2003:209; Gramling *et al.*, 2005:33; Kwun, 2011:259). Further research to confirm this relationship is warranted.

4.7.2 Relationship between the cultural background of the respondent and their level of satisfaction with the meal experience

Guided by the literature study, the cultural background was identified by referring to the ethnic group and home language of the respondent. The relationship between cultural background and the respondent's level of satisfaction with the meal experience was only determined by the relationship between the ethnic group and the respondent's level of satisfaction with the meal experience. The frequencies for the combination of home language and ethnic group were too sparse to meet the requirement for the Chi-square test. The section below provides the results of the relationship and describes and discusses the results.

4.7.2.1 Ethnic group

The percentage distribution of ethnic groups of respondents and their level of satisfaction with the meal experience (in relation to the ethnic group's sample) is presented in Figure 4.9. The majority of Indian, Asian, African and White respondents were satisfied with the meal experience at residential dining halls (Figure 4.9). The SA African and Coloured ethnic groups were the only ethnic groups where more respondents were dissatisfied than satisfied. It should be noted that White respondents make up the largest group in the sample.

In order to determine whether a considerable relationship exists between the above variables the following hypotheses were tested:

Null Hypothesis: There is no relationship between the ethnic group of the student and their level of satisfaction with the meal experience.

Alternative Hypothesis: There is a marked relationship between the ethnic group of the student and their level of satisfaction with the meal experience.

The Chi-square test statistic of 19.4085 with a p-value of 0.0035 which is smaller than 0.05 and thus the null hypothesis can be rejected at a 5% level of significance (Table 4.3). A strong relationship exists between the ethnic group of the student using the residential dining hall and the level of satisfaction with the meal experience.



Figure 4.9: Percentage distribution of satisfaction with meal experience in relation to the specific ethnic group's sample

Table 4.3: Relationship between ethnic group and meal experience satisfaction

Variables	Ethnic group
	Satisfaction with meal experience
Chi –square test statistic	19.4085
P-value <0.05	0.0035
Effect size: Cramer's V	0.1488

Taking effect size of 0.1488 into consideration (Table 4.3), the Cramer's V indicates a small effect size below 0.3. This indicates that the ethnic group of a residential student using the residential dining hall has a small effect on the respondent's level of satisfaction with the meal experience.

This strong relationship between the ethnic group of the student and their level of satisfaction with the meal experience supports the proposition made by Meiselman (2008:18) that cultural background represents some of the greatest differences in meal experiences. The small effect size may warrant further research regarding this relationship, as cultural differences were found in literature for the food, service and ambience dimension of the meal experience (Lau & Gregoire, 1998:1305; Meyer & Conklin, 1998:1428; Becker *et al.*, 1999:248; Mattila, 2000:270; Mohammad *et al.*, 2005:93; Keillor *et al.*, 2007:456; Kim & Park, 2007:137; Ruetzler, 2008 ; Ruetzler *et al.*, 2009:206).

4.7.3 Relationship between the socio-economic status of the respondent and their level of satisfaction with the meal experience

The percentage distribution of the Living Standards Measure (LSM) groups of respondents and their level of satisfaction with the meal experience (in relation to the Living Standards Measure group's sample) is presented in Figure 4.10. The Living Standards Measure (LSM) group 4 (who are considered poor) are more dissatisfied than Living Standards Measure (LSM) groups 5-7 and 8-10 (who are considered affluent) as can be seen from Figure 4.10. It should be noted that there were few respondents in the Living Standards Measure (LSM) group 4.

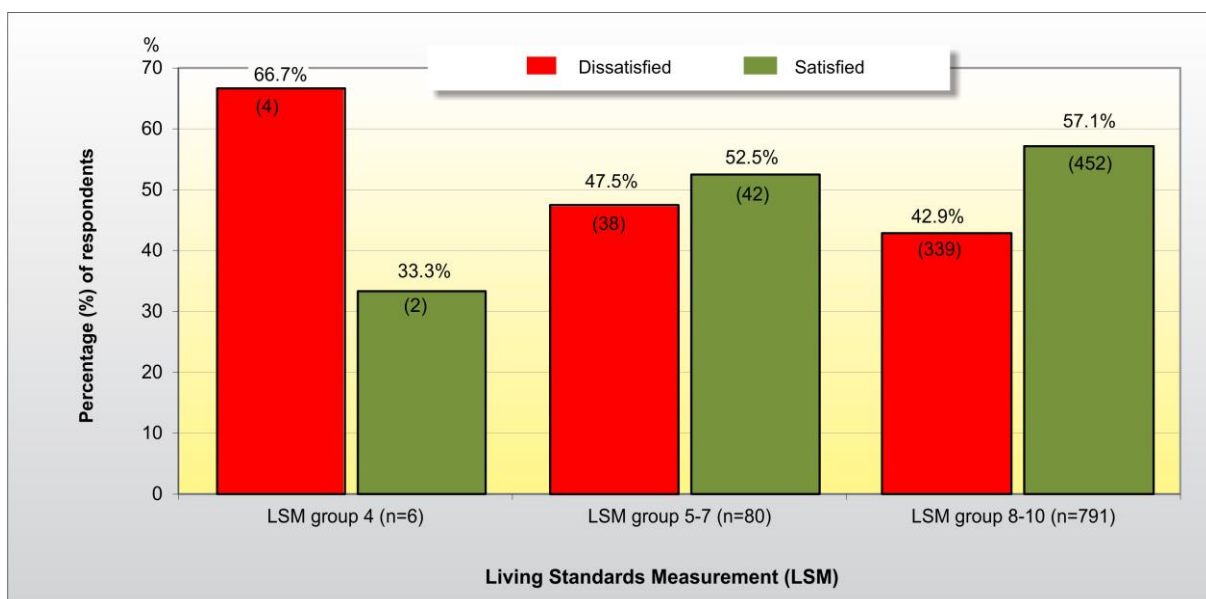


Figure 4.10: Percentage distribution of satisfaction with meal experience in relation to the Living Standards Measurement (LSM) group's sample

The following hypotheses have been tested:

Null hypothesis: There is no relationship between the Living Standards Measurement group of the student and their level of satisfaction with the meal experience.

Alternative Hypothesis: There is considerable relationship between the Living Standards Measurement group of the student and their level of satisfaction with the meal experience.

The Chi-square test statistic of 1.9635 with a p-value of 0.3747 is larger than 0.05. This means that the null hypothesis cannot be rejected at a 5% level of significance (Table 4.4). Therefore no considerable relationship exists between living standards measure of the student and their level of satisfaction with the meal experience. The effect size is not taken into account due to the fact that no considerable relationship exists.

Table 4.4: Relationship between the living standards measure group and the meal experience satisfaction

Variables	Living standards measure Meal experience satisfaction
Chi –square test statistic	1.9635
P-value <0.05	0.3747

4.8 RELATIONSHIP BETWEEN THE UTILISATION OF DINING FACILITIES OF THE RESPONDENT’S LEVEL OF SATISFACTION WITH THE MEAL EXPERIENCE (*OBJECTIVE 6*)

The relationship between the utilisation of the dining facilities and the residential respondent’s level of satisfaction with the meal experience is now discussed. As explained in Section 4.7 to calculate statistical relationship/association from the data certain frequencies were added together. The sections below present the results of the chi-square tests, effect sizes and two graphs to discuss the relationships, all of which have already been discussed in Section 4.7.

4.8.1 Relationship between the number of years of using the residential dining hall and the respondent’s level of satisfaction with the meal experience

The percentage distribution of how long the respondents had been using the residential dining hall facilities and their level of satisfaction with the meal experience (in relation to the length of use’s sample) is presented in Figure 4.11. The majority of respondents who used the dining hall for one year and less were either satisfied or highly satisfied with the meal experience (Figure 4.11). The respondents who used the residential dining hall for two or three years were more or less equally divided between dissatisfied and satisfied (Figure 4.11). The majority of the respondents, who had used the residential dining hall for four years, were satisfied with the meal experience. Nearly two thirds of respondents who used the residential dining halls for more than four years, were dissatisfied with the meal experience.

The following hypotheses were tested to determine the relationship:

Null hypothesis: There is no relationship between the level of satisfaction with the meal experience and the number of years of the student using the residential dining hall.

Alternative Hypothesis: There is a marked relationship between the level of satisfaction and with the meal experience and the number of years of the student using the residential dining hall.

The Chi-square test statistic is 21.2002 with a p-value of 0.0003. The p-value is below 0.05 indicating a definite relationship (Table 4.5). Thus there exists a noteworthy relationship between the level of satisfaction with the meal experience and the number of years of using the residential dining halls.

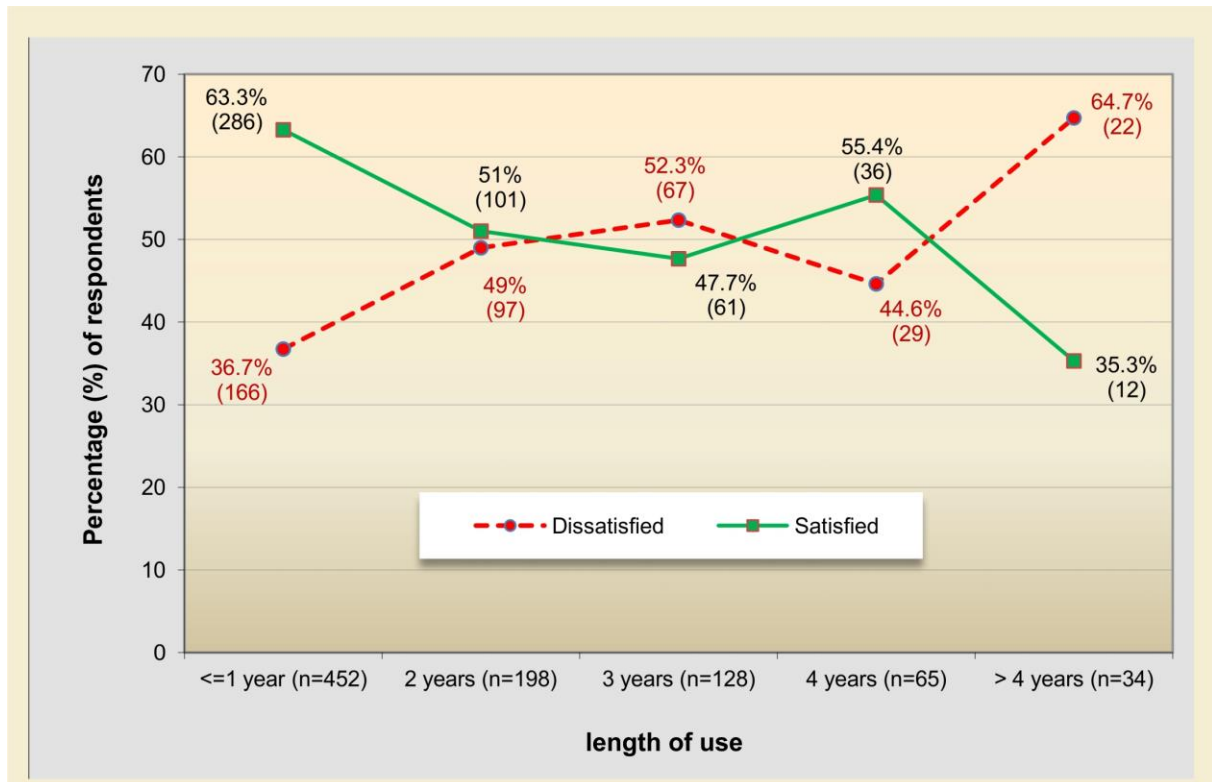


Figure 4.11: Percentage distribution of satisfaction with meal experience in relation to the length of use of residential dining hall's sample

Table 4.5: Relationship between meal experience satisfaction and the number of years in residential dining hall

Variables	Meal experience satisfaction Number of years using dining hall
Chi –square test statistic	21.2002
P-value <0.05	0.0003
Effect size: Cramer's V	0.1555

Taking effect size of 0.1555 into consideration (Table 4.5), Cramer's V indicates a small effect size below 0.3 implying that the length of years of using the residential dining hall has a minimal effect on the student level of satisfaction with the meal experience.

The longer the respondents had used the residential dining hall, the greater their level of dissatisfaction (Figure 4.11). This noticeable relationship between the level of satisfaction with the meal experience and the number of years of the student had used the residential dining hall supports the proposition by Gupta & Vajie (in Hanefors & Mossberg, 2003:250) that deeper understanding of what an experience comprises is necessary to design an effective experience since many institutions have experienced failure after the novelty concept had worn off. Most research conducted with regards to the length of use of food service establishments is specifically focused on menu variety provided to customers/consumers (Meiselman *et al.*, 2000a:123; Gramling *et al.*, 2005:36; Hirsch *et al.*, 2005:42). This research adds to previous findings by indicating that students not only experience boredom after long exposure to the menu but they also become bored from the experience as a whole.

4.8.2 Relationship between the specific residential dining hall used and the respondent's level of satisfaction with the meal experience

The percentage distribution of the residential dining hall used by the respondents and their level of satisfaction with the meal experience (in relation the residential dining hall's sample) is presented in Figure 4.12. The majority of respondents from Kollege, Onderstepoort and Mopanie, Maroela and Katjiepieping residential dining halls were dissatisfied with the meal experience (Figure 4.12). Kollege, Onderstepoort and Mopanie, Maroela and Katjiepieping residential dining halls did not serve the majority of the respondents as can be seen from the sample sizes (in Figure 4.12).

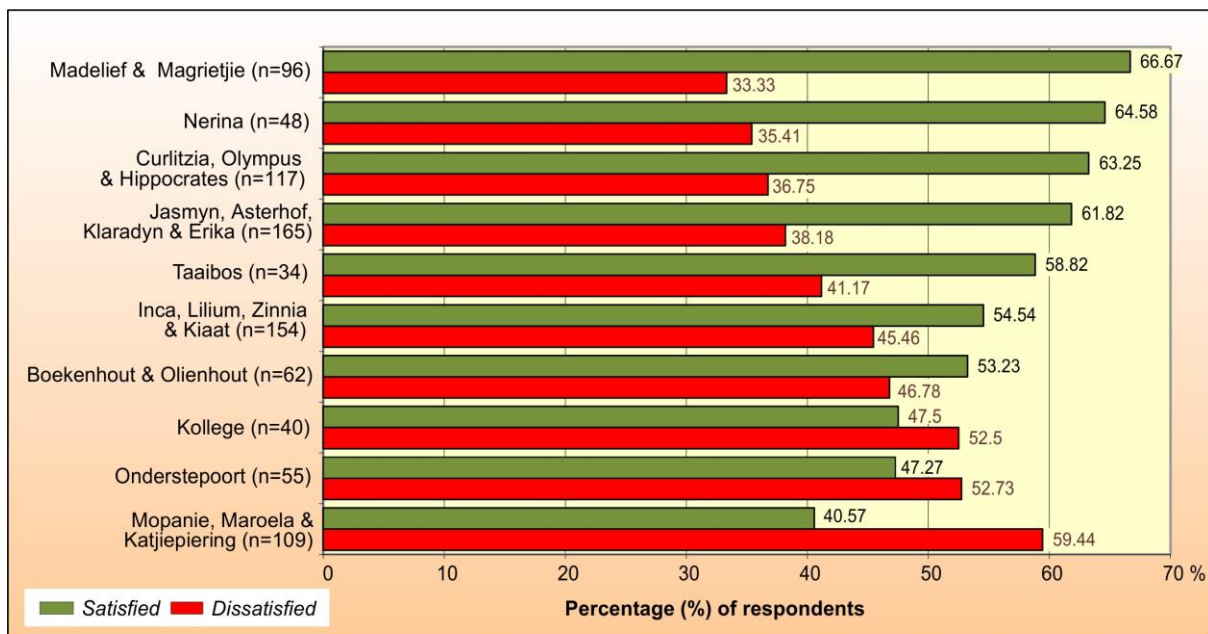


Figure 4.12: Percentage distribution of satisfaction with meal experience in relation to the used residential dining hall's sample

The following hypotheses were tested:

Null hypothesis: There is no relationship between the level of satisfaction with the meal experience and the specific residential dining hall.

Alternative Hypothesis: There is a definite relationship between the level of satisfaction and with the meal experience and the residential dining hall.

The Chi-square test statistic of 24.144 with a p-value of 0.0041, which is smaller than 0.05, confirms rejecting the null hypothesis at a 5% level of significance (Table 4.6). Therefore a notable relationship exists between the level of satisfaction with the meal experience and the residential dining hall used.

Table 4.6: Relationship between meal experience satisfaction and residential dining hall used

Variables	Meal experience satisfaction Residential dining hall used
Chi –square test statistic	24.144
P-value <0.05	0.0041
Effect size: Cramer’s V	0.1659

Taking the effect size of 0.1659 into consideration (Table 4.6) and Cramer’s V small effect size below 0.3, it can be said that the level of satisfaction with the meal experience and the residential dining hall used by the student effect each other very slightly.

The considerable relationship between level of satisfaction with the meal experience and the residential dining hall used supported the findings of Shanka and Taylor (2005:336). It also supported the influence of context on the customer’s/consumer’s level of satisfaction with the meal experience (Meiselman *et al.*, 2000b:231; Edwards *et al.*, 2003:651; King *et al.*, 2004:651; King *et al.*, 2007:64). The majority of students from Kollege, Onderstepoort and Mopanie, Maroela and Katjeepering residential dining halls were dissatisfied with the meal experience (Figure 4.12). There were no common characteristics among these three residential dining halls which could be identified as possible reasons for the majority of respondents’ dissatisfaction. More research is required to describe the relationship in more detail.

4.9 IMPORTANCE OF ATTRIBUTES OF THE DIMENSIONS OF THE MEAL EXPERIENCE (OBJECTIVE 7)

In Section E of the questionnaire (Appendix E) the importance of the dimensions or attributes of the meal experience were measured by asking respondents to rank the dimensions or attributes according to the importance of the dimension or attribute to the respondent. Depending on the number of dimensions or attributes that needed to be ranked 1 was the first or most important and either 3 in the

case of meal experience, 5 for service and ambience and 7 in the case of food were the least important. The positions of importance of dimensions or attributes were determined by referring to the medians as the difference between the means was too small for meaningful differentiation hence the use of the ordinal scale was more appropriate.

Table 4.7: Importance median values of the dimensions of the meal experience

Dimensions of the meal experience	Median
Food	1
Service	2
Ambience	3

The importance median values of the dimensions of the meal experience are presented in Table 4.7. The majority of respondents indicated that food was the most important dimension with a median of 1, service was rated as less important with a median of 2 and ambience as the least important of the three dimensions considered with a median of 3 (Table 4.7). These results confirm findings from other research (Lam & Heung, 1998:7; Lau & Gregoire, 1998:1305; Kim *et al.*, 2004:97; Andaleeb & Caskey, 2007:106; Kim *et al.*, 2009:15) that customers/consumers rated the food as the most important dimension of the non-commercial meal experience, followed by the service dimension as the second most important dimension. This study's results add to the findings ranking ambience as the least important dimension of non-commercial meal experiences. Respondents may rate food higher than service and ambience as respondents viewed the dining hall as a place to meet basic nutritional requirements rather than a place of aesthetic attributes where attentive service is enjoyed (Liang & Zhang, 2009:121). This explanation could apply to the respondents in this survey too.

4.9.1 Importance of the attributes of the food dimension to the respondents

The median values for the importance of the ranking of the attributes of the food dimension are provided in Table 4.8.

Table 4.8: Importance median values for the attributes of food

Attributes of food	Median
Freshness	2
Nutritional value/ healthy options	2
Cost (Value for money)	3
Variety	4
Trendy new recipes	5
Convenience	5
Availability of special dietary requirement	7

The freshness and nutritional value of food is most important followed by cost (value for money) and then variety. Trendy new recipes and convenience were less important and availability of special dietary requirements was the least important of the food attributes considered (Table 4.8). Trendy new recipes, convenience and availability of special dietary requirements obtained median values considerably higher (indicating less important). Therefore the Food Services Division should focus on

the freshness, nutritional value/healthy options, cost (value for money) and variety of the food dimension as these were regarded as being more important.

Reviewed research from both the non-commercial institutional food service sector and the broader food service found price, nutritional value/ healthy options, menu variety, convenience, appearance, taste, special dietary requirements and fresh ingredients as important (Lam & Heung, 1998:8; Marquis, 2005:58; Cranage & Lee, 2007:64; Bryant & Dundes, 2008:328; Liang & Zhang, 2009:121; Hartwell, Edwards & Brown, 2011:1398; Choi *et al.*, 2011 :1). These research findings concur with the reviewed research with nutritious options, cost and variety most often as more important. This study adds to reviewed research by finding that trendy new recipes and the convenience of food are equally less important. The lower importance reflects on the low percentage of respondents (11.6%) with special dietary requirements.

4.9.2 Importance of the attributes of the service dimension to the respondents

The median values of the importance ranking of the attributes of the service are presented in Table 4.9.

Table 4.9: Importance median values for attributes of service

Attributes of service	Median
Operating hours	2
Friendly service	3
Speed of service	3
Convenient booking system	3
Responsiveness to questions and requests	4

The operating hours were more important than friendly service, speed of service and a convenient booking system and responsiveness to questions and requests were least important (Table.4.9). The operating hours were ranked considerably more important and this attribute should be seen as an important concern and receive more attention although the friendly service, speed of service and convenient booking system should not be neglected.

Research from both non-commercial institutional food service sector and from the broader food service sector ranked speed of service, friendly service and operating hours as important (Knutson, 2000:72; Aigbedo & Parameswaran, 2004:884; Klassen *et al.*, 2005:586; Shanka & Taylor, 2005:339). This study contributes to research by finding that respondents ranked operating hours as important followed by friendly service both of which are ranked as less important than speed of service (Klassen *et al.*, 2005:586; Shanka & Taylor, 2005:333). The ranking of operating hours as important confirmed statements that university food services should consider extended operating hours (Payne-Palacio & Theis, 2009:53; Gregoire, 2010:16). A possible reason for the ranking of operating hours as important may be the increased focus of Generation Y South Africans who are seeking ways to maximise every hour of their day (Human Development Index youth marketeers, 2011:3). A reason that may further contribute to respondents ranking operating hours as most important is that there is no common lunch

time (Coertze, 2012,pers.comm., 17 Aug.). The results of this study highlight the importance of a convenient booking system. However, the respondents did not often rank responsiveness to questions and requests as important. A possible reason for ranking the attribute of responsiveness to questions and requests as the least important is that respondents with special dietary requirement would be the most likely customers/consumers to have questions and requests. There were only 11.6 % of respondents with special dietary requirements.

4.9.3 Importance of the attributes of the ambience dimension to the respondents

The median values of the importance ranking of the attributes of the ambience are provided in Table 4.10.

Table 4.10: Importance median values for attributes of ambience

Attributes of ambience	Median
Neatness/ Cleanliness	1
Homely atmosphere	3
Layout	3
Controlled noise level	4
Appealing décor	4

Neatness or cleanliness were a most important attribute, homely atmosphere and the layout of dining hall was the second in importance and controlled noise levels and appealing décor were least important (Table 4.10). The neatness/cleanliness of the ambience obtained a low median value (most important) and therefore more important than all the other attributes. A homely atmosphere and efficient layout were also valued. These two attributes should therefore not be neglected. Controlled noise level and appealing décor were seen as less important. Attention should be focused on maintaining rather than improving these attributes of ambience.

This study's results concur with reviewed research from the broader food service sector that neatness and cleanliness was ranked as an important attribute for ambience (Aigbedo & Parameswaran, 2004:884; Klassen *et al.*, 2005:586; Zopiatis & Pribic, 2007:770) of ambience. Respondents ranked homely atmosphere as second most important. The homely atmosphere is influenced, by amongst other things, the comfort of chairs and seating at a table. Although no research was found in which students ranked the homely atmosphere as important, the comfort of the dining hall was found to be a contributing factor to customers'/consumers' satisfaction with the meal experience (Kim *et al.*, 2009:17). Layout was ranked third most important and is associated with reducing overcrowding. Crowdedness was found to affect students' perceptions of the meal experience (Kim & Park, 2007:152; Ruetzler, 2007:43). The reviewed research does not reveal that the respondents ranked appealing décor as important. In this research appealing décor was, ranked as least important, in which case it concurs with findings from research done by other scholars.

4.10 RELATIONSHIP BETWEEN THE LEVEL OF SATISFACTION WITH THE ATTRIBUTES OF THE DIMENSION OF THE MEAL EXPERIENCE AND THE IMPORTANCE OF THE ATTRIBUTES OF THE DIMENSIONS OF THE MEAL EXPERIENCE (*OBJECTIVE 8*)

The aim of a food service is for respondents to be as satisfied or highly satisfied with dimensions and attributes that are important to them as humanly possible. The relationship between the level of satisfaction with the dimensions and the importance of the dimensions of the meal experience were determined. This was done by plotting the results of the level of satisfaction with the dimensions and attributes (Section B to E of the questionnaire in Appendix E) and the importance of the dimensions and attributes of the meal experience (Section E of the questionnaire in Appendix E). The median values of the attributes for both satisfaction and importance were plotted on a scatter graph. The median values for the satisfaction are indicated on the y-axis consisting of values highly dissatisfied (1), dissatisfied (2), satisfied (3) and highly satisfied (4) measured by means of a 4 point Likert-type scale. The median values for importance are indicated on the x-axis with the range (1) most important to (3/5/7) least important measured by means of a ranking scale. The graphs that follow present the result with x and y coordinates. These scatter graphs provide management with an indication of those dimensions that should be prioritised for improvement.

The median values of satisfaction in relation to the median values of importance of the three dimensions of the meal experience are shown in Figure 4.13. The food dimension of the meal experience is the main priority for improvement. The service dimension is the second priority for improvement followed by the ambience dimension, with the lowest priority for improvement. It can be seen that the dimensions ranked as most important were assigned the lowest satisfaction scores (dissatisfaction) and *vice versa* (Figure 4.13). The Food Services Division of the Department of Residence Affairs and Accommodation should revise their strategy in order to improve the level of satisfaction of respondents with their residential meal experience.

4.10.1 Relationship between level of satisfaction with the attributes of the food dimension and importance of attributes of the food dimension to respondents

The median values of satisfaction in relation to the median values of importance for the attributes of the food are presented in Figure 4.14. Attributes with median values of 2 for satisfaction indicate high dissatisfaction and median values for importance of 4 and less indicate the attributes that are most important and are considered as priority attributes for improvement of food. The attributes identified as priority for improvement from Figure 4.14 are listed from highest priority to lowest priority below:

1. Health and nutrition aspects of food (2,2)

2. Price of booked meals (3,2)
3. Price of item sales (3,2)
4. Regular incorporation of menu items (4,2)
5. The variety of fruits and vegetables provided (4,2).

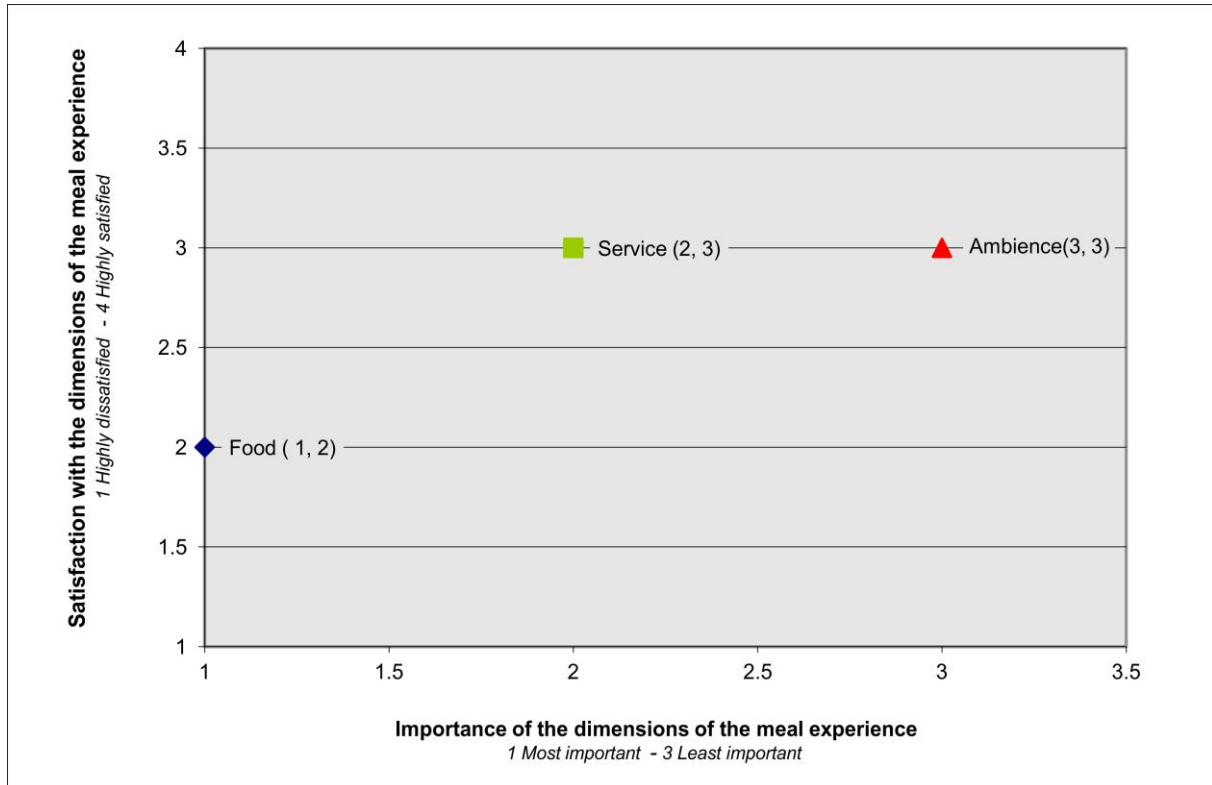


Figure 4.13: Satisfaction in relation to importance with three dimensions of meal experience

The attributes with median values for satisfaction of 3 or more indicate high satisfaction and median values for importance of 5 and below indicate the attributes that were least important and were considered as lowest priority for improvement of food. The attributes identified with lower priority for monitoring from Figure 4.14 are listed below:

- + Convenience of breakfast items (5,3)
- + Fulfilment of special dietary requirements (7,3).

The healthy and nourishing options, the price of booked meals, the price of item sales and the menu variety (specifically the regular incorporation of menu items and variety of fruit and vegetables on the menu) were identified as the priorities to improve. These findings are reflected in the open-ended question responses discussed in Section 4.11. Based on the relationship between satisfaction and importance, the convenience of supper and of lunch items were not identified as priorities due to their high importance ranking (least important). This may be an indication that the type of convenience of supper and lunch items provided meets the students' needs.

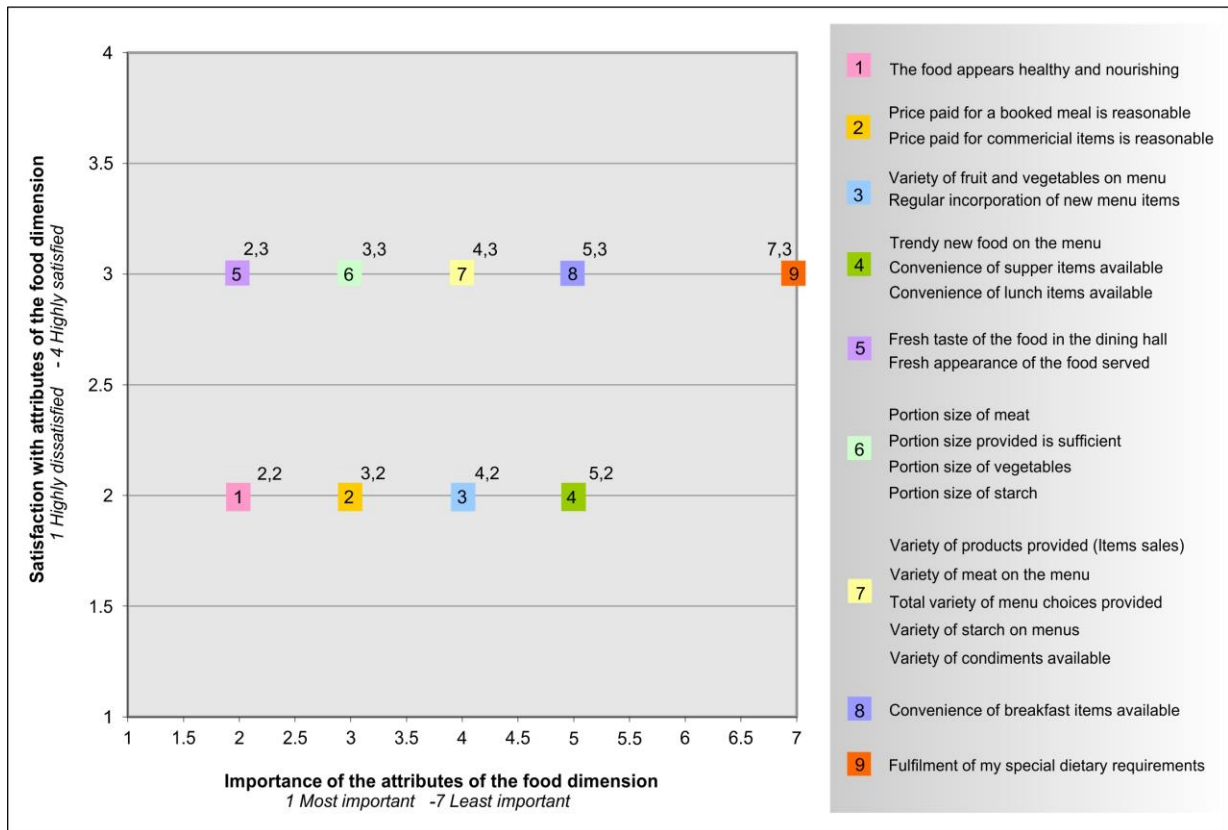


Figure 4.14: Satisfaction in relation to importance of attributes of the food dimension according to median

Other attributes **not included in the list of priorities** were:

- the way in which vegetables are cooked
- the way in which the starch is cooked
- the appetising texture attributes

The reason for this is that the food production and sensory attributes were not included in the importance ranking. However, these factors may need to be considered as many respondents indicated their dissatisfaction with the food production with some respondents indicating that too much oil was used.

Another attribute that was excluded from the priorities identified was the availability of trendy new items on the menu. This attribute was excluded due to the lower importance value assigned to it. It may be concluded that respondents require variety but are not concerned that new menu items should be trendy new items as well.

4.10.2 Relationship between the level of satisfaction with the attributes of the service dimension and the importance of attributes of the service dimension to respondents

The median values of satisfaction in relation to the median values of importance for the attributes of the service are presented in Figure 4.15. Attributes with median values of 2 and less for satisfaction indicate high dissatisfaction and median values for importance of 3 and less indicate the attributes that are most important and are considered as priority attributes for improvement of service. None of the attributes fell into this range. Therefore the following attributes are not a priority as such but should be monitored to maintain satisfaction. The attributes identified as important for monitoring from Figure 4.15 are listed below:

- Operating hours over weekends (2,3)
- Length of operating hours (2,3)
- Operating hours during mornings (2,3)
- Operating hours during afternoons (2,3)
- Operating hours during evenings (2,3).

Attributes with a satisfaction median value of 3 and above indicate a high satisfaction and an importance median value of 3 and above indicate least important were considered as lower priority to be monitored to maintain satisfaction of service were:

- Availability of the booked system menus (4,3)
- Ease with which a meal can be booked (4,3)
- Staff are courteous (4,3)
- Staff's promptness when serving food (4,3)
- Staff greet you in a friendly manner (4,3).

The convenience of operating hours (weekends, mornings, afternoons and evenings) and the length of operating hours should be monitored for satisfaction. Respondents indicated dissatisfaction in the open-ended question with the operating hours (discussed in Section 4.11). There was also dissatisfaction with the discontinuation of cooked meals at item sales in the open-ended question related the operating hours. Therefore the need exists to monitor the operating hours. The availability of stock at item sales was not listed in the list of priorities because there was no importance option for this. It should, however, be improved on because sales will be affected if an item is not available.

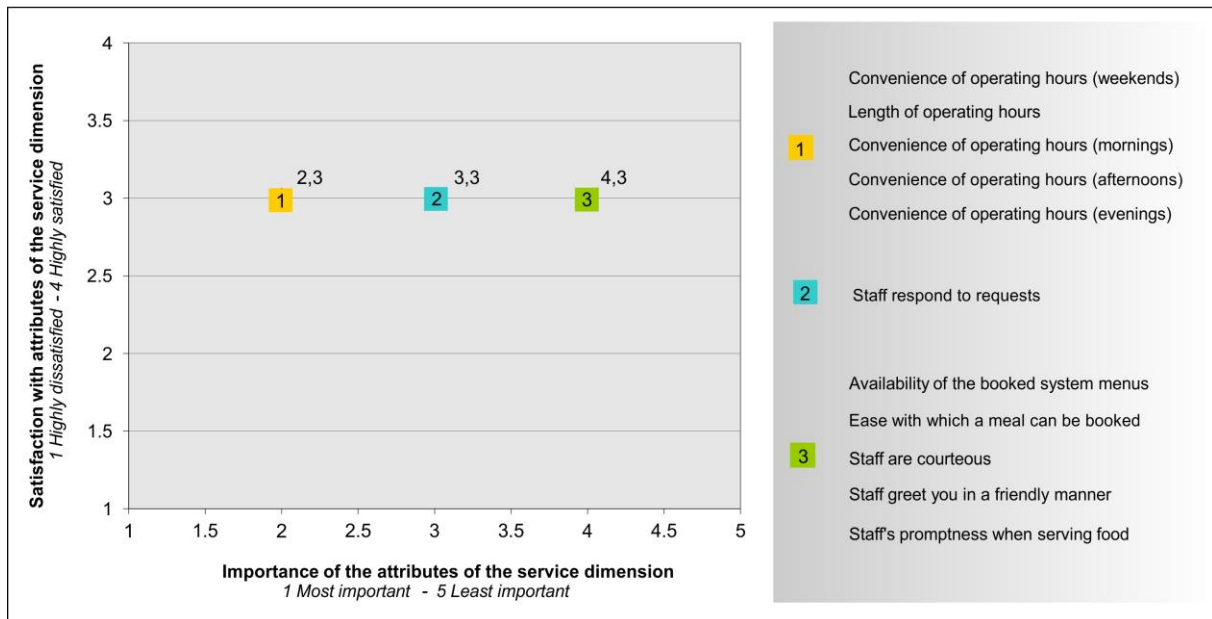


Figure 4.15: Satisfaction in relation to importance of attributes of the service dimension according to median

4.10.3 Relationship between the level of satisfaction with the attributes of the ambience dimension and the importance of attributes of the ambience dimension to respondents

The satisfaction in relation to the importance of attributes of ambience according to median values is presented in Figure 4.16. Attributes with median values for satisfaction of 2 and below indicate a high level of dissatisfaction and median values for importance of 3 and below indicate most important and are considered as priority attributes for improvement of service. The attributes identified to be monitored were:

- Cleanliness of tables (1,3)
- Cleanliness and neatness of the dining hall (1,3).

Attributes with median values for satisfaction of 3 and above indicate a high satisfaction and median values for importance of 3 above indicate least important were considered as lowest priority attributes for improvement of ambience. These were:

- Appropriateness of the décor in the dining hall (4,3)
- Style of furnishings used in the dining hall (4,3)
- Reduction of background noise from the kitchen (4,3).

The cleanliness of tables and cleanliness and neatness of the dining hall were seen as needing to be monitored to maintain satisfaction. Respondents did not specifically state that the type of music played in the dining hall, and its volume, were important as there was no such option. The type of music and volume of the music played should be considered as a factor to monitor as it is a relatively inexpensive way of creating an appropriate atmosphere in the dining hall.

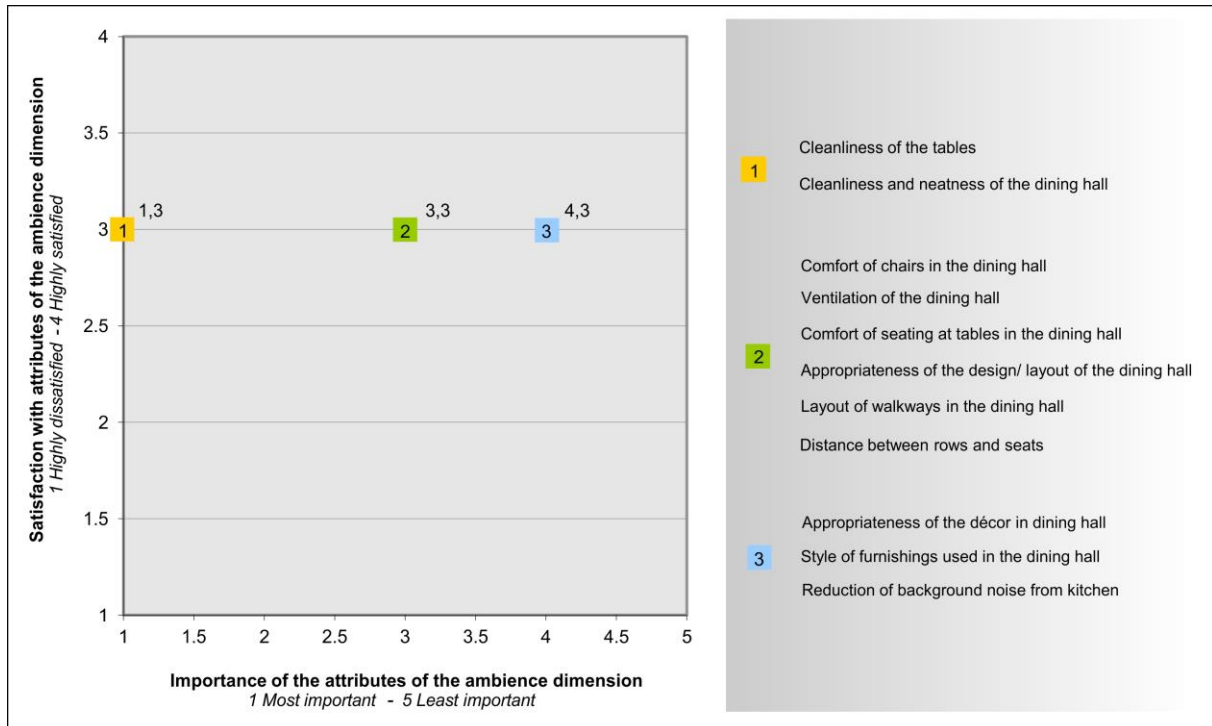


Figure 4.16: Satisfaction in relation to importance of attributes of the ambience dimension according to median

4.11 RECOMMENDATIONS FOR THE IMPROVEMENT OF THE MEAL EXPERIENCE (OBJECTIVE 9)

Although the entire questionnaire contributed to the aim of making recommendations for improvements, an additional open-ended questionnaire was added to the questionnaire to afford respondents the opportunity to provide additional, personalised comments regarding the residential meal experience.

The result of the open-ended question from the questionnaire is now analysed. Of the 878 respondents, 511 (58.2 %) respondents provided additional comments regarding the residential meal experience. These comments referred primarily to negative aspects regarding food. The written comments covered 740 aspects of the meal experience, focusing on specific attributes of the food dimension. Table 4.11 provides a summary of the aspects most often negatively commented on.

The remarks written in the open-ended question were normally highly specific (Table 4.11). It is noted that many comments related to aspects covered by the closed-ended questions in the questionnaire. Respondents may have felt that they could provide better data by describing attributes in detail. These identified attributes indicate a need for improvement:

- Cooked meal commercial items (item sales) were discontinued
- Unreasonable price (too expensive)
- Need to regularly incorporate new menu items
- Lack of variety of meat, starch and fruit and vegetables on the menus
- Special dietary requirements not adequately addressed
- Need for healthy/nutritious food
- Food production (too much deep-fat frying)
- Portion size (normally too small)
- Convenience of operating hours

Respondents were highly dissatisfied with the discontinuation of cooked meals available as commercial items (item sales). Residential students have no specific time for lunch in their varied schedules (Coertze, 2012, pers.comm., 17 Aug.) therefore this dissatisfaction may be related to the convenience offered by the availability of cooked meals that were previously provided as commercial items (item sales), but this practice has since been discontinued. This adds to the findings described in Section 4.6.1, that the convenience of menu items influences satisfaction and also with the findings of Liang and Zhang (2009:121) and Kim *et al.* (2009:16).

Respondents (132 respondents) were dissatisfied with the unreasonable price of food. This corresponds with findings of other research (Lee & Lambert, 2000:248; Estepa *et al.*, 2005:16; Andaleeb & Caskey, 2007:20). The dissatisfaction with the price of food may be a result of the price-sensitive and value-conscious characteristics of Generation Y (Morton, 2002:47; Bakewell & Mitchell, 2003:102; Martin & Turley, 2004:472; Noble *et al.*, 2009:619). Spears and Gregoire (2007:75) propose that a possible explanation for consumer/customer dissatisfaction with the price of food may be due to every customer/consumer not receiving the same portion size.

Respondents indicated that they were dissatisfied with the menu variety and specifically referred to the need to regularly incorporate new menu items. These comments correspond closely with the dissatisfaction in reviewed research with regular incorporation of new menu items (Meiselman *et al.*, 2000a:121; Gramling *et al.*, 2005:36; Hirsch *et al.*, 2005:38; Andaleeb & Caskey, 2007:61; Binge *et al.*, 2012:142) and with the findings of the closed-ended questions discussed in Section 4.6.1.

Respondents were specifically dissatisfied that “the same meals are repeated every week” and “not getting same meal option twice a week” referred to as across-meal variety research (Meiselman *et al.*, 2000a:121). Respondents also specifically indicated that they received the “same two week menu”

and requested “more variety and longer cycles”. This is referred to as dietary variety in the research (Hirsch *et al.*, 2005:38).

Table 4.11: Number of comments by respondents in response to the open question

Comment	Number of comments	Type of comments included
FOOD	512	
Sensory attributes	40	
	13	Food untasty /unappetizing food
	6	Temperature of hot food not hot
	17	Stale food (freshness)
	4	Flavourless food
Menu	406	
Menu variety	200	
	76	Irregular incorporation of new menu items
	37	No provision special dietary requirements
	37	Unhealthy/not nutritious food
	20	No sufficient variety of starch on the menus
	20	No sufficient variety of meat on the menus
	10	No sufficient variety fruit and vegetables on the menu
Price	133	
	25	Unreasonable price for portion size
	75	Unreasonable price
	11	Unreasonable price booked meal
	22	Unreasonable price for commercial items (item sales)
Portion size	74	
	13	Portion size of starch too big
	9	Portion size of meat too small
	18	Portion size of vegetables too small
	3	Portions too small
	1	Portions not standardised
	30	Portions not sufficient
Food production	66	
	19	Food production in general makes food unappetising
	9	Meat food production makes meat unappetising
	1	Food undercooked
	5	Potatoes undercooked
	3	Vegetables undercooked
	2	Chicken undercooked
	2	Food overcooked
	25	Too much food cooked in oil
SERVICE	153	
	96	Discontinuing a cooked meal at item sales
	38	Inconvenience of operational hours
	19	Inconsistency between items booked and items served

Respondents also expressed dissatisfaction with the lack of variety of fruit and vegetables on the menus. This corresponded with the reviewed research (Andaleeb & Caskey, 2007:61; Binge *et al.*, 2012:131). Although these aspects were covered by the close-ended questions in the questionnaire, respondents specifically requested a “bigger variety of vegetables” and “more different salads”. They

also requested that “other alternatives to potatoes and rice” be introduced; and that “the dining hall chefs should cut down on the potatoes and chicken”.

The dissatisfaction of respondents with the health/nutrition of food provided at the dining halls concurs with reviewed research findings (Estepa *et al.*, 2005:16; Lülfs-Baden & Spiller, 2009:42; Johns *et al.*, 2010:183; Binge *et al.*, 2012:131). Respondents often specifically indicate that the food was unhealthy (mainly oily food) as a result of food produced by frying in oil. The complaints by some respondents concerning the small sizes of the fruit and vegetable portions also correspond with reviewed research (Andaleeb & Caskey, 2007:61; Binge *et al.*, 2012:127).

As in the reviewed research findings (Lee *et al.*, 2003:9; Johns *et al.*, 2010:183; Jessri *et al.*, 2011:543) respondents indicated their dissatisfaction with the options for fulfilment of their special dietary requirements. Respondents specifically were dissatisfied with the vegetarian menu in terms of nutritional value and the fact that no Halal menu is available for Islamic respondents. Although few respondents indicated their special dietary requirements such as vegetarian or Halal, by providing a proper vegan and Halal menu it provides options for a wide range of special dietary requirements.

As per the reviewed research (Estepa *et al.*, 2005:12; Gramling *et al.*, 2005:27; Jessri *et al.*, 2011:543) many respondents from this study indicated that they were dissatisfied with the portion sizes. Whilst some claimed it to be too small and insufficient, others expressed their dissatisfaction because the portion sizes were too large. Respondents invariably complained that that the starch portions were too large and the vegetable and meat portions too small.

Respondents were dissatisfied with inconvenient operating hours. This corresponds with the reviewed research (Lee *et al.*, 2003:9; Binge *et al.*, 2012:128). In the open-ended question, respondents indicated their specific dissatisfaction with the convenience of operating hours for lunch as well as the operating hours at examination time when their schedules change. Respondents proposed specific hours for specific times of the day. The dissatisfaction with the operating hours may be explained by the busy schedules of Generation Y's. This results in them organising their days to maximise every hour (Smith, 2008:1; Human Development Index youth marketeers, 2011:3). The fact that there is no common lunch-break for the University as a whole, may further contribute to their level of dissatisfaction with the operating hours (Coertze, 2012, pers.comm., 17 Aug.). This resulted in respondents preferring item sales, as this provides them with a longer time to utilise the residential dining hall.

A significant number of respondents provided comments in the open-ended question section. Many of these comments in the open-ended response section corresponded to the findings from the closed questions discussed in Section 4.6.

4.12 CONCLUSION

This chapter has presented the data by means of graphs and tables. The data was analysed, described after which it was compared with reviewed research and discussed accordingly. This chapter provides the management of the Department of Residence Affairs and Accommodation with a clear picture of the level of satisfaction/dissatisfaction of their student customers/consumers. The next chapter will evaluate the study, discuss implications for theory, make recommendations for future research and offer specific recommendations to the residential food service providers.

CHAPTER 5 : Conclusions, Evaluation and

Recommendations

5.1 INTRODUCTION

In this chapter the report is concluded and the necessary recommendations are offered. First, the importance of the study is dealt with followed by the highlights of the most important findings and their implications for theory. This discussion is based on the analysed data that was presented in Chapter 4 and is presented according to the objectives of this study. Recommendations to the Food Services Division are then given. Finally the research evaluation and the recommendations for further research topics are provided.

5.2 IMPORTANCE OF THE STUDY

This study is important because it contributes to the limited body of empirical knowledge of the non-commercial institutional food service providers in the uniquely multi-cultural South African context. Globally there is an increased effort to determine the level of satisfaction that students have with their meal experiences in order to improve the food service provided (Cranage & Lee, 2007:58; Ruetzler, 2007:27; Ruetzler, 2008:308; Kim *et al.*, 2009:10; Liang & Zhang, 2009:113; Ruetzler *et al.*, 2009:200; Binge *et al.*, 2012:123; Ruetzler, Taylor & Hertzman, 2012:1). This research has added value by focusing on the specific needs of Generation Y which is an attractive market to explore and a group with limited representation in research (Noble *et al.*, 2009:618). This research has also added value by focusing on captive (Meiselman *et al.*, 2000a:121; Hirsch *et al.*, 2005:42) and culturally diverse (Payne-Palacio & Theis, 2009:165; Kwun, 2011:252) consumers/customers, an important consideration for non-commercial food service providers.

The main contribution of this research lies with the recommendations provided for the Food Services Division of the Department of Residence Affairs and Accommodation in order to accomplish the aim of determining and describing the University's residential students' satisfaction with their meal experience. These recommendations have specific relation to the improvement of the meal experience in terms of food, service and ambience according to the demographic profile of students.

5.3 HIGHLIGHTS OF THE MOST IMPORTANT FINDINGS AND CONTRIBUTION TO THEORY

The findings of this study make a valuable contribution to the existing theory in terms of students' satisfaction with the residential meal experience. Since the aim of this research relates to a specific case the results cannot be generalised to the rest of the South African or other student populations. However, this research does provide a point of departure for future research regarding the residential meal experience on other South African student campuses. The model used to conduct this research was compiled from Campbell-Smith's (1967:85-102) meal experience work and the three factors of variables of food research proposed by Meiselman's (in Bell & Meiselman, 1995:292). The model in Figure 2.6 shows that the residential meal experience of student consumers/customers consists of the interaction of food, service and ambience as experienced within the residential dining hall food service context. Although the context, meal experience and the student consumer/customer are discussed as separate components they are interrelated.

5.3.1 Context

The meal experience is defined as all the elements that make a meal something more than merely satisfying the appetite (Cracknell *et al.*, 2000:36). Understanding the meal experience and its components is important for designing a successful meal experience as many institutions have failed to deliver on this once the initial uniqueness of the meal experience has worn off (Gupta & Vajie in Hanefors & Mossberg, 2003:250). The residential meal experience has certain specific characteristics (as described in Chapter 1: Section 1.1 and 1.4).

University students in general, and residential students of the University of Pretoria in particular, are regarded captive customers/consumers due to restrictions they encounter in some way or another when making use of food service provided for them (Kim *et al.*, 2004:98; Shanka & Taylor, 2005:329; Coertze, 2012, pers. comm., 17 Aug.). Residential students are offered three meals a day using a menu cycle (booked meals) that repeats every 16 days with snack options sold throughout the day, as discussed in Chapter 1. When the menu repeats too often, as would be the case with too short a cycle, the customers may become bored with the food offered (Meiselman *et al.*, 2000a:123; Cousins *et al.*, 2002:64; Hirsch *et al.*, 2005:42; Martin & Oakley, 2008:383). Customers/consumers of non-commercial institutional food services are generally more culturally, ethnically and economically diverse and have many more and more specific food preferences (Payne-Palacio & Theis, 2009:165). This may also be the reason for the frequency of residential students' media complaints.

Food is prepared in large quantities in the dining halls of the university residences according to a conventional food service system. Onderstepoort, Medical and Groenkloof campuses use this system (Martin, 2012, pers. comm., 7 Sept.). At Hillcrest and Hatfield campuses a combination of the conventional and ready-prepared food service systems are used (Martin, 2012, pers. comm., 7 Sept.).

On these two campuses all the food is prepared in the conventional way but selected menu items are put in a blast chiller and stored refrigerated for a maximum period of two days (Martin, 2012, pers. comm., 7 Sept.). These menu items are distributed from the central production unit at Hillcrest to the various residences for re-thermalisation. Although limited in number, studies done on food service systems show that there are contradictory results regarding the influence of the use of the cook-chill food service system on customer/consumer satisfaction with regard to the quality attributes of the food (Lülf-Baden & Spiller, 2009:37; Porter & Cant, 2009:86). When food production is not correctly executed the quality attributes may be affected in such a way that customer/consumer dissatisfaction results. The meal experience consists of a food dimension, a service dimension and an ambience dimension that are inter-related to create the meal experience as discussed and explained in Section 2.1. These aspects will be discussed in detail.

The following associations/relationships were identified:

- The relationship/association between the length of use of the residential dining hall and the respondent's level of satisfaction with the meal experience was one. The results showed that the longer respondents used the dining hall, the more dissatisfied they became with the meal experience. This research contribute research done by other scholars (Meiselman *et al.*, 2000a:123; Gramling *et al.*, 2005:36; Hirsch *et al.*, 2005:42) by indicating that respondents not only rated food lower after consumption of a repetitive food but were also dissatisfied with the meal experience after repetitive experiences.
- The relationship/association between level of satisfaction with the meal experience and the residential dining hall that was used by the respondent was a second observation. There were no common characteristics that could be identified among the residential dining halls that could possibly explain the respondents' level of satisfaction. The relationships/associations identified did support existing research (Meiselman *et al.*, 2000b:232; Edwards *et al.*, 2003:650; King *et al.*, 2004:651; King *et al.*, 2007:64) that the context influences the consumer's/customer's level of satisfaction with the meal experience. The satisfaction with the meal experience and the comparison with the consideration of the residential setting (Figure 4.4b), show that the context (setting) influences respondents' level of satisfaction with the meal experience. The higher level of the satisfaction with the meal experience than with food (Figures 4.4a and 4.4b) also support findings that food, service and ambience contribute to the meal experience (Sulek & Hensley, 2004)

5.3.2 Satisfaction with and importance of the meal experience

The results of satisfaction show that most of the respondents indicated that they were either highly dissatisfied or dissatisfied with food dimension of the meal experience (Figure 4.4a). It can be seen from Figure 4.4a that most of the respondents were either highly satisfied or satisfied with the service dimension and even more respondents were either highly satisfied or satisfied with the ambience

dimension. These findings contribute to research findings from non-commercial institutional food services that rated food the lowest (dissatisfied) of all dimensions of the meal experience (Lau & Gregoire, 1998:1305; Estepa *et al.*, 2005:12, 13; Jessri *et al.*, 2011:530). The service (Meyer & Conklin, 1998) and ambience dimension (Aigbedo & Parameswaran, 2004:886) rated higher than the food dimension of the meal experience.

This research also supports research findings that ranked food as the most important dimension of the non-commercial meal experience followed by the service dimension as the second most important followed by the service dimension as the third most important (Lam & Heung, 1998:7; Lau & Gregoire, 1998:1305; Kim *et al.*, 2004:97; Andaleeb & Caskey, 2007:106; Kim *et al.*, 2009:15). The results in this research contribute to these findings ranking ambience as the least important dimension of non-commercial meal experiences.

5.3.2.1 Food

In Figure 4.5 it can be seen that most respondents were either satisfied or highly satisfied with the sensory attributes. Most respondents were either dissatisfied or highly dissatisfied with the meal offering attributes and the food production attributes. In this study the attributes of the food dimension most respondents were either highly dissatisfied or dissatisfied with the food dimension as listed below:

- The respondents were either dissatisfied or highly dissatisfied with the price paid for both a booked meal and for commercial items and felt that these prices were unreasonably high. This supports existing research from both the non-commercial institutional food service sector and from the broader food service sector in which there was dissatisfaction with the price of the food (Lee & Lambert, 2000:48; Estepa *et al.*, 2005:16; Andaleeb & Caskey, 2007:20).
- Menu variety of institutional food services with captive consumers/customers was identified as one of the factors that could cause dissatisfaction (Cardello *et al.*, 1996:14; Williams, 2009:51). Regular incorporation of new menu items, trendy new food on the menu, convenience of supper items available, convenience of lunch items available, variety of fruit and vegetables on the menu and that the food appears healthy and nourishing were attributes which some respondents in this study were either dissatisfied or highly dissatisfied with. This study's results support prior research from both the non-commercial institutional food service sector and from the broader food service sector in which dissatisfaction was found with the lack of regular incorporation of new menu items, trendy new food on the menu and the food appearing healthy and nourishing (Meiselman *et al.*, 2000a:121; Estepa *et al.*, 2005:16,18; Gramling *et al.*, 2005:36; Hirsch *et al.*, 2005:38; Andaleeb & Caskey, 2007:61; Johns *et al.*, 2010:183; Binge *et al.*, 2012:142,131). The results also contribute to prior research findings from the non-commercial institutional food

service sector where the convenience of menu items was found to influence satisfaction (Kim *et al.*, 2009:16; Liang & Zhang, 2009:121).

- This study's results supports research findings with specific reference to the attribute of food production (Lee *et al.*, 2003:9; Donini *et al.*, 2008:105; Johns *et al.*, 2010:183; Jessri *et al.*, 2011:536). The respondents in this study were dissatisfied with the way in which the vegetables as well as the starch items (potatoes, rice, maize/corn/mealies and pasta) were cooked which makes these items taste unappetising. However, a further contribution is made in this study by pointing out the respondents' dissatisfaction with the texture of the food. Prior research done in the broader food service sector found dissatisfaction with the unappetising texture of food (Jessri *et al.*, 2011:537).
- In this study an eighth of respondents were highly satisfied with the temperature of the cold food served. This contributed to reviewed research from both the non-commercial institutional food service and the broader food service sectors that indicated dissatisfaction about the temperature at which hot food was served (Donini *et al.*, 2008:111; Johns *et al.*, 2010:183; Jessri *et al.*, 2011:6).
- This study found that the freshness (derived from taste and appearance) and nutritional value of food is most important followed by cost (value for money) and then variety. Trendy new recipes and convenience were less important and availability of special dietary requirements was the least important of the food attributes considered. Reviewed research from both the non-commercial institutional food service sector and the broader food service found price, nutritional value/healthy options, menu variety, convenience, appearance, taste, special dietary requirements and fresh ingredients as important (Lam & Heung, 1998:8; Marquis, 2005:58; Cranage & Lee, 2007:64; Bryant & Dundes, 2008:328; Liang & Zhang, 2009:121; Hartwell *et al.*, 2011:1398; Choi *et al.*, 2011 :1)

5.3.2.2 Service

Most of the respondents were either satisfied or highly satisfied with the assurance, empathy and tangible areas of the service dimension as can be seen from Figure 4.6.

The attributes of service that the respondents were dissatisfied with are briefly discussed below:

- The responses for the availability of stock at items sales were almost evenly split between satisfied and dissatisfied. This contributed to the existing body of research as no other research findings were found regarding this attribute. This is probably because the availability of stock is seen as an indispensable part of service as unavailability prohibits respondents' purchases.

- Although most respondents from this study were satisfied with the service's operating hours an eighth of respondents were highly dissatisfied with the attribute of the convenience of operating hours (weekends), the length of operating hours, convenience of operating hours (mornings), convenience of operating hours (afternoons) and convenience of operating hours (evenings). Research from both the non-commercial food service sector and the broader food service sector found dissatisfaction with the convenience of operating hours (Estepa *et al.*, 2005:16; Binge *et al.*, 2012:128). This study found there was dissatisfaction with these specific attributes.
- A quarter of respondents were highly satisfied with all the tangible and empathy attributes. Research from both the non-commercial institutional food service sector and from the broader food service sector found both satisfaction and dissatisfaction specifically regarding staff greeting one in a friendly way (Lau & Gregoire, 1998:1305; Estepa *et al.*, 2005:13; Binge *et al.*, 2012:134). Research from both the non-commercial institutional food service sector and from the broader food service sector found both dissatisfaction and satisfaction with tangible attributes of service particularly the appearance of staff and cleanliness of cutlery and crockery (Estepa *et al.*, 2005:13; Gramling *et al.*, 2005:28; Binge *et al.*, 2012:127).
- This study's results indicate that the operating hours were most important. Friendly service, speed of service and a convenient booking system were the second most important. Responsiveness to questions and requests were least important. Research from both non-commercial institutional food service sector and from the broader food service sector ranked speed of service, friendly service and operating hours as important (Knutson, 2000:72; Aigbedo & Parameswaran, 2004:884; Klassen *et al.*, 2005:586; Shanka & Taylor, 2005:339).

This study found that respondents were satisfied with the ambience of their eating environment. More than an eighth of respondents were highly dissatisfied with the type and volume of music played in the dining hall. These findings concur with the research findings of Andaleeb and Caskey (2007:61).

All the respondents were satisfied with the ambience. More than a third of respondents were highly satisfied with the cleanliness and neatness of the tables, the cleanliness and neatness of the dining hall and the lighting in the dining hall. Research from both non-commercial institutional food service sector and from the broader food service sector found both dissatisfaction and satisfaction with the cleanliness of the dining hall (Azanza, 2001:519; Gramling *et al.*, 2005:28; Andaleeb & Caskey, 2007:62). Research from both non-commercial institutional food service sector found the lighting in the dining halls to be important to customers/consumers (Lee *et al.*, 2003:9).

The findings of this study were that neatness and cleanliness were the most important attributes. A homely atmosphere and the layout of the dining hall was the second most important and controlled noise levels and appealing décor were least important. Research from both the non-commercial

institutional food service sector and from the broader food service sector found that the neatness or cleanliness is important (Aigbedo & Parameswaran, 2004:884; Klassen *et al.*, 2005:586; Zopiatis & Pribic, 2007:770).

5.3.3 Student consumer/customer

The socio-demographic profile of the student and their utilisation of the residential dining halls was described and then related to their level of satisfaction with the meal experience, was an original approach to the topic and not found in other studies. Specific relationships/associations were identified between the profile characteristics of the respondents and their level of satisfaction with the meal experience.

The following relationships/associations were identified:

- The relationship/association found between the level of satisfaction with the meal experience and the gender of the respondent using the residential dining hall was similar to the findings in the work of other scholars (Wyant & Meiselman in Kissileff, 2000:65; Meiselman & Schutz, 2003:209; Gramling *et al.*, 2005:33; Kwun, 2011:258).
- A number of studies (Lau & Gregoire, 1998:1305; Meyer & Conklin, 1998:1428; Becker *et al.*, 1999:248; Mattila, 2000:270; Mohammad *et al.*, 2005:93; Keillor *et al.*, 2007:456; Kim & Park, 2007:137; Ruetzler *et al.*, 2009:206) also noted that cultural differences affected the food, service and ambience dimensions of the meal experience. This study contributes by exhibiting a relationship between the satisfaction with the meal experience and ethnic groups.
- This study contradicted existing research findings (Glanz *et al.*, 1998:1125; Bisogni *et al.*, 2002:133; Williams, 2002:270; Jessri *et al.*, 2011:542) in which differences in socio-economic status (Living Standards Measure) of consumers/customers were seen to influence their food choices, expectations and satisfaction by exhibiting no relationship/association between the socio-economic status (Living Standards Measure) of the respondent and their level of satisfaction with the meal experience.

5.4 FINAL RECOMMENDATIONS TO THE FOOD SERVICES DIVISION

After thorough examination of the analysis and discussions of data, recommendations were compiled for the Food Services Division of the Department of Residence Affairs and Accommodation. In Chapter 4 the demographic data, satisfaction data and importance data were analysed and discussed and certain relationships/ associations were drawn that have given rise to the following recommendations.

The results show that most respondents were satisfied with the meal experience provided. Respondents indicated higher satisfaction with a number of food, service and ambience attributes of their meal experience. These should be maintained and reinforced.

Food attributes:

- Temperature at which cold food is served
- Fresh appearance of the food served.

Service attributes:

- Staff to greet them in a friendly manner
- Staff to recognise their faces
- The attitude of staff towards them
- Staff to be courteous
- Quality of cutlery and crockery provided should be pleasing
- Booking meals should be easy and not complicated
- Cleanliness of the cutlery and crockery used should be a priority concern
- The uniforms of the kitchen and serving staff should project a hygienic image
- Staff should always wear appropriate attire.

Ambience attributes:

- The cleanliness of tables
- The cleanliness and neatness of the dining halls.

It appears that the dissatisfaction indicated on the questionnaire is the result of specific incidents that occurred and communication not reaching all students. Communication between the Food Services Division and the students can be improved by creating a specific web page linked to the University of Pretoria's intranet that is accessible on campus (intranet) and off campus (internet). This web page should also be accessible via a mobile phone application. The Food Services Division should use this page to explain the rationale for its food offering and update students of problems or challenges experienced. The page should include a calendar for the following two months with hyperlinks that offer the menu options for a specific day. Students should be offered the option to book meals via hyperlink. An hour after the meal a link should open for students who consumed the meal to rate the meal they consumed from which statistics could be compiled.

The food dimension of the meal experience was identified as the first priority for improvement followed by service and then ambience.

In the sections regarding the food certain themes appeared. Dissatisfaction with the price of both the booked meals and the commercial items (item sales) appeared to be related to the respondents'

perception of value. The Food Services Division could improve the level of satisfaction by offering discounts to students for their loyal use of the dining hall. For example, students who book 5 or 10 meals ahead of time could receive meals at a slightly lower price per meal booked.

Menu variety also had a high level of dissatisfaction. Menu variety can be improved by lengthening the cycle of the menu, providing choices or options and regular incorporation of new menu items.

The Food Services Division can lengthen the cycle of their menu as they currently only use a 16 day cycle. Food services that serve captive diners for a longer time usually use three to four week cycles (Williams, 2009:57). The cycle could be lengthened to a 24 or 25 day cycle to keep the unpredictability of not having the same meal on the same day of the week. The cycle should be checked to ensure that repetition of certain individual ingredients does not occur too closely in a menu cycle.

Incorporating new menu items into the menu can improve menu variety. Students are open to dishes from other cultures and new trends so these dishes could be incorporated every now and then to create variety. An analysis of the menu showed that during the time of the study neither porridge nor cereals were on the menu. Offering students options of cereal and porridge such as oats is also very trendy. Other starches and pulses can also be included on the menu such as lentils, chick peas and whole wheat in a Biryani or Kitchari. Trendy foods such as a tomato and basil or a butternut soup can also be included in the menu. However, dishes which are unfamiliar to students should be varied with familiar items so that students have the option to choose such items. It appears to be important to have such items as well as the familiar and standard ones.

Offering customers/consumers a choice/option may improve their perception of the meal item (King *et al.*, 2004:651; King *et al.*, 2007:64). The Food Services Division already offers the students (customers/consumers) the option between two meal items. Offering students the opportunity to select their own combination of items from the two or three menu options available enables them to determine what they want to eat. Students therefore can choose to only eat fruit and yoghurt for breakfast and eat only meat and starch for supper. The items selected can be printed on the receipts as soon as the students swipe their card. A small charge may be added when students make use of this option as extra administration is involved and this costs money.

The food offered was not perceived as healthy and nourishing. The food was regarded as unhealthy because it was fried in oil and the portion sizes of fruit and vegetables were too small. This is closely related to the students' dissatisfaction with the variety of fruits and vegetables provided. Offering students the opportunity to order their own selection of items from the menus available or providing two portions of vegetables and no meat (as explained) would solve this problem. Students could then select alternative menu items that were not fried in oil.

Some respondents were dissatisfied specifically with the vegetarian menu in terms of nutritional value and the fact that no Halal menu was available for Islam respondents. Although the closed questions showed that respondents with special dietary requirements were in the minority, this does not make meeting their needs any less important. Providing proper vegan and Halal menu options for a wide range of special dietary requirements also presents the possibility of attracting students from a wider diversity of cultures to the residential dining halls, whilst also offering further variety on the menu.

Students were dissatisfied with the operating hours of the dining halls. This is related to their comments of dissatisfaction about the discontinuation of the provision of cooked meals as item sales. This is because the dining hall opened earlier and closed later when the cooked meals were available. Students have lectures around lunch time on Main Campus so have to be at their residence's dining hall slightly before or after the dining hall operating hours. There are solutions to the problem. First, the Food Services Division can consider bringing back the cooked meal at the item sales section. This must be done in consultation with the students as this section was discontinued because of the many complaints about these cooked meals. Second, the proposed intranet system can set up an opinion poll for students to vote on convenient operating hours for both the kitchen management staff and the students. It might not be possible to satisfy all students but in this way most students can be accommodated. Third, providing pre-packed meal options for sale from the Kloostersaal dining hall on main campus could be an alternative lunch option for students. Fourth, dining halls on the same campus can have different operating hours and students could book a meal from another dining hall. In this way students would have the opportunity to make use of another dining hall when not in time for the operating hours of their own dining hall. Fifth, selected items can be offered by means of vending machines that accept payment by means of student cards or cash. The items included should be necessities such as milk, healthy lunch options (sandwiches) and a selection of commercial items such as chocolates, crisps and Milo. This will enable students to buy items for lunch and midnight snacks when they are studying especially at examination time. It will also mean that fewer cashiers at item sales would be needed thereby reducing labour costs. The Food Services Division can use one of these recommendations or a combination of them to solve the problems experienced by residential students as identified in this study.

5.5 EVALUATION OF THE STUDY

Care was taken to ensure that data collected was accurate, comprehensive and meaningful (Chapter 3 Section 3.7.5). The major strengths of this study are that stratified random sampling was used in order to project the findings to the entire population and the measurement instrument was subjected to rigid scrutiny and review. The quality of the data was established by using the constructs of reliability and validity.

5.5.1 Reliability

The reliability of the survey questionnaire was improved by conducting a thorough literature review before the questionnaire was compiled. The research design was based on clear conceptualisation of the research problem and theoretical definitions of all concepts were compiled. Well-established data collection methods that had been proven to be reliable in other studies were used. Relevant indicators from documented research and reports were incorporated and new indicators added. Reliability was improved by mainly using closed-ended questions (only one open-ended question was used). Indicators used in the questionnaire used adjectives and examples to increase the detail measured by the indicators. More than one indicator was used to measure a variable.

5.5.2 Validity

Face validity was ensured by having the questionnaire evaluated. Construct validity was established by cross-examining the meaning of the concepts in the instrument and the propositions the theory made about the relationships between the measured concepts and other concepts. Content validity was ensured by proper conceptualisation and operationalisation of the research that was based on the objectives of the study. Consulting previously-used questionnaires while compiling the questionnaire used for the study proved to be helpful. Content validity was also established by conducting focus group discussions, a review of the provisional version and by adding an open-ended question for additional comments.

5.5.3 Evaluation of research study and recommendations to future researchers

Similar to the experience of other researchers (Babbie, 2010:92; Neuman, 2011:38) it was found that the explorative design used provided valuable insight into this relatively new field of investigating the meal experience of students in an institutional food service setting, a field of research that exists globally but no recent research in the South African context could be traced. The researcher found it disappointing that as many as 50% of participants failed to attend focus group discussions. This might have been because the interviews were conducted during October 2008 and students were busy with evaluations and preparation for the final examinations they were due to write the following month.

The thorough literature review and focus groups provided a rich base of ideas from which to develop the questionnaire and structure the questions. The focus group discussions gave the researcher deeper understanding of the study topic and the residential meal experience, clarified central concepts of the residential meal experience especially the work of Estepa *et al.*, (2005:12), Gramling *et al.*, (2005:27) and Andaleeb and Caskey (2007:61). These sources enriched the researcher with insight into the specific context, from which a more relevant survey questionnaire was developed that was used as the measurement instrument.

A quantitative satisfaction survey with stratified random sampling was used to make the results applicable to the rest of the population. A consumer satisfaction survey is an effective way to provide management with valuable information to improve the food service as some authors have mentioned before (Donini *et al.*, 2008: 105, 113).

There are two limitations as far as the research methodology was concerned. First, the questionnaire could only be provided in English and this was not the home language of most of the respondents. Second, a typing error was found in the life style measurement questions. The statistician did evaluate the error and did not foresee any significant problems with the analysis of results. The limitations discussed did not detract from the merit of this research.

5.6 RECOMMENDATIONS FOR FURTHER RESEARCH

From the findings, the following opportunities for further research emerged.

Relating to the sample and sampling it is suggested that these issues be considered:

- **Ethnic and cultural group:** Not all the ethnic and cultural groups were sufficiently represented in the residence population to determine the relationship between cultural group (using both language and ethnic group) and level of satisfaction with the meal experience. Conducting this study at other universities where more and larger cultural groups are represented and comparing results could yield enlightening conclusions.
- **Type of food service:** University residences use different food service systems. Each food service system has its own advantages and disadvantages. This research was only conducted in a food service where a combination of the conventional and ready-prepared (cook-chill) food service system was used. Conducting this study at universities using a different system such as the assembly serve or ready-prepared (cook-freeze) style could provide informative results regarding student satisfaction.

With regard to the findings, the following suggestions are given:

- This study found there was a relationship between the level of satisfaction with the meal experience and the gender of the student, the cultural group to which they belonged as well as their length of use of the facility. A follow-up study to determine the specific attributes that influence student's satisfaction with regard to these three aspects would be worthwhile.
- In the open-ended question respondents complained about specific incidents that occurred rather than the general performance of the Food Services Division. A further study could be done to

develop an electronic feedback system e.g. a system that processes feedback data from each meal and compiles detailed statistics of the food service and its operation. The study can determine the type of information the system should capture from both the diner as well as the type of questions to ask to capture the feedback.

- Students were highly dissatisfied with the high price of the food. Reduction in the cost could improve student satisfaction if the quality met expectations. South African labour is becoming increasingly expensive and this is driving the cost of meals up. An explorative study to determine ways to reduce costs e.g. labour costs by implementing technology (e.g. vending machines) and its legal and ethical implications for the University's Food Services Division could be useful.
- Students were dissatisfied with the menu variety. It is likely that the Food Services Division will incorporate new menu items. A study could be conducted to develop innovative new menu items and standardised recipes for the preparation of those menu items.

5.7 CONCLUSION

In this chapter the importance of the study was demonstrated; a brief summary of the research findings was provided and the contribution of this study to the topic was presented. The management of the Food Services Division of the Department of Residence Affairs and Accommodation at the University of Pretoria was provided with final recommendations for the improvement of the meal experience at the residential dining halls. The applied methodology used for this research study was appropriate and relevant and yielded manageable recommendations for the Food Services Division of the Department of Residence Affairs and Accommodation to consider in order to service the student corps better in this particular setting. Future researchers would be able to replicate the study and expand on particular aspects as suggested in the recommendations for further research.

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APPENDIX A

- Permission to conduct research -

100
1908 - 2008



UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

**RESIDENCE AFFAIRS AND
ACCOMMODATION**

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2009-09-22

TO WHOM IT MAY CONCERN

This is to certify that ms Jeane Hall and the Department of Consumer Science have the permission of the Department of Residence Affairs and Accommodation: Food Services, to do the study "Safe Quality Food @ Tuks and ms Hall has the right to use Residence Students in the study.

P A Martin
DEPUTY DIRECTOR: RESIDENCE AFFAIRS
AND ACCOMMODATION

APPENDIX B
- Supplementary tables -

Meal experience models

Author	Dimensions	Definition
(Campbell-Smith, 1967)	Food	The meal consists of the food, beverages, menu composition and value for money
	Service	Service consists of the human aspect and the accessories brought to the table
	Atmosphere	Atmosphere includes concepts such as mood (formal/ informal), accessibility, functionality and safety
(Gustafsson, 2004)	product	The food and beverages
	Room	The setting for the meal and the facilities
	meeting	The interpersonal relations that develop between customers, other customers and personnel in the restaurant
	atmosphere	The interaction of the product, room and meeting.
	management control system	The planning, economic aspects, rules, regulation and laws that food service needs to comply with to stay in business
(Hansen <i>et al.</i> , 2005)	core product	sensory characteristics, presentation and composition of the menu
	restaurant interior	To design of the physical environment, tableware, cutlery and crockery
	the personal social meeting	The interaction between customers and interaction between staff and customers
	the company	The social setting this includes the conversations and the occasion of the meal
	the atmosphere	The individual emotional total meal experience
(Johns <i>et al.</i> , 2010)	Physical and service elements	Food, service and physical setting (e.g. variety of choices, acceptable food served hot and on time)
	Social relationships	Cover all social interaction that takes place during meal service (e.g. polite and cheerful staff)
	Emotional benefits	The fulfilment of needs for hedonic pleasures (e.g. being looked after, looking forward to meal times)
	Holistic impression and personality	The overall image which is created through the design and other aspects (e.g. under-funded and dedicated staff)
	Cultural congruity or dissonance	The cultural background and expectations of the institution and values that it promotes to influence the experience
	Personal meaning	The visitors understanding of the I experience (e.g. respect for identity and values, engagement with environmental issues).
	Picture of patient	The perception of the customer of the experience that draws the customer a destination
	Picture of food service management	
(Kivits <i>et al.</i> , 2011)	Meal	The aspects of the meal such as sensory characteristics, service quality (ambience and service)
	Money	The economic aspect of the meal experience including market economics, income, price and pricing methods
	Moment	The biological imperative (hunger), cultural conventions (habits, meal times) and psychological influences (impulse).
	Mood	The different state of minds such alertness, tiredness or stress which can be influenced by biological, physiology, cultural, emotional and psychological forces
	Elements influenced by food service outlet	The aspects of the meal experience influenced by the management of the food service outlet.
	Elements influenced by consumers	The factors that consumer perceive through their background (e.g. age, economic status, ethnic group etc.).
	The meal experience boundary with the wider food system	The context in which the meal experience is presented.
	The wider food system	

Chronological order of quantitative research of the meal experience

	Author	Title	Country	Sample method	Methodology	Commercial	Hospital	Educational/institutional	Student participants
1	(O'Hara <i>et al.</i> , 1997)	Taste, temperature, and presentation predict satisfaction with food services in a Canadian continuing-care hospital	Canada	Convenient	Questionnaire n=65		X		
2	(Lau & Gregoire, 1998)	Quality ratings of a hospital food service department by inpatients and post-discharge patients	Midwestern (United States)		Questionnaire In patients n= 437 post discharged patients n=253		X		
3	(Lam & Heung, 1998)	University food service in Hong Kong: a study of consumers' expectations and satisfaction levels	Hong Kong	Random	SA Questionnaire n=292			X	
4	(Meyer & Conklin, 1998)	Variables affecting high school students' perceptions of school food service	Alabama, Delaware Texas, Kansas	Whole population	Questionnaire n=1823			X	
5	(Lee & Lambert, 2000)	Impact of waiting time on evaluation of quality and consumer satisfaction in food service operations	Boston (North-eastern University Cafeteria)	Whole population	Questionnaires n=115	X			X
6	(Azanza, 2001)	Food consumption and buying patterns of students from a Philippine university fast-food mall	Philippines	Convenient	Questionnaire n=100	X			X
7	(Fu & Parks, 2001)	The relationship between restaurant service quality and consumer loyalty among elderly		Random	SA Questionnaire n=415	X			
8	(Soriano, 2002)	Customers' expectations factors in restaurants. The situation in Spain	Spain	Whole population	Questionnaire n=3872	X			
9	(Lee <i>et al.</i> , 2003)	Development of service quality measurement for food service in continuing care retirement communities			Expert panel review Focus groups Questionnaire n=405		X		
10	(Aigbedo & Parameswaran, 2004)	Importance-performance analysis for improving quality of campus food service	Midwestern University	Whole population	(Questionnaires n=298			X	
11	(Kim <i>et al.</i> , 2004)	Customers' satisfaction factors regarding university food court service		Random	Questionnaire n=276	X			X
12	(Klassen <i>et al.</i> , 2005)	Planning food services for a campus setting	California State University Northridge	Convenience	Questionnaire Bookstore complex n=405, Rest of campus n= 399	X			X
13	(Estepa <i>et al.</i> , 2005)	Student's perceived service quality and customer satisfaction in a Midwestern university food service operation	Midwestern university		Interviews, email Questionnaires n=187			X	

14	(Gramling <i>et al.</i> , 2005)	Food service management and its impact on college operations: a business anthropological case study	South Carolina		Participant observation 2months, 37 student interviews, focus group 10 participants Questionnaires n=128			X	
15	(Marquis, 2005)	Exploring convenience orientation as a food motivator for college students living in residence halls	Canadian	Whole population	Questionnaire n=319			X	
16	(Capra <i>et al.</i> , 2005)	The acute hospital food service patient satisfaction questionnaire: the development of a valid and reliable tool to measure patient satisfaction with acute care hospital food service	Queensland, Australia	Convenience	Questionnaire n=2347		X		
17	(Ladhari <i>et al.</i> , 2008)	Determinants of dining satisfaction and post-dining behavioural intentions		Convenience	Questionnaire n=338				
18	(Zopiatis & Pribic, 2007)	College students' dining expectations in Cyprus	Cyprus	Random	Questionnaire n=237	X			X
19	(Andaleeb & Caskey, 2007)	Satisfaction with food services: Insights from a college cafeteria	Northwest Pennsylvania Penn State Erie College	Random	Interview Questionnaire n=208	X			X
20	(Bryant & Dundes, 2008)	Fast food perceptions: a pilot study of college students in Spain and the United States	Spain United States	Convenience	Questionnaire n=196	X			X
21	(Donini <i>et al.</i> , 2008)	Improvement in the quality of the catering service of a rehabilitation hospital	Rome	Whole population	Questionnaire Interviews=591 meal evaluation n=572		X		
22	(Porter & Cant, 2009)	Exploring hospital patients' satisfaction with cook-chill food service systems: a preliminary study using a validated questionnaire		Whole population	Questionnaire n=117		X		
23	(Ruetzler, 2007)	The development a university food service quality survey instrument: a culture different perspective	University of Southern Mississippi	Whole population	Questionnaire n=141			X	
24	(Ruetzler, 2008)	Food, beverage, and service quality does culture impact satisfaction with university food services	University of Southern Mississippi	Whole population	Questionnaire n=141			X	
25	(Ruetzler <i>et al.</i> , 2009)	A comparative analysis of the impact of culture on university food service satisfaction: a pilot study	South-eastern University and South-western University in Mississippi	Whole population	Questionnaire South-eastern n=83, South-western n=102			X	
26	(Lülfes-Baden & Spiller, 2009)	Students' perceptions of school meals: a challenge for schools, school-meal providers, and policymakers	Germany	Whole population	Questionnaire n=2384			X	
27	(Kim <i>et al.</i> , 2009)	Influence of institutional DINESERV on customer satisfaction, return intention, and word-of-mouth	Midwestern university		Web questionnaire n=770			X	
	(Liang & Zhang, 2009)	Investigation of customer satisfaction in student food service. An example of student cafeteria in NHH.	Norwegian School of Business Administration and Economics						
28	(Kwun, 2011)	Effects of campus food service attributes on perceived value, satisfaction, and consumer attitude: a gender-difference approach		Whole population	Web Questionnaire n=440			X	

Chronological order of qualitative research of the meal experience

Author	Title	Country	Sample method	Methodology	Commercial	Hospital	Educational institutional	Student participants
(Johns & Howard, 1998)	Customer expectations versus perceptions service performance in the food service industry.(Pizza restaurant)	Norwich, UK	Opportunistic	(Open ended questionnaire n=72	X			
(Andersson & Mossberg, 2004)	The dining experience: do restaurants satisfy customer needs?	Sweden		(Quantitative 255 lunch interviews 55 dinner interviews)	X			
(Hansen <i>et al.</i> , 2005)	The meal experiences of à la carte restaurant customers. (Customers' meal experience model)			5 Focus group interviews 7 Semi structured interview	X			
(Gramling <i>et al.</i> , 2005)	Food service management and its impact on college operations: a business anthropological case study.	South Carolina		(Participant observation 2months, 37 student interviews, focus group 10 participants and questionnaires n=128)			X	
(Morgan, 2006)	Making space for experiences (The prism of experience)			(Case study 95 web comments)				
(Walton <i>et al.</i> , 2006)	What do stakeholders consider the key issues affecting quality of food service provision for long-stay patients?	Australian	Snowball	17 focus groups (19 nurses, 14 patients, 20 dieticians, 11 nutritional assistants, 13 food service managers, 18 food service assistants and 3 health care workers)		X		
(Johns <i>et al.</i> , 2010)	Improving the provision of meals in hospital. The patients' viewpoint.	South of England	Random	Qualitative questionnaire 225 Comments				
(Pantelidis, 2010)	Electronic meal experience: a content analysis of online restaurant comments.			(2471 Web based comments)	X			
(Jessri <i>et al.</i> , 2011)	A qualitative difference: patients' views of hospital food service in Iran.	Iran	Convenient	(5 focus groups 23 patients, 75 interviews, 21 meal observations		X		
(Binge <i>et al.</i> , 2012)	Impacts of campus food service on students' life: An anthropological case study of Shantou university	China						

Food indicators used in meal experience research

Indicators	Times used in quantitative research	Times used in qualitative research	Total times used in research
FOOD			
Quality of food and beverages served	13	2	15
Overall how to rate food	3	1	4
Sensory criteria			
Presentation of food	12	4	16
Smell of food	2	2	4
Taste	12	9	21
Quantity of salt	5		5
Amount of sugar	3		3
Freshness of the food	5	2	7
Flavour of the food	4	3	7
Amount of seasoning (spicy)	4		4
Food and beverages are served at the appropriate temperature	21	4	25
The meat is tough and dry (texture)	2	3	5
Meal offering and menu choices			
The variety of food and beverage choices provided by the menu	23	10	33
Ingredients	2	2	4
Enough combination plates available	1		1
Food choices offered that make me feel at home (familiar food choices)	9	4	13
Meals provide a means of relaxation	3	3	6
Healthy/ Nutritional choices are offered	21	3	24
Food choices offered to meet special diet requirements	1	3	4
Menu choices to meet ethnic and cultural preferences	7	2	9
Menu choices to meet religious needs	4		4
I am happy with the choices of vegetarian foods	3	2	5
Convenient meal choices	2		2
Requires limited preparation (Convenience)	3		3
Innovative food	1	2	3
Portion size	15	7	22
More vegetables		3	3
Too much starch		1	1
The price of food and beverages is reasonable	11		11
Good value for price	8	4	12
The price paid reflect the portion size received	4		4
Food production			
The food-service staff knows how to prepare and cook	7	5	12
There are too many fried foods on the menu	6		6
School lunches are too fatty	2	1	3
Quality of food served is consistent	3	1	4
I am able to identify the foods that are served	3		3
Other food indicators			
Special events are offered	2		2
Promotional menu items offered	4		4
Starters (overall perception)		1	1
Salads (overall perception)		3	3
Desserts (overall perception)		3	3
Pizza		1	1
Sandwich bar		1	1
Midnight breakfast		1	1
Meals in between		1	1
Children's menu		1	1
Wastage	1	1	2
Packaging		1	1
Students were not being made to swipe their cards (pay for meals)		1	1

Service indicators used in meal experience research

Indicators	Times used in quantitative research	Times used in qualitative research	Total times used in research
SERVICE			
Overall service	6	3	9
Reliability			
Serves your food exactly as you ordered it	8	6	14
Items throughout the menu are available	2	2	4
Provides an accurate check	6	1	7
Is dependable and consistent	7		7
Problems are solved sincerely by the staff	11		11
Serves you in the time promised	7		7
Service is provided right the first time	2		2
Food service staff listens to students	2	5	7
Empathy			
Food service staff is friendly	14	3	17
Courtesy of personnel	3	4	7
Seems to have the customers best interest at heart	5		5
Employees providing individual attention	9	2	11
Staff treats me with respect	2		2
The food service workers treat me the same as other students	3		3
Appreciated the care		3	3
Assurance			
Has personnel who are both able and willing to give you information about menu items, their ingredients, and methods of preparation	19	1	20
Nutritional information provided	5		5
The staff are well trained, competent and experienced	5	1	6
Confidence that safe food practices are followed	6	3	9
Makes you feel comfortable and confident in your dealings with them	5		5
Makes you feel personally safe	5		5
Employees get adequate support from restaurant to do their jobs well	4		4
Employees' professionalism	2	2	4
Responsiveness			
Staff provides prompt and quick service	18	4	22
Staff give extra effort to handle your special requests	6		6
Operating hours convenient to all their customers	13	3	16
Anticipates your individual needs and wants rather than always relying on policies and procedures	10		10
Greeted you in a timely manner (attentive)	4	3	7
Staff tells customers exactly when services will be performed	2		2
During busy times has employees shift to help each other maintain speed and quality of service	5	2	7
Waiting time before being attended to	10		10
Staff is always willing to help you	3	3	6
Effectively communicates service hours	1		1
Efficiency	1	1	2
Tangibles			
Staff members who are clean, neat, and appropriately dressed	14	4	18
Crockery and cutlery are whole and clean	4	3	7
User friendliness of ordering system	3		3
Menu is user friendly	4	2	6

Has up-to-date equipment	1		1
Amenities available	7		7
Other service indicators			
Menu design is attractive and reflects the concept	2		2
Seating when waiting for a table		2	2
Eating assistance		1	1
Children friendly		1	1
Expect a tip		1	1
Reservations		1	1
Food service have too much routine		1	1
Time to eat once seated is adequate	1		1

Ambience indicators used in meal experience research

Indicators	Times used in quantitative research	Times used in qualitative research	Total times used in research
AMBIENCE			
Overall atmosphere	9	4	13
Ambient conditions			
Lighting	2	1	3
Music that is played in dining area is enjoyable	1	1	2
Noise level in dining area	3	1	4
Has dining areas that are thoroughly clean	23	1	24
The tables are clean	3	3	6
Dining room temp is comfortable	3		3
Smells in dining area stop me from enjoying my meals	2	1	3
Good ventilation system	1		1
Wellkept physical environment		2	2
Functional design			
Has comfortable seats in the dining room	7	1	8
Enough dining chairs and tables	5		5
Dining area is comfortable	5	1	6
The dining areas are easy to move around within	16	2	18
Capacity of outlet	2		2
Good location	5	1	6
Aesthetic design			
The appearance of the physical facilities of the establishment is in keeping with the type of service provided	12	3	15
Flowers/ plants		1	1
The canteen makes me feel good	10	7	17
Has rest rooms that are thoroughly clean	6		6
Ability to socialize	1	3	4
Other guests		1	1
Company		1	1
Other ambience indicators			
Has visually attractive parking areas and building exteriors	4	1	5
Smoking area	1	1	2
Privacy		2	2
Fly trap	1		1
Air curtain	1		1

Attributes in results

		Dissatisfied	Satisfaction	Variance in Satisfaction	Most important	
	FOOD					
1	Food	6	2	13	8	29
	Sensory attributes					
6, 80	Presentation of the food	1	0	5	4	10
10	Smell of food	1	0	0	0	1
8	Taste of food	4	0	5	4	13
9	Flavour of food	2	0	2	2	6
11	Texture of food	1	0	0	0	1
7	Temperature of food	3	0	4	2	9
12	Freshness of food	2	0	2	1	5
	Meal offering					
87	Menu offering	0	1	2	2	5
16	Ingredient quality	2	0	1	0	3
3	Variety of food	8	0	6	6	20
24	Drinks	1	1	1	0	3
21	Combinations on plate	1	0	0	0	1
4	Innovative/trendy food	4	0	0	0	4
5	Healthy options	5	0	3	5	13
85	Choices available	3	0	0	1	4
22	Convenience of food	0	0	2	3	5
14,17,18	Special dietary requirements	5	0	2	1	8
2	Price	5	1	6	11	23
13,79	Portions	11	0	1	1	13
	Food production					
15	Preparation	6	0	1	0	7
20	Consistency	1	0	0	2	3
19	Hygiene & safety	1	0	1	2	4
	SERVICE					
69	Service	4	3	7	5	19
	Reliability					
82	Reliability	0	1	0	1	2
31	Getting what had been ordered	1	1	1	0	3
33	Listening to customers	3	0	1	1	5
75	Quickly corrects any problem brought to attention	1	0	0	1	2
	Empathy					
70	Empathy	1	0	0	0	1
51	Staff make customers' feel special	0	0	0	1	1
32,41,44	Greeting customers politely and friendly	1	2	2	5	10
	Assurance					
63	Competent & professional staff	0	0	0	4	4
30	Attentive staff	0	1	1	0	2
64	Explanation of diet	1	0	1	0	2
67	Staff behaviour	3	1	2	0	6
57	Interruptions during meals	1	0	0	0	1
	Responsiveness					
83	Responsiveness	1	1	0	1	3

38	Fast service/ waiting time	3	0	1	5	9
39	Convenient operating hours	2	0	1	3	6
34	Number of servers	1	0	1	0	2
49	Team work of staff	2	0	0	1	3
52,56,55	Staff understands specific needs	2	1	0	2	5
58,60	Staffs' attitude	3	1	0	1	5
	Tangible					
36	Appearance of staff	2	1	0	2	5
37	Hygienic cutlery and crockery	3	1	0	0	4
	AMBIENCE					
65	Ambience	1	3	6	6	16
68	Environment	1	1	2	0	4
66	Location	1	1	1	3	6
	Ambient conditions					
42	Cleanliness of dining hall	4	0	1	3	8
54	Appropriate lighting	0	0	0	2	2
90	Music	1	0	0	0	1
92	Quite dining hall	1	0	0	0	1
	Functional design					
47	Comfort of dining hall	1	0	0	0	1
48	Easy to move around in dining hall	1	0	0	1	2
91	Seating	0	0	0	1	1
	Aesthetic design					
45	Visual appearance of dining hall	1	0	0	0	1
	OTHER					
81	Food service system	0	0	0	1	1
73	Assurance -Empathy	0	0	1	0	1
76	Pleasure	0	0	0	1	1
78	Student not swiping cards	1	0	0	0	1
35	Special events offered	0	0	1	0	1
59	Unpleasant smells from kitchen	1	0	0	0	1
62	Socializing with other customers	1	1	0	1	1
86	Meal service	0	0	1	0	1
88	Convenient service	0	1	1	1	3
89	Communication of service	0	1	0	0	1

APPENDIX C

- Focus group discussions: Interview schedule -

Phase A: focus groups interview schedule

Focus groups

Where do you usually eat?

Why do you eat there?

What meal do you eat there?

Where do you eat breakfast/ lunch / supper?

What did you eat when living at home?

How regularly did you eat?

Food

Describe the typical meal eaten when you were still at school.

Describe the types of ingredients (meat, vegetables, starches) that you eat for **breakfast** when you are with your parents.

Describe the types of ingredients (meat, vegetables, starches) that you eat for **lunch** when you are with your parents?

Describe the types of ingredients (meat, vegetables, starches) that you eat for **supper** when you are with your parents?

What vegetable, meat or flavourings that you know of have you never eaten at home before you started eating what the residential food service served?

Describe the types of preparation methods your parents would use for preparing meals.

Are there certain **dishes** that you would avoid or definitely prefer booking for?

Why do you prefer or avoid booking for these dishes?

Are there certain **mealtimes** you avoid booking for?

Why do you avoid or prefer these mealtimes?

When are you most impressed by the food provided to you?

What do you think of the food served in the dining room of your residence?

What do you feel or like about the preparation methods used to prepare the food served in the dining room?

What do you feel or like about the flavourings used in the food served in your residence's dining room?

What do you feel, like or think of the types of ingredients used to prepare the food served in your residence's dining room?

Would you prefer salads more than cooked vegetables? Why?

Why do some students prefer to eat meals in their rooms?

What types of events trigger changes in your eating habits?

What is your main reason for eating at fast food restaurants?

Do you sometimes prefer to prepare you own food?

Why do you prefer preparing your own food or rather not preparing your own food?

You say that you eat food because it tastes good. What does this mean?

Some of you prefer to eat in Hatfield or the surrounding area? Why do you prefer or like to eat there?

What are some of the factors that influence your food habits?

People are different. Our ethnicity, religion and family traditions may influence what we eat. Do these differences influence what you eat? How do they influence your eating habits?

Atmosphere

“When we have a meal in my parent’s house it would often include...”

“The thing I liked best about the ambience in the residential dining hall is ...”

“The reason I liked this aspect was because ...”

What do you think of the ambience in the dining hall?

Service

What do you think of the system used to book meals?

Why do you prefer the unbook items rather than those in the booked section?

How would you improve or change this system?

Describe any outstanding service you have received in the context of eating in the residence dining hall?

When would you describe the service as unacceptable?

What influences your decision when deciding to eat at the residential dining room?

When were you most impressed by the service provided to you?

“The thing I liked best about the service is...”

“The reason I liked this aspect best was because...”

“The things I found least satisfactory about the service were...”

“The reason this aspect was unsatisfactory was because...”

What do you think of the service of the dining room of your residence?

If you were a residential dining room manager, how would you go about doing your job?

APPENDIX D

- Focus group discussion results -

Food		Service		Ambience	
Variety food	113	Friendliness of staff	25	Lighting	5
Price food (value for money)	164	Operating hours	20	Music	5
Portion size of food	42	Prompt service	24	Ventilation/temperature in dining hall	2
Freshness of food	44	Attitude towards serving you	8	Layout (crowdedness and comfort)	20
Temperature of food	5	Availability of items at item sales (stock levels)	25		
Flavour of food	23	Accuracy of billing	9	Décor	18
Taste of food	65	Availability of menus & booking system	20	Chairs	5
Appearance of food	9	Recipe and ingredient knowledge of personnel	6	Cleanliness of dining hall	8
Preparation in general	98	Cutlery and crockery	21		
Consistency of preparation	6	Staff appearance	9		
Trendy food	9				
Healthy food	59				
Convenience of items	8				
Special diets menu items offered	10				

APPENDIX E

- Data collection instrument : Survey questionnaire -

Survey questionnaire

Questionnaire : Residential satisfaction

FOR OFFICIAL USE

Respondent	
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V1

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 1-4

SECTION A: DEMOGRAPHICS

Please answer all these questions by using (X) to mark the appropriate box or writing your answer in to the space provided

1. What is your age?

	Years
--	-------

V2

--	--

 5-6

2. What is your gender

Female	1
Male	2

V3

--

 7

3. What is your home language?

Afrikaans	1
English	2
Ndebele	3
Sepedi (Northern Sotho)	4
Southern Sotho	5
Swati	6
Tsonga	7
Venda	8
Xhosa	9
Zulu	10
Other (specify)	11

V4

--	--

 8-9

4. To which ethnic group do you belong?

Asian (Not Indian)	1
Indian	2
African (South African)	3
African (Not South African)	4
Coloured	5
White	6
Other (specify)	7

V5

--

 10

5. Please indicate your special dietary requirements if any

None	1
Vegetarian	2

V6

--

 11

Halaal	3
Kosher	4
Other (Specify)	5

6. How long have you been eating at the residential dining hall?

Less than 1 year	1
1 year	2
2 years	3
3 years	4
4 years	5
More than 4 years	6

7. Which residential dining hall do you use?

Jasmyn/Asterhof/Klaradyn/Erika	1
Madelief/ Magrietjie	2
Boekenhout/Olienhout	3
Mopanie/ Maroela/Katjeepering	4
Nerina	5
College	6
Taibos	7
Curlitzia/Olympus/Hippocrates	8
Inca/Lilium/Kiaat/Zinnia	9
Onderstepoort	10

FOR OFFICIAL USE

V7 12

V8 13-14

9. Indicate which of the following items were/ are in your parents' household when you were staying with them using an (X) to mark the appropriate answer.

When staying with my parents we had:

	Yes	No
TV set	1	2
VCR	1	2
DVD player	1	2
M-Net/DStv subscription	1	2
Hi-fi/music centre	1	2
Home theatre system	1	2
Radios, or only one radio (excluding car radios) in my household	1	2
Computer / Laptop	1	2
Vacuum cleaner/floor polisher	1	2
Dishwashing machine	1	2
Washing machine	1	2

FOR OFFICIAL USE

V9 15
V10 16
V11 17
V12 18
V13 19
V14 20
V15 21
V16 22
V17 23
V18 24
V19 25

Tumble dryer	1	2	V20	26
Deep freezer	1	2	V21	27
Fridge/freezer (combination)	1	2	V22	28
Electric stove	1	2	V23	29
Microwave oven	1	2	V24	30
Built-in kitchen sink	1	2	V25	31
Home security service	1	2	V26	32
Home telephone (excluding a cell)	1	2	V27	33
3 or more cell phones in household	1	2	V28	34
2 cell phones in household	1	2	V29	35
Tap water in house/on plot	1	2	V30	36
Hot running water from a geyser	1	2	V31	37
Flush toilet in/outside house	1	2	V32	38
A motor vehicle in the household	1	2	V33	39
Domestic workers or household helpers in household (live-in & part time).	1	2	V34	40
My parents stay in a metropolitan (urban/municipal) area.	1	2	V35	41
My parents stay in a house, cluster or town house	1	2	V36	42
My parents live in a rural area	1	2	V37	43
My parents don't live in Gauteng or Western Cape.	1	2	V38	44

SECTION B: FOOD

FOR OFFICIAL USE

Please indicate with an (X) how satisfied you are with the listed aspects of the food from the residential dining halls

BOOKED SECTION

MEALS

	Highly dissatisfied	Dissatisfied	Satisfied	Highly satisfied		
1 Fresh appearance of the food served.	1	2	3	4	V39	45
2 Appetizing aroma of food served.	1	2	3	4	V40	46
3 Fresh taste of the food in the dining hall.	1	2	3	4	V41	47
4 Taste of condiments (sauces, salt, jam) used.	1	2	3	4	V42	48
5 Temperature at which the hot food is served.	1	2	3	4	V43	49
6 Temperature at which the cold food is served.	1	2	3	4	V44	50
7 Distinctive flavour of the food served.	1	2	3	4	V45	51
8 Appetizing texture of the food.	1	2	3	4	V46	52
PREPARATION						
9 The way in which the starch (potatoes, rice, mealies, pasta) is cooked makes it taste appetizing.	1	2	3	4	V47	53
10 The way in which vegetables are cooked makes them taste appetizing.	1	2	3	4	V48	54
11 The way in which the meat is cooked makes it taste appetizing.	1	2	3	4	V49	55
12 Correct doneness of food (not overcooked).	1	2	3	4	V50	56

13	Correct doneness of food (not undercooked).	1	2	3	4	V51	<input type="text"/>	57
14	The same dishes taste the same every time.	1	2	3	4	V52	<input type="text"/>	58
15	A variety of preparation methods are used (e.g. deep-frying, baking).	1	2	3	4	V53	<input type="text"/>	59
VARIETY								
16	Variety of condiments (salt, pepper, sauces, jam) available.	1	2	3	4	V54	<input type="text"/>	60
17	Variety of starch (potatoes, rice, mealies, pasta) on menus.	1	2	3	4	V55	<input type="text"/>	61
18	Variety of fruit and vegetables on menus.	1	2	3	4	V56	<input type="text"/>	62
19	Variety of meat on menus.	1	2	3	4	V57	<input type="text"/>	63
20	Total variety of menu choices provided (Tuks sunrise, health, Tuks sunset etc.).	1	2	3	4	V58	<input type="text"/>	64
TYPES OF ITEMS OFFERED								
21	Appropriate food combinations served in a meal (e.g. Not cauliflower with fish and chips).	1	2	3	4	V59	<input type="text"/>	65
22	The food appears healthy and nourishing	1	2	3	4	V60	<input type="text"/>	66
23	Trendy new food on the menu.	1	2	3	4	V61	<input type="text"/>	67
24	Convenience (grab and eat on the go) of breakfast items available.	1	2	3	4	V62	<input type="text"/>	68
25	Convenience (grab and eat on the go) of lunch items available.	1	2	3	4	V63	<input type="text"/>	69
26	Convenience (grab and eat on the go) of supper items available.	1	2	3	4	V64	<input type="text"/>	70
27	Fulfilment of my special dietary requirements.	1	2	3	4	V65	<input type="text"/>	71
28	Regular incorporation of new menu items	1	2	3	4	V66	<input type="text"/>	72
VALUE								
29	Portion size of the starch (potatoes, rice, mielies, pasta).	1	2	3	4	V67	<input type="text"/>	73
30	Portion size of vegetables .	1	2	3	4	V68	<input type="text"/>	74
31	Portion size of meat .	1	2	3	4	V69	<input type="text"/>	75
32	Portion size provided is sufficient	1	2	3	5	V70	<input type="text"/>	76
33	Price paid for a booked meal is reasonable	1	2	3	4	V71	<input type="text"/>	77
ITEM SALES								
34	Variety of products provided	1	2	3	4	V72	<input type="text"/>	78
35	Price paid for commercial items is reasonable (e.g. chips, chocolates, sweets)	1	2	3	4	V73	<input type="text"/>	79

SECTION C: SERVICE

FOR OFFICIAL USE

		Highly dissatisfied	Dissatisfied	Satisfied	Highly satisfied			
Please indicate with an (X) how satisfied you are with the listed aspects of the service from the residential dining halls								
STAFF								
1	Staff know the ingredients in food served.	1	2	3	4	V74	<input type="text"/>	80
2	Staff are courteous.	1	2	3	4	V75	<input type="text"/>	81
3	Staff serve food in a professional manner.	1	2	3	4	V76	<input type="text"/>	82
4	Staff greet you in a friendly manner.	1	2	3	4	V77	<input type="text"/>	83
5	Staff recognise your face.	1	2	3	4	V78	<input type="text"/>	84
6	Staff respond to requests.	1	2	3	4	V79	<input type="text"/>	85
7	Supervisor's availability for requests from students.	1	2	3	4	V80	<input type="text"/>	86
8	Staff's promptness when serving food.	1	2	3	4	V81	<input type="text"/>	87

9	Staff's attitude towards serving you.	1	2	3	4	V82	<input type="text"/>	88
10	Staff wear the appropriate attire.	1	2	3	4	V83	<input type="text"/>	89
11	Uniform of the servicing staff projects a hygienic image.	1	2	3	4	V84	<input type="text"/>	90
12	Uniform of the kitchen staff projects a hygienic image.	1	2	3	4	V85	<input type="text"/>	91
13	Staff follow hygiene procedures while serving food (e.g. don't touch hair while serving food).	1	2	3	4	V86	<input type="text"/>	92
BOOKING SYSTEM								
14	Availability of the booked system menus.	1	2	3	4	V87	<input type="text"/>	93
15	Consistency between the items booked and the items served.	1	2	3	4	V88	<input type="text"/>	94
16	Ease with which a meal can be booked.	1	2	3	4	V89	<input type="text"/>	95
OPERATING HOURS (Booked meals)								
17	Length of operating hours.	1	2	3	4	V90	<input type="text"/>	96
18	Convenience of operating hours during mornings .	1	2	3	4	V91	<input type="text"/>	97
19	Convenience of operating hours during afternoons .	1	2	3	4	V92	<input type="text"/>	98
20	Convenience of operating hours during evenings .	1	2	3	4	V93	<input type="text"/>	99
21	Convenience of operating hours during weekends .	1	2	3	4	V94	<input type="text"/>	100
CLEANLINESS								
22	Cleanliness and neatness of the dining hall.	1	2	3	4	V95	<input type="text"/>	101
23	Cleanliness of the tables.	1	2	3	4	V96	<input type="text"/>	102
CUTLERY AND CROCKERY								
24	Cleanliness of the cutlery and crockery provided.	1	2	3	4	V97	<input type="text"/>	103
25	The quality of cutlery and crockery provided to eat food (e.g. cups not chipped, knives not bent).	1	2	3	4	V98	<input type="text"/>	104
ITEM SALES								
26	Accuracy of billing at item sales.	1	2	3	4	V99	<input type="text"/>	105
27	Availability of stock at item sales.	1	2	3	4	V100	<input type="text"/>	106

SECTION D: AMBIENCE
FOR OFFICIAL USE

Please indicate with an (X) how satisfied you are with the listed aspects of the ambience/ atmosphere of the residential dining halls.

		Highly dissatisfied	Dissatisfied	Satisfied	Highly satisfied		
1	Lighting in the dining hall.	1	2	3	4	V101	107
2	Comfort of chairs in the dining hall.	1	2	3	4	V102	108
3	Comfort of seating at tables in the dining hall (e.g. chairs correct height for tables).	1	2	3	4	V103	109
4	The volume of the music played in the dining hall.	1	2	3	4	V104	110
5	Type of music played in the dining hall.	1	2	3	4	V105	111
6	Reduction of background noise from kitchen.	1	2	3	4	V106	112
7	Distance between rows and seats.	1	2	3	4	V107	113
8	Layout of walkways in the dining hall.	1	2	3	4	V108	114
9	Comfortable temperature in the dining hall during winter .	1	2	3	4	V109	115
10	Comfortable temperature in the dining hall during summer .	1	2	3	4	V110	116
11	Ventilation of the dining hall.	1	2	3	4	V111	117
12	Style of furnishings used in the dining hall.	1	2	3	4	V112	118
13	Appropriateness of the décor in dining hall (e.g. curtains, pictures, wall colour).	1	2	3	4	V113	119
14	Appropriateness of the design/ layout of the dining hall (e.g. facilitate functionality).	1	2	3	4	V114	120

SECTION E: OVERALL SATISFACTION & IMPORTANCE OF ASPECTS

Please indicate with an (X) how satisfied you are overall with the listed aspects of the residential dining halls.

		Highly dissatisfied	Dissatisfied	Satisfied	Highly satisfied		
1	Dining hall food .	1	2	3	4	V115	121
2	Dining hall service	1	2	3	4	V116	122
3	Dining hall ambience/atmosphere .	1	2	3	4	V117	123
4	The total meal experience at the dining hall.	1	2	3	4	V118	124
5	Quality of the total meal experience considering it is a residential setting.	1	2	3	4	V119	125
6	Is there anything else you would like to comment on? Write your <u>most important</u> comment in the box below.						
						V120	126

7 Please rank the food, service and ambience in the order of importance, assigning a number to each in the right hand column.

1=most important

3= least important

Use each number only once

Food	
Service	
Ambience	

V121		127
V122		128
V123		129

8 Please rank how important the listed aspects of the food in the dining hall are to you, by assigning the letters (A-G) to reflect your ranking (1-7) in the blocks provided.

A	Variety
B	Trendy new recipes
C	Cost (Value for money)
D	Nutritional value/ healthy options
E	Freshness
F	Convenience
G	Availability of menu options for special dietary requirements(e.g. vegetarian/ Kosher/ Halaal)

V124		130
V125		131
V126		132
V127		133
V128		134
V129		135
V130		136

Most important								Least important
	1	2	3	4	5	6	7	

9. Please rank how important the listed aspects on the service in the dining hall are to you, by assigning the letters (A-E) to reflect your ranking (1-5) in the blocks provided.

A	Speed of service
B	Responsiveness to questions and requests
C	Friendly service
D	Operating hours
E	Convenient booking system

V131		137
V132		138
V133		139
V134		140
V135		141

Most important						Least important
	1	2	3	4	5	

10. Please rank how important the listed aspects on the ambience in the dining hall are to you, by assigning the letters (A-E) to reflect your ranking (1-5) in the blocks provided.

A	Layout
B	Appealing décor

V136		142
V137		143

C	Homely atmosphere
D	Controlled noise level
E	Neatness / cleanliness

V138		144
V139		145
V140		146

Most
important

1	2	3	4	5

Least important

APPENDIX F

- Codes tables used for coding -

CODING OF EACH QUESTION OF QUESTIONNAIRE

Variables	Questions	Concept covered	Coding
V2-V8	Section A: Question 1-7	Demographics	Options on questionnaire and additional codes in Table 6
V9-V38	Section A: Question 8	LSM	Yes/ No questions codes indicated on questionnaire
V39-V73	Section B: Question 1-35	Food	According to 4-point Likert type scale
V74-V100	Section C: Question 1-27	Service	According to 4-point Likert type scale
V101-V114	Section D: Question 1-14	Ambience	According to 4-point Likert type scale
V115-V119	Section E: Question 1-5	Overall satisfaction	According to 4-point Likert type scale
V212-V140	Section E: Question 7-10	Importance	According to ranking 1-3/5/ 7 point ranking scale

ADDITIONAL CODES REQUIRED

Variable		Code
V4	Section A: Question 3 What is your home language?	
	Setswana/ Tswana	11
	Shona	12
	Oshiwambo	13
	Chinese/Mandarin	14
	Malayalam	15
	Portuguese	16
	French	17
	Other	18
V5	Section A: Question 4 To which ethnic group do you belong?	
	Portuguese	7
V6	Section A: Question 5 Please indicate your special dietary requirements?	
	No beef	5
	Diabetic	6
	Gluten intolerant	7
	No Pork & No beef	8
	Other	9
V49	Section B: Question 11 The way in which the meat is cooked makes it taste appetizing	
	Not applicable	5
V57	Section B: Question 19 The variety of meat on menu	
	Not applicable	5
V69	Section B: Question 31 Portion size of meat	
	Not applicable	5
V104	Section D: Question 4 The volume of the music played in the dining hall	
	Not applicable	5
V105	Section D: Question 5 The type of music played in the dining hall	
	Not applicable	5

CODES IDENTIFIED IN OPEN QUESTION RESPONSES

Code	Reponses
1	Price
2	Preparation method
3	Operational hours
4	Item sales
5	Special dietary requirements
6	Health
7	Variety
8	Portions (too small/ too big)
9	Consistency
10	Food oily/ greasy
11	Variety of fruit and vegetables
12	Variety of starch
13	Variety of meat
14	Change menu
15	Price too high for portion size
16	Price too high
17	Price too high booked meal
18	Price too high item sales
19	Portion size of starch too big
20	Portion size of meat too small
21	Portion size of vegetables too small
22	Supervisor smoking in kitchen
23	Potatoes under cooked
24	Consistency in value
25	Meat cooked poorly
26	Vegetables undercooked
27	Chicken undercooked
28	Staff (service or unhygienic habits)
29	Taste/Appetizing
30	Improve ambience
31	Cutlery and crockery
32	Synthetic juice
33	Availability of menus
34	More sauce
35	Warm food
36	Hygienic food
37	Food overcooked
38	Food undercooked
39	Stock at item sales
40	Freshness
41	Culture
42	Left out due to mistake
43	Flavour

APPENDIX G
- Result of survey questionnaire -

Attributes of the food dimension	Highly dissatisfied 1		Dissatisfied 2		Satisfied 3		Highly satisfied 4		Missing		Median	Mean	Std Deviation
	%	(n ₁)	%	(n ₂)	%	(n ₃)	%	(n ₄)	%	(n ₅)			
Price paid for a booked meal is reasonable	43.2	379	27.4	241	22.7	199	6.6	58	0	1	2	1.927	0.9588149
Price paid for commercial items is reasonable	38.3	336	33.5	294	22.9	201	5.2	46	0	1	2	1.951	0.9058988
Regular incorporation of new menu items	24.6	216	42.9	377	27.8	244	3.6	32	1	9	2	2.106	0.8162097
The way in which vegetables are cooked makes them taste appetising	23.1	203	37.9	333	31.9	280	6.8	60	0	2	2	2.225	0.8807124
Trendy new food on the menu	22.8	200	44.3	389	28.9	254	3.8	33	0	2	2	2.137	0.8068008
Convenience of supper items available	22	193	35.8	314	35	307	7.1	62	0	2	2	2.272	0.8837181
Convenience of lunch items available	21.1	185	36.8	323	34.6	304	7.3	64	0	2	2	2.282	0.878541
Variety of products provided (Items sales)	20.6	181	28.8	253	38.8	341	11.4	100	0	3	3	2.411	0.940985
The way in which the starch is cooked makes it taste appetising	20.5	180	36.3	319	37.2	327	5.7	50	0	2	2	2.282	0.8534669
Portion size of meat	18.8	165	24.8	218	44.5	391	10.7	94	0	1	3	2.477	0.9204452
The way in which the meat is cooked makes it taste appetising	18	158	31.1	273	41.8	367	7.6	67	1	13	3	2.397	0.8720118
Fulfilment of my special dietary requirements	18	158	26.2	230	42	369	12.8	112	1	9	3	2.501	0.9340276
Portion size provided is sufficient	16.9	148	25.7	226	46	404	11.5	101	0	1	3	2.520	0.9046435
Variety of fruit and vegetables on menu	16.6	146	34.6	304	39	342	9.6	84	0	2	2	2.416	0.8768442
Portion size of vegetables	15.8	139	24.6	216	47.2	414	12.3	108	0	1	3	2.560	0.900347
Convenience of breakfast items available	15.5	136	24.8	218	45.4	399	13.8	121	0	4	3	2.578	0.9126886
Portion size of starch	15.1	133	20.4	179	50.8	446	13.6	119	0	1	3	2.628	0.8995297
Variety of meat on the menu	14.9	131	28.8	253	46	404	9	79	1	11	3	2.497	0.8574782
The food appears healthy and nourishing	14.5	127	36.3	319	42.7	375	6.4	56	0	1	2	2.410	0.8124484
Appetising texture of the food	14.1	124	36.4	320	43.6	383	5.2	46	1	5	2	2.402	0.7940983
The same dishes taste the same every time	12.9	113	25.6	225	49.5	435	11.7	103	0	2	3	2.603	0.8564067
Total variety of menu choices provided	12.9	113	21	184	48.9	429	17.1	150	0	2	3	2.703	0.9000515
Distinctive flavour of the food served	11.7	103	37.8	332	46.1	405	4	35	0	3	3	2.425	0.7486424
Taste of condiments used	11.4	100	28	246	50.2	441	10.1	89	0	2	3	2.592	0.8208082
Food not underdone.	11.2	98	28.6	251	50.9	447	8.9	78	0	4	3	2.578	0.8046325
Food not overdone	11	97	27.7	243	50.1	440	10.8	95	0	3	3	2.609	0.8232372
Variety of condiments available.	10.3	90	23.3	205	47.6	418	18.6	163	0	2	3	2.747	0.8761864
A variety of preparation methods are used	9.7	85	27.7	243	49.7	436	12.3	108	1	6	3	2.650	0.8190611
Temperature at which the hot food is served	9.3	82	28.1	247	49.7	436	12.6	111	0	2	3	2.658	0.8164454
Appropriate food combinations served in a meal	9.3	82	18.6	163	56.2	493	15.7	138	0	2	3	2.784	0.8199112
Appetising aroma of food served	8.3	73	31.1	273	51.8	455	8.5	75	0	2	3	2.607	0.7596339
Variety of starch on menus	8.3	73	25.1	220	52.8	464	13.6	119	0	2	3	2.718	0.8009673
Fresh taste of the food in the dining hall	8.2	72	36.4	320	49.4	434	5.6	49	0	3	3	2.526	0.7256114
Fresh appearance of the food served	6.7	59	24.6	216	59.9	526	8.7	76	0	1	3	2.706	0.7183984
Temperature at which the cold food is served	3.2	28	13.4	118	65.7	577	17.4	153	0	2	3	2.976	0.6611648

Attributes of the service dimension	Highly dissatisfied 1		Dissatisfied 2		Satisfied 3		Highly satisfied 4		Missing		Median	Mean	Std Deviation
	%	(n ₁)	%	(n ₂)	%	(n ₃)	%	(n ₄)	%	(n ₅)			
Availability of stock at item sales	20	176	36.1	317	35.5	312	8.2	72	0	1	2	2.319	0.8853219
Convenience of operating hours (weekends)	16.1	141	26.7	234	43.8	385	13.3	117	0	1	3	2.545	0.9150386
Length of operating hours	15.5	136	22.9	201	46.4	407	14.7	129	1	5	3	2.606	0.9202419
Convenience of operating hours (mornings)	14.5	127	21.1	185	48.2	423	15.9	140	0	3	3	2.658	0.9144326
Convenience of operating hours (afternoons)	12.5	110	17.3	152	53.8	472	16.2	142	0	2	3	2.737	0.8774065
Convenience of operating hours (evenings)	11.3	99	19.6	172	50.2	441	18.8	165	0	1	3	2.766	0.8843392
The quality of cutlery and crockery provided to eat food	10.1	89	11.6	102	42.5	373	35.3	310	0	4	3	3.034	0.9373076
Consistency between the items booked and the items served	8.8	77	21.4	188	49.2	432	20.5	180	0	1	3	2.815	0.858795
Accuracy of billing at item sales	8.8	77	15.8	139	53.1	466	22.1	194	0	2	3	2.887	0.8484013
Availability of the booked system menus	6	53	16.1	141	49.9	438	27.9	245	0	1	3	2.998	0.8262222
Supervisor's availability for requests from students	5.9	52	16.7	147	54	474	22.9	201	0	4	3	2.943	0.7959948
Ease with which a meal can be booked	5.7	50	11.8	104	50.1	440	32.1	282	0	2	3	3.089	0.8134967
Staff serve food in a professional manner	5.6	49	15.6	137	54.1	475	24.5	215	0	2	3	2.977	0.7910524
Cleanliness of the cutlery and crockery provided	5.5	48	12.2	107	48.4	425	33.4	293	1	5	3	3.103	0.817471
Staff respond to requests	5.2	46	18.3	161	50.5	443	25.9	227	0	1	3	2.970	0.8075197
Staff greet you in a friendly manner	5	44	13.4	118	44	386	37.5	329	0	1	3	3.140	0.8315615
Staff's helpful attitude towards serving you	4.7	41	12.9	113	52.2	458	30.1	264	0	2	3	3.079	0.7823518
Staff know the ingredients in food	4.6	40	19.8	174	65.7	577	9.7	85	0	2	3	2.807	0.6645266
Staff follow hygiene procedures while serving food	4.1	36	14.8	130	54.9	482	25.6	225	1	5	3	3.026	0.7560111
Staff recognise your face	3.9	34	13.3	117	45.6	400	37	325	0	2	3	3.160	0.7968693
Staff are courteous	3.8	33	15.6	137	56	492	24.5	215	0	1	3	3.014	0.743185
Staff's promptness when serving food	3.5	31	14.4	126	58.8	516	23.2	204	0	1	3	3.018	0.7196747
Uniform of the kitchen staff projects a hygienic image	3	26	13	114	56.7	498	26.8	235	1	5	3	3.079	0.7164086
Uniform of serving staff projects a hygienic image	2.6	23	13.4	118	55.6	488	28.2	248	0	1	3	3.096	0.7166914
Staff wear the appropriate attire	1.4	12	8.1	71	54.7	480	35.6	313	0	2	3	3.249	0.6570487

Attributes of the ambience dimension	Highly dissatisfied 1		Dissatisfied 2		Satisfied 3		Highly satisfied 4		Missing		Median	Mean	Std Deviation
	%	(n ₁)	%	(n ₂)	%	(n ₃)	%	(n ₄)	%	(n ₅)			
Type of music played in the dining hall	18.9	166	15.1	133	44.9	394	17.3	152	3.5	33	3	2.630	0.993498
The volume of the music played in the dining hall	17.1	150	11.6	102	47.8	420	20	176	3.2	30	3	2.733	0.9825928
Appropriateness of the décor in dining hall	7.5	66	23.2	204	52.4	460	16.7	147	0	1	3	2.784	0.8096656
Style of furnishings used in the dining hall	4.7	41	18	158	59.9	526	17.3	152	0	1	3	2.900	0.7287084
Comfortable temperature in the dining hall (winter)	4.4	39	14.5	127	56.4	495	24.6	216	0	1	3	3.013	0.7546371
Appropriateness of the design/ layout of the dining hall	3.6	32	10.8	95	64.2	564	21.2	186	0	1	3	3.031	0.6826024
Reduction of background noise from kitchen	3	24	8.2	72	58.5	514	30.1	264	0	4	3	3.165	0.6838629
Comfort of chairs in the dining hall	2	18	12.6	111	62.3	547	22.8	200	0	2	3	3.061	0.6588244
Distance between rows and seats	2	17	9.3	82	61.2	537	27.4	241	0	1	3	3.143	0.6526934
Comfortable temperature in the dining hall (summer)	2	17	7.4	65	63.1	554	27.4	241	0	1	3	3.162	0.633004
Layout of walkways in the dining hall	2	15	6.2	54	62.1	545	30	263	0	1	3	3.204	0.6234252
Ventilation of the dining hall	2	14	10.8	95	64	562	23.5	206	0	1	3	3.095	0.6313217
Cleanliness of the tables	2	14	9.8	86	50	439	38.5	338	0	1	3	3.255	0.6947181
Comfort of seating at tables in the dining hall	1	12	8.1	71	62.5	549	27.8	244	0	2	3	3.170	0.6212029
Cleanliness and neatness of the dining hall	1	10	6.4	56	50.8	446	41.3	363	0	3	3	3.328	0.646115
Lighting in the dining hall	1	5	2	14	56.9	500	40.7	357	0	2	3	3.380	0.5497162

Open question

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37	Food overcooked	1
38	Food undercooked	1
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