



INCIDENCE AND NEED OF ADVANCED AESTHETIC SOMATOLOGY IN SOUTH AFRICA

by

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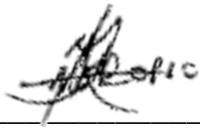
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Declaration of independent work

I, Diana Ambrosio, do hereby declare that this research study submitted for the degree Master of Health Sciences: Somatology in the Department of Health Sciences at the Central University of Technology, Free State, is my own independent work that has not been submitted before, to any institution by me or any other persons as part of any qualification.



Signature of student

10 March 2018

Date

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Abstract

Rapid advancements in technology have resulted in a growing trend of aesthetic beauty treatments. Internationally, the beauty profession has adapted to include aesthetic treatments through the offering of non-surgical aesthetic qualifications as an additional career choice for qualified beauty therapists. The merging of beauty and aesthetics treatments has created a skills gap and an opportunity for career development in the beauty industry. Although somatologists in South Africa are currently practicing aesthetic treatments, there is no qualification which focuses solely on this skill. This has created the need for somatology in South Africa to move towards a more medical approach within the skin care sector and align itself with international benchmarks being set by other countries in the industry. The aim of this study was to assess the requirements and needs for the development of advanced aesthetic somatology as an education programme in the South African context.

A quantitative research design was implemented with qualitative elements. The mixed method approach gathered qualitative and quantitative data which provided a broader context to respondents' perceptions on the use of advanced aesthetics within the somatology industry. Three questionnaires were developed, targeting each respondent group: somatology students, qualified somatologists and medical professionals. A non-probability purposive sampling technique was applied for the purpose of the study.

Results indicated the need for the development and standardisation of aesthetics education in the field of somatology. Somatology respondents recognised the consumer need for aesthetic treatments and agreed there is a need to keep abreast of new technologies and aesthetic treatments being offered in the industry. A skills gap was further highlighted when somatology respondents confirmed they were currently incorporating advanced skin care treatments into their scope of practice, but required further training and education in aesthetic somatology. A common sentiment among the three respondent groups was the need to revisit the current somatology curricula to include advanced aesthetic modalities. Similarly, somatology students recognised the need to expand somatology education to include aesthetics in order to prepare them for current industry trends. Students displayed great interest in obtaining future employment in medical settings and in performing aesthetical treatments.

Similar responses from the three stakeholder groups found dermal science, permanent hair removal techniques, wound care, resurfacing science and pre/post-operative techniques to be important subjects included in the advanced aesthetic somatology curriculum. A generally positive outlook was displayed by all stakeholders with regards to interdisciplinary practices. Both students and somatologists indicated it would be beneficial for the profession and clients to work under the supervision of medical professionals. Likewise, medical professionals agreed they would feel comfortable hiring an advanced aesthetic somatologist to assist in medical practices provided the correct education and training was in place.

The South African beauty profession has recognised the benefits of diversifying services in order to meet industry needs. Due to a rapidly evolving beauty industry, the need to develop and standardise aesthetics education in somatology was highlighted. Finally, this study identified the importance for the somatology industry to bridge an imperative training and education deficit.

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Abbreviations

AHPCSA	Allied Health Professions Council of South Africa
AQF	Australian Qualifications Framework
ASAPS	American Society for Aesthetic Plastic Surgery
ASCP	Associated Skincare Professionals
BTech	Baccalaureus Technologiae
CCI	Condensed Curriculum International
CIBTAC	Confederation of International Beauty Therapy & Cosmetology
CIDESCO	Comité International d'Esthétique et de Cosmétologie
DHET	Department of Higher Education and Training
DVT	Deep vein thrombosis
GUTCM	Guangzhou University of Traditional Chinese Medicine
HPCSA	Health Professions Council of South Africa
HPCSA	Health Professions Council of South Africa
IFA	International Federation of Aromatherapy
ILAMED	Institute for Laser and Aesthetic Medicine
IPL	Intense Pulsed Light
MLD	Manual Lymph Drainage
ND	National Diploma
NOS	National Occupational Standards
NQF	National Qualifications Framework

Introduction

The aesthetics market has been in a strong growth phase since 1994. The rise in demand for medical cosmetic procedures has enticed many non-medical specialists such as skincare therapists to offer advanced aesthetic treatments to accommodate client demands, indicating that certain sub-specialties such as medical aesthetics are no longer limited to the field of plastic surgery and dermatology (American Society for Aesthetic Plastic Surgery, 2016).

The somatology industry in South Africa therefore faces many challenges including standard setting, appropriate qualification, legislation and scope of practice in offering medical aesthetics treatments (Swanepoel, 2017). These challenges highlight the necessity to investigate and determine the current skills gap in the somatology industry. International beauty industries have recognised these new medical aesthetics trends in beauty treatments and services as an existing skills gap and have met consumer needs in the form of bridging the skills gap with highly specialised beauty aesthetics expertise. The merging of beauty and medical aesthetics industries allows therapists, once qualified, to study further in advanced aesthetics procedures (Esthetician Education Organization, 2017).

The considerable growth of the cosmetic market is predicted to continue to increase by as much as 10.8% during 2016 to 2021 (American Society for Dermatologic Surgery, 2017; Pauley, 2017). In light of the identified cosmetic market growth, several educational institutions internationally have compiled a new aesthetics beauty qualifications framework to include a cosmetic–medical approach (Humphrey, 2014; Health Education England, 2015, Department of Skills Development Malaysia, 2016; Modena and Brennan, 2017). According to Mariconda and Durant (2016), the qualification will allow skincare therapists to offer non-surgical aesthetic treatments with elements of medical aesthetics, once they have obtained the new qualification. There is a need for the somatology industry in South Africa to align itself with international benchmarks set by other countries in the industry.

In South Africa, beauty and skincare trends are currently undergoing significant changes due to product, information and technical advancements. Three aspects currently dominating beauty and skincare trends include treatment choices within skincare practices, providers of skincare treatments and improved inter-disciplinary relations with healthcare providers (Modena and Brennan, 2017).

The vast choice of skincare treatments available to clients today outweighs client selection. These changes encompass a wide variety of medical and cosmetic treatments (Morris, 2017; Modena and Brennan, 2017). Clients have become more educated on the benefits and uses of skincare treatments through information available in electronic and other media (Research and Markets, 2016). Current treatment trends reveal client preferences towards non-surgical skin rejuvenation, skin remedial therapies and skin preventative techniques. Treatments such as dermal fillers, chemical peels, laser resurfacing, micro-needling and mesotherapy have been highlighted. The popularity of these treatments may be attributed to clients seeking non-invasive treatments that reduce recovery time, simultaneously evincing similar physical and emotional gains as traditional surgical procedures (Patel, Padhtare and Saudagar, 2015; Modena and Brennan, 2017).

Medical professionals have recognised the demand for non-invasive, anti-ageing treatments and many have incorporated such treatments and the services of skincare therapists such as somatologists into traditional aesthetic practices, thus changing the traditional salon setting for somatology (Epstein, Peisachovich, Da Silva, Lee, Solomon, 2017). Newer trends changing the traditional salon setting are integrated or holistic healthcare practices, including specialised dermal practices, medical spas and laser clinics. The somatologist is therefore no longer confined to the original type of salon setting. Somatologists employed at integrated healthcare practices are more inclined, under the supervision of a medical professional, to practise integrated cosmetic-medical treatments (Shobin, 2016).

Referrals between somatologists and medical professionals result in inter-disciplinary practices. These practices incorporate multi-disciplinary teams of professionals, which may include somatologists working in conjunction with healthcare professionals to

offer clients pre-, post- and maintenance regimes essential to beneficial skin results (Steinmann, 2011; Modena and Brennan, 2017).

Advances in skincare and cosmetic procedures reveal a need for special certification in skills pertaining to advanced aesthetic treatments. The importance of acquiring the appropriate training within such niche markets is essential to promote efficient and successful advanced skincare treatments (Modena and Brennan, 2017). Advanced aesthetic treatments are particularly technical and require well-trained professionals to be effective and safety conscious (Professional Beauty, 2014a; Seago, 2017). Chemical peeling, for example, requires extensive dermal knowledge and the ability to recognise specific dermal characteristics for an optimal outcome (Professional Beauty, 2014a; Seago, 2017). Correctly qualified professionals will ensure client safety and reduce potential side effects and complications resulting from the use of their products/equipment, while ensuring optimal results in treatment. Appropriate regulatory and related healthcare bodies should be put in place to ensure compliance with minimum health, medical and medico-legal standards which in turn will protect client and professional safety and improve satisfaction (Modena and Brennan, 2017).

This skills gap exists in South Africa, as there is no current advanced aesthetics qualification available to somatologists. Such a qualification could provide the beauty profession with economic growth while diversifying services offered to clients in order to meet their needs (Professional Beauty, 2014b). A previous study conducted by Vosloo (2009) recognised the importance of bridging the skills gap by highlighting the need to focus on the development of somatology education. Recent research by Rammanhor (2014) also emphasised the rapidly evolving somatology industry, thus prompting contemporary somatology content to be added to somatology education to better prepare students to meet the growing needs of the industry. A suggested qualification such as advanced aesthetics somatology may aid in bridging the skills gap in South Africa with regard to somatologists meeting both industry and consumer needs.

1.1. Rationale for the study

Currently countries in Europe, Asia, America and Australia have adapted beauty therapy to include an aesthetics approach through the implementation of offering non-surgical aesthetics qualifications as an additional career choice once a diploma in beauty has been obtained (Seago, 2017).

After reviewing current literature, the researcher identified an existing skills gap within the somatology profession. Although somatologists in South Africa currently practise aesthetic treatments, there is no qualification focusing solely on the identified skills gap. Successful integration of the suggested qualification may encourage the development of a dedicated, professional approach to related specialisation areas in the field of advanced aesthetics somatology treatments, while simultaneously ensuring that medical, ethical and industry-specific requirements are met to address the needs of the general public (Pitamber, 2016).

The purpose of the research will be to obtain information with regards to medical aesthetics, in order to identify and compare the levels of proficiency and educational requirements deemed necessary for somatologists in South Africa to possibly follow the discipline of advanced aesthetic somatology on a fourth year level.

1.2. Aim of the study

The aim of this study was to assess the requirements and needs for the development of advanced aesthetic somatology as an innovative educational programme in the South African context.

1.3. Research objectives

The objectives of the research study were:

Collect qualitative and quantitative data from medical professionals: dermatologists, wound-care nurses, plastic/cosmetic surgeons and general practitioners interested in aesthetic medicine with regard to understanding the needs, attributes and level of skills expected by medical professionals from somatologists for the purpose of working within the field of medical aesthetics.

Collect qualitative and quantitative data from undergraduates completing a somatology diploma regarding perceptions and awareness of and interest in the study and practice of advanced aesthetics somatology treatments.

Collect qualitative and quantitative data from qualified somatologists regarding current practices as well as perceptions and awareness of and interest in formal study and the practice of advanced aesthetics treatments.

Gather comparative and opinionative data from international examiners within the industry, namely CIDESCO diplomats.

Use the qualitative and quantitative data collected and the literature search conducted to develop a possible framework for the proposed advanced aesthetics somatology qualification.

This chapter introduced the background to research study. A brief overview of the medical aesthetics, somatology industry trends and treatments were highlighted. Prominence was placed on the current skills gap within the beauty industry and the relationship of inter-professional referrals was brought to light. The chapter was rounded off by the rationale, aims and objectives of the research study.

Literature Review

Chapter 1 discussed the foundation and rationale for the research study. In this chapter, a review of available literature on the somatology industry and medical aesthetics is presented. The literature review focuses on the beauty profession and the discourse of the profession internationally and in South Africa. An overview of the medical aesthetics industry and aesthetics curriculum is discussed with benchmarking, regulation and collaborative practices highlighted.

2.1. Somatology profession

The term 'beauty therapy' is used worldwide for the application of a variety of beauty treatments, including cosmetic, nail care and a range of treatments pertaining to the body and face. Beauty therapy as a profession may be characterised by different levels of qualifications, career terminology and scope of practice. In order to understand at what level of qualification and scope of practice somatology is categorised, it is necessary to distinguish between the different occupational and qualification levels internationally as well as in South Africa (Barlin, 2017).

2.1.1. Occupational Nomenclature

2.1.1.1. International

Internationally, the terms 'cosmetologist' or 'beauty therapist' is commonly used to describe a professional within the beauty therapy industry. Beauty therapists undertake a range of therapeutic treatments with the aim of improving clients' appearance and wellbeing. Such treatments include facial treatments, manicure, pedicure and hair-removal treatments (Montague-King, 2016). These therapists may qualify in a number of grooming practices, including makeup, waxing and massage (Noordman and Day, 2017). In addition, they may also pursue short courses such as aromatherapy, reflexology and spa treatments to offer complementary and holistic treatments in a salon or spa setting (Government of Western Australia Department of Training and Workforce Development, 2017). Further qualifications may include advanced therapeutic modalities such as manual lymph drainage (MLD), electrolysis,

soft laser treatments, advanced facial treatments and hydrotherapy (International Career Institute, 2006; Noordman and Day, 2017).

Whilst a cosmetologist engages in treatments intended to improve a client's physical appearance, the main focus of a cosmetologist includes the beautification of hair, nails and skin (Fernbach, 2016). A cosmetologist's work encompasses a variety of hair practices including arranging, curling, waxing, weaving, cutting, bleaching or colouring hair manually or by the use of mechanical or electrical apparatus. Cosmetic preparations such as antiseptics, tonics and lotions may be used to massage, cleanse, stimulate and beautify hair, nails and skin. In addition a cosmetologist is trained to manicure nails with the use of nail extensions, gels or acrylics (Education Portal, 2003-2014).

2.1.1.2. South Africa

Occupational terms for beauty therapists in South Africa include beauticians and somatologists. A beautician can be defined as a beauty therapist who has completed a short course in basic beauty treatments in order to obtain a certificate in beauty. A beautician may perform basic beauty treatments including hand/feet treatments, facial treatments, hair removal, massage and makeup (Anon, 2015).

The term 'somatology' derives from Greek origin meaning 'study' and 'body' (*Collins English Dictionary*, 2014), thus referring to somatology as the study of the body. The term 'somatology' is used anecdotally to describe several occupations; however in South Africa, somatology refers to the beauty therapy profession in which the therapist studies a range of skin and body conditions that are treated in a holistic and health-related manner (University of Johannesburg, 2017). Although the scope of practice is similar to that of a beauty therapist internationally, the main focus of a somatologist in South Africa, is holistic wellbeing. Thus a somatologist encompasses elements of the international beauty profession with a concise focus on holistic care of the client (International Academy of Health and Skin Care, 2015).

The term 'holistic' is defined as treating the whole of something or someone rather than just a part (*Cambridge Dictionary*, 2017). A somatologist is considered a multi-

faceted professional able to provide holistic treatments for the skin and body. The occupation encompassing many qualities of a beauty therapist and cosmetologist (Vosloo, 2009). Somatologists may offer a variety of therapeutic treatments including, but not limited to: slimming treatments, skin and figure analysis, specialised makeup applications, facials, manicures, pedicures, MLD, reflexology, aromatherapy, electrolysis, laser treatments, hydrotherapy and spa treatments (Rammanhor, 2014).

2.1.2. Education

2.1.2.1. International

International beauty therapy qualifications may differ according to factors such as the number of study hours, credit systems and governance by an accredited body. However, the majority of diplomas are similar in subject material and total number of years studied. Generally, beauty therapy qualifications prepare students for the fundamental and practical competency required to work in the beauty industry (City and Guilds, 2017; South African Qualifications Authority, 2017a).

The main aim of such programmes is to include modalities such as skincare, body health and wellness, complementary therapies, nutrition, client care, business skills and professionalism. These modalities equip students for all aspects and career paths in the beauty industry. Once qualified, therapists generally gain employment in beauty salons, spas, cruise ships, in cosmetic houses, game lodges, spa hotels and medical spas (City and Guilds, 2017).

Qualifications offered through the United Kingdom are guided by National Occupational Standards (NOS) in combination with the Qualifications and Credit Framework (QCF). NOS specifies the performance standards expected once the qualification is completed. The QCF represents the number of credits awarded towards a qualification. One credit is equivalent to 10 hours of study. In general, beauty diplomas are assigned 37 credits or more, depending on the difficulty level and number of years required to complete the qualification (Gov.uk, 2011). Generally, these beauty diplomas' duration is between one and three years of study at a private beauty institute or college. The diplomas qualify the beauty therapist to carry out a wide range of therapeutic treatments comprising facial therapies, makeup, manicure/pedicure

treatments, waxing body treatments, body analysis, use of electrical stimulating machines, nutritional consultations and massage (City and Guilds, 2017).

Malaysia leads the way in beauty therapy through certified academies offering international diplomas in beauty therapy, makeup and aesthetics. The programmes are accredited by the international examination board of the Confederation of International Beauty Therapy & Cosmetology, UK (CIBTAC), Comité International d'Esthétique et de Cosmétologie, Zurich (CIDESCO) and the International Federation of Aromatherapy, UK (IFA). In Malaysia, diplomas are accredited by the Department of Skills Development under the Human Resources Ministry. The Ministry has developed a standard of national occupational skills obligatory for the beauty industry. In partnership with technical and further education institutes, students are able to achieve higher qualifications in aesthetics by means of transferring credits from a diploma in beauty therapy to a Bachelor of Health Sciences (Dermal Therapies) offered at selective tertiary institutions (Department of Skills Development Malaysia, 2016). Diploma credits and notional hours may vary depending on the level of difficulty; however many beauty diplomas follow the United Kingdom national hours framework, with the general beauty diploma consisting of 37 credits or more of which 50% of hours may comprise working in the beauty industry environment (Stella International, 2016). Qualified students are then able to perform facial therapies, body and facial enhancement, manicure/pedicure, superfluous hair removal techniques, spa therapies, complementary therapies and figure analysis. The diploma aims to equip qualified students with the skills to analyse the skin and body, manage and perform business duties pertaining to the relevant industry and exhibit a high level of interpersonal skills (Stella International, 2016).

In Australia, beauty qualifications are registered with the qualifications authority and offered through private institutions and colleges (Rammanhor, 2014). Qualifications must adhere to the qualifications authority standards by means of following the Australian Qualifications Framework (AQF). The AQF is divided into level descriptors with each level representing a qualification. Beauty therapy qualifications generally rank between levels 3, 4 (certificate) and 5 (diploma). Typical years of study can range between one to two years of study. Once qualified, a beauty therapist will have skills in waxing, manicure/pedicure, makeup, body treatments, facial treatments, massage,

electrolysis treatments, spa treatments, skin care and business studies (Victoria University, 2016a).

The United States of America (USA) and Canada distinguish between two types of therapists pertaining to beauty treatments. While a beauty therapist engages in treatments pertaining to skin, body and nails, a cosmetologist offers similar treatments, but includes hair styling (Kendrick, 2009). Cosmetology is offered at both public and private vocational institutions as a full-time or part-time course ranging between one and two years of study. Part of the programme may also include an apprenticeship lasting from one to three years; essentially the apprenticeship allows the student to shadow a professional in the field to obtain skills and knowledge pertaining to the diploma enrolled for (Vancouver Community College, 2016). Each state in the USA differs in the number of contact hours required to complete a cosmetology qualification; however the average number of contact and practical hours ranges between 1000 and 4000 apprenticeship hours. Once qualified, a cosmetologist is able to perform one or a combination of practices, including hair-styling treatments, beautification of the body and face, hair removal techniques, manicures/pedicures, use of electrical body and facial appliances, relaxation techniques and business administration (American Association of Cosmetology Schools, 2016).

Aestheticians in the USA follow a similar course of study to qualify in beauty therapy. Study and practical hours, depending on the state, may range between 500 and 3000 apprenticeship hours, with the mainstream two years of study required (American Association of Cosmetology Schools, 2016). Although procedures differ in each state, typically a qualified aesthetician is obliged to register with a state board that ensures strict codes of conduct are followed in the practice of beauty therapy (Indiana Professional Licensing Agency, 2016; Weiss, 2017). Beauty therapists are qualified in the practice of massaging, cleansing, exfoliation, analysing and beautifying the skin and body, providing slimming treatments, body analysis and management, nutritional assistance, hand and foot treatments, relaxation techniques, depilation and salon management (Weiss, 2017).

Benchmarking several international beauty qualifications assists in comparing the South African somatology qualification currently offered, in terms of scope of practice, with what is offered internationally.

2.1.2.2. South Africa

Many private institutions offer online courses as well as a series of short courses that may be completed in a period of six months to a year to obtain certification in beauty technology (Education Portal, 2003–2014). Such short courses result in the student qualifying as a nail technician, makeup artist or massage therapist. These courses limit the therapist to the course of study covered in the certificate. According to an article released by *City Press* (2015), such short courses do not have any formal training requirements and are not considered equivalent to a beauty therapy diploma owing to the difference in scope of knowledge, practice, contact hours and limitation to a segment of beauty therapy diplomas. In terms of tertiary qualifications, South Africa is governed by the South African Qualifications Authority (SAQA). SAQA was implemented by the Minister of Education in 2008 as a statutory body, regulated in terms of the *National Qualifications Framework Act No. 67 of 2008* to ensure the standard of qualifications in higher education. In addition, SAQA certifies qualifications in South Africa to meet the required standards acceptable and/or equivalent to similar qualifications offered abroad. The National Qualifications Framework (NQF) consist of ten levels sectioned into three groups:

Group 1: Levels 1 to 4 equate to high school grades 9 to 11 and National Certificate (Grade 12);

Group 2: Levels 5 to 7, are equivalent to higher or advanced certificates, diplomas, advanced diplomas and bachelor's degree;

Group 3: Levels 8 to 10, are equivalent to postgraduate diploma, bachelor honours degrees, master's degree and doctoral degree (South Africa Department of Higher Education and Training, 2014; South African Qualifications Authority, 2014b).

In South Africa, beauty therapy qualifications registered with SAQA may vary according to type of qualification, NQF level, qualification credits and qualification title. As the somatology qualification is offered at NQF level six, only SAQA registered

beauty therapy qualifications offered at NQF level six were included for the purpose of the study. Currently there are seven SAQA registered beauty therapy qualifications. Table 2.1 provides a broad overview of the SAQA registered beauty therapy qualifications available in South Africa (South African Qualifications Authority, 2017c).

Table 2.1 SAQA registered beauty therapy qualifications (South African Qualifications Authority, 2017c)

Qualification Title	Institution offering qualification	NQF / Credits	Duration	Enrolment type	Admission requirements	Selection and/or interview	SAQA qualification number
Diploma: Somatology	Cape Peninsula University of Technology	360 / 06	3 years	Full time	National Certificate	Selection	78667
National Diploma: Somatology	Tshwane University of Technology	360 / 06	3 years	Full time	National Certificate	Selection	72637
Diploma: Somatology	Durban University of Technology	360 / 06	3 years	Full time	National Certificate	Selection	72262
Diploma: Somatology	Central University of Technology	360 / 06	3 years	Full time	National Certificate	Selection	65344
National Diploma: Somatology	University of Johannesburg	360 / 06	3 years	Full time	National Certificate	Selection	74106
Diploma: Somatology	Isa Carstens Health and Skincare Academy	360 / 06	3 years	Full time	National Certificate	Selection	83046
Diploma: Somatology	Sonett International Academy	360 / 06	3 years	Full time	National Certificate	-	36094

Somatology qualifications are offered mainly through tertiary institutions, such as universities of technology and SAQA-registered private institutions. Entry requirements for a diploma in somatology require prospective students to have a National Certificate with emphasis on language communication, life sciences, physical sciences and mathematics/mathematical literacy (South African Qualifications Authority, 2017b). Prospective students are selected on merit and may be requested to undergo a selection test and/or personal interview to gain entrance to the somatology course (SEVAFRICA, 2008). The qualification comprises three years of study and an additional year of full-time study or two years' part-time study for a Bachelor of Technology in somatology. A somatologist may obtain a series of qualifications in such a manner that one qualification may be a prerequisite for obtaining a higher qualification within the somatology curriculum. As examples, completion of a Diploma: Somatology (NQF 6) will allow the candidate entry into

further studies with higher qualifications, such as a Bachelor of Technology: Somatology (NQF 7), Master of Technology (NQF 9) and Doctor of Technology (NQF 10) (South African Qualifications Authority, 2017b).

Due to the process of re-curriculumation, some qualifications such as a Bachelor of Technology: Somatology will be replaced by a similar qualification with modifications such as qualification name, NQF level and course content. In addition, other qualifications such as postgraduate diplomas will be introduced to bridge the NQF gap between the Bachelor of Technology (NQF 7) and the Master of Technology (NQF 9). These new qualifications will be introduced to align with the new Higher Education qualification sub-Framework (HEQSF) as gazetted by the South African Department of Education in 2013 (Cape Peninsula University of Technology, 2017; Central University of Technology, 2017; Durban University of Technology, 2017; University of Johannesburg, 2017; Tshwane University of Technology, 2017). Implementation of these new qualifications may vary depending on the offering institution. Represented in Table 2.2 is the current qualifications registered with SAQA (South African Qualifications Authority, 2017c).

Table 2.2 Further education following somatology diploma (South African Qualifications Authority, 2017c)

Qualification Title	Institution offering qualification	NQF Level	SAQA qualification number
Bachelor of Technology: Somatology	Cape Peninsula University of Technology	07	78731
Bachelor of Technology: Somatology	Tshwane University of Technology	07	72456
Bachelor of Technology: Somatology	Durban University of Technology	07	72160
Bachelor of Technology: Somatology	University of Johannesburg	07	73847
Bachelor of Technology: Somatology	Central University of Technology	07	65340
Master Health Sciences: Somatology	Durban University of Technology	09	1627
Master Health Sciences: Somatology	Central University of Technology	09	65385
Master of Technology: Somatology	Tshwane University of Technology	08	72536
Master Technology: Somatology	University of Johannesburg	09	74066
Doctor of Technology: Somatology	University of Johannesburg	10	73930

Many private institutions offer somatology qualifications; however students may only further their studies if an accredited diploma is obtained (SEVAFRICA, 2008). A somatologist requires an in-depth study of the body and skin, as well as a minimum number of practical hours to obtain a somatology qualification through a university of technology or a SAQA-registered private institution (Isa Carstens Academy, 2014; South African Qualifications Authority, 2014b). Although SAQA somatology qualifications are internationally aligned with the same level of skincare therapy qualifications abroad, it is important to note South Africa uses different career terminology compared with other countries. In the US, UK and some European countries the term 'beauty therapy' or 'beauty therapist', is similar to 'somatology' or 'somatologist' in South Africa with regard to curriculums and the National Qualifications Framework (South African Qualifications Authority 2014b).

2.1.3. Scope of practice

2.1.3.1. International

It is important to consider a beauty therapists' scope of practice for benchmarking purposes, as beauty therapists from abroad may be comparable with South African somatology qualifications. The scope of practice for a beauty therapist has expanded over the last decade to include a comprehensive range of skincare and body treatments within various health and wellness settings. Such settings may include but are not limited to salons, spas, fitness clubs, health and wellness resorts, cruise ships and health clinics (Anon, 2015; Associated Skin Care Professionals, 2016). Beauty therapists offer an extensive range of skin and body treatments and the scope of practice on completion of a beauty therapy qualification may include one or a combination of the following practices, but is not limited to:

- Epidermal treatments inclusive of massaging, cleansing, exfoliating the stratum cornea of the epidermis or stimulating the skin by the use of cosmetic preparations, body treatments, body wraps, hydrotherapy, antiseptics, tonics, lotions or creams or any device, electrical or otherwise, for the care of the skin such as micro-needling and microdermabrasion-approved chemical peels.
- Applying makeup or non-ablative treatments to improve the aesthetic appearance of facial features such as tinting, tweezing, threading or micro-blading.

- Superfluous hair removal by means of depilatories, waxing, sugaring, tweezing, electrolysis or semi-permanent hair removal techniques, certified laser products and intense pulsed light devices.
- Manipulation of body tissue for massage and relaxation techniques, spa therapies and body machines.
- Manicure and pedicure treatments inclusive of massaging, cleansing, exfoliating the stratum cornea of the epidermis or stimulating the skin by the use of cosmetic preparations, hand and foot treatments, foot wraps, tonics, lotions or creams or any device, electrical or otherwise, for the care of the skin such as chiropody sponge, electrical nail buffers and hard skin rasps (Kendrick, 2009; Skin Inc., 2013; Caron, 2016; Fernbach, 2016).

2.1.3.2. South Africa

In South Africa, a somatologist qualifies with a diploma in somatology that covers a wide scope of practice within the first three years of study, which may include but is not limited to:

- Assessment and treatment of skin and body ailments
- Slimming treatments and nutritional recommendations
- Sales of professional facial and body treatments and professional face and body products
- Application of professional and advanced cosmetic techniques
- Application of permanent makeup pertaining to the eyes, eyebrows and lips
- Corrective permanent and non-permanent makeup
- Removal of unwanted facial and body hair by means of waxing, sugaring, tweezing, diathermy, intense pulsed light (IPL) and laser hair removal equipment
- Specialised facials with a variety of electrical equipment
- Manicures, pedicures, individual lash extensions, reflexology, aromatherapy, hot stone massage, Swedish massage and manual lymph drainage (MLD) (Euromonitor International, 2013; Montague-King, 2016; South African Qualifications Authority, 2017b).

A somatologist may study an additional year, encompassing the following:

- Recognition of skin disorders and conditions
- Superficial and medium facial chemical peels
- Microdermabrasion
- Facial and body lasers
- Micro-needling
- Scar tissue treatments
- Spa treatments and techniques
- Specialised facials focusing on conditions (e.g. pigmentation, acne)
- General business management (South African Qualifications Authority, 2017c).

In comparison with the international beauty therapy setting, somatology is a young, emerging profession that has developed through skill-based aesthetic treatments and knowledge to treat clients holistically. A somatologist is therefore proficient in providing preventative, remedial and palliative treatments to encourage holistic wellbeing (Agarwal, 2017).

2.2. Global demand for aesthetics treatments and benchmarking

Global growth in the flow of clients and health professionals as well as in medical technology, capital funding and regulatory regimes across national borders has given rise to new patterns of consumption and production of healthcare services over recent decades (Lunt, Smith, Exworthy, Green, Horsfall and Mannion, 2010).

In 2016, Americans spent more than 13.5 billion dollars on aesthetic treatments of which non-surgical treatments accounted for 42% of the total. These treatments included microdermabrasion, laser skin resurfacing, photo-rejuvenation, Intense Pulse Light (IPL), laser hair removal and chemical peels (American Society for Aesthetic Plastic Surgery, 2016). The American Society for Aesthetics Plastic Surgery (ASAPS) investigated national aesthetics treatments performed from 2007 to 2016. A total of 30 000 participants were asked to complete an online questionnaire with regards to aesthetic treatments being performed by medical specialists. Results indicated a 7%

growth in non-surgical aesthetic treatments from 2007 to 2016. Non-surgical aesthetic treatments showing the most significant growth included skin rejuvenation treatments (such as Intense Pulsed Light) and chemical peels which increased by 28% and 36% respectively by 2016 (American Society for Aesthetic Plastic Surgery, 2016). Results from an international online survey conducted by the American Society of Dermatologic Surgery (2017) indicated 70% of 7322 consumers considered having a cosmetic treatment within the year. The survey also revealed the most popular cosmetic treatments that consumers were most likely to have, 57% of consumers considered Ultrasound, laser, light and radiofrequency treatments, 53% considered microdermabrasion treatments while 47% considered laser hair removal treatments (American Society for Dermatologic Surgery, 2017).

Increasing focus on non-surgical aesthetic treatments has led to the endorsement of newer treatments which offer quicker results with little to no down time and few side effects, if any (Newswire, 2016). This could perhaps account for the rapid growth rate over the last 10 years in the cosmetic market. Medical aesthetic procedures such as laser treatments, dermal fillers and phototherapy grow yearly worldwide by 5 to 10% owing the increase to clients' demands for treatments that do not require hospitalisation, lengthy recovery periods and costly treatments (Newswire, 2016). Similarly, results from the American Society for Aesthetics Plastic Surgery (ASAPS) national report attributed the increase in non-surgical aesthetic treatments to speedier recovery time and providing respectable results (American Society of Aesthetic Plastic Surgery, 2016).

In a global trend, an increased need for non-surgical aesthetic treatments, has led tertiary institutions to introduce numerous aesthetics programmes in parts of Europe, Asia, North America and Australia. Subject specifications in the programmes may differ worldwide, however programmes generally include modules such as light based therapies, skin resurfacing techniques, skin rejuvenation techniques, body contouring treatments and pre- and post-operative care (ILAMED, 2012; CAMACS, 2014; GUTCM, 2014; Nicolet Collage, 2014; Victoria University, 2014; Skin Renewal, 2016). These various programmes contribute toward an international benchmark to encourage and accommodate economic growth, fill the skills gap and create opportunities for careers within the medical aesthetics sectors (Jacobs, 2014).

2.3. Medical aesthetics

The concept of medical aesthetics was first introduced in the early 1980s by Dr Anna D. Rinehart who at the time not only was a general physician, but also a CIDESCO diplomat, nurse aesthetician and facials aesthetics instructor. Dr Rinehart's definition of medical aesthetics was documented in many medical and aesthetics journals. Her concept of medical aesthetics is now commonly referred to and practised in countries such as the United States, China, Australia and Canada and in many countries in Europe. In this respect medical aesthetics refers to the discipline of specialised skin care treatments by studying the human body in its entirety, focusing on both internal and external reasons for skin conditions (Medical Aesthetics FACE, 2008). Modalities in this focus area include the analysis of the integumentary system, anatomy and physiology, cosmetic chemistry, light and laser therapies and pre- and post-operative skincare (Medical Aesthetics FACE, 2008). Medical aesthetics, also referred to as aesthetic medicine and places emphasis on the application of minimally invasive cosmetic treatments to enhance physical appearance (Thornfeldt and Bourne, 2010; American Academy of Anti-Ageing Medicine, 2016).

2.3.1. International

Internationally, the baby boomers now in their sixties and seventies have created a multi-billion dollar industry in non-invasive aesthetics. The industry is driven by new developments in scientific advances pertaining to products, services, equipment and techniques directed towards meeting baby boomers' needs to remain youthful. In response, non-invasive aesthetic treatments such as microdermabrasion, chemical peels, cosmetic injectables, dermal fillers and sclerotherapy have become more affordable. When compared with traditional aesthetic services, these newer aesthetic treatments often produce immediate results with minimal recuperation time for the client (Culp, D'Angelo, Deitz, Gerson, Lees, Hill and Arroyave, 2013; Laosopapirom, 2016). Clients' demands for non-invasive treatments are driven by self-image and maintaining youthfulness. The popularity of such treatments will continue to increase as long as the desire for enhancing self-image and youthfulness remains a social priority (Willis, 2017).

An aesthetician is a clinical sub-specialty within the field of health sciences offering minimally invasive cosmetic procedures and treatments to enhance patients' aesthetic appearance. These specialists often work under the supervision of dermatologists and plastic surgeons in either private medical practices or health settings such as medical spas and laser/aesthetics clinics. Jobs will typically include performing advanced facials, chemical peels, microdermabrasion and various types of laser and scar treatments, as well as assisting the medical practitioner with injectables such as dermal fillers (Medical Aesthetics FACE, 2008; Skin Inc, 2013; Mehta, 2016) Depending on the medical setting, treatments may include but are not limited to the following (Johnson, 2012; Skin Renewal, 2016):

- Preventative skin care treatments in the form of specialised treatments for certain skin conditions.
- Post-surgical scar reduction and advance skin rejuvenation techniques inclusive of chemical peels, microdermabrasion and various forms of laser.
- Hair-removal techniques with laser and IPL machines.
- Pre-examination and consultation of patients for all of the above treatments as well as management and recognition of any potential skin conditions, thereby pre-empting treatment by the physician.
- Preparation of patients for routine medical procedures, post-surgical wound care, preparation for and/or removal of post-operative surgical sutures.
- Assisting physicians in the preparation and procedure of injections for the skin such as botox, hyaluronic acid and Restylane[®] fillers (Johnson, 2012; Skin Renewal, 2016).

2.3.2. South Africa

International anti-ageing trends have influenced South Africa by increasing the market segment for preferences in non-invasive cosmetic procedures. Mirroring international trends, the average client in South Africa aims to prolong youth and enhance self-image by delaying the ageing process. This has resulted in advancements in product development and training skills (American Society for Aesthetic Plastic Surgery, 2016).

Somatologists in South Africa offer certain aesthetic treatments within their scope of practice, however apart from in-salon or cosmetic house training minimal formal training or qualifications exist to address the skills gap as offered in aesthetic training programmes abroad (Lunt, Smith, Exworthy, Green, Horsfall and Mannion, 2010; Swanepoel, 2017). The existing qualification in South Africa, Advanced Diploma in Aesthetic Medicine is only available to health care specialists such as general practitioners, dermatologists and plastic surgeons (South African Qualifications Authority, 2017d). The qualification encompasses the following treatment modalities;

- Photo-therapy treatments
- Retinoids and topical agents for the ageing face.
- Chemical peels.
- Pigmentation of the face - evaluation and treatment.
- Treatment of vascular lesions with laser.
- Ablative facial skin resurfacing.
- Sclerotherapy.
- Treatment of acne.
- Laser skin rejuvenation and hair removal.
- Dermal fillers.
- Liposuction of the face and microlipoinjection (South African Qualifications Authority, 2017d).

2.4. International aesthetics curriculum

Admission requirements for aesthetics qualifications in countries such as Canada, USA, Australia, Asia and France oblige prospective graduates to hold a tertiary qualification and in some cases be licensed to a professional governing body. Qualifications are offered in the form of diplomas, advanced diplomas or bachelors and range between 1 to 3 years of study depending on the qualification (ILAMED 2012, CAMACS 2014, GUTCM 2014, Nicolet Collage 2014, Victoria University 2014).

Medical aesthetics curriculums (Appendix A) for the countries seem diverse; however a recurrent aim is to endow the prospective graduate with specialised core theory and advanced practical knowledge in line with medical aesthetics (ILAMED 2012,

CAMACS 2014, Nicolet Collage 2014, Victoria University 2014).The curriculums prepare the graduates to be multi-skilled healthcare professionals qualified in assisting with, preparing and following through on medical procedures which require utmost expertise working with a physician (Condensed Curriculum International Inc., 2014).

Australian universities are regulated by and registered with the Australian Qualifications Framework (AQF). The AQF is responsible for establishing and maintaining the quality of Australian qualifications within the higher education system. According to the AQF credit system, the notional student workload for a volume of learning equivalent to one year of full-time study, at either undergraduate or postgraduate level, is 1200 hours. This is calculated as one full-time year of study being equivalent to 50 hours of study per week times 24 study weeks, which results in 1200 notional study hours and 600 credits. Furthermore AQF makes use of the concept of credits to express the amount of study, also known as the notional student workload. One unit of credit represents just over two hours of notional student workload per week (Australian Qualifications Framework, 2013).

In American institutions, higher education is organised in concentrated modules of subject matter called courses. Therefore the term 'course' bears no resemblances to the definition of a course used in some other systems. Each academic course occupies a scheduled amount of instructional time each term, in addition to the laboratory, fieldwork, research and requirements of the course. These terms simply denote the type of academic experience provided by the course. Nicolet College, however, assigns credits to a number of hours and therefore 1 credit is equivalent to 15 hours of lectures per semester (Nicolet College, 2014).

Reviewing the international curriculum examples highlighted the similarity of course content, admission requirements and learning credits. While such qualifications exist abroad, no formal qualification exists for somatologists in South Africa. Knowledge from similar curriculums used as a parameter, along with a communicative design approach of all the stakeholders involved, may ensure the development of a proficient curriculum for the current skills gap in the aesthetics industry for somatologists in South Africa.

2.5. Collaborative practices

The gap between beauty wellness clinics and medical aesthetics clinics has lessened owing to many professionals realising the potential of incorporating treatment modalities that achieve holistic healing into their practices. Despite difficult global economic climates, clients continue to invest in treatments that not only make them look good but also have the ‘feel good’ factor and raise self-esteem. Together with this, a strong motivator for non-invasive treatments is affordability. This has negatively impacted on cosmetic surgical clinics, as clients’ preferences lean towards non-invasive treatments that are more affordable than surgical procedures (Dimitrovski and Todorović, 2015).

The affiliation between health, beauty and result-driven skincare has developed inter-professional relationships between aestheticians and medical professionals (D’Angelo, 2003; Deitz, 2004; Rammanhor, 2014; Nkwanyana, 2015). Both medical professionals and aestheticians alike recognise the importance of delivering result-driven skin care programmes that are cost effective. Client expectations in result-driven skincare have been a driving factor for many aestheticians to seek advanced training and knowledge to enhance client treatment results. Many of these treatments are influenced by non-invasive advanced medical procedures that outline the inter-professional role of aestheticians in medical practices (Singer, 2006; Resneck and Kimball, 2008; Rammanhor, 2014; Nkwanyana, 2015; Willis, 2017). Furthermore, medical professionals acknowledge client needs for preventative and supportive treatments preceding medical treatments in order to maintain client satisfaction with results. Aestheticians thus play a supportive role in medical treatments by offering clients pre- and post-skincare treatments (D’Angelo, 2003; Deitz, 2004; Durant 2017).

Aestheticians abroad find career opportunities in medical spas, wellness clinics, aesthetics practices and healthcare practices. Aestheticians work for several medical professionals; however the majority work under the supervision of dermatologists or plastic surgeons as these professionals specialise in aesthetic aspects of the skin (Thornfeldt, 2011; Nkwanyana, 2015; Swanepoel, 2017). An aesthetician’s role in a dermatology practice may include superficial, medium chemical peels, microdermabrasion, micro-needling and specialised facials to assist in the treatment

of conditions such as acne, dermatitis and psoriasis (Schroder, 2012; Khan, 2013; Newswire, 2016). Part of an aesthetician's role may include skin maintenance treatments and educating clients about good homecare skin regimes (Olerud, 2007). In medical practices, such as plastic surgeries, aestheticians assist in pre- and post-surgical treatments, deep chemical peels, injectables and minor in- chair procedures.

Pre-surgical treatments are centred on preparing a client's skin for improved recovery after the surgical procedure: such treatments may include specialised facials, micro-needling, micro-dermabrasion, MLD and chemical peels. Post-surgical treatments focus on reducing scarring and improving healing: treatments include laser, IPL and heat-based light therapies (Connor, Godfrey and Milsom, 2004; Swanepoel, 2017). As part of an interdisciplinary healthcare team, aestheticians offer supportive functions through skincare education, homecare regimes and supportive treatments for pre- and post-surgical treatments. Interdisciplinary health care encourages referral practices between aestheticians and medical professionals. Through referral practices it has become apparent that treatments offered by aestheticians add value to medical practices through complementing the procedures performed by medical professionals, such as pre/post-operative skin care treatments. Several aesthetic professionals join beauty or aesthetics salons, using their skills to incorporate evidence-based cosmeceutical products and therapies into specialised treatments. Such specialised treatments in beauty/aesthetics salons create potential for interdisciplinary referrals resulting in improved client care (Simancek, 2016).

2.6. Regulation of advanced aesthetic treatments

Associated Skin Care Professionals (ASCP), have determined there are approximately 183 000 aestheticians licensed in the United States alone with a set growth of 40% by 2022 (ASCP, 2016). Rapid growth in advanced aesthetics treatments raises concerns with regard to treatment boundaries, risks and complications (Mather and Maw, 2017). In 2003, the American Society for Dermatologic Surgery conducted a study to determine the quality and safety of treatments performed by non-physicians such as aestheticians. The study was prompted by anecdotal reports from the medical professional community relating to numerous complaints from patients seeking remedial treatment as a result of

complications from laser and light-based treatments, rejuvenation techniques, chemical peels, microdermabrasion and injectables performed without adequate training or supervision (Brody, Geronemus and Farris, 2003). Similar reports in America prompted many states to develop governing bodies that deal with state licensing requirements for aesthetics qualifications. Once qualified, the individual aesthetician registers with the governing body and is issued a licence practice number. This does not only ensures safe practices but also moderates unqualified therapists from practising beyond their scope of practice (American Association of Cosmetology Schools, 2016; Esthetician Education Organization, 2017).

State licensing requirements for aestheticians may differ slightly, however the general process comprises of three key factors to obtain a licence. The factors include study at a licenced institution, completing several apprentice hours and passing a state aesthetics licence examination. Moreover, the number of supervised apprenticeship hours required to become an aesthetician practising on his/her own may vary from 600 to 1200 hours, depending on the state (American Association of Cosmetology Schools, 2016). Supervision of apprenticeship requires the oversight of a medical professional. In order to maintain safety and standards in treatments, aestheticians are required to pass licensed state board examinations, which comprise practical and theoretical components. Theoretical components include recognition of skin conditions, histology and infection control procedures (Esthetician Education Organization, 2017).

Other international cities such as Singapore and Hong Kong have similar versions of regulatory boards that oversee aesthetician professions. In Singapore, aestheticians once qualified, are able to perform non-invasive aesthetics procedures inclusive of laser and light-based therapies regulated by relevant legislation and the penal code. In Hong Kong, treatments involving medical devices such as laser, IPL and micro-needling, may be carried out by aestheticians. However in both states surgical and invasive aesthetics treatments are limited to physician providers. There is no umbrella governing body in Hong Kong but rather several government bodies such as the Department of Health and Department of Customs and Excise, which enforce various laws to regulate diverse treatments, medical devices and service providers of aesthetics (Legislative Council Secretariat Hong Kong, 2014). The boards in the

respective countries are responsible for setting the minimum requirements for content covered in the programmes, number of supervised hours and granting approval to institutions within their jurisdiction that meet these requirements. Although governing bodies operate differently, the commonality in registering with a licensing board results in safe client-centred treatments (Yin, 2008; Hong Kong Government, 2014).

The use of medical devices such as laser machines is not governed by stringent laws in South Africa, which results in many unauthorised operators performing aesthetic and beauty-related treatments with inadequate formal training (D'Angelo, 2003; Nkwanyana, 2015). Comparing research from international countries with South Africa suggests the need for a legislative body to govern aesthetics treatments and professionals within the industry practising such treatments (Associated Skin Care Professionals, 2016; Esthetician Education Organization, 2017).

Medical professionals in South Africa are affiliated with the statutory health council, the Health Professions Council of South Africa (HPCSA), as well as with the Allied Health Professions Council of South Africa (AHPCSA). The core function of these statutory health councils is to protect the public by overseeing and maintaining best practices, professional competence, self-improvement and ethical standards for health practitioners. In addition, they are also accountable for determining educational standards, codes of practice and training (HPCSA, 2016). Registration with such boards could benefit all stakeholders directly involved with either administering aesthetics treatments or receiving such treatments. If somatologists were able to qualify with an advanced aesthetics somatology qualification, registration with statutory boards such as AHPCSA and HPCSA would ensure high standards of training and qualified therapists, defined scope of practice with medical devices and treatments, as well as regulation of such provided treatments between registered advanced aesthetics somatologists and somatologists. Registration with a governing body will ensure best practices and reduce treatment consequences (HPCSA, 2016; AHPCSA, 2017). In general, it would strengthen professions application to apply for a register with statutory bodies. Professions registered with statutory bodies benefit through standards set resulting in elevation and recognition of the profession (Health Education England, 2015).

2.7. Theoretical framework: Analysis models

Given the paucity of literature regarding aesthetics somatology, the researcher explored other fields of study for a theoretical framework to guide the study. The Skills Gap Analysis Model was found to be suitable to assess the requirements for the development of an advanced aesthetics somatology qualification. The Skills Gap Analysis Model was used to determine the existing gap for advanced aesthetics in the somatology industry. Once the skills gap was established, the Needs Assessment Model assisted in guiding the development of questionnaires and a proposed framework for the advanced aesthetics somatology qualification discussed in chapter 5.

2.7.1. Skills Gap Analysis Model

The skills gap analysis investigates the current gap between the existing skills level of the target group compared with the required skills level currently in the industry for that target group, based on consumer supply and demand, vocational standards and industry needs (Ford, 2011).

The Skills Gap Analysis Model depicted in Figure 2.1 represents four main components that need to be investigated and compared to determine the current skills gap in the industry. The difference between the top two components and the bottom two components results in the existing skills gap. The fifth component on the right-hand side is the proposed plan to close the existing skills gap (Ford, 2011).

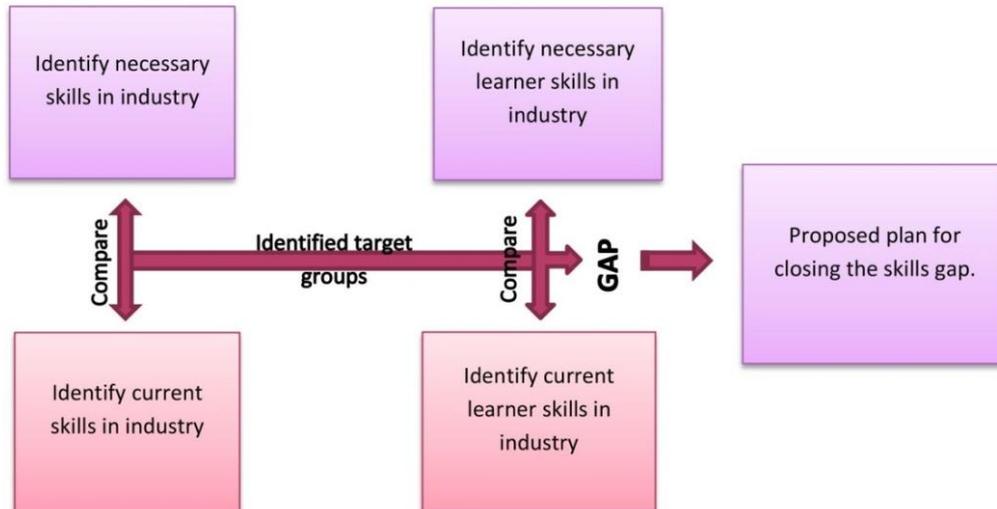


Figure 2.1 Skills Gap Analysis Model (Ford, 2011)

2.7.2. Adaptability of the Skills Gap Analysis Model to advanced aesthetics somatology

The Skills Gap Analysis Model presented a valuable structure in guiding the development of an in-depth literature review, questionnaires and conceptual framework for a possible qualification in advanced aesthetics somatology. The application of the model is represented in Figure 2.2 and may be clarified as follows:

- **Identify stakeholders**

According to Ford (2011), target groups are individuals or groups of individuals that have an interest in the specific industry. Such groups may either invest, actively take part in or actively receive from the industry investigated. In this case, three target groups termed for the purpose of the study as stakeholder groups were identified. A stakeholder is defined as one who is involved in or affected by a course of action, or one who has a stake in an enterprise (*Merriam-Webster Dictionary, 1994*).

The three stakeholder groups identified in the aesthetics beauty industry in South Africa were students, qualified somatologists and medical professionals. Students studying within the field of somatology were identified as stakeholders because, as Ford (2011) suggests, they are actively participating by studying modalities of somatology to practise in the beauty industry once qualified. Furthermore, students are also receiving from the industry further education once qualified with a somatology

diploma. As the study did not consider the beauty industry as whole but rather a core segment, namely, aesthetics.

The second stakeholder group identified comprised medical professionals. Aesthetics treatments are defined as an area of specialty which involves invasive and non-invasive procedures that revise the colour, appearance, texture or structure of bodily features and which fall within the scope of practice for medical professionals (Department of Health United Kingdom, 2005). From this definition it could be understood aesthetics treatments fall within the scope of practice for medical professionals.

The third stakeholder group identified constituted qualified somatologists working within the beauty industry; this stakeholder group was determined to be actively participating in the aesthetics beauty industry by offering non-invasive treatments. This group was also identified as the group that might receive from the beauty industry in terms of furthering their studies within the scope of beauty.

Identification of the stakeholder groups from the analysis assisted in the development of three questionnaires, one for each group, consisting of a student questionnaire, qualified somatologist questionnaire and a medical professionals questionnaire. Demographic, geographic and qualification information about work and study assisted in building the stakeholders' profiles.

- **Identify necessary aesthetics skills in the beauty industry**

In order to determine the necessary aesthetics skills in the work context, the researcher studied the literature and compared South Africa's aesthetics beauty industry with the international aesthetics beauty industry. The most noticeable aspect was that aesthetics treatments were a growing trend in South Africa; however no formal regulated training existed to assist qualified somatologists who envisage to open their scope of practice to include aesthetics treatments.

The three questionnaires therefore included questions which aimed at determining the necessary skills required to practise aesthetic treatments. Students were therefore asked questions involving future employment interests, perceived ideas about

aesthetics and future studies, skill sets and interest in interdisciplinary practices. Qualified somatologists were asked questions about perceived skills sets, future career paths, expanding scope of practice, future training and future interdisciplinary practices. Medical professionals' questions included perceived skills sets, training, treatments and enquired about the need for a qualified advanced aesthetic somatologist in medical practices.

- **Identify current aesthetic skills in the beauty industry**

In order to identify current aesthetic skills in the beauty industry, literature was reviewed and questions were formulated for all three stakeholder groups. Student questions included enquiring about preparedness in skills for aesthetics treatments and current skills sets. Qualified somatologists were asked questions based on current treatment practices, current skills sets and current markets for aesthetics treatments. Medical professionals were asked their perceptions of interdisciplinary practices, perceived ideas of skills sets needed for the practice of aesthetics treatments and perceived scope of practice for aesthetics treatments.

- **Identify necessary student skills in the aesthetics beauty industry**

After assessing the available literature on aesthetics beauty qualifications, comparisons with international aesthetics qualifications assisted in developing questions to determine the necessary vocational skills and standards for a similar qualification in South Africa. Questions regarding types of subjects, entry requirements and length of study were posed to all three stakeholder groups.

- **Identify current learner skills in the aesthetics beauty industry**

As aesthetics is a relatively new concept in the beauty industry in South Africa, the researcher turned to available information on aesthetics qualifications internationally. Such qualifications served as a benchmark for a possible aesthetics qualification in South Africa. Stakeholders from two groups, namely, students and qualified somatologists were asked questions pertaining to current vocational skills in aesthetics.

- **Comparisons**

Direct comparisons could not be made between international aesthetics qualifications and South African aesthetics qualifications. When reviewing the available literature, it was determined that international aesthetics qualifications for the beauty industry exist. These qualifications served as a guideline for the questions formulated for the questionnaires. The results from the questionnaires could then determine how the skills gap could be closed.

- **Conceptual proposed framework for an advanced aesthetics somatology qualification**

Information gathered from the literature review as well as the results from the questionnaire assisted in developing a proposed framework discussed in chapter 5.

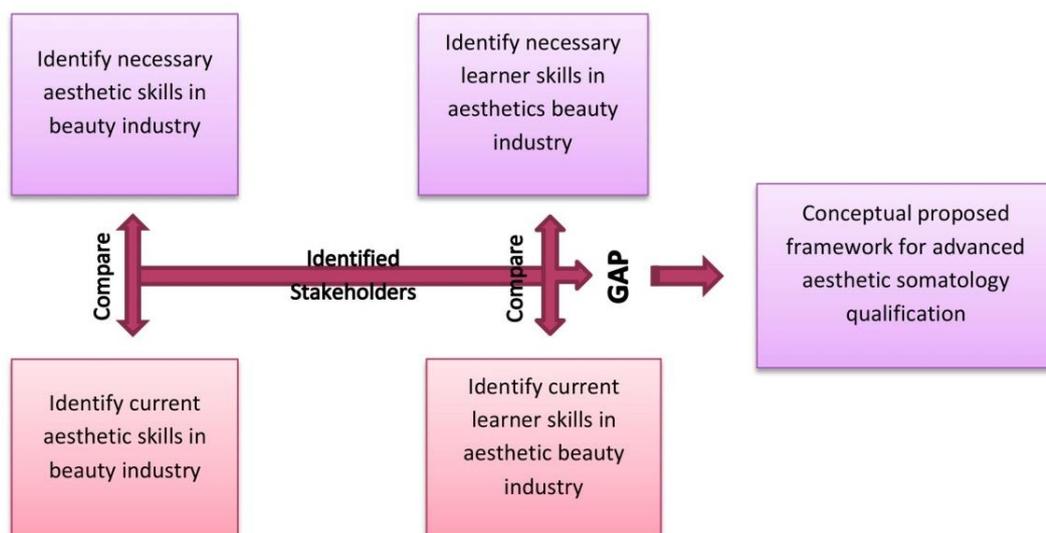


Figure 2.2 Adaptability of the Skills Gap Analysis Model to advanced aesthetic somatology

In this chapter the profession of somatology in South Africa was deliberated. The main focus of the chapter emphasised the differences between advanced aesthetics professions in South Africa compared with international aesthetics professions. Details were discussed with regard to international advanced aesthetics curriculums relating to theory and practical components. Furthermore, this chapter touched on the importance of collaborative practices and current patterns of practice within the beauty industry. The literature review was therefore aligned with the main objectives of the study. The next chapter focuses on the methodology used in the study.

Methodology

In the literature review the researcher identified beauty industry trends indicating an increase in scientifically based, more aesthetic dermal treatments. These industry trends highlight an existing skills gap for aesthetic treatments within the beauty industry. This prompted the researcher to ask the research question: “What is the incidence of and need for advanced aesthetics somatology in South Africa?” The purpose of the study was therefore to assess the need and requirements for the development of advanced aesthetics somatology as an innovative educational programme in the South African context.

Chapter 3 encompasses the methodology applied throughout the research process. The chapter depicts the study design, study population, participant criteria and research procedure. Furthermore the chapter reflects data collection, statistical analysis and ethical considerations.

3.1. Study design

The research study made use of quantitative research with elements of qualitative comments. According to Feldon and Kafai (2008) mixed-methods research focuses on collecting, analysing and mixing both qualitative and quantitative data in a single study or series of studies. The central idea is that the combination of the data provides a better understanding of the research problem than either qualitative or quantitative data does alone. The mixed-method approach used for the research study gathered qualitative and quantitative data which provided a better understanding of all the stakeholder perceptions of the use of advanced aesthetics within the somatology industry. Qualitative and quantitative data were gathered through a series of questions in electronic online questionnaires.

3.2. Questionnaires

3.2.1. Questionnaire stakeholders

Structured online questionnaires were used as the research instrument. Stakeholders previously discussed in the literature: students, qualified somatologists and medical professionals from regions in South Africa were requested to participate in the study. International CIDESCO diplomats were also invited to participate in the study. These participants were considered stakeholders within the research study. Table 3.1 summarises the study population as well as the rationale for the chosen stakeholder groups in the study.

Table 3.1 Stakeholder groups and study population

Stakeholder group	Reason for inclusion	Study population
<p>Group 1: Somatologists Qualified with a somatology diploma or higher qualifications, working within the somatology industry.</p> <p>CIDESCO diplomats qualified with a somatology diploma or higher qualifications working within the somatology industry.</p>	<p>Have a vested interest in the somatology industry and any developments which may affect the industry.</p> <p>Have a vested interest in the somatology industry. May offer comparative data for benchmarking somatology.</p>	<p>Between the ages of 21 and 65. Geographic areas included Johannesburg, Pretoria, Cape Town, Durban and Bloemfontein.</p> <p>Between the ages of 21 and 65. Geographic areas included Africa, America, Asia, Australia and Europe.</p>
<p>Group 2: Students Studying at universities of technology (UoTs) and SAQA-registered private institution offering an equivalent diploma in somatology.</p>	<p>Have a vested interest in current and future study of somatology.</p>	<p>Somatology undergraduates (1–3 years) over the age of 18 years. Geographic areas included Johannesburg, Pretoria, Cape Town, Durban and Bloemfontein.</p>
<p>Group 3: Medical professionals Plastic/cosmetic surgeons qualified in bachelors of medicine specialising in plastic surgery. Dermatologists qualified in bachelors of medicine specialising in dermatology. General practitioners qualified in bachelors of medicine with special interest in aesthetics. Wound-care nurses specialised in wound care.</p>	<p>Have a vested interest in clinical decisions made which may affect patients such as advanced aesthetic treatments performed by non-physicians.</p> <p>May be affected by inter-professional occupations such as somatologists working with wound care nurses and under the supervision of general practitioners, plastic/cosmetic surgeons and dermatologists.</p> <p>Opinionative data may be gathered on scope of practice and inter-professional boundaries with regard to aesthetics.</p>	<p>Between the ages of 21 and 65 years. Working in either hospitals or private practices. Geographic areas included Johannesburg, Pretoria, Cape Town, Durban and Bloemfontein.</p>

3.2.2. Questionnaire design

The questionnaires were based on the study of the literature review, literature on the principles and development of online questionnaires, as well as comparison with other questionnaires used in similar research studies within the somatology context. The design of the questionnaires was guided by Andrews, Nonnecke and Preece's (2003) seven principles for electronic surveys.

A total of three questionnaires, Questionnaire A, B and C (appendices D-F) were developed by the researcher using eSurveyCreator, one questionnaire for each stakeholder group.

- Stakeholder Group 1: Somatologists and CIDESCO diplomats. Questionnaire A aimed to gather perceptions, current aesthetic practices offered, level of knowledge and attitudes of qualified somatologists towards studying advanced aesthetics somatology as a profession.
- Stakeholder Group 2: somatology students. Questionnaire B's main focus was to gather somatology students' perceptions of the current somatology content taught, as well as perceptions on future study and employment interests with regard to advanced aesthetics somatology.
- Stakeholder Group 3: medical professionals. Questionnaire C collected information regarding medical professionals' perceptions of qualification level, professional experience and characteristics a somatologist would require for the study of advanced aesthetics somatology.

Each of the three questionnaires was divided into four main sections (sections A–D) to gather either qualitative or quantitative data from the participants. Section A (demographics) intended to collect quantitative data that included geographic information, gender, age and ethnicity. Section B (current employment or study) investigated qualification level, professional experience, industry experience, job satisfaction, current treatment trends and level of study and current understanding of somatology course and study satisfaction. Section C (future employment) included questions about future employment opportunities, desires and work settings with regard to the proposed advanced aesthetics somatology. Section D (advanced aesthetics somatology course information) aimed at gathering perceptions of the

proposed advanced aesthetics somatology being included within the somatology curriculum.

Section A and B consisted mainly of closed-ended questions which provided the researcher with quick, accurate information. Section C and D consisted of open-ended questions and rating scale (Likert scale) questions. Open-ended questions allowed participants to answer in free form, providing an increased source of descriptive data (Farrell, 2016). Rating-scale questions were used as the optimal means of obtaining measured attitudes, preferences and desires in respect of the topic explored in the question (Wright, 2010; De Bruijne and Wijnant, 2014).

Each questionnaire was accompanied by an information document (Appendix C) informing the participant of the purpose and aim of the research study. Simultaneously the information document included important information on advanced aesthetics somatology, somatology definitions and perceived advantages and disadvantages of somatologists wishing to follow a profession in advanced aesthetics somatology. The document also informed the participant of any risks, financial implications and confidentiality aspects involved in the research study. The researcher's contact information was available on the information document in case participants had any queries or grievances with regard to the research study. Participants were requested to sign the consent section, which was part of the information document (Appendix C), via electronic signature agreeing to participate in the research study as prescribed by the *Electronic Communications and Transactions Act, No 25 of 2002* (SA). Participants who were not able to make use of an electronic signature gave consent by clicking on the 'yes' box which triggered a message to be sent to the researcher's email confirming the participant's consent to participate in the research study. Both the electronic signature and the 'yes' box were used as a redirection point for the questionnaires, thus the questionnaires could only be viewed and were accessible once the participant gave consent. Participants received electronic copies of the document via electronic mail, which could be kept for their own personal use.

The three questionnaires were piloted by means of selecting two participants from each stakeholder group. The pilot participants were invited via electronic mail to participate in the pilot questionnaire. Once the information letter had been

acknowledged and consent provided by selecting the 'yes' box, the participant was directed to the pilot questionnaire. On completion of the questionnaire the questionnaire and comments on the questionnaire were automatically sent back to the researcher. The researcher made use of the feedback to modify and adjust sections of the questionnaires before the main research study was conducted. This aided in making the research study more streamlined and feasible. Participants who participated in the pilot study were not able to participate in the research study itself. This ensured the research study remained unbiased and fair to all participants who participated in the research study, as the participants were not pre-exposed to the questionnaires.

The confidentiality of the research study was important; therefore personal details of participants were kept confidential and participants remained anonymous. At no time during the research were any of the participants made known to any other person(s), other than to those to whom the participants had given their consent.

3.3. Participant Selection

A nonprobability purposive sampling technique was applied for the purpose of the study. According to Etikan, Musa and Alkassim (2016), purposive sampling is the intended identification and choice of individual participants or groups of individuals who are proficient in and knowledgeable of a phenomenon or interest.

Contact lists for the undergraduate students were sourced by contacting each somatology department at the selected UoTs. Contact lists for each UoT were available through the electronic directory, Universities of South Africa, on the website www.4icu.org (UniRank, 2005–2017a-e). Each head of department was contacted and sent a permission letter (Appendix B) via email formally requesting permission for students to participate in the research study. Once agreed, the researcher requested student databases containing email addresses from the respective somatology departments. The departments provided the researcher with this information via email. Private institutions were selected by obtaining the SAQA register online through www.saqa.org.za. Managers of each private institution on the SAQA register offering a somatology diploma similar to that of UoTs were contacted and emailed a permission

letter (Appendix B) requesting permission for undergraduates to participate in the study as well as student email details. Only two private institutions from the SAQA register agreed to participate in the study.

Contact details for salons were obtained by means of an online telephone directory, <http://www.yellowpages.co.za/>. Salons from Johannesburg, Pretoria, Cape Town, Durban and Bloemfontein were contacted to request qualified somatologists' email addresses. Qualified somatologists were then invited to participate in the survey via email. CIDESCO diplomats' contact details were obtained from the CIDESCO head office in Zurich, Switzerland.

The medical professionals' contact details (contact numbers and emails) were obtained from the Health Professions Council of South Africa (HPCSA). Once the lists had been obtained from the respective sources, each list for the stakeholder groups was retyped in alphabetical order for consistency in the process of selection. Every second person on the list was chosen and sent an email requesting participation in the study.

3.4. Sample size

A total of 245 ($n=245$) participants were emailed the questionnaires between April 2016 and November 2016. Table 3.2 indicates how the total of 245 participants was divided for each stakeholder group. One participant did not complete the questionnaire and was therefore omitted from the study. Therefore a total of 244 ($n=244$) participants completed the questionnaires, resulting in a response rate of 99.5%. As per Table 3.1 stakeholders were chosen due to their vested interest in advanced aesthetic treatments and were deemed to be the appropriate participants to approach for this study. A minimum sample of stakeholders was needed to be representative of the views of the larger stakeholder population. It was assumed that this minimum sample would have a 10% deviation from the larger stakeholder group. Using a confidence interval of 5% and a 95% confidence level, the minimum required total sample size was calculated to be 138 participants. A 10% buffer was added to this number to take into consideration non-participation and study dropout. The final total minimum

number of all three stakeholder groups, rounded off to the nearest whole was 150 participants.

Table 3.2 Number of participants for each stakeholder group

Stakeholder group	Geographical area	Number of participants from each stakeholder group
Group 1: Students	University of Technology(s): Bloemfontein, Johannesburg, Cape Town, Durban, Pretoria. Private intuitions: (Pretoria and Cape Town)	20 participants from each UoT (20X5=100) 20 participants from each private institute (20X2=40) Total: 140
Group 2: Somatologists and CIDESCO diplomats	Somatology industry: Bloemfontein, Johannesburg, Cape Town, Durban, Pretoria CIDESCO diplomats Africa, America, Australia, Asia, Europe	10 participants from each geographical area (10X5=50) 1 participant from each geographical area (1X5=5) Total:55
Group 3: Medical professionals	Hospitals and private practices in South Africa namely Bloemfontein, Johannesburg, Cape Town, Durban, Pretoria	10 participants from each geographical area (10X5=50) Total: 50
		Grand Total: 245

3.5. Participant criteria

For the purpose of the study, participants were expected to adhere to the following inclusion and exclusion criteria.

3.5.1. Inclusion criteria

- Undergraduate students studying somatology with the aim of obtaining an accredited somatology diploma, including students from first to third year of studies.
- ND and BTech qualified somatologists currently working within the industry.
- Universities of technology offering SAQA-registered ND and BTech somatology courses.
- Private institutions offering SAQA registered ND somatology courses.
- Qualified general practitioners with a special interest in aesthetics and/or specialising in dermatology, plastic/cosmetic surgery.
- Qualified wound-care nurses.
- International Diplomats from CIDESCO.
- Participants had to be literate in English.
- Participants had to have access to internet and email services.
- Any ethnicity.
- Any gender.

3.5.2. Exclusion criteria

- Individuals who may have completed only one or more of the following courses: nail technician, massage, alternative massage therapies, reflexology, aromatherapy, Indian head massage, hot stone, cosmetology, solely cosmetic health and skin care.
- Reconstructive surgeons.
- Individuals under the age of 18
- Private intuitions that did not offer a SAQA-registered somatology course.
- Foreign national students (focus was on South African environment).

3.6. Data collection

Questionnaires were distributed by means of electronic mail to the participants' respective email addresses. The email contained an introduction to the research study and invited the participant to participate in the study via a participation link to the online questionnaire. On opening the link, the information document and consent section (Appendix C) were presented. On acceptance of the documents by selecting the 'yes' option, participants were then directed to the respective online questionnaire. Once completed, the respondent selected the completed block that activated the responses to be captured by eSurveyCreator.

An automatic reminder email was sent to participants by the researcher for any outstanding questionnaires not received within 14 days of the invitation to participate. Owing to a poor response rate, the time frame for the questionnaires was extended. The researcher then set the automatic reminder emails to a weekly basis. The reminder emails specified the importance of participation in completing the questionnaire for meaningful results.

The program eSurveyCreator permitted responses captured from the questionnaires on the system to be converted to Microsoft Excel format. Results were captured in Microsoft Excel 2010 with corresponding graphs and percentages representing the data. The data sets were sent to the statistical collaborator to confirm statistical results through STATA version 11 (StataCorp LLC, College Station, TX, USA).

Data results and electronic data questionnaires sent via email were downloaded and saved to a virtual drop box for a period of five years in a folder labelled 'Respondents' questionnaires'. The researcher was the only person to have access to the data sets as well as the username and password for the virtual drop box.

3.7. Statistical analysis

Statistical analysis was performed in conjunction with a statistical collaborator to produce the most accurate results for the research study. A confidence level of 95% was used. The chosen confidence interval symbolises a specific interval within which the data is 95% certain for a specific outcome. Significance and correlation were used

to determine if there were any significant differences and correlations in the results. Thus statistical hypothesis testing was used (including *t*-tests, chi-square tests and calculating *p*-values) to determine the statistical significance of the results. The results were deducted from the *p*-value probability of random chance. For this research study $p = 0.05$ was used to determine the *p*-value, suggesting that a result would be considered to be statistically significant provided there was a 0.05 or less difference between results

The results chapter evaluated stakeholders' perceptions toward the incidence and need of advanced aesthetics in somatology, as well as the requisite knowledge and skills deemed necessary for a somatologist to provide advanced aesthetics treatments within the South African somatology industry. An explanation of the results observed in the study will be explored in the discussion chapter to follow.

Results and Discussion

Findings from the questionnaires of each stakeholder group are presented in this chapter. Results were analysed using STATA version 11 (Stata Corp LLC, College Station, TX, USA). Statistical results were determined by means of *t*-tests, *p*-values and chi-square tests. The significance level for the *p*-value is 0.05, indicating relevance at 0.05 or lesser difference between results. *T*-tests determined if compared data results displayed any significant differences. The relation between results was examined by means of the test of independence (chi-square test). Relations between variables presented as ($p < 0.005$) were deemed significant. Descriptive statistics are depicted in the form of tables, graphs, bar charts and statistical commentary.

Findings are presented in two sections. Section A pertains to the demographic characteristics which defined the study sample, including response rate, geographic region of work and level of education, among others.

Section B encompasses findings under the main sections which guided the development of the questionnaires. The sections highlight significant correlations, comparisons and differences between questions posed across the stakeholder groups.

Section A

4.1. Response rate

The sampling frame comprised all stakeholder groups (students, somatologists, CIDESCO examiners and medical professionals). A total of 245 questionnaires were sent electronically to all respondents. One respondent from the somatology stakeholder group was excluded owing to incomplete data. The final sample comprised a total number of 244 respondents: 140 students, 50 somatologists, 4 CIDESCO examiners and 50 medical professionals. Table 4.1 specifies the total number of respondents for each stakeholder group as determined for the study and response rate received.

4.2. Demographics

Ninety-five percent (95.0%) of student respondents were between the ages of 18 and 23. This is in accordance with similar studies conducted by Petersen, Louw and Dumont (2009) and the Department of Higher Education and Training South Africa (2015) that found the average age of undergraduates to range between 18-25 years. Somatologist respondents between the ages of 24-29 years accounted for 29.6% in the age category for qualified somatologists. This could infer the profession is a prevalent career choice amongst a younger population. Rammanhor (2014) and Nkwanyana (2015) had similar findings in their studies pertaining to qualified somatologists in the industry. Nkwanyana (2015) attributed the younger work force to the profession being physically demanding and therefore sought after by younger professionals. Seventy percent (70.0%) of medical professional respondents were between the ages of 24-29 years while 16% were between the ages of 36 – 40 years. The results correspond with graduation statistics released in 2016, which indicated the average age of a specialised nurse to be 29 years or younger (Buerhaus, Skinner, Auerbach and Staiger, 2017). Similarly, physicians study for a period of seven years; in addition specialisation may take a further two years this may be the reason for medical professionals in the study being forty years or younger (Gray and Vawda, 2015).

All respondents were female, except for 8 (16.0%) males from the medical profession stakeholder group, indicating the somatology profession to be female dominant. Similar findings in a study of somatology professionals found 98% of respondents in the somatology profession were female (Vosloo, 2009). The author suggested this dominance could be due to treatments offered in the profession being more feminine in nature. Similar findings were also reflected in investigations by Rammanhor's (2014) and Bredlöv (2017). Rammanhor also concluded the somatology profession was more linked with beauty therapy, traditionally stereotyped as a feminine profession and thus primarily female.

Distribution of the respondents by ethnicity found 40.0% of student respondents were African and 39.0% were Caucasian. According to Statistics South Africa (2017) the 2016 census reflects the majority of the population to be African; this may account for

the prevalence of African respondents. Medical professional were not requested ethnicity, as ethnicity in the medical profession was not deemed important for the study.

The chi-square test was performed to investigate the relationship between sex, age and ethnicity of the three categories of respondents. A significant relationship existed between sex and age ($p < 0.001$) none existed for ethnicity. This is keeping in with findings from previously mentioned studies that found associations between the age and sex characteristics of their respondents (Borg, 2009; Nkwanyana, 2015). Findings for demographics are presented in Table 4.1.

4.3. Geographic region of work/study

Geographic information of all respondents is found in Table 4.1. Students' responses included UoTs and private institutions, of which 14.3% were located in the Free State while 28.6% of respondents resided in Johannesburg. Data from the somatology professionals was evenly distributed with 19% across the regions with the exception of Pretoria (16.0%), in which one respondent was excluded from the study owing to incomplete data. International CIDESCO respondents were represented by 9.0% of the total somatology stakeholder group which encompassed international regions Africa, America, Australia, Asia and Europe. The location of practice for medical profession stakeholder group indicated an even (20.0%) distribution across all regions.

This study made use of non-probability sampling and therefore demographic results cannot be generalised to the larger population; however the geographic distribution of the respondents indicates an extensive range of beauty salons, clinics and training institutions thought necessary to provide rich data on trade and training within current trends in the beauty industry as well as future insights into advanced aesthetics somatology. In Nkwanyana's (2015) study, a similar diversity of participants was used; the author contended that the wide variety enriched the study with valuable insights pertaining to educational and industry content in accordance with industry needs. Similarly, the distribution of the medical profession respondents ensured the study encompassed a large geographic representation of the medical profession stakeholder group previously discussed in the methodology. This allowed for rich

qualitative data to be obtained from dermatologists, plastic surgeons, wound-care nurses and general practitioners (specialising in aesthetics) alike.

Table 4.1 Summary of respondent demographics (n=244)

Respondent Characteristics					
Category	Students (n=140)	Somatologists (n=54)	Medical Professionals (n=50)	Total (n=244)	P-Value
Response rate (%)	100.0	98.0	100.0		
Sex					
Male	0 (0%)	0 (0%)	8 (16%)	8	<0.001
Female	140 (100%)	54 (100%)	42 (84%)	236	
Age					
18-23	133 (95%)	14 (25.93%)	-	147	<0.001
24-29	7 (5%)	16 (29.63%)	35 (70%)	58	
30-35	-	10 (18.52%)	4 (8%)	14	
36-40	-	7 (12.96%)	8 (16%)	15	
> 41	-	7 (12.96%)	3 (6%)	10	
Ethnicity					
African/African American	56 (40%)	16 (29.63%)	-	72	0.004
Asian	2 (1.43%)	-	-	2	
Caucasian	55 (39.29%)	34 (62.96%)	-	89	
Coloured	16 (11.43%)	2 (3.70%)	-	18	
Indian	11 (7.86%)	1 (1.85%)	-	12	
Hispanic/Latino	-	1 (1.85%)	-	1	
European	-	-	-	-	
Geographic region					
Cape Town	30 (21.4%)	10 (19.0%)	10 (20.0%)	50	0.014
Bloemfontein	20 (14.3%)	10 (19.0%)	10 (20.0%)	40	
Johannesburg	40 (28.6%)	10 (19.0%)	10 (20.0%)	60	
Durban	20 (14.3%)	10 (19.0%)	10 (20.0%)	40	
Pretoria	30 (21.2%)	9 (16.0%)	10 (20.0%)	49	
International areas	-	5 (9.0%)	-	5	
(Africa, America, Australia, Asia, Europe)	-	-	-	-	

Section B

4.4. Employment and education

This section of the questionnaires incorporated questions designed to investigate qualification level, professional and industry experience, job satisfaction and current treatment trends from qualified somatologists. The theme explored similar questions on educational level for students. Qualification levels were requested by medical professionals to ascertain their expertise in the field.

4.4.1. Employment

4.4.1.1. Somatologists

Amongst qualified somatologists, 70.4% of respondents were employed within the somatology industry, whilst 27.8% were self-employed. In South Africa a sharp decline in entrepreneurial ventures has been present since 2013 with an average of only 37.9% of the South African population currently having the required skills to own their own business (Business Tech, 2017). The decline in entrepreneurial ventures is partly due to South Africa's unpredictable political and economic climate (Business Tech, 2017). These findings may indicate why only 27.8% of the respondents who partook in the research study are self-employed

Of the 54 qualified somatologists working within the industry, 51.9% had a National Diploma: Somatology (ND: Somatology) as their highest qualification, while the remainder (27.3%) reported a BTech: Somatology as their highest qualification. Research reports from the Department of Higher Education and Training South Africa (DHET, 2013) indicated that up until 2015 the majority of students opted to improve their qualification with vertical articulation after obtaining a National Diploma, with only 9% of students enrolling for further studies. As many of the respondents could have been studying during these years, the reports may indicate why only 27.3% of respondents reported a BTech: Somatology as their highest qualification.

Within the somatology respondents 54.6% noted they had studied for three years to obtain their qualification. Both UoTs and private institutions are registered with the South African Qualifications Authority (SAQA), which makes use of the NQF. The results therefore correspond with the NQF of South Africa which specifies three years of study to obtain a National Diploma (SAQA, 2017b). This explains why the majority of respondents who had studied for three years reported a National Diploma in Somatology to be their highest qualification. Of the respondents, 51.9% indicated that they obtained their qualifications through both a university of technology and private institution, while 27.8% of respondents indicated their qualification was obtained through a university of technology alone whilst 20.4% obtained their qualification through a private institution as illustrated in Table 4.2.

Table 4.2 Summary of somatologists' education and employment status (n=54)

Category	Number of respondents (n)	Percent (%)
Highest qualification obtained	(n=54)	
ND Somatology	28	51.9%
BTech Somatology	15	27.3%
CIDESCO/ITEC	11	20.4%
Training institution where qualification was obtained	(n=54)	
Private institution	11	20.4%
University of technology	15	27.8%
Both university of technology and private	28	51.9%
Total number of years studied	(n=54)	
2 years	5	9.3%
3 years	30	54.6%
4 years	14	25.5%
5 years of more	5	9.1%
Employment status	(n=54)	
Employee	38	70.4%
Employer	1	1.9%
Self-employed	15	27.8%

4.4.1.2. Medical professionals

Table 4.3 summarises medical professionals' areas of specialisation and qualifications. Among the medical professionals, 20.0% each indicated that they specialised as dermatologists, plastic surgeons or general practitioners with a special interest in aesthetics. Forty percent (40%) of respondents were nurses specialising in wound care. The specialisation fields represented in the medical profession stakeholder groups were identified to be proficient in the field of aesthetics and most

likely engaging in some form of aesthetics (Ministry of Health Malaysia, 2013). Furthermore, dermatologists and plastic surgeons were identified in previous studies to be most likely to make use of somatologists' services (Vosloo, 2009; Durant, 2017).

Table 4.3 Summary of medical professionals' areas of specialisation (n=50)

Area of specialisation	Number of respondents (n=50)	Percent (%)
Dermatologist	10	20.0%
Plastic surgeon	10	20.0%
General practitioners with special interest in aesthetics medicine	10	20.0%
Registered nurse specialisation in wound care	20	40.0%

4.4.2. Education level of students

Part of the student questionnaire was to gather students' perspectives on the current curriculum content taught at the respective levels and assess if the content had sufficient foundation for further studies in advanced aesthetics somatology, possibly on a fourth year level. For this reason somatology undergraduates from universities of technology and private institutions participated in this study. All undergraduate students were enrolled for a National Diploma in Somatology: of the total student respondents (n=140), 58.6% were in their first year of study, while 20.7% were in their second or third year of study. The sharp decline in first-year students to second- and third-year students relates to Department of Higher Education and Training South Africa (DHET) governmental reports that state a high student failure rate and the fact that students often change their course of study after the first year. This may account for the large decline in numbers of second- and third-year students (DHET, 2013; 2015).

CIDESCO qualifications are internationally recognised by the beauty industry and have served in some areas such as spa, body and facial therapies as a benchmark for the industry (Spa Elan, 2006). However these qualifications although advantageous owing to international recognition, are not compulsory in order to work

in the beauty industry. This may be the reason why only 20.4% of respondents had obtained an international CIDESCO qualification. A total of 78.6% were completing their studies through a UoT, while the remainder (21.4%) were completing their qualifications through a private institution. Table 4.4 summarises students' current level of education and institute of study.

Table 4.4 Students' current level of education and institution of study (n=140)

Category	Number of respondents (n)	Percent (%)
Current year of study (students)	(n=140)	
Year 1	82	58.6%
Year 2	29	20.7%
Year 3	29	20.7%
Institution where currently studying	(n=140)	
Private institution	30	21.4%
University of technology	110	78.6%
Qualification	(n=140)	
ND Somatology	140	100%

4.5. Student perceptions

4.5.1. Student somatology course perceptions

Somatology students were asked how they perceived the current course content and study of somatology. The objective of the question was to determine how well the current course content, both theoretical and practical, prepared students for the industry. The question also enquired how students perceived their readiness to work in a salon setting and with treatments or devices which were medical in nature. The question was divided into five main focus areas, of which students could decide if the focus area 'meets expectations', 'has room for improvement', or 'does not meet expectations'.

Results show that 64.0% of students thought the course content met expectations for the study of somatology, whereas 22.5% felt there was room for improvement. In addition, 75.0% believed somatology practical subjects met their expectations. These results were consistent with a study regarding student preparedness for the industry

and course content. The majority of students confirmed the course content to be sufficient; however aesthetics was highlighted as a concern (Rammanhor, 2014)

Therapist and spa work in a salon setting decidedly (67.0% and 63.0%) met student expectations, while 27.0% of the students indicated room for improvement for both focus areas. Beauty industry statistics for 2016/2017 are a clear indication that the course content and practical subjects currently offered are aligned with what is practised in the beauty industry. Statistics on business activities within beauty salons highlighted that the majority of treatments practised are facial and body treatments (51.3%), aesthetics-related treatments (39.8%), spa-related treatments (15.7%) and complementary therapies (28.6%). The foundations for such treatments are covered in both course content and practical subjects at UoTs and private institutions (Habia, 2017). The majority of students thus perceive the course content meets expectations.

As previously mentioned, aesthetics has been highlighted by other studies as a source of concern. Only 55.0% of students though that aesthetics treatment in a salon setting met expectations, while 31.0% indicated a need for improvement and 14.0% thought it did not meet expectations. Although aesthetics aspects such as skin-resurfacing techniques and light-based therapies are taught in the somatology course content there are no set industry standards in respect of detail such course content should contain (Habia, 2017). The results therefore indicate that the course content for aesthetics treatments has room for improvement as displayed in Figure 4.1.

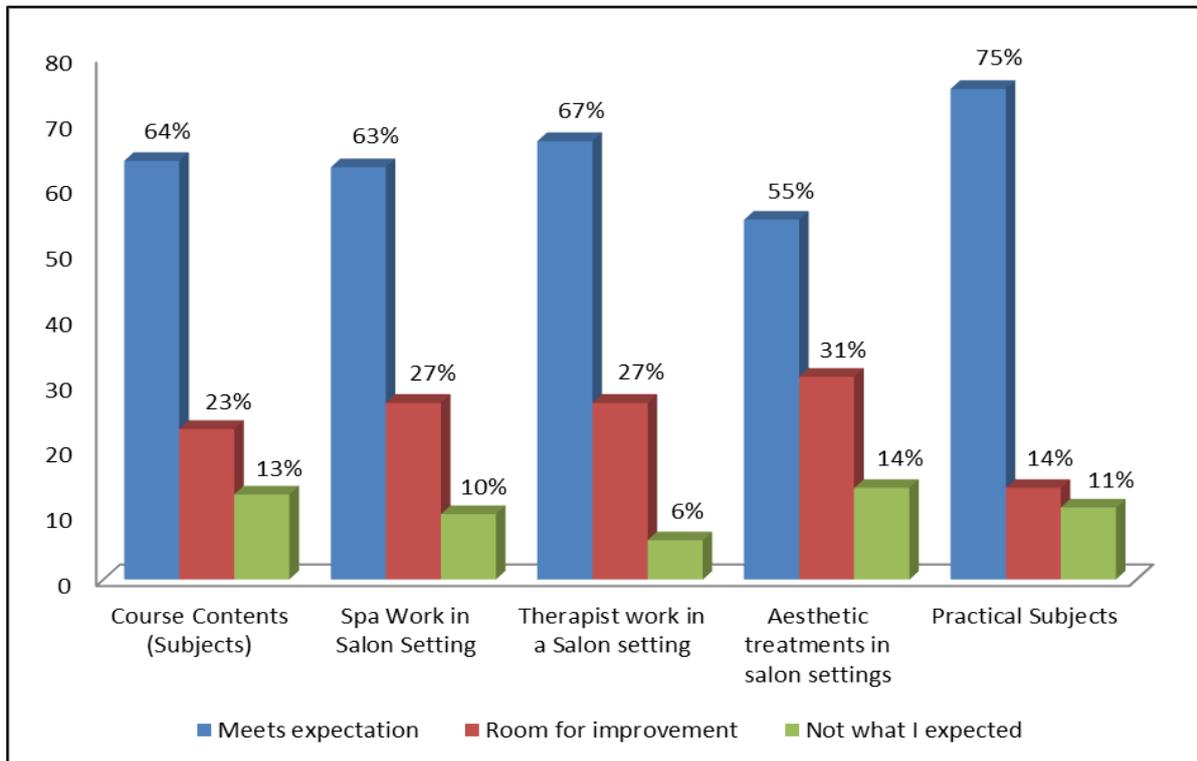


Figure 4.1 Perceptions of students on the current somatology course (n=140)

The question regarding work setting provided insight to current students' views with regards to the type of work and work setting they would be interested in once their qualification is obtained. Figure 4.2 displays the most popular work setting choices post qualification. In descending order of frequency, work settings selected were dermatology/plastic surgeon practice (29.3%), health wellness clinics (24.0%), cruise liners (20.1%) and medical spa or spas (16.0%). The majority of students indicated that a dermatologist or plastic surgeon were the preferred stakeholders that they envisaged to work with. These results are consistent with current beauty industry statistics where aesthetic related treatments (39.8%), are already being performed to meet consumer needs. This may indicate that students are aware of the current treatments offered in the beauty industry and would like the opportunity, once qualified, to be part of this niche market (Habia, 2016-2017).

The second most popular choices for work were wellness clinics and cruise liners. Somatologists are taught to work holistically, meaning that the holistic wellbeing of a client is considered when performing treatments (WebMD, 2017). Holistic wellbeing means that the therapist aims to treat the client through considering the client's health on three levels, which include mind, body and soul (Beasley, 2015). It is therefore no

surprise that majority of students opted to work in settings which reflect holistic wellbeing. Wellness clinics and cruise liners often reflect holistic settings by means of quiet and tranquil environments in which to conduct treatments (Rosenbrock, 2013).

A minority of students would consider working at a medical spa or general spa. The low number may be due to the concept of medical spas being new in South Africa and students indicating there is a need for improvement in aesthetics content (depicted in Fig. 4.1) as these treatments are predominantly used in medical spas (Morin, 2017).

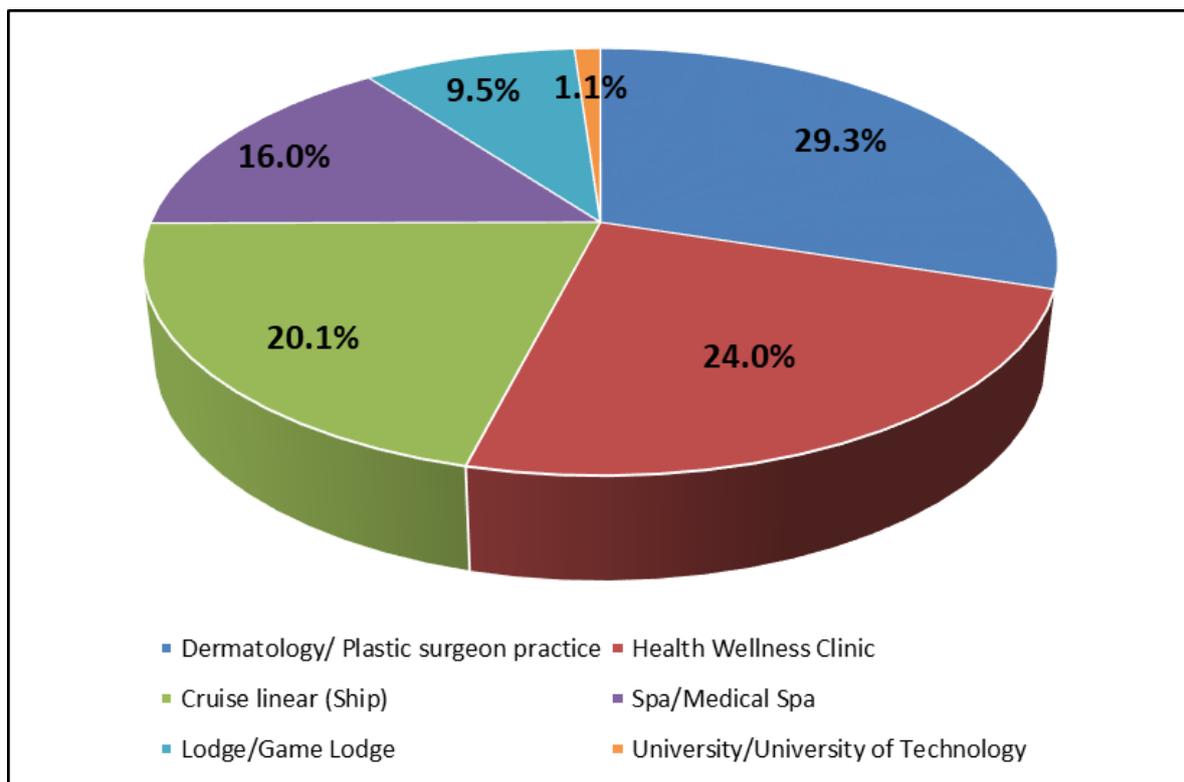


Figure 4.2 Frequency of preferred work setting, following qualification (n=140)

4.5.2 Industry perceptions

To assess the current level of work satisfaction and identifying career needs of qualified somatologists, the study asked two questions pertaining to treatment satisfaction and career path. When qualified somatologists were asked if they were satisfied with the current treatments offered in their profession, 57.4% agreed that treatments they performed were satisfactory; however somatologists would like to perform or offer more medically based treatments. According to Professional Beauty (2014b) aesthetics treatments are a growing industry trend in South Africa as beauty

treatments have become focused on clients searching for optimal yet rapid skincare results. This reflects the current industry trend in which somatologists have recognised consumer need for aesthetics treatments and thus would like to keep abreast in the industry by offering treatments that are more medical in nature. Of the total respondents, 32.0% were completely satisfied with the treatments they offered at work, whereas 5% were not satisfied with the type of treatments they offered at work, as indicated in Figure 4.3.

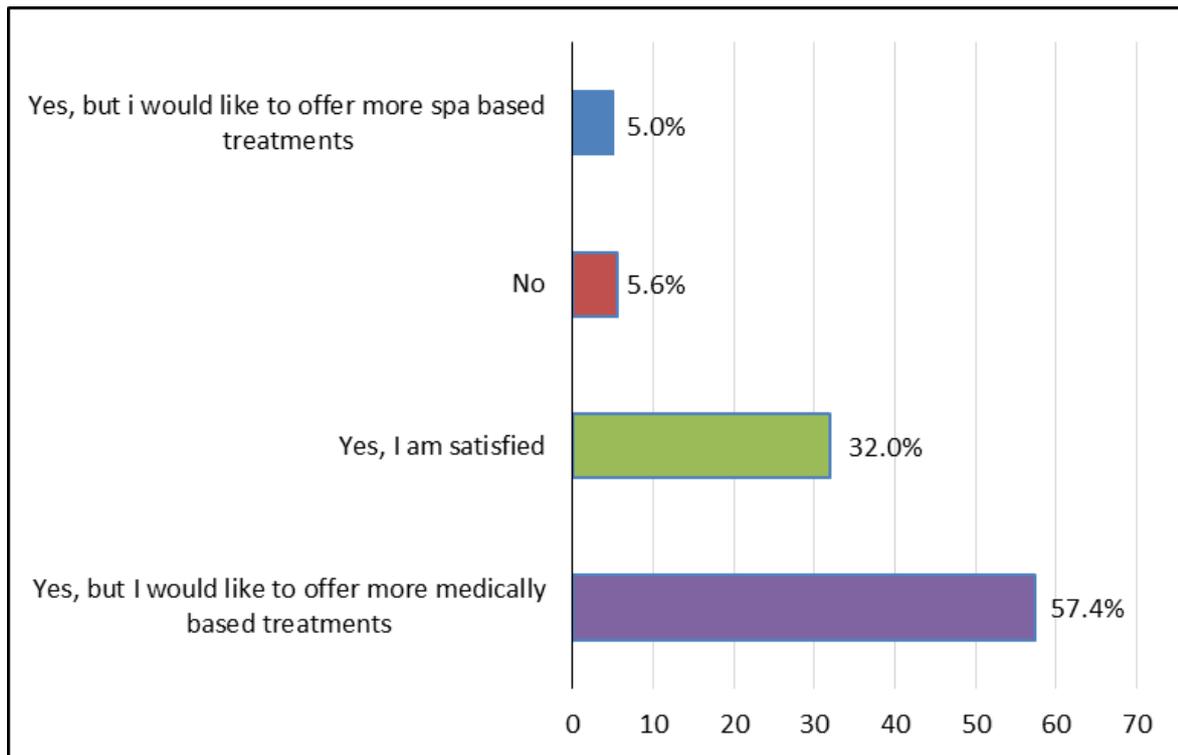


Figure 4.3 Satisfaction with current treatments offered by somatologists (n=54)

4.5.3. Career path

Most qualified somatology respondents (92.6%) indicated that there was a current career path in somatology. Those respondents that disagreed were asked to elaborate on why they felt that there was no career path in the somatology profession. In their qualitative responses, two main ideas emerged:

1. Market saturation

The large number of somatologists and the services offered have appeared to saturate the consumer market. To this end, the availability of newer treatments with rapid results will have a positive impact in attracting clients and providing advanced levels of somatology care. This is evident in the statement below, as reported by one

respondent,

[All] somatologists do the basic treatments like waxing, manicures, pedicures, facials and for that reason the market of somatology is overflowing and you need to do something unique, special or medical to be better than the others, where the clients will see immediate and proper results with little or no downtime.

Rammanhor (2014) found similar perceptions among qualified somatologists regarding advanced treatments that can provide quality results with reduced recovery time. A common theme among the replies was the sentiment that somatology educators and industry revisit the current curriculums to include advanced aesthetics methods to improve student training. The addition of aesthetics subjects will contribute to student preparedness for industry, thus relieving a current saturated market (Whitehouse, 2016). According to Whitehouse (2016) and Wagner (2017), beauty salons and clinics have seen a steady two percent increase in market growth since the year 2000; however the number of positions available is expected to decrease by 16% between 2010 and 2020. These finding could pose challenges for qualified somatologists to access suitable positions. The industry is however seeing an increase in niche or specialised markets such as medical spas, interdisciplinary clinics and aesthetics practices. Such markets are expected to increase by 3.3 percent annually in 2017 (Wagner, 2017). Herein lies the opportunity for specialised somatologists to enter into the market once qualified.

2. Further education and training

Somatologists have stated a need for further education and training in the field of aesthetics treatments.

One participant noted that they would like to “go more in the medical industry than doing beauty treatments,” while another felt that “I would like to advance my studies in medical aesthetics; however, these courses or degrees do not exist”. Another respondent observed that he/she was able to “carve out a career path in medical aesthetics, but only with the help of Drs [doctors] I have worked with. I think the proposed training will help greatly”.

Given the above it would seem that there is a need for somatologists to increase their

scope of practice to include medical aesthetics treatments but there exists an absence of standardised education within the current programme that does not enable qualified somatologists to do so. Similar comments are displayed in a study where somatology respondents felt the need to incorporate aesthetics subjects into the curriculum in order to meet industry needs (Rammanhor, 2014). The data from these questions to somatologists resonates with the perceptions students have on the need for increased education involving aesthetics.

Somatologists' opinions regarding clients requesting more specialised treatments and superior skin care results are presented in Figure 4.4. Findings suggest that the majority (98.2%) of somatologists' clients request more specialised or medical beauty treatments as well as expect superior skincare results from treatments. This data supports findings, which indicates the need for aesthetics modalities to be incorporated into somatology education to meet industry needs. International report results in 2016 from the Economic Intelligence Centre in Thailand concluded the global beauty treatment market trend to be predominantly guided by an ageing society on account of skincare awareness. The market is estimated to have a growth rate of seven percent per year but is not limited to one particular age group (Laosopapirom, 2016).

According to Professional Beauty (2014a) and Griffiths (2015), the key focus is for clients to seek skincare treatments superior in producing results with little recovery time. For similar reasons, Laosopapirom (2016) suggests that the beauty industry should focus on specialised services and capture niche markets through their medical expertise as well as offer safe and up-to-date technology. Griffiths (2015) agrees with this argument and further suggests joint ventures providing interdisciplinary teams to increase work opportunities as well as provide a safe and effective environment to meet clients' skincare needs. Laosopapirom (2016) concluded by suggesting that the beauty industry focus on specialist services and captures niche markets through their medical expertise as well as offer safe and up-to-date technology.

Additionally, 72.2% of somatologists are currently incorporating advanced skin care treatments into to their scope of practice. Study results displayed by Nkwanyana (2015) and Swanepoel (2017) indicated somatologists are performing treatments such

as dermal fillers, invasive laser and sclerotherapy on account of rapid advancements in the industry and in order to meet client needs. Such treatments are classified within the scope of aesthetics medicine.

These treatments are also considered highly invasive and performed without the correct training could lead to severe consequences for clients (Geronemus, 2002). Results are suggesting that while there is a need and scope for aesthetics treatments in the field of somatology, such treatments incorrectly administered due to a lack of training could determine complications and risks for clients. While currently there are no governing bodies in place to prevent somatologists from performing such treatments, the introduction of a qualification specialising in aesthetics treatments may provide an opportunity for somatologists to attain standardised training and safe guard against inexperienced treatments or practicing outside aesthetic somatologist's scope of practice.

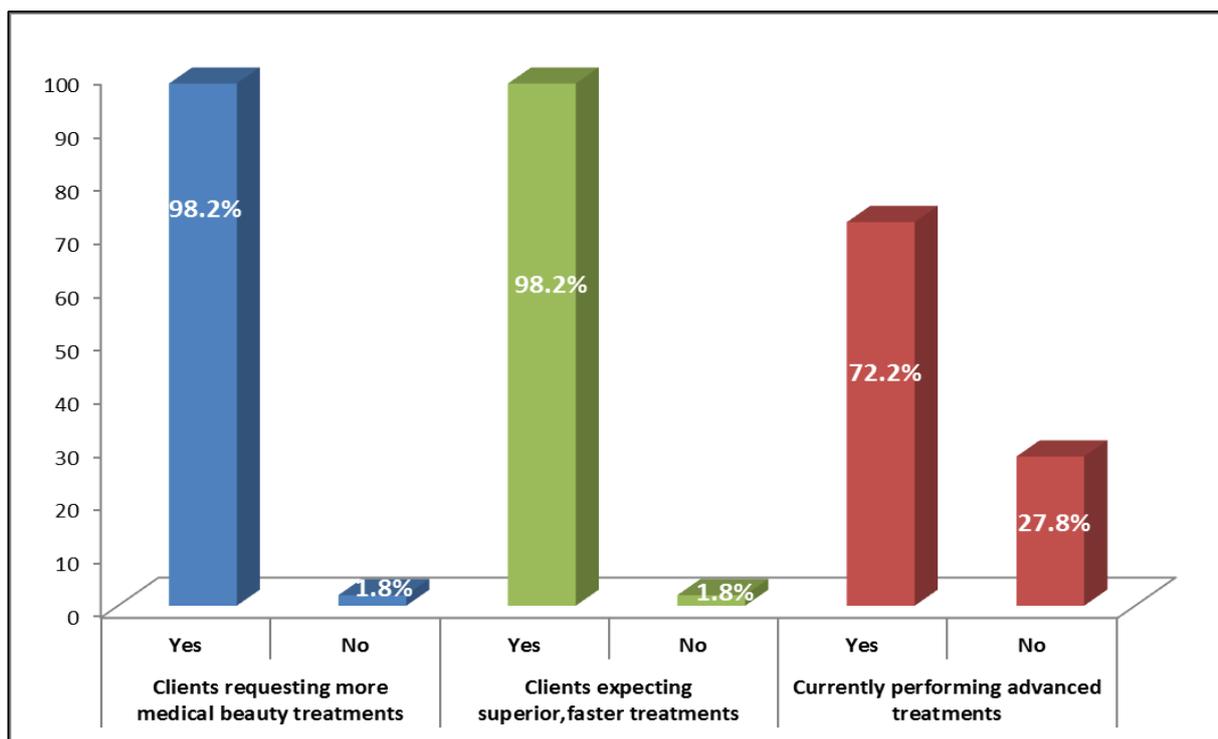


Figure 4.4 Request for and availability of specialised treatments (n=140)

Advanced aesthetics somatology course information

This section aimed at gathering perceptions from all the stakeholder groups towards advanced aesthetic somatology for possible inclusion within the curriculum of somatology.

4.6. Inter-professional perceptions

When qualified somatologists and students were asked if they would consider it beneficial to work with a medical practitioner, the majority of both stakeholder groups (92.9% and 90.7% respectively) agreed, as depicted in Table 4.5. The results correlate with the data sets depicted in Figures 4.2 and 4.3 in which a large percentage of both somatology students and qualified somatologists expressed the desire to work for a dermatologist/plastic surgeon and to offer more medical treatments in their current career. Furthermore, a large percentage of respondents from both stakeholder groups (90.0% and 88.9% respectively) would like the opportunity to work in conjunction with medical practitioners as depicted in Table 4.6. Internationally, aesthetics treatments in interdisciplinary medical spas, wellness clinics and aesthetics practices have been fast growing owing to the global trend of medical tourism, anti-ageing needs and skincare awareness (Deitz, 2004; Dayan, Drumm and Wojak, 2008). The results may suggest that somatology in South Africa is following trends already being displayed internationally.

Table 4.5 Summary table for respondents considering it beneficial to work alongside medical professionals

	Students (n=140)	Somatologists (n=54)	Total	P-Value
Yes	131 (93.57%)	48 (88.89%)	179	0.274
No	9 (6.43%)	6 (9.26%)	15	
Total	140	54	194	

Table 4.6 Summary table for respondents furthering job opportunity with medical professionals

	Students (n=140)	Somatologists (n=54)	Total	P-Value
Yes	126 (90%)	48 (88.89%)	174	0.270
No	14 (10%)	5 (9.26%)	19	
Not Sure		1 (1.85%)	1	
Total	140	54	194	

A study conducted in 2009 depicted a 39% referral frequency of patients from medical professionals to somatologists. The author deduced that medical professionals who refer patients to somatologists had a high regard for affiliated services and the assistance somatologists could provide to their patients (Vosloo, 2009). Similarly in this study, medical professionals, students and qualified somatologists were asked if they considered it beneficial to a client if a somatologist worked in conjunction with a medical practitioner. Responses indicated a high level of agreement (93.6%, 88.9% and 74.0%) across all three stakeholder groups, as per Table 4.7.

Additionally, 78.0% of medical professionals would consider hiring qualified advanced aesthetics somatologists to prepare patients for minor in-chair procedures as presented in Table 4.8. In a later study the results concluded that most medical professionals participating in the study utilised somatologists in their practices and the majority also showed an interest in interdisciplinary ventures should the opportunity present itself (Nkwanyana, 2015). According to an article published by the American Society for Dermatologic Surgery in 2002, non-physicians play a vital role in delivering routine treatments under the supervision of medical professionals (Geronemus, 2002). In this way well trained non-physicians can assist medical professionals by playing a supportive role through awareness, preparation and maintenance of various cosmetic procedures (Geronemus, 2002; Vosloo, 2009).

Table 4.7 Summary table of respondents perception on collaborative practices being beneficial to client treatment outcomes

	Students (n=140)	Somatologists (n=54)	Medical Practitioner (n=50)	Total	P-Value
Yes	131 (93.6%)	48 (88.9%)	37 (74.0%)	179	0.274
No	9 (6.4%)	6 (9.3%)	13 (26.0%)	15	
Total	140	54	50	244	

Table 4.8 Medical professionals would consider hiring qualified advanced aesthetics somatologist (n=50)

	Number of responses (n=50)	Percent
Yes	39	78.0%
No	11	22.0%
Total	50	100%

4.7. Educational perceptions

All three stakeholder groups were asked how many years of study they would deem sufficient for the qualification of advanced aesthetics somatology. Responses in Table 4.9 indicated 50.0% of student respondents believed 3 years would be necessary to obtain the suggested advanced aesthetics somatology qualification. Among students, somatologists and medical professionals (39.0%, 44.0% and 56.0% respectively) it was reported that students study for 2 years to complete an advanced aesthetics somatology qualification.

Internationally, aesthetic qualifications are offered through registered higher education institutions. Duration of study may vary however the consensus is between one to three years for an advanced aesthetic qualification (CAMACS, 2014; GUTCM, 2014;

Nicolet Collage, 2014; Victoria University, 2014 and ILAMED, 2012). Certain components of the proposed aesthetics somatology qualification are offered by product training houses as short courses in South Africa. These courses often include laser therapies, chemical peels, micro-needling and microdermabrasion offered within a day to three days and award the student with an in-house certificate from the product training company. Product training houses are not typically registered with HEI and qualifications are not SAOA affiliated, often resulting in courses being unstandardized (Mehta, 2016; Habia, 2017).

Table 4.9 Number of years deemed sufficient for the study in advanced aesthetics somatology qualification

	Students (n=140)	Somatologists (n=54)	Medical Professionals (n=50)	Total	P-Value
1 year	15 (11.0%)	12 (22.0%)	11 (22.0%)	38	0.004
2 years	55 (39.0%)	24 (44.0%)	28 (56.0%)	107	
3 years	70 (50.0%)	18 (33.0%)	11 (22.0%)	99	
Total	140	54	50	244	

In addition, 41.0% of students reported that entry requirements for the study of advanced aesthetics somatology should include possession of a National Diploma in Somatology with a minimum course mark of 70% and be subject to a selection interview process. Just under half of somatologists respondents (48.0%) agreed with student respondents (41.0%) that candidates be subjected to a selection process through interviews. Figure 4.5 shows respondents findings for entry requirements to study advanced aesthetics somatology.

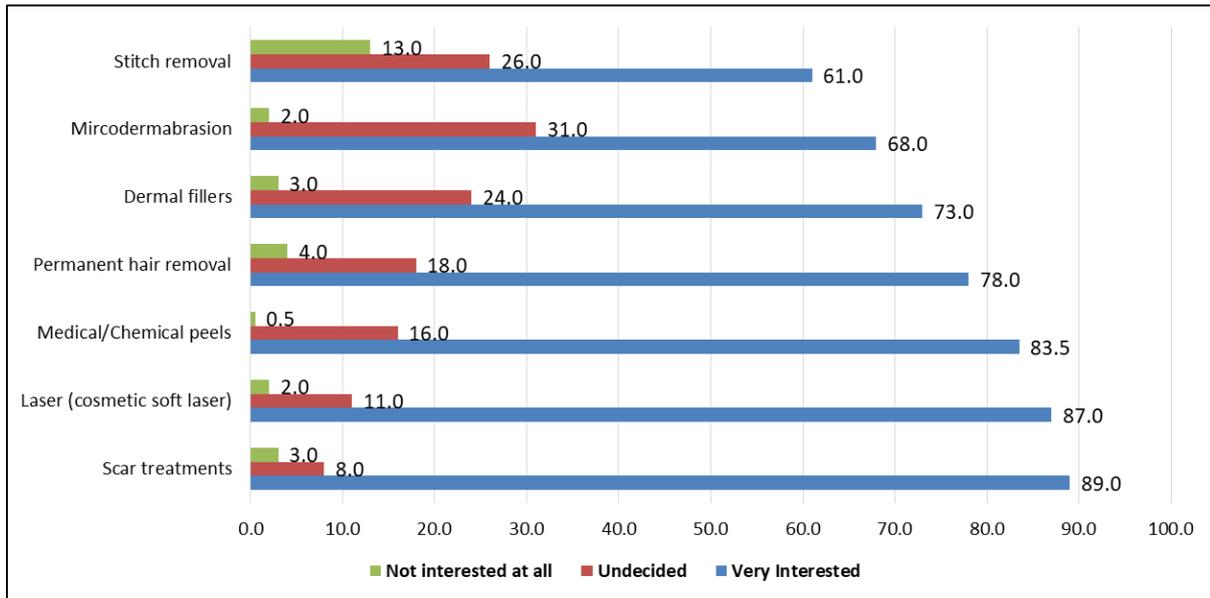


Figure 4.5 Entry requirements for advanced aesthetics somatology: students (n=140), somatologists (n=54)

According to Table 4.10, somatologists and student respondents (92.2% and 70.4% respectively) were of the opinion that currently somatologists have sufficient knowledge to further their studies in advanced aesthetics somatology and work in a medical setting. The results of the chi-square test show a significant relationship between the stakeholders and their perceptions ($p < 0.001$).

Table 4.10 Perceptions of students and somatologists on readiness to perform advanced aesthetics somatology work in a medical setting

	Students (n=140)	Somatologists (n=54)	Total	P-value
Yes	129 (92.2%)	38 (70.4%)	129	<0.001
No	11 (7.9%)	16 (29.6%)	27	
Total	140	54	194	

Respondents were asked to rank, by level of importance, subjects which they would consider essential for an advanced aesthetics somatology curriculum. Rating options followed the Likert scale: 1 being most important, 5 suggesting somewhat important and 10 being least important. The frequency of responses is depicted in Figures 4.6-4.8 (pages 64-66).

For somatologists, dermal science (35.0%), permanent hair-removal techniques and advanced physiology (33.0% each) were considered the most important subjects. Currently permanent hair removal treatments are popular in the beauty industry (Habia, 2017). Such treatments are considered optimal to clients who are in need of removing stubborn unwanted hair effectively. The treatment may last up to five years before regrowth is visible (American Academy of Dermatology, 2017). There are, however, several suppliers and types of laser machines, all of which need in-depth study and practice in order to carry out a successful and safe treatment (Bennett, 2017). Consequences of incorrect treatment may include burns, permanent discolouration and permanent scarring (American Academy of Dermatology, 2017). This may be why the majority of respondents considered permanent hair-removal techniques to be a priority in the advanced aesthetics curriculum. Regarded as equally important was the subject, advanced physiology. The study of human physiology is the study of biological systems at the level of the cell, organs and systems. Digestive, circulatory, endocrine, integumentary, musculoskeletal, nervous and immune systems are all included in the study of physiology (Newman, 2016). Many of these systems are an important foundation for understanding how somatology treatments work and can be performed safely with minimal risk to clients. This may suggest why respondents felt advanced physiology should be an important subject.

Wound care (24.0%) and resurfacing science (22.0%) were considered of lesser importance; however in respect of all ten subject choices given to respondents, these two subjects still factored as noteworthy choices. Many aesthetics treatments such as laser, microdermabrasion, micro-needling and chemical peel treatments are based on the principles of skin resurfacing science. Skin resurfacing techniques create an artificial wound to promote faster healing of skin cells while minimising downtime and side effects of the treatment (Loesch, Somani, Kingsley, Travers and Spandau, 2014). The skin healing process is a component of resurfacing science principles; applied correctly such principles aid the somatologist to attain safe, optimal results in treatments with little recovery time for the client. Medical profession respondents agreed with somatology respondents: 58.0% determined permanent hair-removal techniques to be close to important with a rating of 3 on the Likert scale; furthermore resurfacing science (38.0%) and dermal science (32.0%) were considered to be somewhat important to the proposed curriculum.

In contrast, medical professionals rated cosmetic chemistry (24.0%), pre- and postoperative treatments (18.0% and 16.0%) most important components of the proposed curriculum. As suggested by Geronemus (2002), somatologists play a vital role in assisting medical professionals through supportive roles by means of awareness, preparation and maintenance of various cosmetic procedures. Such a role would include having a keen knowledge of pre- and postoperative procedures performed by medical specialists in order to fulfil an auxiliary function; for this reason medical professionals may deem such subjects to be more valuable in the proposed curriculum.

The results from student respondents were similar to somatologists' perceptions. Student respondents ranked permanent hair-removal techniques, resurfacing sciences, advanced physiology and post-operative treatments (33.0%, 31.0% and 26.0% each respectively) as the most important subjects for an advanced aesthetics curriculum. Wound care (20.0%) was regarded as important, ranking mostly three on the Likert scale. Several curriculums encompass many of these subjects at an introductory level and therefore could have resonated strongly with students when set forth as possible subject choices. As students already study components of light based therapies, resurfacing techniques and certain chemical peels, prior knowledge from these subject may also have played a role in the understanding of the knowledge necessary to study advanced aesthetic treatments.

Dermal science (11.0%) and cosmetic chemistry (23.0%) rated mostly seven on the Likert scale, inclined towards being unimportant subjects for the proposed advanced aesthetic curriculum. Plastic and reconstructive procedures (69.0%) and dermal fillers (29.0%) were deemed least important for the curriculum by the respondents. Somatologists would consider subjects such as plastic reconstructive procedures and dermal fillers to be out of a somatologist's scope of practice and therefore it could be reasoned that both somatology stakeholder groups would deem such subjects least important for the study of advanced aesthetics somatology.

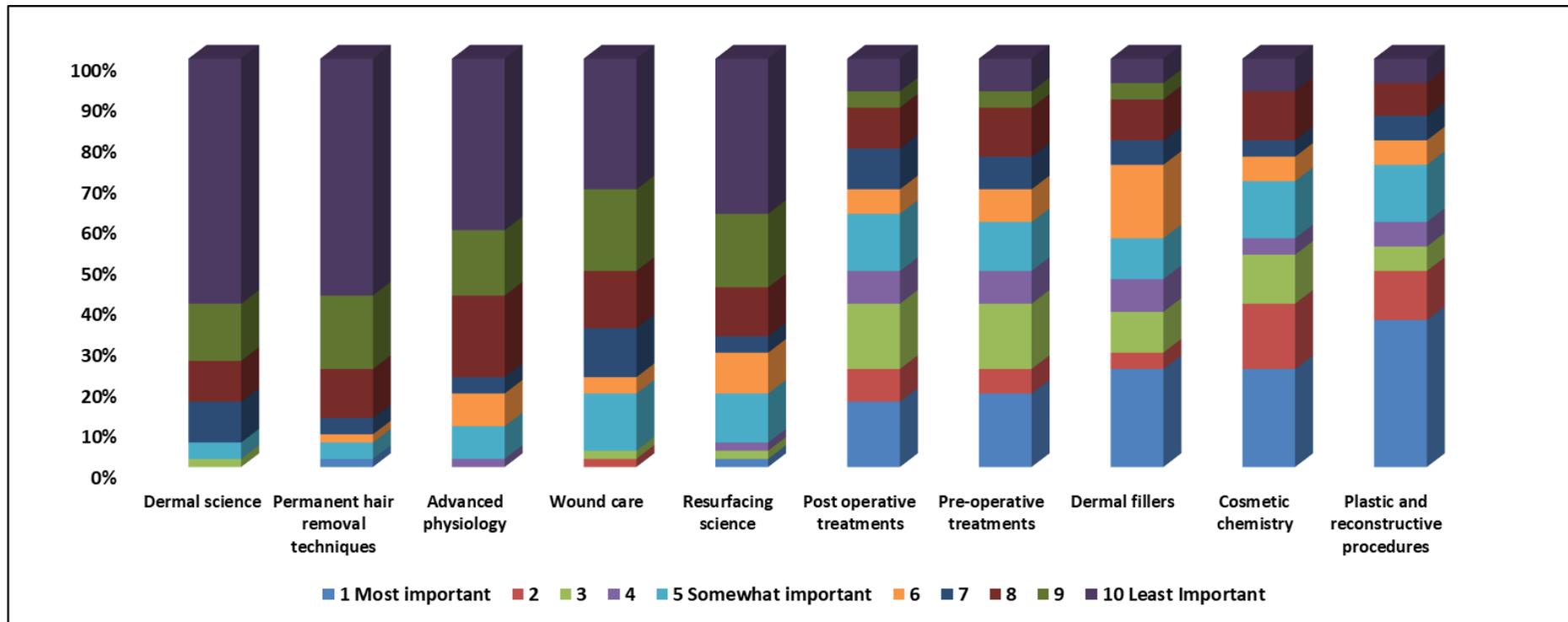


Figure 4.6. Ranking of importance of subjects for advanced aesthetics somatology curriculum by somatologists ($n=54$)

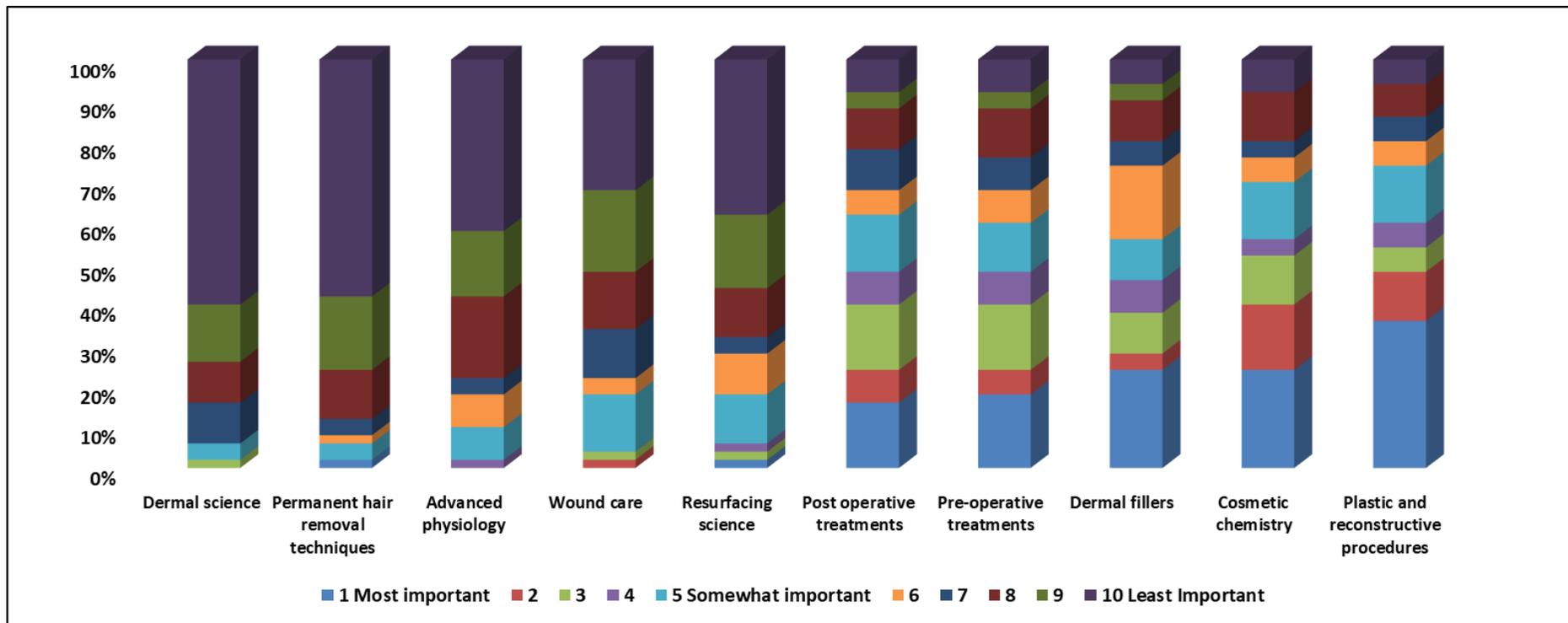


Figure 4.7 Ranking of importance of subjects for advanced aesthetics somatology curriculum by medical professionals (n=50)

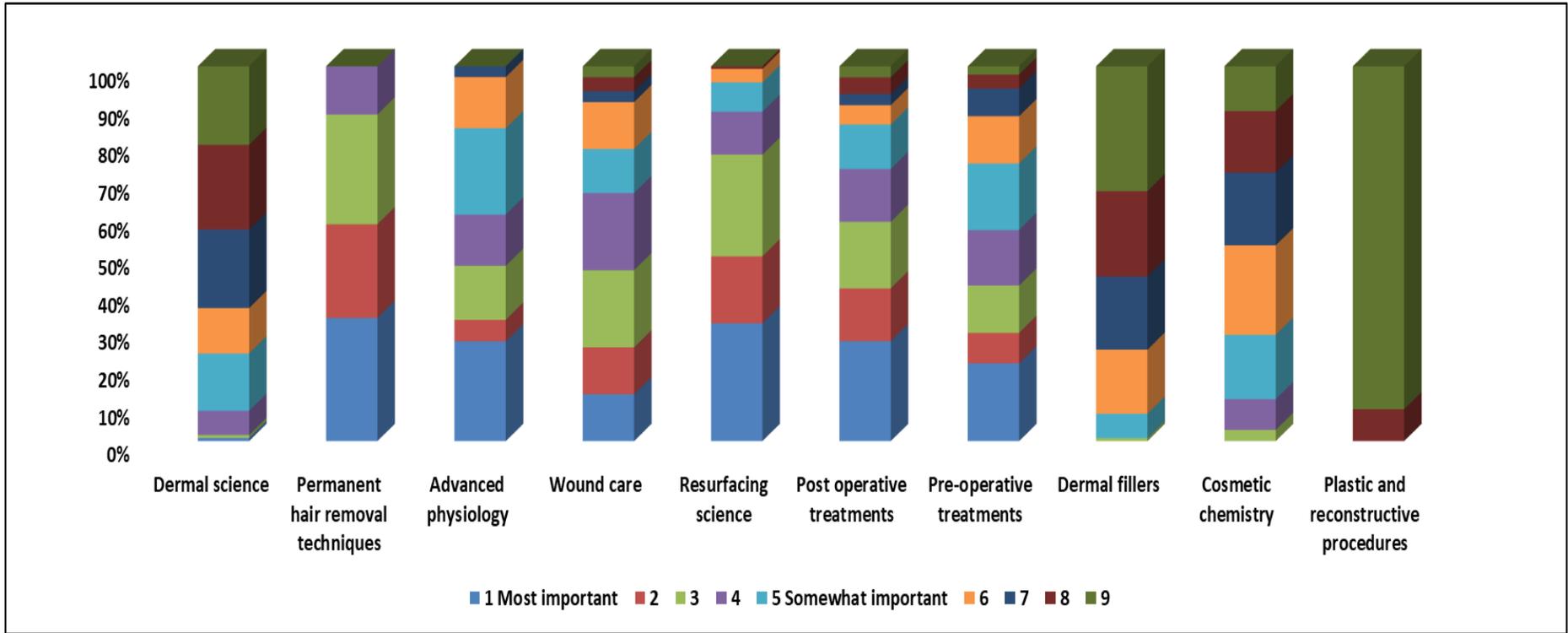


Figure 4.8 Ranking of importance of subjects for advanced aesthetics somatology curriculum by students (n=140)

4.8. Scope of Practice

All three stakeholder groups were posed with a question in which the main focus was to determine the perception on scope of practice for advanced aesthetics somatologists. Results displayed in Table 4.11, are as follows; the chi-square test was conducted to investigate the relationship between the perceptions of the three stakeholders and conditions considered appropriate for advanced aesthetics somatologists to treat. The following conditions, wrinkles/fine lines (<0.001), unwanted facial or body hair (<0.001), sagging skin (<0.001), dark circles/puffiness/eyelid laxity (<0.001), skin tightening (<0.001) and large pores/rough texture (<0.001) showed a significant statistical relationship for all three stakeholder groups. The strong correlation between the topics mentioned above suggests all three stakeholder groups are in agreement that these conditions are appropriate for an advanced aesthetics somatologists scope of practice.

The conditions deemed appropriate draw a strong correlation to current treatments being delivered on an international scale by aestheticians in the industry. According to the American society for Aesthetic Plastic Surgery (2016), non-surgical treatments such as chemical peels, micro-ablative resurfacing, photo-rejuvenation, laser hair removal and light based treatments are among the most popular treatments being provided. In a study conducted in 2015, medical professionals deemed similar treatments to those displayed internationally, as appropriate to the scope of practice. The highest percentage included chemical peels (66.7%), IPL (66.7%), permanent hair removal (66.7%) and specialised facials such as rejuvenation treatments (67.2%) (Nkwanyana, 2015). These treatments are characteristic treatments provided by aestheticians.

In descending order of frequency, student respondents highlighted the following conditions: wrinkles/fine lines (75.0%), brown spots/pigmentation (68.6%), acne or acne scarring (67.86%), unwanted facial and body hair (62.1%) and redness/flushness/broken capillaries (60.1%), as most appropriate for an advanced aesthetics treatment. Somatology respondents agreed that conditions such as wrinkles/fine lines (93.0%), brown spots/pigmentation (85.0%),

redness/flushness/broken capillaries (73.0%), unwanted facial and body hair (82.0%) and acne or acne scarring (85.0%) could be treated by an advanced aesthetics somatologist. Medical professionals emphasised four conditions: wrinkles/fine lines (94.0%), brown spots/pigmentation (72.0%), unwanted facial and body hair (88.0%) and sagging skin (70.0%); these were deemed appropriate for treatment by an advanced aesthetics somatologist.

No condition was highlighted by the somatology stakeholder groups as unsuitable for the scope of practice; however, medical professionals determined leg veins (24.0%) somewhat inappropriate for the scope of practice in advanced aesthetics somatology. The reasoning for this sentiment may lie in the condition itself. The most common conditions clients want to eliminate in leg veins are varicose veins, spider nevi and broken capillaries for which a common treatment would be light-based therapies. However, of the three conditions, varicose veins pose the greatest health risk to a client. If left untreated and depending on the size of the varicose vein, the secondary condition of deep vein thrombosis (DVT) may develop. DVT results in the formation of a blood clot within the varicose vein. If treated incorrectly, the clot may be dislodged and travel to various parts of the body, causing life-threatening conditions such as a stroke, pulmonary embolism and heart attack (Morrow, 2017).

Table 4.11 Respondents ranking of conditions considered appropriate for treatment by an advanced aesthetics somatologist

Conditions	Students (n=140)	Somatologists (n=54)	Medical Professionals (n=50)	P-value
Wrinkles/fine lines	105 (75.0%)	51 (93.0%)	47 (94.0%)	<0.001
Brown spots/pigmentation	96 (68.6%)	47 (85.0%)	36 (72.0%)	0.001
Redness /flushness/broken capillaries	85 (60.7%)	40 (73.0%)	29 (58.0%)	0.030
Leg veins	69 (49.3%)	26 (47.0%)	12 (24.0%)	0.006
Unwanted facial or body hair	87 (62.1%)	45 (82.0%)	44 (88.0%)	<0.001
Sagging skin	64 (45.7%)	42 (76.0%)	35 (70.0%)	<0.001
Acne or acne scarring	95 (67.9%)	47 (85.0%)	26 (52.0%)	0.001
Dark circles/puffiness/eyelid laxity	46 (32.9%)	37 (67.0%)	33 (66.0%)	<0.001
Skin tightening face or body	53 (37.9%)	39 (71.0%)	35 (70.0%)	<0.001
Large pores/rough texture	43 (30.7%)	40 (73.0%)	47 (94.0%)	<0.001

Medical respondents were confident that advanced aesthetic somatologists could perform advanced exfoliating techniques (68.0%), 20% chemical peels (84.0%), 30% chemical peels (80.0%) and 50% chemical peels (54.0%) on their own. While 36.0% of medical respondents felt therapists performing 50% peels should be supervised. As elaborated on in the literature review, all peel treatments have associated risk factors or complications that may arise from the treatment. Whilst superficial and medium depth peels are considered relatively safe, the strength of the peel greatly increases the risk for complications (Landau, 2007, 2008). This may justify why medical professionals indicated they are comfortable with advanced aesthetics somatologists performing 20%-30% peels but 50% peels should be supervised. The minority, 38.0% of respondents reported therapists were capable of performing 70% chemical peels however 24.0% reported therapists should be supervised when carrying out this treatment.

Regarding dermal fillers and stitch-removal treatments, 46.0% and 38.0% of medical respondents felt therapists were incapable of carrying out the treatments; however 28.0% and 34.0% agreed therapists could assist medical professionals with the treatments. Medical professionals may perceive stitch removal and dermal filler practices traditionally to fall within the scope of medical practices and therefore not be suitable for therapists to administer directly (Dogra, 2009).

In addition medical respondents approved of therapists performing the following treatments, laser (60.0%), permanent hair removal (56.0%), permanent makeup (86.0%) and microdermabrasion (44.0%) unsupervised. In the same instance medical professionals felt that photofacials (38.0%), isolaz acne therapy (38.0%), scar treatments (30.0%) and thermage therapy (34.0%) should be supervised. Findings on the treatments deemed appropriate for advanced aesthetics somatology are summarised in Table 4.12.

Table 4.12 Treatments deemed appropriate by medical professionals for advanced aesthetics somatologists to perform (n=50)

Treatments	Incapable	Assisting	Supervised	Capable
Advanced exfoliating techniques	4 (8.0%)	1 (2.0%)	11 (22.0%)	34 (68.0%)
Chemical peels 20%	1 (2.0%)	1 (2.0%)	6 (12.0%)	42 (84.0%)
Chemical peels 30%	2 (4.0%)	1 (2.0%)	7 (14.0%)	40 (80.0%)
Chemical peels 50%	4 (8.0%)	1 (2.0%)	18 (36.0%)	27 (54.0%)
Chemical peels 70%	5 (10.0%)	2 (4.0%)	24 (24.0%)	19 (38.0%)
Dermal fillers	23 (46.0%)	19 (28.0%)	7 (14.0%)	1 (2.0%)
Laser (cosmetic soft laser)	3 (6.0%)	3 (6.0%)	14 (28.0%)	30 (60.0%)
Photofacials	11 (22.0%)	6 (12.0%)	19 (38.0%)	14 (28.0%)
Permanent hair removal	0 (0%)	1 (2.0%)	21 (42.0%)	28 (56.0%)
Permanent makeup	1 (2.0%)	1 (2.0%)	5 (10.0%)	43 (86.0%)
Isolaz acne therapy	12 (24.0%)	6 (12.0%)	19 (38.0%)	13 (26.0%)
Microdermabrasion	8 (16.0%)	5 (10.0%)	15 (30.0%)	22 (44.0%)
Scar treatments	12 (24.0%)	13 (26.0%)	15 (30.0%)	10 (20.0%)
Stitch removal	19 (38.0%)	17 (34.0%)	12 (24.0%)	2 (4.0%)
Thermage therapy	13 (26.0%)	6 (12.0%)	17 (34.0%)	14 (28.0%)

Future employment

This section investigated future employment opportunities and ideal work settings with regard to advanced aesthetics somatology.

4.9. Somatologists

The majority of somatology respondents (68.5%) agreed that they would like to work in a medical setting, while 24.0% of respondents were uncertain about working in a similar setting and the minority (7.5%) agreed they would not like to work within medical settings as seen in Figure 4.9. This data relates to Figures 4.2 and 4.3 where somatologists displayed interest in working for medical professionals and performing treatments more medical in nature. The high percentage of respondents interested in working within a medical setting relates to industry trends abroad, where therapists are working in interdisciplinary settings. Interdisciplinary settings would be mutually beneficial to clients and professionals alike, as client care would be the primary focus of all the professionals working in such settings (Wagner, 2017). Medical professionals would be able to supervise advanced treatments as suggested in table 4.12. Therapists could provide an

auxiliary support for patients of medical professionals (Durant, 2016; Simancek, 2016).

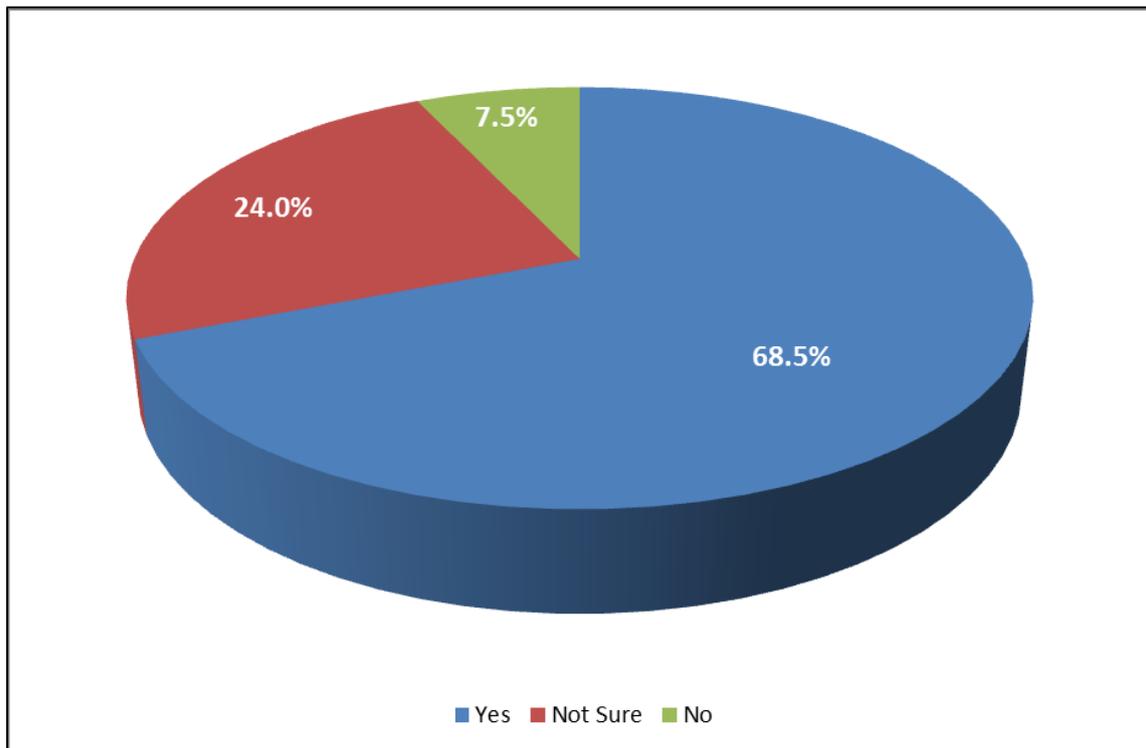


Figure. 4.9 Somatologists' willingness to work in a medical setting in the future (n=54)

Qualified somatologists were asked to indicate how they would feel about preparing clients for certain advanced aesthetics somatology treatments. Results presented in Figure 4.10 included high interest across all treatments with emphasis being placed on medical/chemical peels (83.5%), laser (87.0%), permanent hair removal (78.0%) and scar treatments (89.0%). Respondents felt undecided about microdermabrasion (31.0%) as well as stitch removal (26.0%). Thirteen percent (13.0%) of respondents were not at all interested in stitch removal. Results are similar to the data sets displayed in Table 4.12 by medical professionals. Internationally, some aesthetics qualifications incorporate dermal fillers and stitch removal as part of the curriculum; however professionals obtaining the qualifications are registered with a governing body that standardises the level of care and treatments (ILAMED, 2012; CAMACS, 2014; GUTCM, 2014; Nicolet College, 2014; Victoria University, 2014).

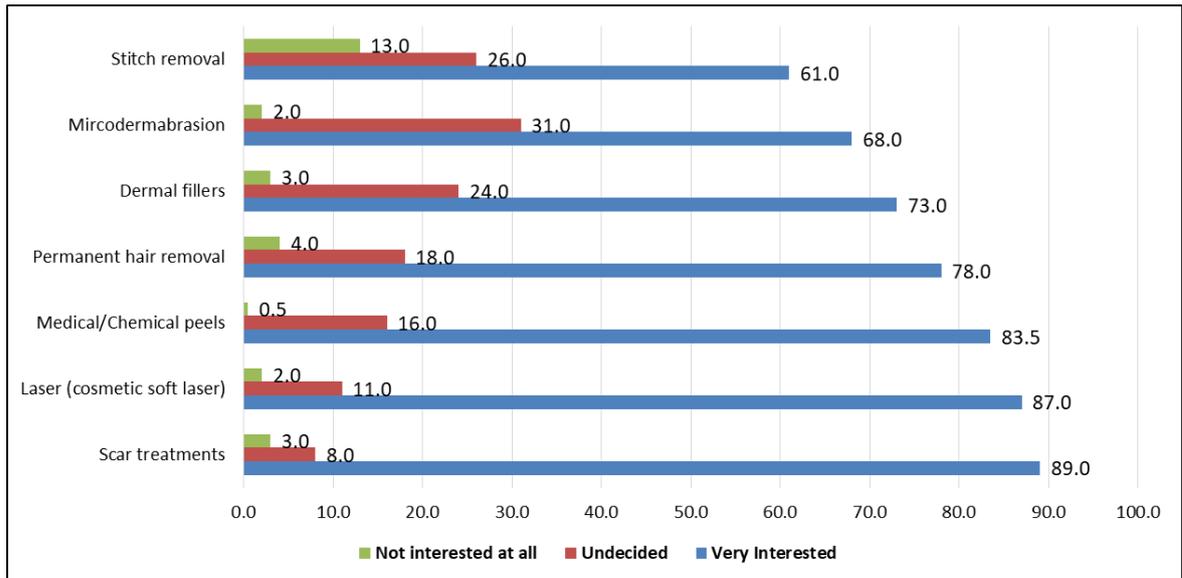


Figure 4.10 Ranking of somatologists' interest in advanced aesthetics somatology treatments (n=54)

4.10. Students

Results in Table 4.13 display student respondents' interest in furthering their studies. Of the total student respondents, 78.6% indicated an interest to further their studies, whereas 11.4% indicated they might want to further their studies.

Table 4.13 Opportunity to further studies (n=140)

	Number of responses (n=140)	Percent
Yes	110	78.6%
Maybe	16	11.4%
No	14	10.0%

For those that responded with 'Yes' or 'Maybe' (n=126), respondents were further questioned on what type of discipline they would be interested in studying further. Those interested in advancing their education showed interest in advanced aesthetics somatology (44.3%), followed by spa (29.3%) and salon (20.0%) studies. Figure 4.11 depicts their responses. This supports the data displayed in Figure 4.9 where students are prepared to work in a medical setting and given the opportunity would like to perform advanced aesthetical treatments. The data set

also correlates well with students in South Africa envisage to further their studies. According to the Department of Higher Education and Training South Africa (DHET), student enrolments for postgraduate qualifications have increased in the last four years. This may be due to increased funding for previously disadvantaged students who were not able to afford continuing their studies (DHET, 2017).

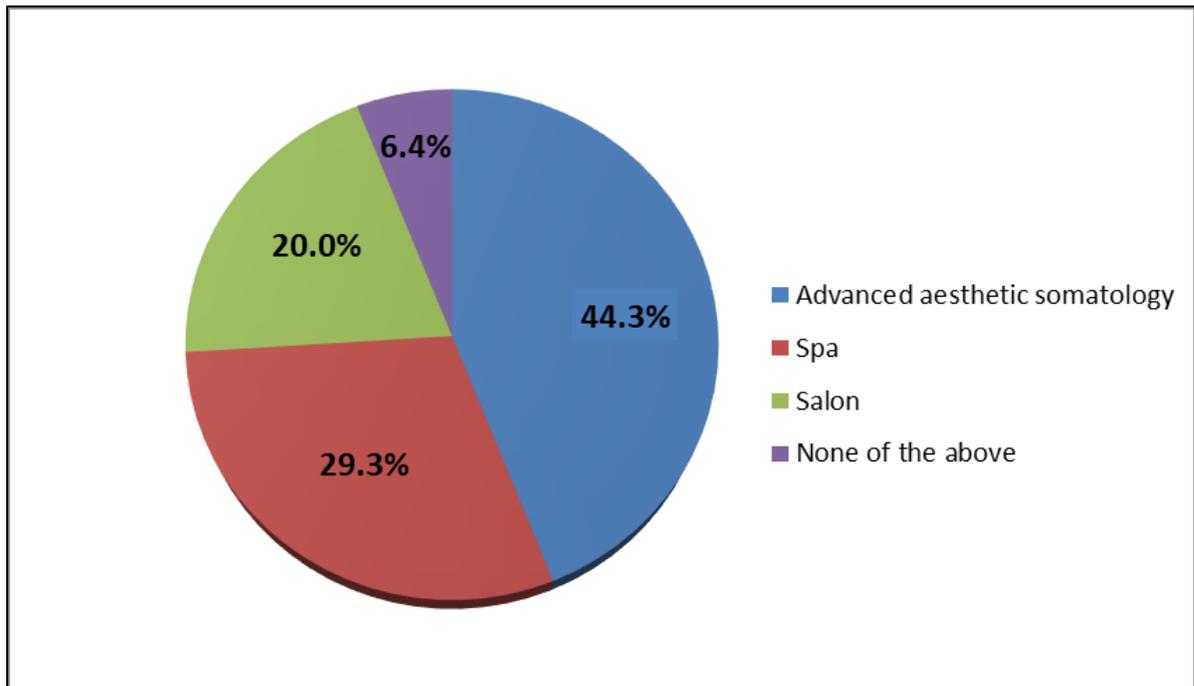


Figure 4.11 Disciplines for further study following qualification (n=126)

The study revealed a large interest by somatologists to offer aesthetics treatments on account of increasing industry needs. Likewise, students articulated an interest in offering aesthetics treatments. If given the option to further studies both somatologists and students displayed interest in an advanced aesthetic somatology qualification. Medical professionals responded positively toward interdisciplinary practices and hiring advanced aesthetics somatologists.

The following chapter discusses concluding remarks based on the primary aim, objective and results for the research study. The chapter also presents a framework for a proposed advanced aesthetics qualification as part of a theoretical gap model presented in chapter 2, which guided the development of the study.

Concluding Remarks

Currently in South Africa training for aesthetics treatments is offered in the form of short courses by the product houses that develop the products. Training often results in a certificate specific to the product house's treatments (Mehta, 2016; Durant, 2017). Several private institutions rely on product houses for training in aesthetics treatments (Keogh, 2013; Mehta, 2016). Some higher education UoTs and private institutions include aesthetics components in their curriculum at either third- or fourth-year level (SAQA, 2017). There is however no formal qualification focusing solely on aesthetics treatments.

Results from the questionnaires completed by the stakeholders revealed perceptions concerning entry level, number of years for qualification, suggested modules, subjects and scope of practice. This information was used to develop a conceptual framework for an advanced aesthetics somatology qualification in accordance with the NQF as suggested overleaf in Figure 5.1 and 5.2.

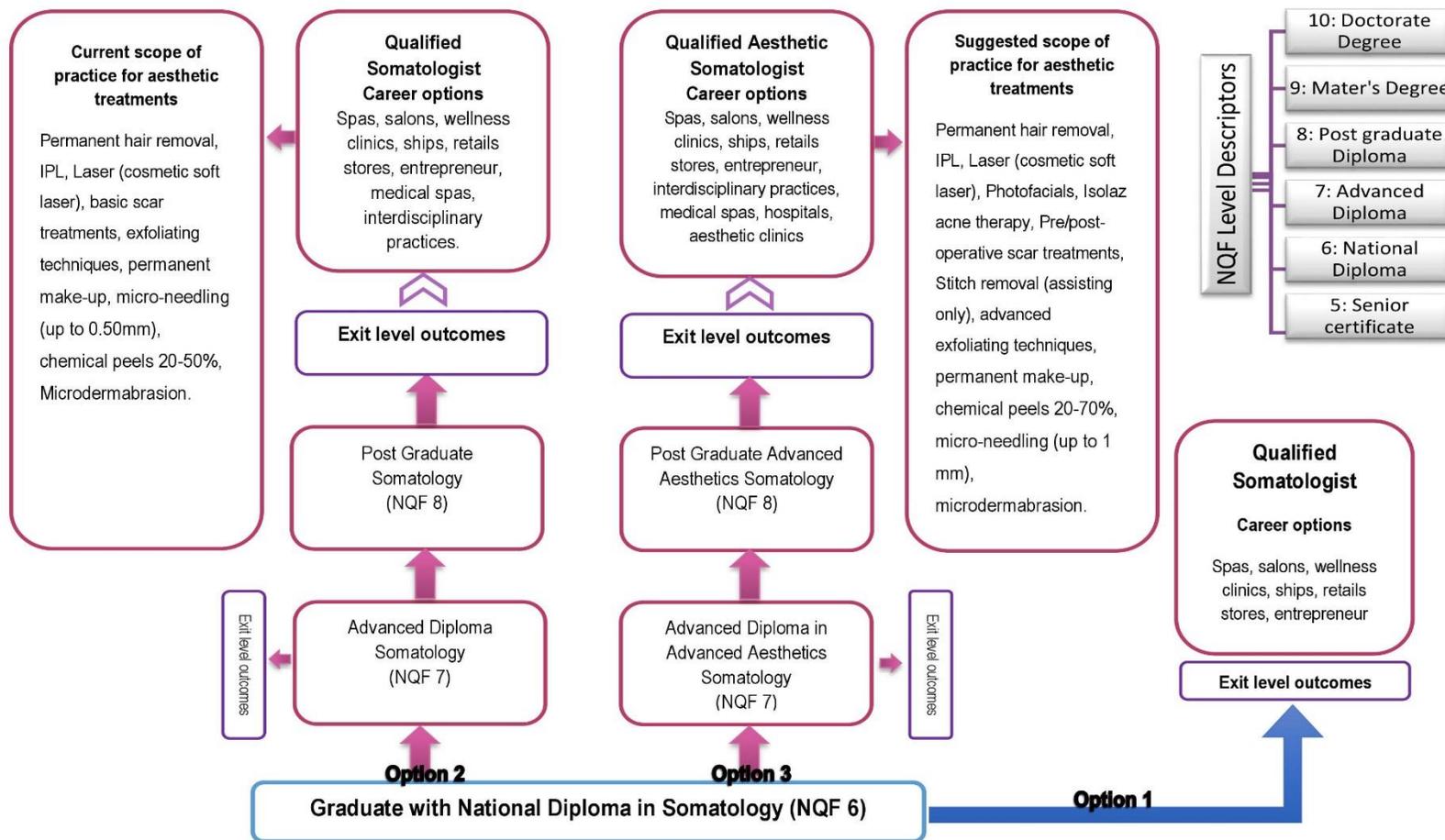


Figure. 5.1 Proposed positioning of advanced aesthetics somatology within the NQF

5.1. Conceptual framework for advanced aesthetic somatology in South Africa

5.1.1. Positioning of advanced aesthetics somatology

Figure 5.1 depicts the proposed positioning of an advanced aesthetics somatology qualification according to the NQF of South Africa. As discussed in Chapter 2, the NQF was instituted by the Department of Higher Education and Training. The framework facilitates the classification and registration of national qualifications by means of quality assurance and standardisation (SAQA, 2017a).

NQF level descriptors indicated in the upper corner of Figure 5.1 specify a series of learning achievements in ascending order. The purpose of level descriptors is to ensure coherence in learning achievement in the allocation of qualifications to particular levels as well as to facilitate the assessment of national and international comparability (SAQA, 2017a). It is clear from the level descriptors that a National Diploma is pitched at an NQF level six. Thus one can conclude the higher the level descriptor the higher the level of qualification.

Respondent results from the study denoted entry requirements for advanced aesthetics somatology to be a National Diploma in Somatology, (equivalent to a Diploma (NQF 6), in the new Higher Education qualification sub-Framework) therefore the diagram indicates the starting point to be a prospective student with a National Diploma: Somatology. From this point the prospective student may elect to follow one of three articulation pathways. The prospective student is qualified as a somatologist; he/she may choose to exit the field of studies and enter the industry with possible career options indicated in the exit outcomes block. The second articulation results in the prospective student continuing his or her studies to obtain an Advanced Diploma in Somatology (NQF 7). At this stage the prospective student may once again exit to industry or continue with further studies to achieve a Postgraduate Diploma in Somatology (NQF 8), at which point the prospective student may again choose to exit into the career options suggested in the career options block.

The third articulation pathway allows the prospective student to apply for an Advanced Diploma in Advanced Aesthetics Somatology (NQF 7) and thereafter a Postgraduate Diploma in Advanced Aesthetics Somatology (NQF 8) qualification. The option to exit after obtaining an Advanced Diploma in Advanced Aesthetics Somatology exists, as the two qualifications are not compulsory to complete in succession. However, both NQF level descriptors seven and eight highlight the function of specialisation as well as the ability to build on to the previous level of specialisation (SAQA, 2017a).

This was the first reason for proposing the qualification be offered at either NQF level seven or eight. The second reason for positioning the qualification at level seven or eight is because the majority of respondents felt two to three years of study would be required for proficiency in the specialisation of aesthetics. According to the NQF level descriptors, foundational knowledge in level six is necessary as a step up to level seven (SAQA, 2017a). As re-circulation of somatology diplomas is currently under way, most UoTs are aligning the curriculum to meet industry needs and international standards (Cape Peninsula University of Technology, 2017; Central University of Technology, 2017; Durban University of Technology, 2017; University of Johannesburg, 2017; Tshwane University of Technology, 2017). The result is a well-laid foundation for advanced aesthetics to be offered at an NQF level seven and eight. Career opportunities also differ in the third articulation, owing to the specialisation of the qualification suggested.

In addition, literature indicated medical professionals have expressed concerns with unregulated non-medical professionals offering advanced aesthetic treatments. Registration with a statutory body is therefore deemed important for both an Advanced Diploma in Advanced Aesthetics Somatology (NQF 7) and the Post Graduate Advanced Aesthetics Somatology qualification (NQF 8) qualification as suggested in Figure 5.1.

5.1.2. Proposed learning modules for Advanced Diploma in Advanced Aesthetics Somatology

For the purpose of this study, the proposed framework suggested is for NQF level seven, as this would be the entry level for this qualification. Responses from the questionnaires circulated to all stakeholder groups guided the development of the proposed framework for advanced aesthetics somatology. According to the results, respondents mostly agreed that dermal science, permanent hair removal techniques, advanced physiology, wound-care practices, resurfacing sciences and pre/post-operative treatments were the most important subjects for the advanced aesthetics somatology qualification.

The suggested learning modules for the proposed qualification were developed taking into account the subjects indicated to be most important by respondents as well as the level descriptor exit outcomes in order to align the qualification with the NQF level of Higher Education South Africa.

Figure 5.2 depicts the proposed learning modules for advanced aesthetics somatology. Under the proposed qualification title in the top block, are three core modules: each module consists of subjects relating to the core module. A module is defined as a set of separate units that may be combined to form a whole concept, termed a 'module' (*Cambridge Dictionary*, 2017). A subject is a single unit that covers a particular discipline (South Africa Department of Higher Education and Training, 2014).

The first module in the left-hand block is laser and light-based therapies. Laser and light-based therapies include a range of treatments that rely on therapeutic exposure to a full spectrum of artificial light to treat various conditions (*Advanced Dermatology and Cosmetic Surgery*, 2017). Therefore, subjects included in this module are those based on light and laser therapies; suggestions include laser hair removal, IPL, photofacials and soft lasers.

The second module, in the middle, includes the subjects dermal sciences, advanced physiology, wound-care practices and pre/post-operative care. The module, incorporates a range of treatments and subjects with comprehensive and

foundation knowledge pertaining to analysis, care and treatment of the dermis (Victoria University, 2017).

The last module, Resurfacing sciences, includes subjects related to skin rejuvenation treatments, chemical peels, microdermabrasion and micro-needling (American Society of Plastic Surgeons, 2017). Table 5.1 provides further details of the modules as well as possible treatments and conditions respondents indicated in the study to be within the scope of practice for a qualified advanced aesthetics somatologist.

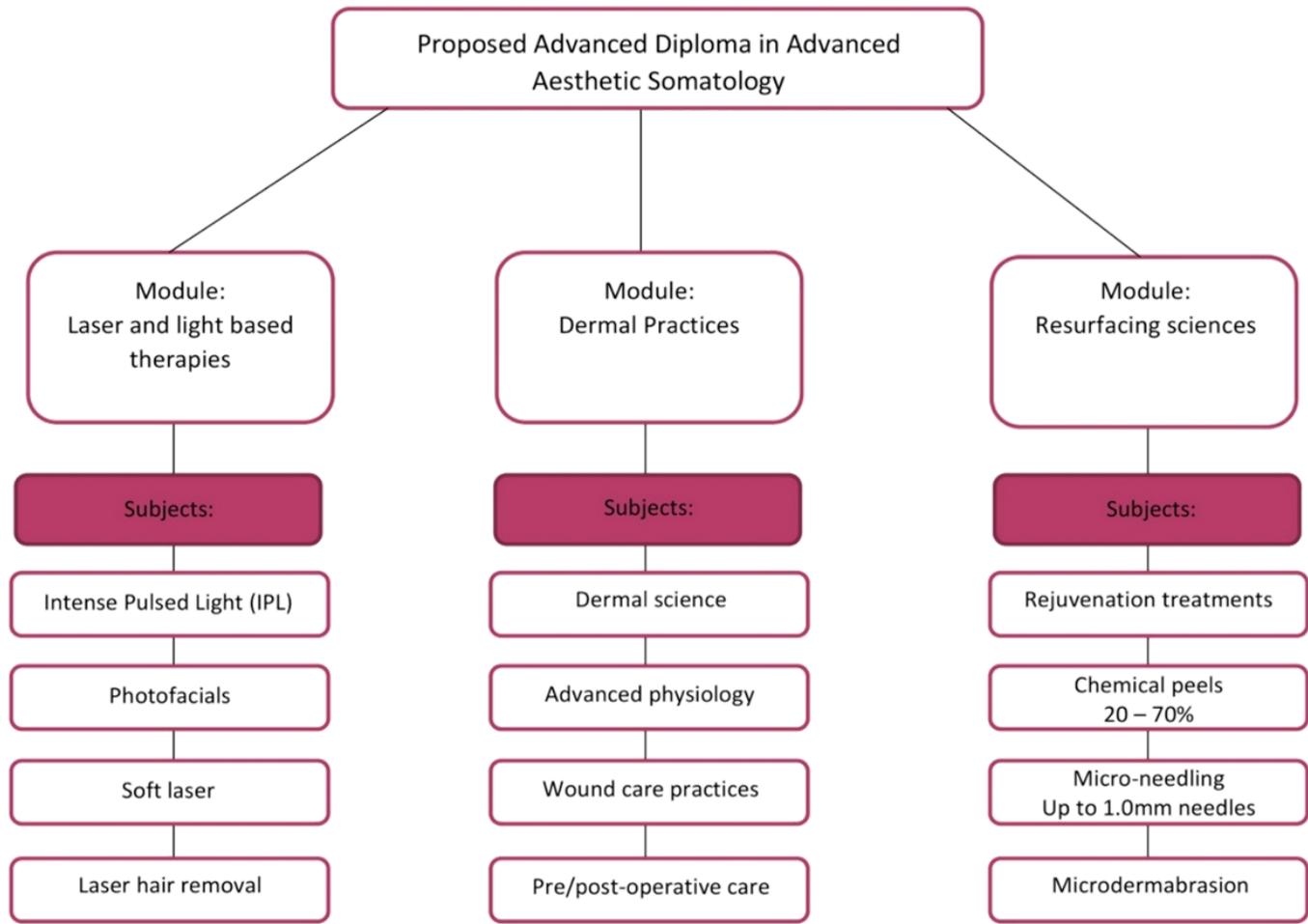


Figure. 5.2 Proposed learning modules for Advanced Diploma in Advanced Aesthetics Somatology

Framework for learning modules				
Module	Module Description	Subjects	Possible Treatments	Scope of conditions for treatments
Laser and light-based therapies	Consolidates knowledge and techniques in laser fundamentals as well as safety techniques. Specific techniques to support clinical procedures in laser and light-based therapies are covered. Includes the fundamentals of laser and light physics, delivery systems and biological effects on human tissue. Underpins the science behind the processes of light and laser treatments.	Laser hair removal	<ul style="list-style-type: none"> Permanent hair removal 	<ul style="list-style-type: none"> Unwanted facial or body hair
		IPL	<ul style="list-style-type: none"> Intense pulsed light treatments 	<ul style="list-style-type: none"> Redness/flushness/broken capillaries
		Photofacials	<ul style="list-style-type: none"> Photofacials 	<ul style="list-style-type: none"> Wrinkles/fine lines
		Soft laser treatments	<ul style="list-style-type: none"> Laser (cosmetic soft laser) Isolaz acne therapy 	<ul style="list-style-type: none"> Acne or acne scarring
Dermal practices	Covers theoretical aspects of anatomy and physiology relevant to the specialisation. Topics may include the human cell, structure and functions of circulatory, lymphatic, endocrine and nervous system. Chemical processes related to the skin and interactions of products with the skin. The understanding of the role of various vitamins, minerals and nutritional supplements in promoting wellbeing of the skin. Topics of infection, infectious processes and infection control in a medical setting. Wound care with emphasis on the process and care of wounds. Attention to wound healing process and barrier function.	Dermal sciences	<ul style="list-style-type: none"> Theoretical subject 	<ul style="list-style-type: none"> Theoretical subject
		Advanced physiology	<ul style="list-style-type: none"> Theoretical subject 	<ul style="list-style-type: none"> Theoretical subject
		Wound care practices	<ul style="list-style-type: none"> Scar treatments Stitch removal (assisting only) 	<ul style="list-style-type: none"> Scarring Post-operation wound
		Pre/post-operative care	<ul style="list-style-type: none"> Scar treatments Exfoliating techniques Laser and light treatments Permanent makeup 	<ul style="list-style-type: none"> Scarring Wrinkles/ fine lines, large pores / rough texture Skin-tightening face or body, brown spots pigmentation, wrinkles/ fine lines, Sagging skin. Reconstructive permanent makeup
Resurfacing sciences	Builds on the knowledge of wound care, advanced physiology and acid balance to safely and effectively perform resurfacing treatments. Consolidates' knowledge and techniques pertaining to chemistry, pharmacology and toxicology pertaining to chemical preparations. Attention to wound healing process and barrier function specific to resurfacing treatments	Rejuvenation treatments	<ul style="list-style-type: none"> Exfoliating techniques Photofacials 	<ul style="list-style-type: none"> Wrinkles/ fine lines, large pores / rough texture Wrinkles/ fine lines
		Chemical peels	<ul style="list-style-type: none"> 20-70% chemical peels 	<ul style="list-style-type: none"> Wrinkles/ fine lines, brown spots pigmentation, large pores / rough texture
		Micro-needling	<ul style="list-style-type: none"> Micro-needling up to 1mm 	<ul style="list-style-type: none"> Wrinkles/ fine lines, brown spots pigmentation, large pores / rough texture
		Microdermabrasion	<ul style="list-style-type: none"> Microdermabrasion 	<ul style="list-style-type: none"> Wrinkles/ fine lines, brown spots pigmentation, large pores / rough texture

Table 5.1 Summary table of learning modules for proposed advanced aesthetics somatology qualification

The somatology profession in South Africa is still considered a young profession that is mostly female. Terms used to describe beauty therapists differ; however educational content and scope of practice are similar for the profession and comparable internationally. Rapid advancements in technology have resulted in the growing trend of aesthetics beauty treatments.

On an international scale, new trends in beauty treatments and services have been recognised. This has resulted in the development of specialised beauty aesthetics treatments. The merging of beauty and aesthetics treatments has created a skills gap and opportunity for career development in aesthetics. Results from the study concluded this skills gap still exists in South Africa. Currently in South Africa there is no aesthetics qualification. Furthermore, training for aesthetics treatments is offered in the form of short courses with no regulated standards. The beauty profession in South Africa has recognised the benefits of diversifying services in order to meet industry needs and improve economic growth.

Conclusions from the study results identified the need for and importance of the somatology industry to bridge the skills gap. The need for the development and standardisation of aesthetics education in the field of somatology was highlighted owing to the rapidly evolving somatology industry. A large number of qualified somatologists confirmed their wish for further training and education in the line of aesthetics somatology. According to somatologists, current treatment results are satisfactory; however the majority indicated the need to offer more medically based treatments. In addition, most somatologists currently incorporate advanced skincare treatments into their scope of practice. This reflects the current industry trend in which somatologists have recognised a consumer need for aesthetics treatments and thus would like to keep abreast in the industry by offering treatments that are more medical in nature.

A common sentiment among professionals was the need to revisit the current curriculums to include advanced aesthetics methods to improve student training. Similarly, students studying somatology recognised the need to expand somatology education to include aesthetics in order to prepare students for current industry trends. In general, students displayed great interest in obtaining future employment in medical settings; likewise they were greatly interested in performing

aesthetics treatments. With regard to advanced aesthetics education, all stakeholders recommended two years would be sufficient duration for the qualification. The three stakeholder groups all noted dermal science, permanent hair removal techniques, wound care, resurfacing science and pre/post-operative techniques to be important subjects for inclusion in the advanced aesthetics somatology curriculum. Consensus on the conditions appropriate for qualified advanced aesthetics somatologists to treat included fine lines, wrinkles, unwanted facial or body hair, pigmentation, scar tissue and rough-textured skin. Although UoT's and private institutes currently registered with SAQA qualifications are revising post-graduate qualifications to include aesthetics subjects, these qualifications have yet to go through registration process before becoming available to students on a post-graduate level.

A positive outlook was exhibited with regards to interdisciplinary practices. Both students and somatologists indicated it would be beneficial for the profession and clients to work under the supervision of medical professionals. Likewise medical professionals agreed they would feel comfortable hiring an advanced aesthetic somatologist to assist in medical practices provided the correct education and training was in place.

International research confirmed registration of aestheticians to be important in maintaining best practices. Currently in South Africa no governmental body exists with legal powers to regulate the aesthetics beauty industry. However an opinion shared by medical professionals is that appropriate regulation of the aesthetics beauty industry may ensure minimum health, medical and medico-legal standards as well as client protection, treatment satisfaction and professional safety. Successful integration of this qualification may encourage the development of a dedicated, professional approach to specialisation areas in the field of advanced aesthetics somatology treatments, while simultaneously ensuring that medical, ethical and industry-specific requirements are met that address the needs of patients and clients.

As the study made use of non-probability sampling, the results of the study could not be generalised to the larger population. The sampling framework revealed variations in respondents' replies. As the research instrument comprised online

questionnaires only, the researcher did not have the opportunity to follow up on ideas or clarify answers from results received. Furthermore, online questionnaires did not allow for a two-way dialogue and therefore limited the variety of qualitative data that could be collected. While conducting the research study, changes in the somatology industry with regard to education were imminent. Recirculation of somatology meant the research had to keep abreast of the changes being planned and implemented.

An important recommendation for future studies is to include a larger population sample – this will mitigate the variation in responses as the point of saturation of data is reached. It is suggested that a multi-method approach, for example, questionnaires in combination with interviews, is recommended as part of the research instrument for future research studies. This approach will enrich the type of qualitative data received. Furthermore, interviews will allow the research to follow up and clarify any questions arising from the questionnaires, which may provide insight on the results obtained.

Lastly, with the current re-circulation effort on the way, a future study that could be considered is to investigate current regulations, laws and regulatory bodies pertaining to the use of medical devices and propose a regulatory framework for aesthetic somatology.

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TkQ6lFNPTUFUT0xPR1k](http://www.cput.ac.za/academic/faculties/healthwellness/prospectus/course?i=136&seo=TkQ6lFNPTUFUT0xPR1k) [Accessed 30 May 2017].

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Appendix A – Summary table: medical aesthetics curriculum outlines for non-medical professionals

Country	America	Australia	Canada	China	France
Diploma/Degree	Certified medical aesthetics diploma	Bachelor of health sciences, dermal therapies	Certified medical aesthetics technologist diploma	Bachelor of medical cosmetology	Graduate certificate in medical dermal therapies
Subjects					
	Dermal science	Health research and dermal studies	Anatomy and physiology	Anatomy and physiology	Dermal science theory
Subject description					
Introduces theoretical aspects of anatomy, physiology, and microbiology relevant to the practice of dermal therapy. Topics may include cell and cell membrane structure and function, the musculoskeletal system including joints, the circulatory and lymphatic systems, the nervous system with emphasis on the central nervous system, and the endocrine system.					
Subjects					
	Permanent hair removal	Permanent hair removal	Cosmetic hair removal	Depilation	Permanent hair removal
Subject description					
Explores the biology and physiology of hair and its associated structures including the cycle of hair growth and its impact on permanent hair reduction procedures. The underpinning science behind the process of electrolysis and thermolysis as well as laser therapies.					
Subjects					
	Industry experience	Dermal workplace	Business management	Work place communication and management	Communication for dermal sciences
Subject description					
Exploration of the workplace context by examining the organisational structure and identifying as well as defining the therapist's role as an active and accountable employees within industry.					
Subjects					
	Laser fundamentals and safety	Laser and light therapies	Cosmetic laser	Light based therapies	-
Subject description					
Introduces and covers the fundamentals of laser physics, the properties of laser, delivery systems and biological effects on the human tissue.					
Subjects					
	Nutrition for dermal therapies	Dermal nutrition	-	Dermal nutrition	Dermal nutrition
Subject description					
Further their understanding of the role of various vitamins, minerals, food groups and nutritional supplements in promoting well-being of the skin. Also gives insight to beneficial and deleterious effects of various diets on skin health and the relationship of nutritional eating patterns to eating disorders affecting the skin.					

Country	America	Australia	Canada	China	France
	Wound care for dermal practice	Wound care dermal science	Infection control	Post-operative wound care	Cosmetic nursing
	Subjects				
	Subject description				
	Topics such as infection, infectious processes and infection control in healthcare settings are covered as well as abnormal and atypical wound repair and iatrogenic complications in the treatment of wounds.				
	Subjects				
	Lymph and adipose biology	Human body in health and disease	Skin analysis and disorders	Dermal biology	Dermal human biology
	Subject description				
	Connects the knowledge gained from dermal sciences with a focus on the lymphatic system and adipose tissue and how they relate to dermal therapies. The unit covers lymphatic system biology and immunology and this knowledge is then applied to practical scenarios using manual lymphatic drainage techniques to enhance surgical outcomes and aid improvement of lymphatic conditions. Adipose biology and endocrinology are covered with specific reference to adipose disorders likely to be encountered in clinical practice.				
	Subjects				
	Electrotherapy	Electrotherapy	-	Electrotherapy	-
	Subject description				
	Builds upon the knowledge of wound care, the nervous system, fluid, electrolyte, acid-base balance and electrical theory required to safely and effectively perform electrotherapy procedures.				
	Subjects				
	Resurfacing science	Medical sciences	Cosmetic technology	Reconstructive sciences	Cosmetic dermal sciences
	Subject description				
	Covers knowledge pertaining to chemistry, pharmacology and toxicology required to safely and effectively perform procedures using chemical preparations. It also explores wound care for dermal practice and extends this to understanding the wound healing process and barrier function in various resurfacing procedures.				
	Subjects				
	Advanced laser and light	Advanced light therapies	IPL technology	IPL technology	-
	Subject description				
	Consolidates knowledge and techniques covered in the laser fundamentals and safety and light based hair reduction, as well as sequencing as part of case management. Specific techniques to support clinical procedures will include class 3b, class 4 lasers and intense pulsed light (IPL).				

Country	America	Australia	Canada	China	France
	Post-operative micro pigmentation	Post-operative micro pigmentation	Post-operative procedures	Resurfacing treatments	
Subjects					
Subject description					
Equips the learner with the knowledge and practical skills to perform a range of cosmetic and reconstructive micro-pigmentation procedures. Topics may include infection control in skin penetration techniques, indications and contraindications for micro-pigmentation procedures, complications and the management of adverse events that arise from micro-pigmentation procedures, as well as the implications of using pigments in skin penetration for wound repair.					
Subjects					
	Cosmetic chemistry	Cosmetic chemistry	Skin care chemistry	Cosmetic dermal chemistry	Dermal science
Subject description					
Provides advanced knowledge in regard to the interaction of cosmetic products and the skin. Topics include the critique and development cosmetic formulations in accordance with safety and regulatory requirements and guidelines. A strong emphasis is placed upon the student's ability to formulate and prepare common cosmetic preparations in the laboratory sessions.					
Subjects					
	Plastic and reconstructive procedures	Plastic and reconstructive procedures	Skin care analysis and procedures	Reconstructive sciences	Plastic and reconstructive procedures
Subject description					
Focuses on a specific range of medical and therapeutic procedures with the view to specialise per-operative support using clinical dermal therapy techniques. Topics may include, procedures in reconstructive, plastic and cosmetic surgery complications of reconstructive, plastic and cosmetic procedures; Surgical aseptic technique and the considerations and implications for wound repair before, during and after surgery such as co-morbidities and medications.					
Subjects					
	Dermal science human biology	Medical biology	Microbiology and infection control	Human microbiology	Biology
Subject description					
Is an extension of the knowledge in human anatomy and physiology and provides a foundation for further studies in dermal science. Topics such as organ systems in relation to skin health and appearance, investigating causative factors of physiological and pathological skin changes/diseases. Throughout this unit there is a strong focus on how environmental factors, genetics, intrinsic ageing and endocrine changes affect the histological and visual qualities of the skin.					
Subjects					
	Principles of cosmetic nursing	Cosmetic nursing	Cosmetic wound care	Wound care	Wound care
Subject description					
Focuses on skin science, pre and post-operative care, theatre dynamics, infection control, day hospital accreditation standards and advanced resuscitation. This unit also provides foundation knowledge for students wishing to complete practical competencies in injectables.					

Country	America	Australia	Canada	China	France
	Communication for cosmetic dermal science	Medical law, ethics and professionalism	Medical aesthetics regulations	Quality customer service	Document analysis
Subjects					
Subject description					
Serve as a foundation for future studies and the practice of dermal therapy in relation to patient communication, consultations and written and photo documentation.					
Subjects					
	Practice management and administration	Medical office and financing	Medical aesthetic business management	Public relations and business management	Practical management and administration
Subject description					
Provides the knowledge on managerial and administration skills in a business environment. This unit may comprise of two competency units, management and ensure team effectiveness. Skills may then be applied to the management and administration of a cosmetic medical practice, beauty salon, day spa or the establishment of their own clinic.					
Subjects					
	Cosmetic surgical and non-surgical science	Cosmetic surgical and non-surgical science	Cosmetic skin care science	Dermal cosmetic surgical sciences	Treatment plan care
Subject description					
Provides an in-depth knowledge of each cosmetic surgical and non-surgical procedure. Lectures examine the indications, techniques, complications and recovery involved in common cosmetic surgical and non-surgical procedures and will also discuss the analysis of facial and body assessment.					
Subjects					
	Psychology for cosmetic dermal science	Medical psychology	Psychology for medical aesthetics	Psychology for cosmetic dermal science	psychology
Subject description					
Provides understanding to close and personal interaction with patients, and gives background knowledge of personality types and human behaviour which will enable the dermal therapist to have a greater understanding of patient care.					
Subjects					
	Cosmetic dermal science	Healthcare sciences	Cosmetic chemistry	Cosmetic chemistry	Cosmetic chemistry
Subject description					
Enhances the dermal therapist's knowledge of over-the-counter cosmeceuticals and prescription pharmaceuticals used in dermatology. This knowledge is beneficial in order to effectively treat common skin concerns and complement cosmetic surgery and/or dermal therapy procedures. The unit may provide an evidence-based approach to specific cosmeceutical ingredients as opposed to branded formulas					

Country	America	Australia	Canada	China	France
Subjects					
Introduction to injectables	Injectables	Dermal injectables	Dermal injectables	Dermal injectables	
Subject description					
Provides the fundamentals on theoretical and hands-on skills required to assist and/or inject muscle relaxants and dermal fillers within the appropriate doctor supervised setting.					
Subjects					
Photo dynamic therapy	Perform photo dynamic therapy	Dynamic photo therapy	Photo dynamic therapy	Photo dynamic therapy	
Subject description					
Photo Dynamic Therapy (PDT) is fast becoming a mainstream treatment for non-melanoma skin cancers, photo ageing and acne. This theory and practical unit provides students with the knowledge and skills to perform PDT within a medical practice.					
Subjects					
Advanced dermal science	Advanced dermal science	Medical aesthetic procedures	Dermal science advanced	Preparation for dermal sciences	
Subject description					
Advanced dermal science theory provides comprehensive learning in relation to the most commonly performed dermal therapies. Epidermal Resurfacing Techniques covers chemical peeling, microdermabrasion and skin needling.					
Subjects					
Dermal clinical practicum	Dermal practice	Practical instruction	Dermal practice	-	
Subject description					
Integrates dermal therapies theory and practice, providing a framework to link the main elements of the diploma or degree. Enhance understanding by applying practical skills in the clinical setting. Simultaneously assists in transitioning students into professional dermal therapists through engaging with community and industry sectors in external and internal placements in approved healthcare, plastic and cosmetic surgery practices or dermal therapy clinics. The unit reinforces aspects of aseptic procedures, history taking, principles of diagnosis, treatment protocols, the range of treatment skills covered in the course thus far, legal issues and interpersonal and professional communication skills as well as reflective and evidence based practices. Allows the transferral of theoretical knowledge into clinical practice. May cover practice in areas such as grades of microdermabrasion, AHA peels, Jessner's Peels, superficial TCA peels, IPL photo rejuvenation and permanent hair reduction and skin needling.					

Medical aesthetics curriculum outlines for non-medical professionals (CAMACS 2014, GUTCM 2014, Nicolet Collage 2014, Victoria University 2014, ILAMED 2012).

Appendix B – Permission letter

To Whom It May Concern,

I, Diana Ambrosio, am currently completing my M.Tech qualification in the field of somatology at the Central University of Technology, Free State. The title of my research is: **“Incidence and need of advanced aesthetic somatology in South Africa.”**

The purpose of the M-tech study will be to determine the incidence and need of advanced aesthetics in somatology and the requisite knowledge and skills for a somatologist to provide advanced aesthetic dermal procedures which will be more medical in the approach in South Africa.

The objectives of the study will be to:

Collect qualitative and quantitative data from medical professionals: dermatologists, wound-care nurses, plastic/cosmetic surgeons and general practitioners interested in aesthetic medicine with regard to understanding the needs, attributes and level of skills expected by medical professionals from somatologists for the purpose of working within the field of medical aesthetics.

Collect qualitative and quantitative data from undergraduates completing a somatology diploma regarding perceptions and awareness of and interest in the study and practice of advanced aesthetics somatology treatments.

Collect qualitative and quantitative data from qualified somatologists regarding current practices as well as perceptions and awareness of and interest in formal study and the practice of advanced aesthetics treatments.

Gather comparative and opinionative data from international examiners within the industry, namely CIDESCO diplomats.

Use the qualitative and quantitative data collected and the literature search conducted to develop a possible framework for the proposed advanced aesthetics somatology qualification.

The research study was approved by the Faculty Research committee: Health and Environmental Sciences at the Central University of Technology on 1 October 2015. Herewith, I would kindly like to request permission for online questionnaire participation of the students at the Central University of Technology. All information obtained will be kept confidential.

Yours Sincerely

Miss. Diana Ambrosio

Appendix C – Online information and consent document

Incidence and need of advanced aesthetic somatology in South Africa.

Information and Consent Document

Dear Participant,

Study title: Incidence and need of advanced aesthetic somatology in South Africa.

Purpose of the study

The purpose of the study will be to determine the incidence and need of advanced aesthetics in somatology and the requisite knowledge and skills for a somatologist to provide advanced aesthetics treatments which will be more medical in the approach in South Africa.

Background

Rapid advancements in technology have resulted in a growing trend of aesthetic beauty treatments. Internationally, the beauty profession has adapted to include aesthetic treatments through the offering of non-surgical aesthetic qualifications as an additional career choice for qualified beauty therapists. The merging of beauty and aesthetics treatments has created a skills gap and an opportunity for career development in the beauty industry. Although somatologists in South Africa are currently practicing aesthetic treatments, there is no qualification which focuses solely on this skill. This has created the need for somatology in South Africa to move towards a more medical approach within the skin care sector and align itself with international benchmarks being set by other countries in the industry.

Somatology is the area of study concerned with the science of the human body (International Academy of Health and Skin Care 2013). A somatologist covers a wide scope of practice within the first three years of study which may include:

- Assessment and treatment of skin and body ailments
- Slimming treatments and nutritional recommendations
- Sales of professional facial, body treatments and professional face and body products
- Application of professional and advanced cosmetic techniques
- Application of permanent make-up pertaining to the eyes, eyebrows and lips
- Corrective permanent and non-permanent make-up
- Removal of unwanted facial and body hair by means of waxing, sugaring, tweezing, diathermy, IPL and Laser hair removal equipment
- Specialised facials with a variety of electrical equipment

- Manicures, pedicures, Individual lash extensions, reflexology, aromatherapy, hot stone massage, Swedish massage and manual lymph drainage (MLD) (Cosmetic Web 2009)

An aesthetician is a clinical sub-specialty within the field of health sciences offering minimally invasive cosmetic procedures and treatments to enhance patients' aesthetic appearance. These specialists often work under the supervision of dermatologists and plastic surgeons in either private medical practices or health settings such as medical spas and laser/aesthetics clinics. Jobs will typically include performing advanced facials, chemical peels, microdermabrasion and various types of laser and scar treatments, as well as assisting the medical practitioner with injectables such as dermal fillers (Medical Aesthetics FACE, 2008; Skin Inc, 2013; Mehta, 2016) Depending on the medical setting, treatments may include but are not limited to the following (Johnson, 2012; Skin Renewal, 2016):

- Preventative skin care treatments in the form of specialised treatments for certain skin conditions.
- Post-surgical scar reduction and advance skin rejuvenation techniques inclusive of chemical peels, microdermabrasion and various forms of laser.
- Hair-removal techniques with laser and IPL machines.
- Pre-examination and consultation of patients for all of the above treatments as well as management and recognition of any potential skin conditions, thereby pre-empting treatment by the physician.
- Preparation of patients for routine medical procedures, post-surgical wound care, preparation for and/or removal of post-operative surgical sutures.
- Assisting physicians in the preparation and procedure of injections for the skin such as botox, hyaluronic acid and Restylane® fillers (Johnson, 2012; Skin Renewal, 2016).

Questionnaire involvement

Participants will be asked to either complete questionnaire A for qualified somatologists and CIDESCO diplomats, questionnaire B somatology students and questionnaire C for medical professionals. The questionnaire will take approximately 10 minutes to complete and upon pressing the completed "button" will be automatically emailed back to the researcher.

Perceived benefits of the study

• For the somatologist

- The status of the somatology profession will be considerably elevated
- Qualified somatologist will receive recognition for their respective level of training
- Somatologist may in the future enter a career geared towards working in a medical setting
- Somatologist will have a clearly defined scope of practice within a medical setting with regards to the study of advanced aesthetic somatology
- Somatologist will have the opportunity to specialise towards advanced dermal study with the enrolment of advanced aesthetic somatology

For the public

- The public will be protected against untrained somatologists performing advanced dermal treatments such as chemical peels which may result in irreparable damage to the clients skin

Risks

No risks or discomforts are anticipated from partaking in the research study. Should you feel uncomfortable with a question, you may skip the question or withdraw from the study altogether. If you decide to withdraw from the study before the completion of the questionnaire, your answers will not be recorded or emailed back to the researcher.

Confidentiality

Your responses will be kept completely confidential. The researcher will not know your IP address when you respond to the online questionnaire. Each participants email address will be assigned a participant number and only the participant number will appear on the questionnaire responses. Only the researcher will see your individual questionnaire responses and the results of the content analysis will be conducted by a qualified statistician. The list of email addresses used for the research study will be kept electronically in a password protected folder. After the completion of data collection the list of email addresses will be deleted.

Withdrawal

Your participation is voluntary and therefore you are free to withdraw at any stage of the research study. If you do not want to continue, you may simply delete this email. If you do not click on the "completed" button at the end of the questionnaire then the information will not be sent back to the researcher.

How findings will be used

The results of the study will be used in educational settings with possible publication in a professional journal in the field of somatology however no personal participant information will be published or shared with the public.

Contact information

You may contact the researcher Miss Diana Ambrosio at 081 017 0001 or (021) 460 3777, during office hours if you have any queries about questionnaire or the research study.

By agreeing to the consent form and beginning the questionnaire you acknowledge that you have read the Information document and agree to participate in the research with the knowledge that you are free to withdraw your participation at any stage without penalty.

Informed Consent

1. I have read the above Information document and agree to partake in the questionnaire

- yes
- no

or use electronic signature to give consent;

2.

Place signature here

By selecting the yes icon you are consenting to voluntarily partake in the research study. Should you wish leave at any stage of the questionnaire, simply close the questionnaire window screen and your answers will not be recorded.

Appendix D – Somatology professionals questionnaire (Questionnaire A)

Incidence and need of advanced aesthetic Somatology in
South Africa.

Instructions

Some questions may contain more than one answer depending on the amount of options indicated to choose from.

The questionnaire will indicate completion on the progress bar and at the end of the questionnaire.

Geographic Information

1. Location of practice/work

Please only complete this question if you reside in South Africa

- Free State
- Cape
- North West
- KwaZulu Natal
- Gauteng
- Please specify the town

2. Which continent do you reside in

Please only complete this question if you are a CIDESCO diplomat

- Africa/South Africa
- America
- Asia
- Australia
- Europe

Demographic Information

3. Gender

- Female
- Male

4. Age

- 18-23
- 24-29
- 30-35
- 36-40
- 41 or older

5. Ethnicity

- Caucasian
- African/African American
- Hispanic/Latino
- Native American/American Indian
- Indian
- Asian
- Other, please specify

Employment Status/Education

6. Current employment status *

- Self employed
- Employer
- Employee
- Student

7. Highest current qualification

- NDip Somatology
- B Tech Somatology
- MTech Somatology
- D Tech Somatology
- CIDESCO/ITEC

8. Accumulatively, how many years have you studied

- 2 years
- 3 years
- 4 years
- 5 years or more

9. Where did you obtain your qualification(s)

- University of Technology
- Private Institution
- Both University of Technology and Private Institution

Employment Satisfaction

10. Are you satisfied with the current treatments you offer in your profession *

- Yes, but I would like to offer more medically based treatments
- Yes, but i would like to offer more spa based treatments
- Yes, I am satisfied
- No

11. Is there a career path in your current somatology profession *

- yes
- no

12. If you answered no to question 12 please elaborate why:

Advanced Aesthetic Somatology

13. In your opinion, are clients requesting more specialised or medical beauty treatments *

- yes
 no

14. In your opinion, are clients expecting quicker, superior skin care results from treatments *

- yes
 no

15. Are you currently performing any advanced skin care treatments *

- Yes
 No

16. Would you consider it beneficial to a somatologist to work alongside a medical practitioner *

- Yes
 No
 Not sure

17. Would you consider it beneficial to a client if a somatologist works in conjunction with a medical practitioner *

- Yes
 No
 Not sure

18. Would you like the opportunity to work in conjunction with a medical practitioner *

- Yes
 No
 Not sure

19. Would you like to work in a medical setting *

- Yes
 No
 Not sure

20. Do you consider a somatologist to have sufficient knowledge to obtain an advanced aesthetic somatology qualification and work in a medical setting *

- yes
 no

21. Which of the conditions would you deem appropriate for an advanced aesthetic somatologist to preform treatments on *

- Wrinkles/fine lines
 Brown spots/pigmentation
 Redness/flushing/broken capillaries
 Leg veins
 Unwanted facial or body hair
 Sagging skin
 Acne or acne scarring
 Dark circles/puffiness/eyelid laxity
 Skin tightening face or body
 Large pores/rough texture

22. What do you consider as entry requirements to study advanced aesthetic somatology *

- Student must be in possession of a Nation Diploma in Somatology (N Dip)
 Student must be in possession of a Nation Diploma in Somatology (N Dip) and have a course mark of 70%
 Student must be in possession of a Nation Diploma in Somatology (N Dip), have a course mark of 70% and is subjected to selection through interview process

23. How many years of study would you deem sufficient for an advanced aesthetic somatology qualification *

- 1 year
- 2 years
- 3 years

24. Please rate the following possible advanced aesthetic somatology subjects from most to least important as part of a possible advanced aesthetic somatology curriculum (1 being most important; 5 being somewhat important, 10 being least important) *

	1	2	3	4	5	6	7	8	9	10
Dermal science	<input type="radio"/>									
Wound care	<input type="radio"/>									
Permanent hair removal techniques	<input type="radio"/>									
Advanced physiology	<input type="radio"/>									
Resurfacing science	<input type="radio"/>									
Dermal fillers	<input type="radio"/>									
Post operative treatments	<input type="radio"/>									
Pre-operative treatments	<input type="radio"/>									
Cosmetic chemistry	<input type="radio"/>									
Plastic and reconstructive procedures	<input type="radio"/>									

You have completed the survey. Thank you very much for your participation.

You can now close the window to send automatically.

Appendix E – Somatology student questionnaire (Questionnaire B)

Incidence and need of advanced aesthetic somatology in South Africa.

Information Document

Instructions

Some questions may contain more than one answer depending on the amount of options indicated to choose from.

The questionnaire will indicate completion on the progress bar and at the end of the questionnaire.

Geographic Information

1. Location of practice/work/completion of qualification

Free State

Cape

North West

KwaZulu Natal

Gauteng

Please specify the town

Demographic Information

2. Gender *

Female

Male

3. Age

18-23

24-29

30-35

36-40

4. Ethnicity

- Caucasian
- African/African American
- Hispanic/Latino
- Native American/American Indian
- Indian
- Asian
- Other, please specify

Study/Employment Status

5. Current employment status *

- Self employed
- Employer
- Employee
- Student

6. Current year of study

- 1st year
- 2nd year
- 3rd year
- 4th year

7. What qualification are you currently enrolled for

- N Dip Somatology
- B Tech Somatology

8. Where are you currently enrolled for your year of study

- University of Technology
- Private Institution

Future Employment / Advanced Aesthetic Somatology

9. Rate the following statements about how you perceive the study of somatology *

	Meets Expectations	Room for improvement	Not what I expected
Course content (subjects)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practical subjects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Therapist work in a salon setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spa work in a salon setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with medical devices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Future employment and Advanced Aesthetic Somatology

10. In what type of salon would you like to work once you have obtained your qualification *

You may choose more than one answer

- Spa/Medical spa
- Health and wellness clinic
- Gym
- Lodge/game lodge
- Retail store
- University/University of Technology/ Private Institution
- Cruise liner (ship)
- Dermatology/Plastic surgeon practice

11. If you had the opportunity to further your studies, would you *

- Yes
- No
- Maybe

12. If you answered yes to question 12, which one of the following disciplines would you want to specialise in

- Spa
- Salon
- Advanced aesthetic somatology
- None of the above

13. Would you consider it beneficial to a somatologist to work alongside a doctor

- yes
- no

14. Would you consider it beneficial to a client if a somatologist works in conjunction with a doctor *

- yes
- no

15. Would you like the opportunity to work in conjunction with a medical practitioner

- yes
- no

16. Rate how you would feel about preparing clients for the following treatments *

	Very Interested	Undecided	Not interested at all
Medical/chemical peels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mircodermabrasion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dermal fillers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laser (cosmetic soft laser)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Permanent hair removal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scar treatments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stitchremoval	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Do you consider somatologists to have sufficient knowledge to obtain a advanced aesthetic somatology qualification and work in a medical setting *

- yes
- no

18. Which of the following conditions would you consider appropriate for an advanced aesthetic somatologist to preform treatments on *

You may choose more than one answer

- Wrinkles/Fine lines
- Brown spots/Pigmentation
- Redness/flushing/broken capillaries
- Leg veins
- Unwanted facial or body hair
- Sagging skin
- Acne or acne scarring
- Darkcircles/puffiness/eyelid laxity
- Skin tightening face or body
- Large pores/rough texture

Advanced Aesthetic Somatology course information

19. What do you consider as entry requirements to study advanced aesthetic somatology *

- Student must be in possession of a Nation Diploma in Somatology (N Dip)
- Student must be in possession of a Nation Diploma in Somatology (N Dip) and have a course mark of 70%
- Student must be in possession of a Nation Diploma in Somatology (N Dip), have a course mark of 70% and is subjected to selection through interview process

20. How many years of study would you deem sufficient for an advanced aesthetic somatology qualification *

- 1 year
- 2 years
- 3 years

21. Please rate the following possible advanced aesthetic somatology subjects from most to least important as part of a possible advanced aesthetic somatology curriculum (1 being most important; 5 being somewhat important ;10 being least important) *

	1	2	3	4	5	6	7	8	9	10
Dermal science	<input type="radio"/>									
Wound care	<input type="radio"/>									
Permanent hair removal techniques	<input type="radio"/>									
Advanced physiology	<input type="radio"/>									
Resurfacing science	<input type="radio"/>									
Dermal fillers	<input type="radio"/>									
Post operative treatments	<input type="radio"/>									
Pre-operative treatments	<input type="radio"/>									
Cosmetic chemistry	<input type="radio"/>									
Plastic and reconstructive procedures	<input type="radio"/>									

You have completed the survey. Thank you verymuch for your participation.

You can now close the window to send automatically.

Appendix F-Medical professionals questionnaire (Questionnaire C)

Incidence and need of advanced aesthetic Somatology in South Africa.

Instructions

Some questions may contain more than one answer depending on the amount of options indicated to choose from.

The questionnaire will indicate completion on the progress bar and at the end of the questionnaire.

Geographic Information

1. Location of practice/work

- Free State
- Cape
- North West
- KwaZulu Natal
- Gauteng
- Please specify the town

Demographic Information

2. Gender

- Female
- Male

3. Age

- 25-30
- 31-36
- 37-42
- 43-47
- 48 and older

4. Qualification

- Plastic surgeon
- Dermatologist
- Registered or Student Nurse (including wound care)
- General Practitioners with special interest in Aesthetic Medicine

Advanced Aesthetic Somatology

5. Would you consider it beneficial to a client if an advanced aesthetic somatologist works in conjunction with a medical practitioner *

- yes
 no

6. Please rate which one of the following treatments you would consider to be within the possible scope of practice for an advanced aesthetic somatologist *

	Incapable	Assisting	Supervised	Capable
Advanced exfoliating techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chemical peels 20%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chemical peels 30%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chemical peels 50%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Chemical peels 70%	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dermal fillers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Laser (cosmetic soft laser)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Photofacials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Permanent hair removal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Permanent make-up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Isolaz acne therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Microdermabrasion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scar treatments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Stitch removal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thermage therapy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7. Which of the conditions would you deem appropriate for an advanced aesthetic somatologist to preform treatments on *

You may select more than one answer

- Wrinkles/Fine lines
 Brown Spots/Pigmentation
 Redness/Flushing/Broken capillaries
 Leg veins
 Unwanted facial or body hair
 Sagging skin
 Acne or acne scarring
 Dark circles/Puffiness/Eyelid laxity
 Skin tightening face or body
 Large pores/Rough texture

8. How many years of study would you deem sufficient for an advanced aesthetic somatology qualification *

- 1 year
- 2 years
- 3 years

9. Would you consider hiring a fully qualified advanced aesthetic somatologist to prepare patients for minor chair procedures

- yes
- no

10. Please rate the following possible advanced aesthetic somatology subjects from most to least important as part of a possible advanced aesthetic somatology curriculum (1 being most important; 5 being somewhat important; 10 being least important) *

	1	2	3	4	5	6	7	8	9	10
Dermal science	<input type="radio"/>									
Wound care	<input type="radio"/>									
Permanent hair removal techniques	<input type="radio"/>									
Advanced physiology	<input type="radio"/>									
Resurfacing science	<input type="radio"/>									
Dermal fillers	<input type="radio"/>									
Post operative treatments	<input type="radio"/>									
Pre-operative treatments	<input type="radio"/>									
Cosmetic chemistry	<input type="radio"/>									
Plastic and reconstructive procedures	<input type="radio"/>									

You have completed the survey. Thank you very much for your participation.

You can now close the window to send automatically.

INCIDENCE AND NEED OF ADVANCED AESTHETIC SOMATOLOGY IN SOUTH
AFRICA

DIANA VENTURA AMBROSIO