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CULTURAL IMPLICATIONS FOR PHYSIOTHERAPY EDUCATION: THE BETHLEHEM EXPERIENCE

VALERIE LESLEY DAWSON

Thesis submitted for the degree of Doctor of Philosophy

Department of Education of Loughborough University

March 1997

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ABSTRACT

This study investigates the cultural context of physiotherapy education. Research questions addressed are in relation to innovative physiotherapy curricula, the possibility of such a curriculum being introduced into the Middle East and the effects of the curriculum on graduates' forward looking attitudes.

Three questionnaires are used to elicit biographical (LESQ), personality (16PF) and self esteem (TSQ) data from four groups, 25 Palestinian physiotherapy students, 20 Irish physiotherapy students, 164 Palestinian physiotherapists and assistant physiotherapists, and 56 Irish physiotherapists. Palestine and Ireland are compared as two small countries with similarities in culture and history.

Data were analysed using correlation coefficients and t tests for TSQ and 16PF both of which constitute ordinal data and phi coefficients and Mann Whitney for LSQ which is nominal data. Differences between Palestinian physiotherapists (Pg) and students (Ps), Palestinian (Pg) and Irish graduates (Ig) and Irish (Is) and Palestinian students (Ps) were found for many items on all three questionnaires at the 0.01 and 0,001 level of probability.

A review of physiotherapy curricula was carried out at world, European and Middle East levels in relation to cultural context, relevance and international comparability in order to examine the curriculum introduced at Bethlehem University in 1989.

Recommendations are made for further studies.

Key words; Physiotherapy, Education, Palestine, Ireland, Personality, Self esteem. Professional development, Culture, Innovation, Problem solving.

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CHAPTER ONE

INTRODUCTION

This research project came about as a result of the author's experience teaching physiotherapy students at Bethlehem University. Between 1988 and 1996 two groups graduated from the full time physiotherapy degree programme. During undergraduate clinical practice and since graduation these graduates work with physiotherapy colleagues who have gained their professional education in a variety of other countries. Observing different methods of therapeutic management and treatment, whilst supervising student clinical placements, led to thoughts about cultural influences on educational policies and strategies. The author had to re-evaluate her own values and beliefs as a Western Christian educator in light of the mainly Palestinian Muslim culture of students and colleagues at Bethlehem University.

In may be appropriate here to discuss what is meant by the terms "Palestine" and "Palestinian". Palestine, or Falastina, was the name used for the piece of land between Lebanon, Syria, Egypt and Jordan from the Fall of Jerusalem in 70 AD to the declaration of the state of Israel in 1948 [see Appendix Five]. The Romans first used the name "Falastina" to denote the area west of the Jordan river. However, administratively it was part of the Province of Greater Syria from Roman to Ottoman times. After the First World War the British were given the Mandate for Palestine by the League of Nations, which included the area of the present state of Israel and the Occupied Territories. The area east of the Jordan river became the Hashemite Kingdom of Transjordan. In 1948, when the state of Israel came into being, after the War of Independence or Catastophe, the West Bank became part of the Hashemite Kingdom of Jordan and the Gaza Strip part of the Arab Republic of Egypt. In 1967, after the Six Day War, the West Bank and Gaza Strip were occupied by the Israelis and called by them Judea, Samaria and Gaza, and by others the Occupied Territories. After the Camp David Peace talks Egypt relinquished authority in the Gaza Strip and during the Intifada, Jordan relinquished responsibility for the West Bank (Chapman 1983, Gilbert 1988).

Many of those who were refugees from Israel in 1948 and 1967 still call all that area Palestine, but latterly the West Bank and Gaza Strip now accorded a measure of autonomy is described as Palestine. Palestinians are Arabs by culture, Christian and Muslim by religious affiliation, but by national consciousness are Palestinians. Those Arabs who stayed in Israel after 1948 are usually called Israeli Arabs or Israeli Palestinians (Darweish and Rigby 1995).

Three research questions were framed regarding the relationship between physiotherapy education and Palestinian culture:

Question 1. Is it possible to introduce an innovative physiotherapy curriculum into Palestinian society ?

Question 2. Will an innovative curriculum produce a more forward looking physiotherapy practitioner than a traditional curriculum ?

Question 3. Is it necessary for a physiotherapy curriculum to be relevant to Palestinian Arab culture ?

These questions were operationalised as hypotheses according to the null hypothesis theory:

Hypothesis 1. An innovative physiotherapy curriculum cannot be introduced into Palestinian culture.

Hypothesis 2. An innovative physiotherapy curriculum will produce a practitioner who is no better than one from a traditional curriculum.

Hypothesis 3. Relevance to Palestinian culture is not necessary for a physiotherapy curriculum.

These hypotheses will be tested by means of a review of innovation in higher education in the Arab world, a comparison between physiotherapy curricula and health needs in different countries and administration of three questionnaires collecting biographical, personality and self esteem data from Palestinian physiotherapists and physiotherapy students. A comparison will be made with a group of physiotherapists and physiotherapy students in the Republic of Ireland.

CHAPTER TWO

CULTURAL CONTEXT OF THE STUDY

2.1 SOME GENERAL THOUGHTS ON CULTURE

As with many concepts in the social sciences, "culture" has many meanings to people. In this section some examples will be selected from the plethora of definitions available and an attempt made to draw some implications from these definitions in terms of possible conflict between different cultures.

An early attempt to define culture by Tylor in 1871 describes "that complex whole which includes knowledge, belief, art, morals, law, custom and any other capabilities and habits acquired by man as a member of society" (Helman 1984, Beattie 1993). This attempt, although comprehensive and solid, sounds somewhat dull. More modern authors are given to greater imagination. Downs (1971) sees culture as "a system of symbols shared by a group" (Hall and Neitz 1993). Williams (1981) imagines " a mental map which guides us" and Helman (1984) talks about "an inherited (lens) through which an individual perceives and understands the world and organizes and legitimizes his society". Culture is not just "a jumble of customs, there are direct and indirect linkages between different parts" (Barnett 1953, Freidman 1994, Griswold 1994).

Each individual learns to read the map, look through the "lens" and recognise the symbols by the process of socialisation (Hammond 1964, Beattie 1993). How closely one becomes identified with a specific culture is determined by the presence or lack of homogeneity in that society, the level of change within the society and whether it is a minority or majority culture (Segal 1991, Imbrogno 1990); cultural norms being easier to absorb in a close-knit, static culture (Prothro and Diab 1974, Hall and Neitz 1993). Within each culture there can be a number of sub-cultures related to education, occupation, social class or race (Fernando 1991). Recipients of higher education form a sub-culture of their own (Featherstone 1992) and the health care environment provides fertile ground for a rich sub-culture ,as documented by Becker et al in "Boys

in white" (1961). Conflicts arise between cultures or sub-cultures when there is lack of homogeneity; if the map doesn't fit the geography any more, when the lens distorts "reality", if the symbols are changed, when ideas became illegitimate, if knowledge is viewed as ignorance, organisation as chaos (Clifton 1968).

A popular view of culture is "something we have and others do not have" (Melody et al 1981). People usually view each other from within the framework of their own culture and its norms of behaviour (Kaplan 1993). Anthropologists call this ethnocentricity. In the past, and even today, the Western world judges Indians, Africans and Arabs from the perspective of Judeo-Christian mores and evaluates those subscribing to Hinduism, Buddhism, Islam or animism as inferior and misguided whilst Westerners are superior and informed (Said 1993). A more objective approach, which gives due weight to sensitivities in each culture, is that of cultural relativism. Cole (1971) describes western culture as having "a persistent myth that in less developed countries people possess a primitive mentality which is highly concrete whilst western minds are highly abstract". Cultural differences in thinking reside more in the situations to which particular cognitive processes are applied than in the existence of a process in one cultural group and its absence in another (Hall 1989, Moreno and Di Vesta 1991, Ost 1989, McKay 1987).

Different cultures utilize different maps, lenses, symbols and knowledge (Kimball and Burnett 1973, Melody et al 1981, Hall and Neitz 1993). Contact between these cultures can give rise to confusion and conflict and perhaps disintegration. Polarisation or assimilation can occur in relation to old and young (Imbrogno 1990), educated and uneducated (Segal 1991), village and town, student and teacher, doctor and patient, East and West (Fernando 1991). Our cultural heritage seeps into every part of our life by the process of osmosis; events described in relation to health care could be translated into any other aspect of human life (Mead 1930, Helman 1984, Pacey 1994).

Subsequent sections will look at the effects of culture on the specific areas of health care delivery and also the implications for teaching and learning in that part of health care designated as physiotherapy.

2.2 MIDDLE EASTERN CULTURE

Most mainstream writers about culture omit reference to the Middle East (Williams 1981, Hammond 1964, Downs 1971, Beattie 1993, Griswold 1994). Tribal and group organization is described, from Japan to Mexico (Spindler and Spindler 1987), from Melanesia to Amazonia (Hammond 1964, Friedman 1994), with little reference to Lebanon, Syria, Iraq or Iran (Prothro and Diab 1974, Lewis 1995). This omission may be due to lack of accessibility of data and difficulties with fieldwork or perhaps reflects trends in fashions in anthropology. Possibly anthropologists feel that the area of the Middle East has been influenced by such a multiplicity of civilizations (Lewis 1995, Riley - Smith 1995, Wilson 1990) that it would be difficult to untangle all the strands and therefore find it easier to concentrate on purer, more homogenous societies. It seems strange that the part of the world which gave birth to the three monotheistic religions of Judaism, Christianity and Islam, should be so neglected (Lewis 1995, Cragg 1991). Judeo-Christian thought has long influenced the West and more recently Islam has become a force that Western civilization has had to reckon with, both inside and outside its national boundaries (Flusser 1989, Jaoudi 1993).

It would be naive to assume a homogeneous "Middle Eastern culture"; the area is as diverse as Europe in its composition. This complex area extends from Rabat to Tehran, a distance of about 3,400 miles (Eickelmen 1981), consisting of 20 states and between 139 to 150 million people (Laffin 1975, Nydall 1987, Hourani et al 1993). This geographical entity has also been named the Near East, or the Levant (Nydall 1987, Collins 1992). All of its inhabitants speak Arabic, except Turkey and Israel, and most are predominantly Muslim by religion (Lamb 1988). Can the two interlinked elements of language and religion produce a "common sentiment and identity" ? Is there such a thing as an "Arab" mind ? Written Arabic certainly forms a common link as it is based on the Arabic of the Quran which every Muslim memorizes for prayer. The Arabic of the Quran originates from the Hejaz in Saudi Arabia, where Mecca and Medina are located. This Arabic is considered to be "classical" Arabic upon which all written communication is based. Spoken Arabic is divided in "lugha fusha" [classical language] or "lugha mahalliyye" [colloquial language]. Colloquial

language varies from area to area, but people from neighbouring countries can usually understand each other (Kattan 1992, Awde and Samano 1986, Halloun 1991).

How can it be possible that Islam forms the "common identity" of the region when there are so many shades of Islam (Shepard 1987, Laffin 1975, Easterman 1992, Eickelman 1979) ? Most Muslims are Sunnites, those who conform to the notion that early successors to the Prophet, elected by a council, were legitimate whilst the Shi'ites believe that the Prophet's son-in-law Ali should have been made Caliph after the death of Mohammed (Ahmed 1994, Saunders 1993, Berque 1981). This division eventually led to differences in doctrine and practice. Within Sunniism and Shi'iaism there are also a number of smaller dissidents groups, the most famous of which are the Sufi mystics who are also known as Dervishes (Jaoudi 1993). Nevertheless the value systems of Islam are universal and affect the lives of all who live in the Middle East (Gordon 1988, Barghouti 1991).

The link between religion and government also varies from place to place (Lamb 88). Iran is an Islamic Shiite state, Saudi Arabia, Kuwait and Iraq are governed by Sunnite Islamic laws, subservient to the will of a ruling clan. Syria and Egypt are socialist states and Turkey is a secular state with a Muslim majority. Lebanon is almost 50/50 Christian and Muslim, with rival Sunite and Shiite factions, and Israel has a majority of Jews with a significant minority of Muslim and Christian Arabs (Nydall 1987, Deegan 1993).

Can it be assumed that all aspects of Middle Eastern culture are entirely due to Islam ? Other influences are apparent, such as Judaism, which influenced the area for 4000 years until the First Century A.D. and Christianity was an influence for five centuries after that (Cragg 1991). Jewish and Christian influences spread as far as Palestine, Lebanon, Turkey, Syria, Iraq and Egypt (Sadat 1987) and possibly to Iran (Hamada 1990, Moghaddam 1986). The Prophet Mohammed was born in A.D. 570 at a time of low-ebb for Christianity and Judaism and many of those who turned to Islam were disillusioned Christians and Jews, just as at the time of Jesus many Jews in Palestine became Christians. Some Arab families in the Galilee can trace their ancestry back to the time of Christ and beyond, having become successively Jewish,

Christian [and sometimes] Muslim. The pictures that most Western Christians have from their Sunday School bible, show Jesus and the disciples living in the manner in which most of the rural Arabs live today (Smith 1966, Giacaman 1988, Giacaman et al 1991).

The area of the Middle East is often called the crossroads of the ancient world (Westwood 1984, Hourani et al 1993, Doughty 1994). Most commercial and military traffic passed through here down the Via Maris; Israelites, Assyrians, Medes, Persians, Greeks and Romans in previous centuries and more recently, British, French, German, Italian, Russian and American (Sachar 1979, Wilson 1990, Lewis 1995). New ideas generally take hold more in the urban areas amongst the richer, more educated families; because of this traditional Arab culture is not really to be found in cities such as Jerusalem, Baghdad, Beirut, or Damascus, but in the rural areas. In the countries of the Arabian Gulf many of the population are still nomadic with a life style that goes back to the time of Abraham (Giacaman et al 1991, Lewis 1995). It can be said that countries closer to the Mediterranean coast are " cultures in transition" and therefore harder to understand than more static inland societies (Coon 1951, Robertson et al 1992). Despite the differences in the interpretation of Islam and Arabic thought there are some general principles upon which to base assumptions about Middle Eastern culture.

Firstly the importance of land and attitudes towards land. Bedouin nomads have traditionally wandered from place to place (Marx 1967, Cossali and Robson 1986, Hamada 1990), moving on when their flocks had used up all the pasturage available. Their attitude to land is one of availability to all people as necessary. Bedouin did not find it necessary in the past to respect national boundaries, especially where there were no clear divisions, but crossed and recrossed these boundaries without being aware of their presence. Today their movements are limited by borders and military deployments (Westwood 1984, White 1989).

In the more fertile areas around the Mediterranean, the "fertile crescent", settlement led to farming communities being formed. In these communities land was passed down from family to family, sometimes without any written deeds. Farming methods

practiced were mainly labor intensive, subsistence methods where produce was grown to support the family and any excess sold at the local market. During Ottoman times large tracts of land were owned by absentee landowner families who lived in Damascus or Baghdad and their land was rented out to local peasants. Grazing lands for sheep, goats, or camels was common land, not formally owned by any family, but used by the local community (Shakour 1989, Di Giovanni 1993).

In settled communities where families have lived in the same house for generations the "possession" of land is an indication of person-hood, of worth, value and importance (Cossali and Robson 1986, Giacaman et al 1991). Land-less peasants are counted as non-persons or worthless individuals. In the areas of forced migration, such as Israel/Palestine, education is beginning to take the place of land particularly for refugees (Cossali and Robson 1986, Gordon 1988). Education is still influenced by the Quran (Eickelman 1981, Anabtawi 1986), shown by a respect for knowledge that is "fixed and enduring", and "the exact use of the written word". If is written down it must be correct (Boutaleb 1988, Cohen 1992). The notion of "that which is written" is linked to acceptance of the state of the world as it is , as in "Insha-allah, meaning "if God wills". A good Muslim accepts his fate from God, in terms of the things he cannot change, but he is free to make the best of what he is and has. An example is seen in the issue of the birth of disabled children (Barghouthi and Daibes 1991). Prior to Islam such children were killed in infancy, Islam says this is wrong, but that their disability is the will of God to be accepted. Even today many rural families will wait 5 - 10 years before they bring a child with cerebral palsy or congenital dislocation of hip for treatment, by which time it may be too late to gain any improvement (Zueiter 1992).

Making the best of what you have involves persistence and also the intervention of a "mentor", a person with influence. In the past, Arab sheikhs or rulers were available to all individuals at will. They would hold regular "diwan" at which anybody could raise issues of importance. This idea continues today, if you want a job or place at University you speak to an influential person and ask them to intervene on your behalf and you do not accept no for an answer. The parable of the

persistent widow and the unjust judge in the Gospel of Luke chapter eighteen is very typical of Middle Eastern ideas today (Kattan 1992, Nassr 1989).

The extended family, clan or "hamula" is the most important influence (Peters 1976, Findlay 1994, Hamada 1990). Marriages are usually limited to this context. First cousin marriages are permissible in Islam and are preferred by many (Eickelman 1981, Nassr 1989). An Arabic proverb says "he who marries the daughter of his father's brother is like him who celebrates his feast with a sheep from his own flock" (Findlay 1994) Marriage in the Middle East is "more than just the feelings of the man and women for each other", many marriages are still arranged, even amongst educated families, although today both partners have some say in the decision. The "total social net works" thus involved are concerned with "cooperation in political, economic and ceremonial activities" (Prothro and Diab 1974, Nydall 1987, Kaplan 1993).

Within the family context, and in most other aspects of life, men are more important than women (Sadat 1987, Giacaman 1988). A married couple are known as the parents of their first son, for example, Abu George and Imm George (Nydall 1987, Lamb 1988). Boys are a "capital investment in peasant settings"; there is greater social prestige for a family with boys (El Saadawi 1988). Young women will be wished well by wishing them "that you will have many sons". When questions are asked about the size of one's family, they will ask " How many boys do you have ?" A girl is seen as less valuable, because on marrying she will go to live in the house of her husband and be of no further use to her family. She is also seen as someone who is a potential source of shame and therefore needs protecting. In some areas this attitude places tremendous restrictions on women, in terms of dress and behavior. The impact of male emigration in some countries has allowed women more freedom and in revolutionary times they have been given more responsibility (Toubia 1988). In the more educated, urban families these characteristics are less common (Baer 1982, Dawson 1990), but still influential, even in families living in the West (Sachs 1983, Suleiman 1973).

2.3 CULTURE OF HEALTH CARE

Prior to the fifth century B.C. health and illness were seen in terms of magic and whims of the spirits (Kaptchuck and Croucher 1986, Helman 1984, Beattie 1993). Even today, African witch doctors will impute the symptoms of any illness to the invisible forces of spirits (Hall and Neitz 1993). Health was related to being in good standing with the spirits, achieved by performing the appropriate rituals and illness was the result of displeasing the gods or spirits either by a failure to do something, or inadvertently doing something inappropriate (Helman 1984, Sachs 1983, Maxwell Hudson 1988). The act of healing was in the setting of a religious ritual, the leader dressed in a special uniform said special incantations over the patients or made certain sacrifices. The patient had to come to a specially prepared place, perform particular rituals and activities and at the end of it pay the healer an appropriate fee. Illich (1976) and Kaptchuck and Croucher (1986) would argue that most of this is still true today, only the context has changed.

In the fifth century B.C. there was "a general rejection of the witch craft vision of medicine" (Kaptchuck and Croucher 1986, Hartley 1992). There are three main strands contributing to the scientific beginning of medicine (Coe 1978, Hartley 1992). Firstly, from Greece came the idea of the "golden mean" or balance of the four body humors of blood, phlegm, yellow bile and black bile. Health was the result of optimal proportions of these humors, an illness an excess or deficiency of one of them (Helman 1984, Kaptchuck and Croucher 1986). This philosophy has most influenced Western orthodox medicine. The other two aspects came from China and India. In China, Confucian and Taoist schools of thought talked about the balance between yin [dark and cold] and yang [light and hot] forces. Indian tradition balances kapha [stabilizing] with pitta [fiery] forces, by means of a third component "vata". Until recently Indian and Chinese medicine was scorned in the West, but in the last 15 to 20 years, disillusionment with orthodox medicine, has increased the popularity of the Eastern schools of medicine (Cousins 1985, Held 1989, Lipton 1985, Davis 1991).

Greek ideas spread through the Middle East and Europe by means of the Roman Empire and flourished from 400 B.C. to the fifth century A.D. After this time Europe lost the benefit of this wisdom (Lamb 1988, Hartley 1992). A particular school of Christian theology gained transcendence which regarded "illness and misfortune" as "things of the world to be endured as a form of penance in anticipation of the world to come". Individual holy men and women were said to be able to heal diseases and healing moved back into the religious sphere. One group of Christian "heretics", the Nestorians, ensured that Greek thought on healing was not totally lost. They fled from Constantinople to Persia where they influenced both Persian and Jewish medicine. There they translated Greek texts into Syrian and Hebrew and later when the Muslim conquest occurred in A.D 636 the Arabs took up Greek, Persian and Egyptian ideas of healing, modified them and translated the texts into Arabic. This medical tradition was then re-introduced into Europe in the eleventh century by Arabs and Jews (Emmerton 1991). At Salerno, Padua, Paris and Oxford universities at that time the medicine taught was that of Hippocrates, [Greek] Galen, [Roman] Avicenna [Muslim] and Maimonides [Jewish].

An interesting explanation of the origins of the modern academic gown is suggested by Jones (1975). She comments on the fact that the outer garment or "abayeh" as worn by Bedouin Arabs was worn by early Arab scholars teaching in European universities and became the mark of a scholar. Traditional Greek medicine began to be questioned as the age of reason began (Hartley 1992). Everything of the "senses" became suspect and measurement became the important thing. In 1625 Santorio disproved the notions of bilious [hot] and phlegmatic [cold], when he measured temperatures with a thermometer invented by his colleague Galileo. Greek ideas of body humors became defunct when challenged by Vesalius and William Harvey (Hartley 1992).

The origins of physiotherapy practice go back much further than the beginning of the modern profession of physiotherapy. The ancient Egyptians, Chinese and Greeks performed massage techniques. In the very early days it was probably "to expel demons" (Maxwell Hudson 1988). Hippocrates describes spinal traction, there were manipulators in eleventh century Baghdad and acupuncture goes back 2,500 years.

Movement techniques can be traced back to the Greek ideal of "a sound mind in a sound body", but specialized exercise forms such as Tai chi, Yoga and Qi gong go back to China and India (Wareham 1955, Quintner 1993). Electrotherapy began with Mesmer and his "animal magnetism" in 1775, and, compared to manipulative and movement, is a relative new comer to the healing arts (Mason 1992).

Between the 16th and 20th centuries there have been many changes in health care. Medicine was influenced by anatomical dissection, so diagnosis has become less of a guessing game than previously. Instant, or near instant, cure has been made possible by the advent of "magic bullets," injections and intra venous, therapy. Surgery has moved from the domain of surgeon barbers to the advanced technology of heart transplants aided by further knowledge of anatomy and physiology, antiseptics and anesthetics (Cousins 1985, Payer 1990).

There continues to be constant tension between Judeo-Christian ethics and Greek humanist ethics upon both of which modern medicine is based (Sim 1992, Rumbold 1986, Stacey 1993). Each new discovery has been examined by theologians and medical practitioners together to decide what is ethically right and wrong (Sampson 1982). The gradual change of Western society from homogenous populations influenced by Judeo-Christian ethics has affected the delivery of health care. Western health care workers and patients come from a wide variety of backgrounds such as, Judeo-Christian, Muslim, Hindu, Buddhist, Marxist, all of them adding to the problems of practicing medicine in an ethical manner (Jaggi and Bithell 1995, Fernando 1991). Western style health care has permeated many other parts of the world where local ethics may be at odds with the basic assumptions that Western-trained health workers have about their practice (Dawson 1990, Coleridge 1994). An additional tension is caused when teachers from one culture teach students from another culture (Simester 1994, Farmaian 1992).

Should students be taught only Western ways and ignore any conflicts with the local culture (Moghaddam 1986)? Do students study what is taught in order to pass exams and then forget everything as inappropriate ? The writer believes that in such circumstances one must examine the two cultures concerned and find ways to adapt

health care to the local culture without sacrificing the basic principles of good health care (Payer 19090, Leininger 1987, Dawson 1995).

A brief analysis of Judeo-Christian and Muslim ethics is appropriate in order to highlight the issues mentioned above. Much of Christian teaching has its roots in Judaism as both groups refer to the Torah or Old Testament (Flusser 1989). The ten commandments are accepted by Christians as a summary of moral behavior interpreted in the light of the New Testament. Thus the commandment "Thou shall not kill" is often interpreted "Thou shall not murder". Christians believe firmly in the sanctity of life but interpret biblical teaching in different ways. Catholic ethics are much more explicit and prescribed, whilst Protestant ethics are vaguer and based upon broad principles on which individual decisions can be made (Rumbold 1986, Seedhouse and Lovett 1992). Most Western Christian countries base their ethics on Protestant principles, except where there are predominantly Catholic populations, such as Italy, Spain or Ireland. In, so-called, Protestant countries the ethics are so broad as to allow individual Catholics to act according to their conscience.

Rumbold (1986) describes two main principles underlying Protestant ethics, "covenant" and "agape" or love. Covenant is based on Old Testament ideas of keeping promises. Relationships between people bring "duties and obligations", the health worker/patient relationship comes under this heading. Agape is seen by Ramsey (1970) as a "moral quality of attitude and action owed to all men by any man who steps into a covenant with another man". The consequence of this attitude is to say "what is the loving thing to do in any given situation ?" Although some would argue that Christian tradition "no longer occupies an official regulating position" in Western society it is still very influential (Bryant and Bankowski 1958, Martin 1993).

Islamic medical ethical principles are based on "respect for human dignity, justice and beneficence" (Gezairy et al 1989, Henningan 1994). Respect for human dignity involves being treated as "an individual who has rights to claim and duties to perform" (Henningan 1994). Justice means "equity in meeting needs and delivering care". Beneficence involves "fulfilling one's duty" to care for one's fellows "in the same way that one would care for oneself". These principles do not seem at odds with

Christian ethics, but it is necessary to add to this list the aspect of "anti intervention" which is the outcome of Islamic fatalism (Kahn 1987). If it is the will of Allah man should not change something. This aspect comes into conflict with both Christian and humanist ethics of intervention for improvement and change (Seedhouse and Lovett 1992). However, one writer believes that "the teachings of Islam... have the same values with which God endowed pure Judaism and Christianity" (Hathout 1988). This thought allows the concept of "cultural brokering" to be considered as a way of dealing with situations where cultural conflict is present in health care interactions (Jezewski 1995).

2.4 PRESENT SCOPE OF PHYSIOTHERAPY PRACTICE

In the West, particularly in North America, physiotherapy has became very sophisticated. Even in Europe, where the limits of practice are often defined by law, the scope of practice is wide. The index to volume 81 of the British "Physiotherapy" Journal 1995 lists "Professional Articles" such as Back pain, feminism, ankylosing spondylitis and cultural awareness. Physiotherapy Frontline dated February 7th 1996 features articles ranging from community care to feng shui, from stress awareness to overseas students. Any examples taken from American or Canadian physiotherapy journals show similar trends.

Traditionally physiotherapy had three components: massage, medical gymnastics and electrotherapy (Williams 1986, Barclay 1994), with massage the oldest element of all. The Society of Trained Masseuses was founded in the U.K. in 1895 (Harrison 1987, Stewart 1985, Barclay 1994), and became first the Chartered Society of Massage and Medical Gymnastics and later the Chartered Society of Physiotherapy with the inclusion of electrotherapy. According to Williams (1986) "massage is our central core". Physiotherapy has always been a profession in which emphasis has been placed on the use of the hands for "palpation, exploring tissue condition, joint alignment, pressure and tension". This is the physical use of "hands on" treatment, in addition there are the psychological effects of touching (Pratt and Mason 1981, Davis 1991). This physical and psychological contact between therapist and patient is crucial to the practice of the profession. This central element influences many other aspects of physiotherapy including that of physical evaluation of a patient's condition prior to treatment.

Medical gymnastics was added to the curriculum in 1920 (Stewart 1985), being influenced by Per Hendrik Ling and his Swedish gymnastics (Mason 1992). Exercise therapy came into fashion during the 1914-18 war. Sir Robert Jones said at that time "in addition to massage, exercises should almost invariably find some place in the treatment" (Gardiner 1955). This idea gained momentum between the World Wars and during the Second World War (Barclay 1994). Since then this element has

developed to include biomechanics, posture, ergonomics and biofeedback (Williams 1986). Electrotherapy is a relative newcomer to the physiotherapy repertoire, the first electrotherapy qualification in the U.K. coming in 1935 (Barclay 1994). However, despite its later inclusion in the practice of physiotherapy, medical electricity has been around for a much longer time. In 1757 Dr. Ben Franklin tells in a letter to a colleague that he used "electric shock" treatment with "paralytic cases" (Kahn 87). Electric shock treatment became low frequency stimulation and later spawned biofeedback and Transcutaneous Nerve Stimulation (Forster and Palastanga 1985, Low and Reed 1990).

In 1833 Fabre - Palprat began to drive medication into the skin via one pole of an electric current, this becoming iontophoresis (Low and Reed 1990). In 1880 the Curies discovered the piezo electric effect, in which certain crystals alter their shape, when subjected to a "varying electrical potential difference (Forster and Palastanga 1985). This is the basis of ultrasonic therapy. Light and heat have been used since the days of the Greeks and more recently by Kromayer (Wareham 1955, Barclay 1994). High frequency currents have been available for "at least 50 years" since D'Arsonval used his "auto-conduction cage" (Wareham 1955, Kahn 1987).

Having traced the early beginnings of physiotherapy in the U.K. it is appropriate to look at a British physiotherapist's definition of physiotherapy. "Physiotherapy is the identification and assessment of musculo-skeletal and neuromuscular disorders of function including pain and those of psychosomatic origin and of dealing with or preventing those problems by natural methods based essentially on movement, and manual therapy and on other physical agencies" (Williams 1986). From this definition it can be seen how much physiotherapy scope of practice today has widened since its beginnings in 1895.

Physiotherapy practice in the Middle East began in the early 1960's in Egypt. President Nasser is reputed to be personally responsible for the increase in health personnel in his country (Nassr 1989, Younis 1992). He suffered a back problem and, finding no one to treat it in Egypt, he went to Russia, which at that time was friendly with Egypt. On his return from Russia one of the professions he was responsible for

inaugurating was physiotherapy (Hyde 1978, Nassr 1989). Since then physiotherapists are to be found in Jordan, Cyprus, Iran, Israel, Turkey and Lebanon (WCPT 1985 and 1986, Teager 1994). The Egyptian model was based on a mixture of British and Russian models. This resulted in a four year university course in the High Institute of Medicine in Cairo followed by twelve months internship in hospitals in a variety of specialties. This is the model that has influenced physiotherapy in the Gaza Strip (Bithell and Lumley 1987, Dawson 1988 - 1994).

The Jordanian training was based on the British model of the 1960's. The sole training school graduated students with a diploma after three years, recently it was reduced to two years and now has closed. This school located at the Paramedical Institute at the Al Bashir Hospital in Amman. It was set up by two British physiotherapists who were stranded in Jordan, and unable to return to the West Bank, after the 1967 war (Willoughby 1990, Abadi 1995, Johnson 1990).

The third option was to train abroad in Eastern Bloc countries where education is based on the medical doctor model (Bithell and Lumley 1987). A number of problems arose for those who took up this option, firstly the problem of studying in a foreign language, secondly the fact that Eastern Bloc countries are reputed to run separate lower level courses for foreign students from Third World countries (El Sayyid 1993) and thirdly the fact of being educated for a different kind of health care system (Barghouthi and Daibes 1991).

The beginnings of the physiotherapy profession amongst the Palestinian Arabs is linked to the beginnings in Egypt and Jordan and also to training in Eastern Europe. A Palestinian training program began in the early 1970's at the Baptist Hospital in Gaza, taught by an American physical therapist. It was a one time, one and a half year course for people who already had a two year training as nursing assistants. The standard of the training was physiotherapy assistant level (Peach 1988, Palmer and Peach 1985). In 1978 a similar course was taught at Mount of David Orthopaedic Hospital, Bethlehem, by a British physiotherapist (Crosbie 1988). This was a two year assistants training (Bithell and Lumley 1987). Both these courses concentrated on orthopaedic treatment and neglected the "management of children with cerebral

palsy." None of their graduates were enabled to function as "independent practitioners" (Bithell and Lumley 1987).

In 1986 a two year course for "physiotherapy technicians" was set up for female refugees at the UNRWA Women's Training College in Ramallah (Martin 1988). This course was planning to accept a new intake of students every year, but was interrupted by the closure of schools, colleges and universities in October 1987. It has since reopened and continues to take one group of girls every year. A second UNRWA course begin in Gaza in 1990, which takes male and female students in alternate years (Vierhoff 1989).

In addition to these two course, a Belgian group, Medicines Sans Frontieres set up a two year course in Nablus, a French group, Enfants Refugees De Monde a three year course in Gaza and the Palestinian Red Crescent Society a two year course in Hebron (Vandam 1989, Verhoeff 1989). All these courses were taught in English by teachers to whom it was a second language, to students for whom English was also a second language, by physiotherapists without teaching qualifications or experience.

Before the Intifada the scope of practice of physiotherapy was limited mainly to orthopaedics and rheumatology. Electrotherapy was the most popular modality used, often inappropriately (Bithell and Lumley 1987, Crosbie 1988, Peach 1989). At that time there was no physiotherapy available in the rural areas, very little informed management of "cerebral palsy children", no involvement of physiotherapy in post-surgical management, care of the elderly or young disabled people (Dawson and Maas 1994).

During the Intifada the country was overrun with short term foreign volunteers from a variety of places all with different approaches and emphases (Krammer 1989, Tarasuk 1989, Vandam 1989, Verhoeff 1989). The treatment of spinal injured patients has improved since the setting up of a centre by Diakonia [a Swedish Church group] in Ramallah. Community care is now being offered by a variety of groups organized along political lines. The care of head injuries, strokes, cerebral palsy and other neurological problems is still limited to certain institutions and the quality

offered is passive rather than active (Younis 1995). Work amongst the elderly is just beginning and health education is still a new concept. Care of the mentally ill and advice for pregnant women and new mothers is virtually absent at the moment (Al Khdour and Maas 1995).

Compared with Europe and North America, the scope of physiotherapy practice in Palestine is very limited and the approach is very passive and technician orientated. This is the setting in which Bethlehem University in cooperation with Save The Children Fund [U.K] and Save the Children Federation [U.S.A] set up the first degree level programme for physiotherapy (Dawson 1988 to 1994). The author was appointed the first Director in September 1988, handing over to a Palestinian Director in September 1995. Save the Children Fund [UK] paid full salaries, student scholarships and transportation costs for the first seven years and Save the Children Federation [USA] paid running costs and enabled expatriate staff to get work permits from the Israeli authorities for that period. A third organisation, United Nations Development Projects [UNDP] contributed therapeutic, office and teaching equipment and text books.

2.5 PHYSIOTHERAPY OF THE FUTURE

In 1987 the Chartered Society of Physiotherapy [CSP] in the U.K. advertised an Essay Competition through its professional journal. The topic for that year was "Where is the physiotherapy profession going?" The two winning entries came from different sections of the profession, one being a superintendent physiotherapist and the other a student (Jackson 1987, Starks 1987). In a recent article by Parry (1995) she says "the therapy professions have uniquely developed sets of intellectual capabilities and independent knowledge ...to deliver a high quality service".

In the world health context, the 1977 World Health Organization "Health for all in the year 2,000" declaration is the goal towards which health care workers are striving (Teager 1987, Morgan 1987, Nunley 1987, Stevenin et al 1987). The major aim of this Alma Alter declaration was to increase the emphasis on Primary Health Care [PHC]. PHC is at the "coal-face" of health care, is low-cost, low technology and community-based (Ireland 1991, Coleridge 1994). The Alma Alter signatories aimed to spread the service more thinly [via PHC] to a greater number of people.

A speaker at the WCPT Conference in London in 1991 argued that physiotherapists should be more involved at PHC level than they are at present (Ireland 1991); they are presently concentrated in Secondary Health Care. These different perspectives highlight the tensions in health care in general and affect the future of the physiotherapy profession. Should the profession aim for higher and higher levels of technical ability for the few who work in highly specialized centres or should it be more concerned about acting as professional consultants to less highly trained Community Based Rehabilitation [CBR] workers in order to reach the many (Helander 1981 and 1993)?

This tension polarizes the needs of the developed and developing worlds. The high-technology approach is considered to be the right of those who live in developed countries whilst developing countries don't have enough money, trained personnel or back-up resources to sustain this approach (Bowerbank 1995). Because of the various

colonial influences of the developed upon the developing world, the high-technology approach is seen by the majority of educated citizens in developing countries as necessary "because the West has it" (Dawson 1995). Somewhere between these two extremes is a balance which can benefit all.

This section will look at each stand point and possible solutions for a "middle ground" approach specifically applied to physiotherapy in the Palestinian situation. Samuels in 1987 said that "All living professions .... must be capable of change and development so that they can respond to alterations in their environment". She goes on to argue that a "flexible use of skills and knowledge" is necessary because of the different situations through out the world. Elsewhere the present author has discussed the need for consideration of "context" in planning training programmes and also health services (Dawson 1991). Samuels (1987) sees change in terms of the members of the profession learning new skills to match new situations (Ayed 1991, Mohammed 1994, Momin 1995), but also gives the warning that if a profession leaves skills behind unused those skills will be taken up by others. This aspect of "deskilling" is an important current issue, especially in the U.K, where physiotherapists are afraid of some of their skills being taken over by occupational therapists and physiotherapy and occupational therapy assistants (Coleridge 1994).

Many writers highlight the problems for educators regarding the quality of their graduates (Johansson and Sahlin-Andersson 1995). Sanford (1984) points to the dilemma of whether to prepare practitioners with competence to practice effectively at the present time or encourage the problem-solving abilities necessary to function in the future. He sees a "change agent" role for graduates. McCoy (1990) and Helander (1993) speculate about generic therapists with an appropriately wide skill mix instead of the present proliferation of specific therapies. Teager (1987) advocates a move towards "empowering others" and Richardson (1992) about professional education which is "relevant" and reflects "contemporary practice". Relevance is not a fixed entity, but depends upon the context in which an enterprise is set (Dawson 1991). Grant (1992) reminds us that "the students who enter our classrooms today will be practicing well into the twenty first century". The A.P.T.A. [American Physical Therapy Association] Board of Directors (1990) sees a move to raise entry

level education to the post - baccalaureate degree level as the answer to practice in the twenty first century.

One could ask where is all this "qualifications creep" (Morgan 1987) and " curriculum hypertrophy" (Abrahamson 1977) leading to ? Will it enable the reality of the Alma Alter declaration to be achieved ? Will it bring "Health For All" or "health for nobody" in the twenty first century ? Jarvis (1983) sees one aspect of professionalism as being a "skillful provider of service". How is this skill defined? What is involved in providing a service ? Many disabled people themselves are redefining both of these ideas and some say that the "rehabilitation enterprise has failed disabled people" (Oliver 1992). Are students being prepared to respond to future population demands in a cost-effective way ? Are they taught to collaborate with other colleagues and delegate and supervise less specialized personnel, be they trained or untrained (Shepard and Jenson 1990)? How much time is spent teaching students to do hands on skills versus teaching patients and their families to manage their own health needs ? Are students being taught to "think on their feet" (Davis 1988, Higgs 1992)?

These skills of reflection, problem-solving and teaching are needed in the developed world, and will continue to be needed as the developed world continues in a state of recession (Schon 1987, Higgs 1992). Many more reasons for these skills are apparent in the developing world that does not yet have a "high-tech" infrastructure to its human services. The kind of health professional needed today in the developing world is one who can evaluate, delegate and supervise less skilled persons and concentrate their own unique skills on appropriate projects such as teaching, consulting, networking, etc. Only in this way will more consumers gain access to health care. Of course this has implications for educators (Richardson 1992). How can students be enabled to function in the way described above ? Especially in cultures where the professional is the expert, professional expertise is jealously guarded as a source of status and learning is done by rote.

CHAPTER THREE

INFLUENCES ON PALESTINIAN EDUCATION

3.1 THE INFLUENCE OF ISLAM

John Bagot Glubb (1969) called the people of the Levant Syrians. In his term "Syrians" he included "the Lebanese and Arabs of Palestine". These people were conquered by many different nations and in the context of Islam were part of "the Arab conquest" in A.D. 636 after which the majority of its inhabitants became Muslims (Hitti 1970, Barghouti 1991, Hourani et al 1993). Islam, meaning "surrender to God", is the last of the three monotheistic religions after Judaism and Christianity. All three religions had their origins in the Middle East. Originating in Saudi Arabia, Islam's holy book the Quran contains the revelation of God to Mohammed the Prophet and includes ideas from both Judaism and Christianity. In this context Muslim means "one who has surrendered to God" (Ahmed 1995, Saunders 1993, Laffin 1975, Jaoudi 1993).

After the death of the Prophet Mohammed, Islam was spread by the Arabs as part of their conquest of land. They extended North into the Levant, Turkey, the Balkans and Russia, West into North Africa and Spain and East to Iraq, Iran and India (Hourani et al 1993). For 14 centuries, until the end of World War One, the Levant was part of the larger Arab empire, ruled successively by Caliphs, Umaiyids, Abbasids, Mamlukes and Ottomans. These rulers all followed Islam, so the history of Islam in this area is almost unbroken from the time of the Arab conquest (Findlay 1994, Lewis 1995). After the First World War the British took over Palestine and after 1948 Jordan took over the West Bank and Egypt claimed Gaza (Aldington 1957, Wilson 1990). After the Six Day War War in 1967 both areas, became part of the Occupied Territories administered by Israel (Sachar 1979, Westwood 1984). Today Muslims constitute the vast majority of the population [95-98%] with concentrations of Christian inhabitants in places such as Nazareth, Jerusalem and Bethlehem (Aburish 1993).

Islam is not just a set of religious precepts, but a way of life (Hyde 1978, Shepard 1987). The Quran is still considered as "the basis of all knowledge" by some devout Muslims (Szyliowicz 1973, Laffin 1975, Boutaleb 1988), so it is not surprising that the Quran has things to say about education (Huq 1975, Boutaleb 1988, Ibrahim 1994). The following is a translation of one of the important quotations about education:

> "Brotherhood of truth is one in all ages: it is narrow men who create sects. To be true in word and deed is to follow God's call. But our striving should include study and teaching for brethren's benefit. Acquisition of knowledge is incumbent upon all the faithful, men as well as women. Seek knowledge from cradle to grave. Acquire knowledge even if it be in China" (from Huq 1975 page 26).

Thus it can be seen that, in Islam, acquisition of knowledge is a religious duty. It could be stated even more strongly as "an act of worship" (Qureshi 1975, Sharpes 1986, Ibrahim 1994).

The history of Muslim education goes back to the beginnings of Islam in medieval times (Szyliowicz 1973, Hourani et al 1993, Saunders 1993). Early schools were housed in mosques or next door to them and the Imam of the mosque was also the teacher (Huq 1975). The early Muslim fathers wanted education to be "free and uncontrolled" and "voluntary" so that each person had individual responsibility for learning (Huq 1975). Early Muslim education was relatively well organised; Muslim India in the Middle Ages had a Department of Education and various subjects were translated into Arabic, to allow students to develop a world wide perspective whilst using their "mother tongue as the medium of instruction" (Aurangzeb 1658-1707 in Huq 1975).

Tradition tells us that the Prophet says "A father can confer upon his child no more valuable gift than a good education" (Arberry 1983, Ahmed 1995). Additional secular reasons for the emphasis on education can be argued from the

"need to socialize large numbers of newly conquered converts and create a ... cohesive social order" (Szyliowicz 1973, Saunders 1993). The aim of "traditional" Muslim education was to "produce pious practicing Moslems" who would play their part in the "creation of a moral society" (Qureshi 1975, Sharpes 1986, Othman 1994). The status of teachers was, and is, high because the Quran mentions teaching as a virtuous and pious act (Hyde 1978). Teachers were respected and expected to maintain high standards in their personal lives and professional capacity (Szyliowicz 1973, Boutaleb 1988, Saunders 1993). In his classroom the teacher possessed much authority and the students were "tied to him by feelings of respect and gratitude" (Qureshi 1975, Kattan 1992). However there was an Islamic definition of "acceptable knowledge" and within that framework it was important to memorize as much of the truth as possible, that truth being contained in the Quran (Qureshi 1975, Hyde 1978, Matthews and Akawi 1949, Sharpes 1986, Othman 1994). It is interesting to speculate how much was added to the Islamic ideas about education by the "assimilation of large numbers of educated urban dwellers" from Persia, China and India, who had "a rich pre-Islamic heritage" and how much impetus this gave to the development of education (Qureshi 1975, Featherstone 1992).

The intellectual heights of Islam came whilst Europe was still in the Dark Ages, but was beginning to "ossify and stagnate" as Europe emerged into the Renaissance and Reformation (Featherstone 1992). From then until the time of Kemal Ataturk, Quranic schools were the norm for Muslims in the Ottoman Empire, with Christians and Jews maintaining their own schools side by side throughout the Muslim world. Kemal Ataturk made all schools in Turkey secular, but the waves of reform did not reach the more distant parts of the Turkish Empire (Szyliowicz 1973, Findlay 1994) and it was only the political disintegration of the Ottoman Empire which made possible the separation of religion and education (Hyde 1978, Ahmed 1995). It was the coming of the French and British that "secularised and modernised" education in the Levant. The effects of Western civilisation on education in the Middle East will be discussed later.

Since the decline of Western colonial rule in Muslim countries there has been a resurgence of Islamic influence on education. In Pakistan there is an emphasis on the need to "tailor" education to the "ideal of Islam" (Qureshi 1973, Haq 1994, Bryant et al 1993). In Egypt their educational "Utopia" is built on a base of science and technology, but alongside secular education runs the Al Azhar system which emphasises Quranic teaching (Hyde 1978, Sharpes 1986). In Iran during the Shah's time there was a progressive move towards secularisation of education (Szyliowicz 1973), but since the return of Ayatolah Khumeini and the setting up of the Islamic Republic there has been a return to Islamic emphasis in every aspect of life (Sharpes 1986, Moghaddam 1993, Farmaian 1992). There are "an increasing percentage" of students from Islamic countries going to university in other..Islamic contries for higher education rather than going to non-Islamic countries (Sharpes 1986, Moghaddam 1986). Numbers of students studying Humanities account for 34% compared to Education [19%] and Agriculture etc [11%] indicating the greater importance of theology and religion than science as study areas. Massialas and Jarrar (1987) argue that the legacy of the past has left upon schools an almost inerasable mark" and they trace this back to the early influences that religion and religious leaders exerted on education. The number of periods per week devoted to Islamic studies and Arabic language indicates the present influence of Islam on schools. In Yemen, Saudi Arabia and Qatar 152, 221 and 145 hours respectively are given to these subjects throughout the primary, intermediate and secondary schools. Instructional methodology demonstrates its Islamic influence by "the acquisition of knowledge and respect for learning" without "reliance on the process of inquiry".

Palestinian society can be viewed as secularist, but with an increasing emphasis on Islamic ideology (Shepard 1986, Barghouti 1991). A survey of Palestinian students at El-Najah University in Nablus in 1991 indicated that the Muslim Brotherhood was the largest religious group there (Barghouti 1991). Nablus, in the north of the West Bank, is one of the most religious areas. Eighty six percent of the students were from the North of the West Bank and the rest from Gaza. Most of the respondents were against co-education: they explained this in

"terms of Islam". Most girls at the University wear religious clothes [shari] which covers everything, but the hands and face. For female students "wearing shari" is a condition that parents impose in order for them to go to University.

Islam was the main influence on education as part of the "total package" of Muslim life from the Arab conquest to the fall of the Ottoman Empire (Hourani et al 1993, Ahmed 1995). After that time Islamic influences were still present, but overlaid by the European influence of the French and British (Lewis 1995). In recent days there has been a revival of Islam which is causing the "Islamicization" of knowledge and even Muslims who are not religious observers are being careful to consider their "Islamic heritage" (Salman 1986, Othman 1994). There are diverse opinions about the effects of modern Islamic thought on education. Fahmy (1974) talks about "enlightenment through educational reform" and Boutaleb (1988) believes that "most of the modern educational principles are present in the notion and tradition of Islamic education". On the other hand, Hyde (1978) describes the teaching at Al Azhar University in Egypt as "sterile" with the emphasis on "rote learning and passive acceptance of traditional interpretations of knowledge". Salman (1986), speaking about Jordan, says that the mental state of teachers shows "non-critical thinking and no initiative", which he attributes to "an old fashioned theory of knowledge based partly on the Islamic-Arab tradition" (Rigby 1995). There seems to be an inherent conflict between the concept of "scientific enquiry" and the ideology of fundamentalism (Sharpes 1986) which poses problems for Islamic educators.

3.2 THE INFLUENCE OF THE BRITISH MANDATE

Although it was after the first World War that the Middle East came formally under the control of the Western powers, Western influence was apparent long before this. The Crusades which took place from 1095 to 1152 were an era that, if it did not directly affect life in the Middle East for any length of time, certainly mixed the blood of Europeans with that of the indigenous population and influenced their ideas. This effect can still be seen in the occasional blue eyed red-haired Palestinian, but may also have contributed to the complexity of personalities and intelligence of the residents of the Middle East. On the other hand, some would argue that the Crusaders benefitted more from the influence of the Arabs than the reverse (Glubb 1969, Riley - Smith 1995).

French Jesuit missionaries were the next foreigners to arrive, in Lebanon, in 1625 to set up Western style schools (Glubb 1969, AUB 1979, Lewis 1995). A century later the French Emperor Napoleon attempted to establish a military base in Egypt in 1798 after which the British "assisted the Ottomans to establish a governor" there, beginning British influence in the Middle East (Westwood 1984, Wilson 1990). In North Africa France became involved in Algeria and Tunisia in the 1830's and Britain and Russia agreed on "spheres of influence" in Iran in 1904. After the First World War, as a result of the Sykes-Picot agreement, Britain took over control of Iraq, Jordan and Palestine and France added Syria to her empire (Hourani et al 1993).

The coming of Western colonialism to the Middle East brought with it Western culture (Boardman 61, Prothro and Diab 1974, Lerner 1964, Friedman 1994). It also brought elitism, in that the colonial powers saw the colonized as generally inferior (Woods 1987, Beattie 1993). This meant that quality education was offered to the few and education for one's place in a hierarchy in society was offered to the many (Ulich 1965, Graham-Brown 1984). In a sense this was no different to the education offered to the rich and poor in the Western countries themselves. Elitism was "a small window" through which Western education

reached a small fraction of people (Huq 1975, Brit Coun 1995). It also involved instruction in a foreign language [English or French] and the curriculum relevant to the culture of that particular foreign power (Hyde 1978). Not only was emphasis put on a foreign language, but the local language was denigrated by educators (Qureshi 1975, Brit.Coun.1995).

Text books were written in a foreign language, for a foreign culture, expressing foreign ideas and concepts and alienated students from their traditional culture (Sodipo 1984, Smet 1984, Pei 1984, Brit.Coun.1995). Schools can be the "guardians" or the "challengers" of the cultural heritage (Ulich 1965, Featherstone 1992); schools in the Middle East at this time guarded Western culture and challenged Arabic culture. In addition to "opening wide the door to westerinization", schools undermined the "existing social and political structure" (Szyliowicz 1973, Kaplan 1993).

However it would be true to say that there were positive influences from Western style schools; classes were smaller, teachers better trained and standards safe-guarded (Qureshi 1975, Rigby 1995), widening the breadth of the curriculum to include sciences, maths and foreign languages and improved standards of education (Massialas and Jarrar 1987, Graham-Brown 1984 and 1989). Despite all these things there was "too little independent thinking and too much reliance on British [or French] traditions". One author uses the phrase "cultural subjugation" to describe the effects of British schools on Arabic society (Massialas and Jarrar 1987). Today it is recognised that Western civilization is not the Holy Grail of human values (Ulich 1965) and education relevant to culture is most appropriate (Dore 1985, Dawson 1995).

One important additional factor to consider is what can be described as the "missionary bias" of the colonisers (Qureshi 1975, Hamada 1990). As previously mentioned, the Jesuits opened the first school in Lebanon in 1734 and this was followed by many other Christian groups. Protestants got involved in the 1860's; the American University of Beirut beginning from a missionary foundation in 1866 (Szyliowicz 1973, AUB 1979). In these schools the

curriculum was concerned with the conversion of the students to Christianity, what Ulich (1965) called" education for saintliness". During the Mandate mission schools and state schools operated alongside Quranic schools.

These were the effects felt during the periods of colonization, but one might ask if these effects are still to be felt. Huq (1975) argues that in Egypt and Pakistan the effects of the British domination have been more than the effects of Islam. Qureshi (1975) says that none of the countries previously colonized "have been able to shake off the dominance and all pervading influence of English after gaining independence" (Malhotra 1989). In Jordan, Salman (1986) speaks of education presenting "a British view of knowledge," and even after the 1964 Jordanian Education Act, still speaks of having "aims borrowed from abroad".

From the beginning of the colonial period there was no attempt to adapt the school curriculum to the already mature Islamic Arabic culture of the people. Instead this indigenous culture was deemed inferior (Hourani et al 1993). Except for the few who were able to afford to send their children to England or France (Furlonge 1969, Anabtawi 1986) the colonized were subjected to a rigid class ridden system of education such as was offered to those whose position in society was of the semi-skilled clerical worker level. At the time that curricula were being imported to the Middle East, educational reform in Europe had not begun and because of the slower rate of development in the Middle East, curricula used in late 19th century Europe, were still in operation in the Levant during the 20th century (Blackler 1983, Lewis 1995).

The criticisms attributed to the Islamic effects on education in the Middle East can also be levelled at British education during the Mandate. One influence was super-imposed on the other, resulting in the lack of a Palestinian theory of society or education (Said 1993), contributing to the rigid unimaginative approach to education today (Anabtawi 1986, Rigby 1995). However the basic philosophies of education were different, causing confusion and cultural alienation. Islamic education attempted to fit a man for Islamic society in which the spiritual aspects were predominant (Boutaleb 1988). Western education

concerned itself with rational man as an individual (Ulich 1965, Hall and Neitz 1993, Spindler and Spindler 1987). Mission schools were concerned about "spiritual man", but their concept of "spiritual man" was Western Christian influenced by Greek ideas as opposed to Eastern Islamic.

However despite all this confusion, John Bagett Glubb (1969) says of the Arabs, "the adaptability and intelligence of these people will convince the world and themselves of their ability to compete intellectually with any nation on earth " Anabtawi (1986). Yung (1993) and Bithell (1993) would agree with this early recommendation.

After 1948, Palestine was divided between Arabs and Jews and the West Bank became part of Jordan and the Gaza Strip became linked to Egypt and came under the influences described in Chapter 3.3.

3.3 THE INFLUENCE OF THE ISRAELI OCCUPATION

Prior to 1967, the population of the West Bank were part of Jordan and their educational system was the same as that of Jordan, and Gaza was linked to the educational system of Egypt. This meant that all school children took the Tawjihi school leaving certificate which is recognized throughout the Arab world. It also meant that students went either to Jordan or Egypt for higher education (Kapeliouk 1985, Anabtawi 1986).

Between 1967 and 1992, the West Bank and Gaza Strip were occupied and controlled by an Israeli civil administration, but its people did not became citizens of Israel. Unlike their compatriots who had remained in Israel after 1948, they were not eligible for places at Israeli universities (Habash 1969, Frey and Fisher 1976, Habib-Allah 1991). The possibilities for higher education abroad were less available to Palestinian students, as it became increasingly difficult to get permission to travel abroad and once outside even more difficult to get back into the country (Graham Brown 1989, Nassr 1989, Younis 1992). All these factors lead to the setting up of local universities and colleges in the West Bank and Gaza Strip (Baramki 1991).

There are seven Palestinian universities located in Jerusalem, Bethlehem, Bir Zeit, Nablus and Hebron and two in Gaza. They were established between 1973-1980 (JMCC 1990) and because they were not eligible for financial assistance from Israel, all were privately funded. Since the Palestinian National Authority took over responsibility for services all institutions of higher education receive some finincial support from government sources. In 1987 there were 22,803 students in higher education, the vast majority [67%] enrolled in University. The Council for Higher Education which regulates universities and colleges is locally based in the Occupied Territories and also maintains links with the rest of the Arab world (Baramki 1991 and JMCC 1990). There is no official external recognition of the awards offered by Palestinian educational institutions outside the Arab world, but tacit approval is demonstrated by the fact that many

graduates from the West Bank and Gaza Strip are accepted by the USA, Canada, and the U.K. for post-graduate studies. The first university in Gaza had the biggest problems of acceptance as it was an Islamic university whose curriculum was based on study of the Quran, is only recognized by other Muslim countries (Ed Net 1991). In recent years a second secular university has been established in Gaza. A few graduates from West Bank universities are accepted for post-graduate studies at the Hebrew University in Jerusalem, but only after a further one year study after their graduation. Naturally most courses at Israeli Universities are in Hebrew which is a big obstacle for Palestinian and Israeli Arab students (Habash 1969, El-Asmar 1978). Israeli Arabs study Hebrew, but most of their social life is conducted in Arabic. West Bank and Gazan Palestinians rarely study Hebrew, except in prison, although Palestinians residing in Jerusalem often learn Hebrew.

The school system, which was in place in 1967, has changed very little since then and in some aspects may be considered to have deteriorated (Ed Net 1991). The reasons for this stagnation are many. Curriculum development was virtually impossible for a school system operating under military occupation. Energies had to be devoted to the day to day survival in the classroom and school as a whole. Censorship was imposed on library materials (Graham Brown 1989). From the beginning of the Occupation the Israelis removed any text books which included materials considered to be critical of Jews, Zionism or Israel (Frey and Fisher 1976). Books about Arab and Palestinian nationalism were not allowed and even the writings of Arab poets was banned (JMCC 1991 and El Asmar 1978). In 1982 foreign staff working in West Bank Universities were refused work permits unless they signed an agreement stating that they did not support the Palestinian Liberation Organization (Kapeliouk 1985 and JMCC 1991). Many of them refused this and were in danger of being deported.

During the Occupation expansion of educational facilities had to be approved by the Israeli authorities and approval often depended on the political credibility of the institution applying for a permit (Frey and Fisher 1976). Bethlehem University had to wait 3 years for permission to build its Socio-cultural Centre

and El-Najah University in Nablus waited from 1981 to 1985 for permission to build a new campus (Kapeliouk 1985). Funding of private schools and all universities mainly came from the Arab world. Often access to these funds was blocked by the Israeli authorities in order to cause such institutions to close down (Graham Brown 1989) and since the Gulf War many of these sources are unavailable.

In order to get to the university campus students and staff often had, and still have, to attempt to pass through road blocks (JMCC 1990). Whenever there was an incident any where in the West Bank, the Israeli authorities closed off that area, preventing faculty and students moving. Every year during Ramadan [the Muslim thirty day fast] young men are prevented from entering Jerusalem on Fridays. This is to prevent them praying at the [Haram al Sharif] Dome of the Rock mosque in the Old City, as the time after mid day prayers is often when incidents occur between the "shabab" and the solders. At other times whole towns and cities were placed under what is called "curfew". According to the Geneva Convention a curfew lasts for up to 24 hours, curfews in the Occupied Territories have lasted for days, or even weeks, with only a few hours each day allowed for buying food (CCINGO 1991). During the Gulf War this situation lasted for forty five days. Students who are under curfew or unable to pass through a road block obviously miss classes. Sometimes only students who live in Bethlehem are able to attend class as road blocks from Jerusalem and Hebron prevent all other students from passing (White 1989 and 1992). This situation is still true today, despite the measure of autonomy gained in the Palestinian areas.

At certain times educational institutions were subject to closure for weeks or months (Graham Brown 1989). In academic years 1981/82 and 1982/83 Bir Zeit University was closed for 6 months (Kapeliouk 1985). Closure of secondary schools led to poor results in the Tawjihi exams. Thus students entering university were, and still are, below standard and struggle to keep up with their studies. This struggle is intensified by absence from class due to curfews, road blocks and closures. The Occupation has had a direct effect on the deterioration

of educational standards and indirectly prevented any efforts to remedy the educational stagnation apparent prior to 1967. The sum total of all these factors has been a decline in educational standards and a stagnation of the educational process in Palestinian schools, colleges and universities (Sfeir 1989 and 1991, Fasheh 1991).

3.4 THE INFLUENCE OF THE INTIFADA

After 20 years of Israeli Occupation, the Palestinian uprising began in October 1987 (Lockman and Beinin 1989, Nassar and Heacock 1991). The Arabic word for this uprising is "Intifada" which literally means "a shaking off" (Ateek 1989). The root of the word is the same as that uttered by Jesus as part of the commissioning of the twelve disciples in the Gospel of Luke chapter 9 verse 5, "If people do not welcome you shake the dust off your feet when you leave their town ...."

As many of the young men and women at the heart of the demonstrations were students, colleges and universities in the Occupied Territories were subject to "military closure orders" by the Israeli authorities (JMCC 1990). The Islamic University of Gaza was put under indefinite closure and the West Bank Universities "remained closed under successive short term closure orders". This remained the situation until September 1990 when Bethlehem University was allowed to re-open, after which El-Najah in Nablus, Hebron and the group of colleges in Jerusalem which constitute El-Quds University were allowed to re-open. Bir Zeit University remained closed for another twelve months despite international pressure to re-open it (Ed Net 1991). In 1988 all community colleges and schools from Kindergarten to Tawjihi level were closed for most of the year, and in successive years until early 1990 many schools were closed for variable periods of time (JMCC Dec 1989 and Aug 1990).

It is reported that 50% of the required school days were lost between 1987 and 1990 (Ed Net 1991). During the days when school were open, teachers reported that "academic standards have suffered because of limited time and absence from class, lack of concentration restlessness and distraction" as a result of fear and defiance of all forms of authority due to the daily confrontations between the "shabab" and the soldiers. Cheating in examinations became the norm in many schools and was encouraged by teachers under pressure from parents (Kattan 1992).

The Israeli authorities have pressurized school administrators to allow pupils to move up to next grade at the end of the school year, despite large sections of the curriculum untaught or not understood (JMCC Aug 1990). This process occurring throughout the school system had a "knock on" effect on higher education. Students sitting for university entrance exams were failing, whilst, at the same time, political pressure was being put on Universities to take more students (Sansour 1990). The effects of this was that students entered college and university with lower levels of knowledge and skills than needed for valid academic progress and independent attitudes to learning and teaching (Nakleh and Zureik 1980). Motivation to learn or teach was affected by the closures. "What's the use of ... brilliant Tawjihi results when ... you cannot continue your studies because the local universities are closed and you don't have the means to finance your ... education abroad" (JMCC Aug 1990). Parents were under increasing pressure with large numbers of children at home, often in cramped conditions, for weeks and months at a time. Mothers especially feared for their older boys who were those in direct confrontation with the soldiers, the profile of those injured during the Intifada being males between the ages of 15 to 25 years (Giacaman et al 1989).

So far, a very gloomy picture has been presented of Palestinian education during the Intifada. However, there are also very positive things happening. Sullivan (1988) comments that "Palestinian educators have accomplished much despite the Israeli presence over the last two decades". Despite all the problems Palestinian children and young people have not opted for "liberation now, education later" as did their South African counterparts (Ed. Net. 1992, Woods 1987).

Education is very important to Palestinians, some sociologists arguing that education has taken the place of land for the Palestinian population (Cossali and Robson 1986, Nakleh and Zureiki 1980). Certainly there is greater interest in higher education amongst the Palestinians than amongst Israeli Arabs and in other Arab countries. Present figures for enrolment in Palestinian universities are not absolutely clear, but it is estimated that at least 22,000 students are

enrolled which is more than 10% of the total population of the West Bank and Gaza Strip. However some of these students registered are studying and working part time.

It has already been noted what problems beset Israeli Arab students attempting to gain entrance to Higher Education in terms of language, culture and lack of "points" from army service (Habash 1969, Habib-Allah 1991), resulting in lower numbers in higher education. In addition to the difference in fluency in Hebrew as mentioned in Chapter Three Section Four, Arab students face a denigration of their own culture, by means of lack of attention to Arabic history and literature as well as vilification of Arabs in Israeli literature. Most Arab students are also discriminated against because they do not go into the Israeli army where one's progress counts towards "points" for one's university acceptance.

When formal educational structures were prevented from operating at the beginning of the Intifada, alternative education was provided by "popular committees" (JMCC May 1990). This "off-campus" teaching network was declared illegal by the Israeli military authorities in August 1988, but continued to flourish despite the "threat of arrest hanging over every off-campus class". Universities and colleges began to participate using hotels, hospitals and municipal buildings as classrooms. Classes were held once a week and numbers of students were limited to between 10 and 12. Students were encouraged to became more independent in their learning and professors had to learn new ways of teaching. Participation by faculty and students was voluntary as the risks for both were great. The experience was exhilarating for some faculty members and frightening for others. Many developed new approaches to teaching and learning, but many were only too glad to return to "proper" teaching, when their university re-opened.

The Gulf War presented an additional challenge to the Universities, as for 45 days all Palestinians were placed under curfew. Bethlehem University made plans for "Home study", although by the time it was due to begin, the university was able to hold classes on campus. A few departments, such as physiotherapy,

did begin a Distance Learning [DL] system with some interesting results (Dawson 1992, Sabella 1991). Students' reactions depended on the type of teaching they were used to in their regular classes. Those from departments such as physiotherapy were more positive in their comments than those taught more traditionally, although physiotherapy students missed the opportunity to discuss issues with the full class and ask questions of their teacher when they came to mind rather than waiting for the teacher's next visit. It was only possible for foreign staff to do DL, as travel restrictions were placed on Palestinian staff and students. Students were grouped together in geographical locations and teachers travelled from group to group providing teaching materials and moral support.

Although the prolonged closure of universities and colleges has been described as having a "ruinous effect" on education, there was an underlying current of excitement at the prospect of being able to study despite the measures taken by the Israeli authorities. The author's ability, as a foreigner, to travel relatively freely compensated for Palestinian teachers' inability to move between home and university or clinical setting. Both staff and students found very creative ways to get to class and maintain regular contact with patients in their clinical placements.

Because Palestinian educational structures and philosophies are relatively formal and rigid, the professionals did not find it easy to search for alternative ways of achieving their objectives. In order for the spirit of the Intifada to "ignite the flame of revolutionary" education (Caistor 1985), Palestinian educators will have to change their attitudes and methods. The few individuals and institutions that have used creative thinking methods (De Bono 1992) in their approach to education during the Intifada have blazed a trail that the majority have not yet discovered (Abdulhadi 1992, Nasru 1993, Essoulami 1992).

CHAPTER FOUR

INNOVATION IN HIGHER EDUCATION

4.1 INNOVATION IN GENERAL

An early definition of innovation is the "process by which new products and techniques are introduced into the economic system" (Maclauren 1949). Others see it as "any thought, behaviour or thing that is new because it is qualitatively different from existing forms" (Rogers 1982, Barnett 1953). Something new is advocated, a change is anticipated, dissatisfaction with present ways and methods is implied (Pacey 1994).

Change can be a matter of fashion, updating of existing methods, altering sequences, superficial alterations which do not substantively differ from previous methods. Innovation is more than these types of change, it is planned and deliberate change (Meleis and Burton 1981). It should result in something being done better or more economically or even demonstrate something not done before (Gaff 1991).

To be innovative requires imagination and the ability to break with existing norms (Titchen and Coles 1991). Breaking out of the mould requires taking risks and leaving behind the comfort of tried and trusted ways (Richardson 1992). Thus to be successful innovation should be seen as a response to need and supported by good reasons for change (Meleis and Burton 1981, Dawson 1991).

> "There is nothing more difficult to plan, more doubtful of success, nor more dangerous to manage than the creation of a new order of things.... Whenever his enemies have occasion to attack the innovator they do so with the passion of partisans, while the others defend him sluggishly so that the innovator and his party alike are vulnerable"
> Niccolo Macciavelli, The Prince (1513)

The context of innovation contributes to its success or failure (Collingwood 1979, Gale et al 1981). Innovation best succeeds in an environment which is "ripe for change," in an atmosphere of anticipation (Rogers 1982, Rigby 1995) when only a small push is needed to bring success. Stable institutions provide stable situations in which little innovation takes place (Becker 1977). Thus innovation will have a better chance of succeeding in an unstable institution or situation.

Diffusion of innovation is the "process of communicating change over time through channels in the social system" (Rogers 1982, Najjar 1992). Gale et al (1981) found that failure to communicate effectively about important aspects of a new system was a barrier to change. Innovators often fail to take into account the conservatism of participants in a process of innovation. Most people like things to remain the same. There is much to lose by leaving the old, unless one knows the advantages and benefits of the new (Collingwood 1979). Is the innovation compatible with users' personalities and circumstances (Rogers 1982) ? Is it easy to comprehend, quick to grasp ? Will it harmonize with existing values (Dawson 1995) ? Can it be tried out piece meal or does it have to occur at one time ? These are questions that innovators should ask themselves and if they do not, questions that target people and users will ask. Satisfactory answers to these questions can make the difference between success and failure (Handfield-Jones et al 1993).

Rogers and Shoemaker (1971) and Rogers (1982) describe four stages in the acceptance or rejection of innovation: understanding the innovation, being persuaded of its usefulness, deciding to adopt or reject it, implementing it and confirming the decisions taken. These steps require the presence of opinion leaders and change agents to bring about and confirm innovation. Change needs to demonstrate a relative advantage for its adoption and be compatible with current practices (Najjar 1992, Habib-Allah 1991).

If innovation involves so much risk, why has so much innovation occurred in the last ten years in so many aspects of life ? The answer to this question can be traced back to dissatisfactions with existing methods and with outcomes and results (Najjar 1992, Rigby 1995). As previously mentioned, Barnett (1953) sees innovation is an expression of need. Innovation is a hallmark of twentieth century life and has to be taken into account by politicians, managers and educators (Pacey 1994). It is against this backdrop of innovation that the study is set.

4.2 INNOVATION IN HEALTH CARE

It has already been noted that innovation has entered many aspects of life; education and health care are two such aspects. Health care has changed rapidly over time. Medicine is no longer practiced by shaman, priests or witch doctors in the developed world, but by highly trained specialists backed by a vast array of equipment necessary for diagnosis and treatment (Coe 1978, Helman 1984, Helander 1993). Surgery is no longer the province of barber - surgeons and body snatchers no longer need to raid grave yards for cadavers for anatomical dissection. Today's surgeons specialize in order to be competent to perform open heart surgery, hip replacement surgery and many other procedures. Many associated disciplines such as pharmacology and physiotherapy have become respectable professions in their own right (Hartley 1992).

The implications of these trends are seen in measures taken to enable practitioners to remain competent (Caney 1983, Richardson 1992). No longer can one study at higher education level and expect to practice for one's professional lifetime using the knowledge, skills and attitudes gained as an undergraduate (Goodlad 1984). Teager (1987) talks about the half life of professional knowledge as three years. Three years after graduation if one has not been involved in continuing education one is only 50% competent to practice (Grant 1992). In order to attempt to keep up to date, there is a plethora of health professional journals published and postgraduate courses advertised. Excerpts from the professional journal for British physiotherapists "Physiotherapy" demonstrates these points. In August 1992 the section entitled "In other journals" listed nine other journals with information useful to the modern physiotherapist and in December 1992 the "Courses and conferences" section occupied twelve pages. The spectrum of topics mentioned as available also demonstrates the number of "new" trends in rehabilitation, including a number of so-called "fringe medicine" topics such as shiatsu and acupuncture.

Community is one of the "buzz" words in health care. Dissatisfaction with facilities, waiting lists and institutionalization has lead to moving disabled people from institute to home and the development of new skills amongst professionals in order to be competent in this new area (Frazer 1982, Smith and Barton 1992). Practitioners are learning to do without specialist equipment for treatment and instead rely on what is available in the home. Time constraints and patient loads have caused a shift from supervised treatment to the giving of advice to clients and carers. Emphasis has changed from a passive acceptance by patients of the therapists' ministrations to an active participation by the patient in their own management.

Alongside this has developed an increasing consumer awareness among disabled people. Oliver (1992) cogently expresses what many disabled people feel when he says "the rehabilitation enterprise has failed its clients". The increasing emphasis on health and disability awareness in professional training indicates the professional attempts to respond to these feelings (Ewles and Simmett 1985, Lincoln and McAllister 1993), however successful disabled action groups view this training. The response of health care providers is demonstrated by government prioritization of care for elderly and physically and mentally disabled people (Smith 1986, Hawker 1985, Wood 1992).

Research is an area of increasing priority amongst health care personnel (Partridge and Barnett 1986, Polgar and Thomas 1988, Higgs 1992). The history of research shows a bias towards quantitative research which influenced nursing and paramedical research until recently. Studies involving transition from hospital to home and patient compliance have developed a concern for qualitative research (Roberson 1992, Bull 1992, Kawczak - Hagerty 1992), as being more suitable for looking at many aspects of health care.

Management in the health services in the U.K. has had a chequered history since the time of the Griffith's Report in 1984 (HC [84] 13). In the 1970's a management structure was advocated for all health professions (HC [79] 19) and (HC [77] 33) and the coming of Griffiths brought in the concept of professional

managers and raised such issues as "quality control". Since then management has developed along unit lines cutting across previously developed district wide services offered by the different professions (Dawson 1988). Management however is still a high priority amongst physiotherapists offering services to the public (Hunter 1992, Lane 1992, Friend 1992).

Most of the innovations mentioned have been specific to the paramedical professions and set in the British context. However these changes are mirrored in the general health care context and also the international health care scene (Malek et al 1993, Crombie et al 1993). All these new trends continue to have implications for teachers in higher education in the health care field (Twibble and Henley 1991, Thoroughgood et al 1991, Dossa and Knab 1991, Holmboe 1991, Newman 1988, Handfield - Jones 1993) and influence curriculum development and learning and teaching approaches.

4.3 INNOVATION IN THE ARAB WORLD

It would seem that there is as much innovation in the Arab world as is present in the West. One would think this from looking at the number of articles published about innovation in Arab universities (Dissanayake et al 1990, Chaudrey et al 1989, El Sayyad 1990, Hamad 1985, Mirghani et al 1988, El Hazmi and Tekian 1986, Bojanczyk and Shah 1988, Abdulhadi 1992).

Only on careful reading of these accounts does one realize that these are isolated records of individual innovations that have been successful (Hamad 1985, El Hazmi and Tekian 1986, Jayawickramarajah 1992). These innovations are set against the background of a traditional Islamic cultural heritage (Massialas and Jarrar 1987, Akkila 1955, Gezairy et al 1989), a context some would see as contrary to change (Rogers 1982, Hall and Neitz 1993).

The context involves conflict, between old and new, East and West, "high tech"and "low tech" (Bubtana 1992, Arayed 1980). There are innovative practices and policies, but will they have a lasting effect or" evaporate into the rigid infrastructure of Arabic society" (Boardman 1961, Qubain 1966, Khalaf 1977, Sanyal et al 1982, Eickelman 1979, Rigby 1995) ? These are questions that need to be asked by Arab educators (Heacock 1991, Anabtawi 1986, Rigby 1995). The whole picture of education and culture needs to be assessed in order to decide if innovation automatically means Westernization. Does it involve disloyalty to one's cultural heritage to change things ? Mostyn (1987) expresses sorrow at the "breakdown of values that sudden exposure to the West brings with it". Is innovation just a veiled form of colonialism (Matthews and Akawi 1949, Shahla 1955, El Saadawi 1988, Bandaranayake 1989, Brit.Coun.1995) ?

According to Professor Boutaleb of the Islamic Educational, Scientific and Cultural Organisation (1988) most, if not all, of the modern educational principles are present in the notion and tradition of Islamic education, although Nashabi (1979) believes that there is no such thing as an Islamic educational

philosophy itself but that one can speak of an Islamic theosophy applied to education.

Universities and medical schools throughout the world are strongly influenced by tradition. According to Abrahamson (1977) changing the curriculum in a medical school is like "rearranging the lifeboats on the Titanic " and Lazerus and Harden (1985) say it is easier to move a cemetery than to introduce change into a medical school (Martin 1993). Add this to the Arab concept of knowledge as "a closed circle in which they are trapped" (Kaplan 1993) and one can imagine the problems of medical schools in Arab countries with this combination of cultural and institutional resistance to change (Moustafa 1992).

However, it would appear that this rigidity was not present quite so much in the early days of Islam. Majali (1972) points out that there was an openness to Indian, Persian and Greek culture then, which does not seem evident today. One of the earliest universities, the Al Azhar university founded in Cairo in 970 A.D. (Wilcox 1987) influenced the early European foundations (Hourani et al 1993, Lewis 1995). The Prophet himself, although unable to read, emphasized the importance of learning, encapsulated in a Sura from the Quran in which he compares "the ink of scholars with the blood of the martyrs" (Majali 1972). Some writers quote the Quran when encouraging renewal and indicate that "reason" can be appealed to (Berque 1981, Boutaleb 1988, Ibrahim 1994) and one can see that the principle of innnovation within Islamic tradition is established. It would seem that resistance to change is a traditional rather than a religious phenomenon (Cossali and Robson 1986, Ost 1989).

In order to illustrate the problems of tradition versus innovation a number of issues can be highlighted from various Arab countries. Al Azhar university in Cairo had only religious subjects in its curriculum until 1961 (Wilcox 1987). Perhaps "spiritual imperatives superseded the pursuit of knowledge" (Sharpes 1986). The first secular university in Egypt was established in 1908 (Sanyal et al 1982), but access was the privilege of the few until the early 1960's when education at all levels became open to all without cost (El-Sayyad 1990). This

resulted in an "increase in quantity and decline in quality" of graduates. Massialas and Jarrar (1987) talk about teachers inadequately prepared to create stimulating conditions for learning; factors which have resulted in a" reduction of the respect with which Egyptian graduates are held" (Anabtawi 1986). In 1981 Egypt had a 44% adult literacy rate and 15% attendance in higher education (Sharpes 1986) a situation which is improving slowly (Nassr 1989).

There are many instances of innovation in Saudi Arabia particularly in medical education (Dissanayake et al 1990, El Hazmi et al 1987, El Hazmi and Tekian 1986, El Hazmi and Haque 1985, Oliver 1987, Abdallah 1989). The main universities, King Saud and King Faisal universities, demonstrate change in forms of curriculum appraisal (El Hazmi and Tekian 1986), the use of Objective Structured Practical Exams [OSPE](Dissanayake et al 1990), concerns about mismatch between student and teacher perceptions (El Hazi and Haque 1985) and assessment of academic performance (El Hazmi et al 1987). It would seem that these universities are contributing both to the educational needs of the country of Saudi Arabia and the Muslim world as a whole (Matriano 1981, Jayawickramarajah 1992, Momin 1995).

However, looking beneath the surface it can seen that, although the aim of higher education is said to be "problem solving, conceptual thinking and student-directed study", there is still much emphasis on "memorization and examinations" (Kattan 1992, Sfeir 1991, Fasheh 1991). Plans for change fail because teachers do not understand or accept the underlying principles of change (El Hazmi and Tekian 1986, Sfeir 1991). Student perceptions of the academic environment are that it is impersonal, cold, rigid, with too much emphasis on memorization and no time to study effectively (El Hazmi and Haque 1985). They see their teachers as inflexible and unrealistic. Most of these comments came from male students. The presence of female students at university is a recent innovation itself (El Hazmi et al 1987, Najjar 1992). The field of physiotherapy is influenced by the presence of many foreigners and has adopted the western model of practice (Roberts-Warrior 1995), never- the- less graduates are "trying to apply what [is] learnt in school to real people (Al-Mutairi 1995).

Abdallah (1989) found that students in Saudi Arabia had negative self-images, low positive self worth and lower scores on trustworthiness on the TSQ [Taiser Self Concept Questionnaire] compared to British students. One wonders if these traits are the result of didactic instructional methodology or ethnic characteristics influenced by Arabic society cultural norms (Massialas and Jarrar 1987, Sfeir 1991). According to Simmons et al (1994), 56% of Saudi children attend primary school, of whom 64% are boys, and Oliver (1987) says that approximately 18% of Saudi males and 11% of Saudi females apply for admission to university. He implies that there is a high attrition rate and reports that the Fourth Development Plan for 1985 to 1990 attempted to improve selection procedures in order to reduce attrition (Roberts-Warrior 1995).

Jordan has a population of around 4 million and a 70% literacy rate (Nydall 1987, Jordan Media 1994). One of the main universities, situated in Amman, was founded in 1962, with 167 students (Majali 1972) and has 12,000 students today (Jordan Media 1994). One of the aims of this university was to safeguard students' outlook from indoctrination "alien and antagonistic to Jordanian culture and life". Ten years later measures were taken to bring it into line with both Western universities and the needs of the Jordanian people, but standards have been sacrificed to some extent for the sake of rapidly increasing enrollment. Many other universities have since been established, such as Yarmuk/Irbid. and Mu'tah (Jordan Media 1994). In its development, Jordan keeps one eye looking inward and the other looking outward (Omari et al 1983). In 1986 Salman said that methodology at all levels of education was traditional and that care was taken to consider the context of Islam in relation to all knowledge. Personal conversations with colleagues who are graduates from Amman give the impression of didactic approaches and rigid thinking still being prominent (Sleibi 1994). The case of physiotherapy education demonstrates little innovation, the profession of physiotherapy being held back by, not only by, doctors of physical medicine, but also by the lack of imagination of practising physiotherapists (Johnson 1990, Abadi 1995). However there is some innovation evidenced by expansion into the field of CBR (Hinchcliffe 1995).

Information from Kuwait shows concerns about different issues such as outputs in terms of manpower needs, students performance and career satisfaction of graduates all based on Western models (Nydell 1987, Shah 1990, Bojanczyk and Shah 1988, Onuoha and Abdallah 1991, Al Zaid 1989, Al-Haddad 1995). The Kuwaiti Physical Therapy Association claims that physiotherapy education emphases "clinical evaluation, problem solving and research (KPTA 1995) but one wonders how much is related to Arab culture.

Lebanon, with a 90% literacy rate (Nydall 1987), is more influenced by Western ideas than the rest of the Arab world, but still has forces within its educational system which are resistant to change (Khalaf 1977, Abyad 1992). The American University of Beirut is described as wanting to hold onto as much of the past as possible rather than confronting the future directly (AUB 1979). Physiotherapy education in Lebanon is influenced by the European model. Its curriculum is written in French and the Lebanese Physiotherapy Association see themselves as part of Europe, rather than part of the Middle East (WCPT 1991).

In Iraq, particularly in scientific fields, student failure is a major concern (Frey 1988). Faculty members are trying to use continuous assessment to identify weak students. This weakness is not detailed but may be related to the recent history of the country as secular schools did not begin until the mid 19th century and Turkish was the language of instruction until 1941. In 1961 two universities were open and by 1986 had increased to six for a population of at least 15 million. One could speculate that innovatory practices do not sit well within an authoritarian style of government. Physiotherapy education is at the level of assistant physiotherapy (Al Haj 1995) although evidence of progress is shown by physical medicine doctors becoming interested in CBR (Abadi 1995) and physiotherapy services beginning amongst the Kurdish population in the north of Iraq (Meadows 1995). Egypt, Iraq, Saudi Arabia and Syria are among those Arab countries that have ministries of higher education and some of them also have Supreme University Councils (Bubtana 1992).

Bahrain is an example of a country eager to get into the 20th century in terms of equipment, without necessarily looking at the long term consequences. Chaudrey et al (1989) give information about Bahraini schools purchasing computers without developing a plan for training teachers in their use. However Bahrain is trying to identify the needs and concerns of its people (Kronfol 1983). The University of Gezira in the United Arab Emirates has introduced PHC [Primary Health Care] into the medical school curriculum (Mirghani et al 1988). This is an example of an innovation that has been communicated to all involved as it is reported that "faculty act as good models for students by showing enthusiasm and active involvement". In the Sudan, at the other University of Gezira, the faculty of medicine has adopted a problem - based learning approach (Hamad 85 and Malik 91). Its aim has been to produce doctors who will be community-oriented, life long learners (Jayawickramarajah 1992).

Turkey cannot be described as an Arab country, as it sees itself as part of Europe. Its constitution is secular based, but, as the majority of its people are Muslims, it will be included in this survey. Using the example of nursing education, Robertson et al (1992) show a gap between theory and practice. The first schools of nursing offered diplomas until 1985, when the first degree level course was established in Izmir. The gap between theory and practice may be a function of the change from hospital-based to higher education and consequent pressure on the curriculum to include more theoretical subjects, resulting in less time for application of skills in the clinical field (Brook 1984). Physiotherapy education and practice in Turkey impressed the Vice President of WCPT, despite limited resources being available. Teager (1994) reported that at the Association of Physical Therapy Turkeye's fifth annual conference in 1994, the content and delivery of papers was to a high standard. Also at the 1995 CSP Annual Congress in the UK, three Turkish physiotherapists presented scientific papers (Can 1995).

This survey may have painted an unduly pessimistic picture of Higher Education in the Arab world, but it raises a number of issues that need to be addressed. Innovation cannot be attempted piecemeal without taking into account the

possibility of contradictions and conflicts which result from ethnic influences (Massialas and Jarrar 1987) on values, behaviour and feelings about self and society (Meleis et al 1992). Any change must simultaneously attempt to do justice to the rich heritage of Islamic culture and also introduce elements needed to survive in the modern world (Massialas and Jarrar 1987). Any new ideas can be adapted to the particular needs of a society. A Saudi or Egyptian or Bahrainian model must be developed, not just a superimposing of European models on different cultures (Chaudrey et al 1989, Moghaddam 1993, Dawson 1995). Arab educators need to stop blaming short comings in their educational systems on previous colonization (Sharpes 1986, Rigby 1995) and focus on present Islamic and Eastern Christian traditions (Massialas and Jarrar 1987, Cragg 1991). Emphasis should be placed on the importance of training problem solving, practical people who can think, plan and competently do whatever is necessary (Sharpes 1986, Rigby 1995).

If these factors are taken into account, Professor Boutaleb's comments (1988) that "a comprehensive approach to development and education is largely consonant with the teachings of Islam" will be a viable option.

4.4 INNOVATION IN PALESTINIAN EDUCATION

When one compares Palestinian education with that in surrounding Arab countries, their record is very good (Nakhleh and Zuriek 1980, Johnson 1990). In 1990/91 there were 338,000 children enrolled in schools in Palestine from kindergarten to secondary school (Jillson Bootram 1992), with drop out rates between 5 to 15%. In 1991, 52% of those who took the university entrance exam achieved a passing grade and at least 50% of the 18 to 24 age group were registered in institutions of higher education both inside and outside the country. According to the Society for Austro Arab Relations, there are currently 20% of Palestinians in higher education in the country (SAAR 1993). This percentage includes full time and part time students.

In 1982, Egypt estimated that their total number of university graduates was 487,000 for a population of 46 million (Sanyal et al 1982, Westwood 1984, El Sayyid 1993) and Saudi Arabia predicted that about 18% of males and 12% of females would apply for admission to higher education in 1989/90 (Oliver 1987, Roberts-Warrior 1995). Iraq having a population of at least 15 million has about 1 million entering higher education (Frey 1981, Westwood 1984, Abadi 1995) and in Jordan, with a population of 4 million, about 10% attend university (Majali 1972, Westwood 1984, Jordan Media 1994).

This difference is also seen when one compares Palestinians with Israeli Arabs (Shahak 1975, Nakhleh and Zureik 1980, Habib-Allah 1991). Israel, where 1.83 million [41% of the total Palestinian population] Israeli Arabs live, claim that they have transformed Arab education since 1948 (IMFA 1961, Said 1986). By comparison with Palestinians, Israeli Arabs are still mainly manual workers (Haddad 1980). Figures from 1974 indicate that, whilst 30 out of every 1000 West Bank residents studied in academic institutions, only 3 out of every 1000 Israeli Arabs did so. One might expect that the situation has changed since the 1970s, but Halabi (1985) quotes 2000 Arab students in higher education, a percentage of 4 to 4.5% of the population, despite the fact that Arabs make up

17% of the Israeli population (Benvenisti 1984) and most recent figures indicate that 8.5% of students in higher education are Arabs (Habib Allah 1991, Shakour 1989). Israeli Jews take education very seriously and higher education is greatly prized and very competitive (Iram 1990, Gordon 1988, Polack 1991). Jewish students enter university after their military service (Lieblich and Perlow 1988) and standards are comparable with the U.S.A. (Frey and Fisher 1976). Arab students who have Israeli citizenship have access to higher education (Ashkanasi 1992) but face many cultural and political problems in achieving a place at university (El Asmar 1978, El Razik et al 1977, Graham Brown 1984, Halabi 1985 and Habib Allah 1991).

Thus far comparisons have focussed on numbers of children in school, Tawjihi passes, university entrants and graduates. Consideration of resources, standards and quality of education are a different matter (Fasheh V 1986 Fasheh M 1991, Jillson Bootram 1992, Na'or et al 1990, Khader et al 1987). It is, of course, possible to blame the Occupation and subsequent closure of schools since October 1987 for shortcomings in Palestinian education (Na'or et al 1990, Al Haq 1989, PHRIC 1989, Essoulami 1992, Baramki 1991, SAAR 1993), but in reality one has to go back beyond 1967 to find the answers. One can perhaps attribute lack of resources to the political situation, but not the quality of education (Jillson Bootram 1992, Fasheh 1991). Many Palestinian educators consider that education, from first grade to Tawjihi level, is outmoded and stifling (Anabtawi 1986, Na'or et al 1991). Very little that is exciting or dynamic is being practiced. Prevalent modes of thought are teacher centred, rote learning, oriented to passing the Tawjihi exam without any thought of capturing the imagination of the pupils or being relevant to Palestine (Cossali and Robson 1986, Ed Net 1990 and 1991). The effects of this on higher education are that "students get to the university with poor critical thinking skills" and are "desperately rigid" (Najjar 1992).

The intermittent closure of schools since 1987, although undoubtedly leading to a decline in educational standards, (Ed Net 1991, Heacock 1991) has indirectly enabled Palestinian educators to explore alternative ways to stimulate learning

(Essoulami 1992). Popular education was organized by neighborhood committees, study networks were set up in public buildings and distance learning schemes were developed (WUS 1990). The success of these ventures and the need to solve some of the problems caused by the closures prompted groups of concerned educators to develop and disseminate more creative ideas of teaching and learning, for example the Tamar Institute for Community Education in Jerusalem, Educational Network in Ramallah and the Educational Development Unit in Gaza (Ed Net 1992, Fasheh 1991).

International links were formed with innovative educators in Greece, India, South Africa, USA and UK. These links enabled Palestinian teachers to develop self study materials (Ed Net 1992), stimulate expressive writing amongst young school children (Ed Net 1990), encourage the setting up of teachers unions (Ed Net 1992), discuss the theoretical framework of Palestinian education (Ed Net 1992) and consider active learning processes (Ed Net 1991). These are all worthy developments and indicate a hopeful move towards a more dynamic approach to education, but those who promote these ideas are still very much in the minority. The majority of schools, particularly government schools, are still operating according to the Jordanian or Egyptian systems, both of which are very rigid and traditional (Anabtawi 1986, Salman 1986).

Student attitudes to school and teachers have been radically affected by both the closures themselves and also because of confrontations between the "shabab" and the Israel Defence Force (Ashkenasi 1992). There is no longer a traditional respect for the teacher and students make their own decisions about what happens in class. Over the last five years there has been progressively less credibility given to Tawjihi results because of widespread cheating and intimidation of examiners and invigilators (Ed Net 1991). Linked with these disquieting findings are deteriorating literacy and numeracy standards (Fasheh 1991, Khader et al 1987, Sfeir 1992). Universities are being criticized for not giving sufficient positive lead in innovation, for allowing theory to dominate at the expense of practice (Ed Net 1992) and the Council for Higher Education is blamed for its silence and traditionalism (Ed Net 1992). From this small survey

it can be seen that much still needs to be done in the areas of setting priorities, curricular revision, materials development and teacher training. There are some bright spots in an otherwise dark sky, but as yet there is still no clear illumination.

So much for primary and secondary education, but what about the tertiary sector ? Palestinian higher education in general suffers from the same problem as the schools sector, but as in that context, there are individual departments and faculty members who are committed to change (Sfeir 1992, Fasheh 1991, Zurub 1992). However most recent innovations have been reactive rather than proactive. To be fair, most colleges and universities were closed from 1987 to 1990 and some departments after that time. The circumstances themselves gave opportunities to think in new ways and time to plan for change. One would have expected the Palestinian Council for Higher Education to take a lead in this as it was set up for the purpose of initiating studies and co-ordinating educational activities (Anabtawi 1986), but disappointingly this has not happened. Perhaps the universities have imputed more power to this body than it actually possesses. Its concern is to maintain links with the universities in Jordan and the Union of Arab Universities in order to be acceptable in the Arab world. It is hampered by lack of money and personnel (Peacock 1981, Hunt 1979, Baramki 1991) and possibly restrained by the Palestinian Authority. The CHO has little power to co-ordinate activities and resources between the seven universities in the West Bank and Gaza Strip; consequently they duplicate projects and compete for limited financial and human resources.

In October 1987 when the schools and universities were closed by military order the Academic Councils of the various universities began to discuss ways of circumventing the closure. Bethlehem and Birzeit developed what they called "off campus teaching". Classes were held initially for students who only needed a few courses in order to graduate and gradually the idea spread through the senior, sophomore and junior years (Lowenstein 1987). Classes were held in a variety of places such as mosques, churches and hotels, anywhere that was considered safe. Numbers in each class were kept small and they met once a

week with a teacher. Not all teachers took part in this venture as the Israeli authorities harassed, detained and even imprisoned anyone caught engaging in this illegal activity. Certain courses were not able to operate off campus because of the need for special equipment and laboratories. Teachers met with their class once a week for a two hour period and students were provided with course outlines and study materials in order to work at home between classes (BU Academic Council 1987).

Once the universities re opened in 1990 course formats reverted to previous traditional ways and off campus teaching was viewed as a temporary interlude (Sabella 1991, Dawson 1991). The Gulf War in 1991 also provoked major changes as prolonged curfews prevented teachers and students reaching class (White 1992). Students were scattered all over the West Bank and Gaza Strip during the Christmas break at the end of the Fall Semester and were unable to travel anywhere outside their home town or village for at least three months. Once again universities had to try to circumvent distance and thus a distance learning approach seemed an obvious way to go (Henderson, Sabella, Dawson, Abu Kiteh 1991). University faculty were very reluctant to adopt an approach that handed over responsibility for learning to the students themselves, they felt that this undermined the authority of teachers (BU Faculty Workshop 1991). For this reason Bethlehem University [BU] named its efforts "home study". Workshops were held to enable faculty members develop materials and design packages (Sfeir 1991). Unfortunately as travel restrictions were lifted the idea of distance learning was "swept under the carpet" (Sabella 1991).

Bethlehem University did not revert entirely to the status quo the innovative ideas explored as a result of adverse political situations spun off in the direction of a curriculum review committee (Kieffe 1992). Faculty workshops discussed the goals of a university and the desirable characteristics of a graduate from a Palestinian university. Since then new curricular proposals mushroomed in the fields of science, social work, nursing and education (Zurub 1991, Haj Yehyia 1991, Abraham 1992, Sfeir 1992 and 1993).

In 1993 as a result of the deportation of 400 Muslim Palestinians, many of whom were university teachers, student senates in Palestinian universities called repeatedly for suspension of classes in solidarity with these unfortunate men. Faculty members met to decide how students' political enthusiasm could be channelled into more positive actions that would not interfere with their education (Kieffe 1993). After that time academic life was more settled as universities and colleges awaited the new educational policies of the Palestinian Education Council.

Bethlehem was not alone in these changes. Birzeit developed its own approach to a situation in which part of their student body was unable to attend class (Ed Net 1992). The Tamer Institute for Community Development (Fasheh 1991) and the Community Health Unit (Giacamann et al 1989) were both founded and staffed by Birzeit faculty members. Many other Palestinian universities with more overt Islamic orientations (Anabtawi 1986, Ibrahim 1994) found it harder to adapt to change. Nevertheless they were just as concerned about their students' inability to continue their education and in particular the Islamic University in Gaza founded the Educational Development Unit (Ed Net 1991). According to Anabtawi, in 1986 Palestinian universities were still undistinguished, the programmes offered to students being more suitable to preparing for graduate work in the USA than facing the current problems of Palestinian society. Despite a number of reports suggesting some form of evaluation (Hunt 1979, Peacock 1981, Johnson 1990) very little validation of departments or programmes has been done (Bithell 1993, Yung 1993). Research is still virtually non-existent and curriculum review still in its early days. There are small "air pockets" which are reactive rather than proactive, but mostly life goes on as before.

In order for real change to occur in any meaningful way a Palestinian paradigm needs to be considered rather than continuing to espouse useful parts of different foreign paradigms (Brock and Lawler 1985, Rigby 1995). Somehow it should be possible to blend together old and new in a coherent whole. New priorities, curricula, methods and programmes could address the needs of Palestinian young people and integrate the various strands of Palestinian society during the emergence of the new state (Anabtawi 1986, Eickelman 1988, Nashabi et al 1979, Rigby 1995).

CHAPTER FIVE

ISSUES INVOLVED IN TEACHING PHYSIOTHERAPY

5.1 PHILOSOPHY OF CARE

This subject concerns issues of morality and ethics as well as philosophical ideas themselves. Human beings hold beliefs about how they and other people ought to live, what should or should not be done and what kind of people they should be (Hirst 1974, Seedhouse and Lovett 1992). Ethics can be defined as "the reasoning behind those courses of action that are morally right and to be followed, and those which are morally wrong and should be shunned (Sim 1992). This reasoning process takes into account such issues as beneficence, non-maleficence, autonomy, justice and respect for persons. One function of ethics is to reconcile the individual aims and wills of a community of people (Toulman 1960, MacIntyre 1971, Ackerman and Strong 1989). In former times it was easier to determine what were the various beliefs and attitudes of a group of people practicing the same profession and perhaps also to assume that these stemmed from the same source (Sampson 1982, Barclay 1994). In these days of multicultural societies, members of any particular group do not necessarily share the same motivations or socialization experiences so it is more difficult to draw conclusions about their reasons for behaving in certain ways (Rumbold 1986, Hall and Neitz 1993). This has become an important area to consider in professional education and is even more important within the context of a culture where the values stem from a different source (Mussen and Eisenberg-berg 1977, Boutaleb 1988, Beattie 1993).

Any educational program concerned with services to people must consider the philosophical and ethical issues relative to care (Hathout 1988, Gezairy et al 1989). Best (1978), speaking about physical education, says that many students leave college with their minds full of pre packed ideas that they have never thought through or been encouraged to challenge. He believes that any program that excludes consideration about ethics "opens the door to charlatanism." This becomes extremely important

when a group of people set out to minister to the needs of others (Sim 1992, Ackerman and Strong 1989). Illich et al (1977) accuse the health care professions of making patients passive and dependent, but suggests that these professions could not become dominant unless people had already expressed a lack that could only be met by specialists. Perhaps the situation described by Illich has come about because few health care educators have considered the implications of philosophy for their caring activities (Groom 1992, Davis 1988).

Mussen and Eisenberg-berg (1977) describe caring as "pro social behaviour" which must be learnt. They trace the roots of this group of norms back to early childhood. Children learn the social norms of their society through the family and school and later are expected to exhibit conduct that conforms to those norms. A process is described in which "moral conceptualization" occurs when children learn the concepts of right and wrong, then "moral judgement" when certain behaviour is labelled right or wrong and finally "moral conduct" when behaviour is acquired which conforms to the concepts of right and wrong (Straughan 1989, Hames and Hunt 1986).

An ethic of care has emerged which has as its central concern "guiding and fostering the development and maintenance of relationships (Brabeck 1989, Egan 1990). Noddings (1984) describes "the moral virtue necessary for reducing alienation and guiding moral action" and Condon (1992) argues that caring is concerned ultimately with "our survival as a species rather than isolated individuals". Philosophers "challenge the ground rules that others take for granted" (Barrow 1983). What are the ground rules about caring that we take for granted ? Noddings (1984) would say that health professionals make a "commitment to act on behalf of the cared-for". This commitment is continually being renewed over time as is an interest in the reality of the cared-for. In order to care we need to be clear about what is involved in the concept of care; why caring is good, what activities constitute caring behaviour, who should care and for whom, in what circumstances (Moir 1986, Egan 1990).

Feminist writers have pointed out that caring is more likely to be found amongst women than men (Condon 1992, Gilligan 1987), that caring is still seen as a "womanly art" (Noddings 1984, Parry 1995). The cared for person's own point of

view has added to the picture (Oliver 1992), changing the concept of caring from an active/passive, carer/cared for interchange to an active collaboration between equals. Cousins (1985), in saying that the "secret of the care of the patient is in caring for the patient", highlights the central concept of medicine and health care, the concept of care itself. Davis (1988) asks what behaviours enhance the quality of the therapeutic moment and what behaviours detract from that moment. Behaviour needs to be set in the total context of the philosophy of care and this concept has then to be translated into action by practitioners who not only do care but also know why they care and why certain behaviour denotes care (Colbeck 1984, Hames and Hunt 1986, Egan 1990).

Care can be said to involve a relationship between a recipient and a provider, with a third party, an observer, involved in determining standards of care (Dunkel - Schatter et al 1992). However the terms recipient and provider do not mean that the recipient is passive and the provider is active (Oliver 1992). Combs et al (1977) see helping relationships as a partnership between the helper and the helped. The purpose of this relationship is to stimulate and encourage growth. The effectiveness is seen from the point of "both recipient and provider" (Dunkel Schatter et al 1992). These researchers also look at intent and motivation of the care giver. The best predictor of caring behaviour is whether the provider intends to perform the behaviour. Motives of the provider, whether altruistic or egoistic, determine the effectiveness of the care provided (Combs et al 1977, Egan 1990, Hames and Hunt 1986). Quality becomes an issue as any profession is developing (Harvey and Green 1993, Nightingale and O'Neil 1994) and quality assurance has become a "buzz" word in health care over the last decade (Samuels 1987, Wright and Whittington 1992), but the identity of the definers of quality of care and the basis of their definitions are not always clear. Previous generations of health professions made their own judgements on quality based on information and standards available at that time (Olsen 1993, Goodlad 1984) but as more information has been made available to lay people, recipients of care and their families have decided on standards of care (Schulz et al 1992, Oliver 1992) and some groups prefer to care for each other on a reciprocal basis without the intervention of professional carers (Medvene 1992, Hames and Hunt 1986).

The health care professions arose out of Western traditions based on Judeo-Christian ethics influenced by humanistic ideas (Ackerman and Strong 1989, Seedhouse and Lovett 1992, Flusser 1989, Payer 1990). One might ask if this means that health carers from other cultures following other religions cannot practice their profession fully (Sampson 1982, Boutaleb 1988, Friedman 1994)? Modern Western ideas have been taken on by other cultures without consideration of how these ideas will marry with their own traditions and values (Moghaddam 1993). It may be that Western health care cannot fit with Hinduism, Buddhism or Islam (Kaptchuk and Croucher 1986) ? Can health care be practiced in the same way in India, Nepal or Iran as is practiced in Europe or North America (Sampson 1982)? It cannot be assumed that Hindus, Buddhists or Muslims look at the concept of care in the same way that Western Judeo-Christians do, but in all these cultures there is a valid philosophy of care (Boutaleb 1988, Griswold 1994). The particular cultural philosophy should be the basis for the practice of health care in that culture (Rumbold 1986, Beattie 1993). It may be different to Western health care, but it will surely be more appropriate to the people in that culture who are the givers and recipients of care. It is beyond the scope of this study to discuss health care in the context of either Hinduism or Buddhism but it is appropriate to consider Islam as a major factor in Palestinian society (Pryce-Jones 1989, Said 1993, Ruthven 1991).

The Quran was written in the Middle East at a later date than the Jewish Torah and Christian New Testament and there are many similarities between the three holy books particularly in relation to caring for the sick (Arberry 1983, Ruthven 1991). Some of the central values of the three religions are similar although different external influences have led to differences in interpretation of those central values (Arberry 1983, Cragg 1991, Flusser 1989). Western Judaism and Western Christianity have been subject to the influence of the humanistic, scientific revolution (Caws and Prendergast 1994). Islam has not; it has not tried to modernize itself in order to become comprehensible to a modern industrial society, it is practiced mainly within the context of rural societies whose people still understand the meanings of its sayings (Hartley 1992, Cragg 1991).

Some of the concepts of health care are still held in common between the three monotheistic religions, but Islam is closer to its Middle Eastern origins. Concepts which to a Westerner are an essential part of health care such as uncovering the part to be treated in order to see the exact place of the problem, are foreign to Arabic, Islamic-influenced society (Hollis and Yung 1985, Hollis 1987, Davis 1991, Khaddash 1992). Issues such as these have to be resolved if health carers in Islamic societies want to practice to international standards; standards which are determined at present by the West and based on Western values (Gwyer et al 1991, Khahl 1993).

5.2 LANGUAGE MEDIUM OF INSTRUCTION

Language is a social phenomenon (Mead 1930). It is a window through which to look at people's attitudes and life patterns (Gusfield 1981). Acts of speaking and listening enable us to make sense of the world (Spindler and Spindler 1987, Brislin and Yoshida 1994) and explain social and cultural meanings. More recent research into language describes it as the medium that shapes our thoughts and perceptions (Condon and Yousef 1975, Seidl 1990, Dubin and Olshtien 1981, Woodward 1991).

Human language has been described as "little better than the croak and cackle of fowl and geese" (Pei 1984). On the other hand particular combinations of words have expressed the deepest thoughts of man in moving and majestic ways (Donohoe and Wessels 1980, Nias 1993). During communication within the same culture, messages can be misunderstood. Much more misunderstanding is possible between cultures when messages are encoded in one context and decoded in another (Smith 1966, Brislin and Yoshida 1994). It is very easy to "trip up over invisible cultural ropes" in such a situation unless one is familiar with the culture of the "stranger" (Gudykunst and Kim 1984, Griswold 1994, Brislin and Yoshida 1994). Encoding and decoding are influenced by conceptual filters which are based on things taken for granted, what ends people strive towards and what are the acceptable means for achieving those ends (Hall and Neitz 1993, Beattie 1993).

The origins of different languages in folk history stem from biblical notions relative to the Tower of Babel in Genesis chapter eleven when God said, "Come let us go down and confuse their language so they will not understand each other." Linguistically the origin of human speech is unknown (Pei 1984, Caws and Prendergast 1994). A number of theories hold that language imitates sounds, that there is a correlation between sound and meanings and that language imitates bodily movements (Donohoe and Wessels 1980, Woodward 1991). Linguists put forward the "tree stem" theory with each new language seen as a branch of the main trunk, or the wave theory in which new languages spread like ripples on a lake. Sumerian Akkadian, Egyptian and Chinese are the earliest recorded languages, spoken between

4000 to 2000 BC in the Middle and Far East. Indo-European from which Sanskrit, Greek and Latin came dates from 2000 to 500 BC is thought to originate in Iran and the shores of the Baltic (Pei 1984, Caws and Prendergast 1994). The Semitic languages of Hebrew, Aramaic or Syriac and Arabic originate from Akkadian and English from the Indo-European branches.

Arabic as a language has changed far less than English (Hitti 1970, Cragg 1991). The written Arabic accepted as standard is that of seventh century Arabia (Nydall 1987) and is based on the language contained in the Quran, this book being used as the textbook for teaching classical Arabic (BU Catalogue 1993). Spoken Arabic has many dialects with similar sentence construction, but different words according to the local context. Arabs may not always understand each other verbally, but all are able to communicate in writing and pray the words of the Quran (Arberry 1983, Nydall 1987). Pei (1984) argues that the agricultural and sedentary pursuits of a language group tend to give stability to the language they speak and that changes come from warlike and nomadic lifestyles. There is no absence of "warlike" behaviour in the Middle East, but confrontations have usually occurred between Semitic language groups. Arab speakers contact with Western civilizations generally ceased between the time of the Crusades and the Muslim conquest of Spain, and western colonization during this century (Prothro and Diab 1974, Westwood 1984, Nydall 1987). Arabic has influenced the European languages since the Middle Ages through the work of physicians such as Avicenna [Ibn Senna] and even today names such as Gibralter have an Arabic root, Jabal Tarik, which means Tarik's mountain (Hartley 1992, Nassr 1989).

The English language has been influenced by a variety of other languages, Latin, Greek, Celt, Scandinavian, German and French (Sapir 1958, Cole 1971, Caws and Prendergast 1994). Even today it continues to change due to the influence of non-native speakers from a great variety of countries (Strevens 1987 and Brit.Coun. 1995). Both Arabic and English can be viewed as international languages as demonstrated by the fact that they are among the official languages used by the United Nations General Assembly (Dawson 1992). In times past Arabic was an international language of education and many early medical books were translated

from Arabic and then used in early European medical schools (Emmerton 1991, Hartley 1992). Today Arabic is not seen as an international language except in the Arab world itself where it is read and written by between 90 to 140 million people (Laffin 1975, Pei 1984 and Brit.Coun. 1995).

English has become the prominent international language of education, research and business (Strevens 1987, Dubin and Olshtien 1981, Brit.Coun. 1995). Crystal (1985) estimated that were are 1 to 2 billion users of English out of a world population of 3 billion. This figure has since risen to over 5 billion. Of this number, only 350 million are native speakers (Nydall 1987), meaning that the number of non-native speakers now exceeds the number of native speakers (Strevens 1987). English is the most widely used second language (Pei 1984) and the most followed foreign language in Higher Education (Brit.Coun.1995). Three quarters of the world's mail, 50% of newspapers and scientific and technical journals and three fifths of radio stations deal in English; modern English can be equated with the Latin of the Roman Empire.

Of the 90 Palestinian teachers at Bethlehem University, 60 of them did their post-graduate study in English speaking universities and many of them having learnt in English prefer to teach in English (Boyadjian 1993, Condon and Yousef 1975). Some might say that they have been subjected to a form of cultural and linguistic imperialism (Sapir 1958, Brit.Coun.1995, Brislin and Yoshida 1994) because on learning a language one takes on the world view of that particular language group (Brislin 1985, Condon and Yousef 1975).

As a result of the influence of Arabic speakers on early European university education, there are many Arabic words in English such as algebra, alchemy, alcohol, chemistry, zero, zenith, nadir etc. Also many English words are a corruption of Arabic such as magazine [al makhasan], ballyhoo [bi Allahu = by Allah it is], so long [salaam]. There are also a number of slang words used in English which were picked up by British service men stationed in the Middle East during the two world wars, such as bint [girl] and "take a shufty" [from the Arabic word "shuft" to see] (Nassr 1989, Younis 1992).

Assuming that language is an indispensable vehicle for human knowledge, the basic foundation of human co-operation, the conveyor, interpreter and shaper of mans social doings; what happens to students who study in a second language? (Melody et al 1981, Smith 1966, Suleiman 1973, Wolfe and Goulding 1973, Dubin and Olshtien 1981, Brit.Coun.1995). How do they reintegrate what they learn into their own culture ? Language is the medium whereby an individual is educated, that process of training him for his environment (Pei 1984, Brit.Coun. 1995). If an individual is educated in a second language can he relate his training to the environment of his first language ? Some bilingual people are known to prefer to talk about different subjects in different languages (Condon and Yousef 1975, Seidl 1990). A number of issues related to the use of language are important to consider in relation to culture such as phonology, morphology, syntax and semantics which usually differ from language to language making understanding difficult (Arberry 1983, Seidl 1990) .

Differences in syntax , the arrangement of words themselves, can be a problem. English is written from left to right and Arabic from right to left. If language relates to the mental processes of an individual how does this change of direction of writing affect the student ? Cummins (1977) believes that although bilingualism can have a negative effect on cognitive growth, once a threshold of competence is achieved in both languages there is a positive effect. Peal and Lambert (1962) argue that bilinguals achieve a greater mental flexibility and Torrance (1970) speaks of higher levels of creative and divergent thinking when balanced proficient levels of language mastery is achieved. All these authors seem to say that, although it is difficult for Arabic speakers to learn English initially, provided they attain good levels of competence in both languages, their bilingualism will help their mental activity (Seidl 1990, Dubin and Olshtien 1981, Woodward 1991).

Semantics, the avowed purpose of the language, is another issue to consider. These differences are not so easily solved. Basic human considerations, such as categorization of emotion, can vary from culture to culture (Russell 1991), often there are no equivalent words in different languages. The author has spent time explaining the difference between value laden words such as "disabled" and "handicapped" only to find that in Arabic there is just one word, "mawakkim,"to express both ideas.

Teaching and learning in English is seen as a status symbol (Strevens 1987, Boyadjian 1993) and has strong political significance (Fradd 1982, Brit.Coun.1995). Nevertheless in certain parts of the world there is a tension between the desire to participate in the international educational or business community and the knowledge that English has been the language of exploitation and colonialism. National and ethnic movements, in particular, are adamant, that all human activity be carried out in their native language. Ethnocentrism, the concept of viewing the rest of the world from the standpoint of one's own culture, is decried as paternalistic and colonial (Marten and Henry 1989, Kaplan 1993). Cultural relativity, looking at any society through the mores of that society, is difficult but necessary for co-operation across cultures. Ethnoscience, which considers knowledge within its cultural context (Vlaardingerboek 1990 and Moghaddam 1986), involves taking into consideration the folk ideas and religious views of any society. During the last 20 years when Western scientific concepts have taken hold in many Arab countries, understanding and acceptance of traditional healing has been rejected causing a division between the educated and uneducated sections of the community (Khahl 1993). Teaching concepts in English can unconsciously express feelings that "West is best" (Soboh 1992). Student responses to this can either be acceptance of the new ideas and subsequent dislocation from their own culture or rejection of the specific concepts along with a rejection of Western culture. Somewhere there is a middle position in which ideas, although taught in English, are expressed and translated into Arabic society by the teacher and students together to develop a concept which is ethnically acceptable and practically implementable (Brit Coun. 1995).

5.3 SEXUAL TABOOS REGARDING THE BODY

The modern practice of physiotherapy involves a relatively intimate relationship between therapist and patient (Gartland 1984, Egan 1990). To be successful this relationship requires a certain amount of mutual trust. In Western society physical touch is a tangible expression of such trust (Janzen et al 1969, Pratt and Mason 1981, Davis 1991, Kaslow 1971, Ojanlatva 1994). One definition of empathy is "holding out of the hand" (Combs et al 1977). Olsen (1993) in discussing "the essence of nursing" comments that it is not only the execution of tasks or dexterity of the performer but the "creative imagination, the sensitive spirit and intelligent understanding " behind the techniques which embody caring. One does not have to make too big a jump to see that these characteristics can best be observed by the patient in the quality of touch offered by the carer (Ojanlatra 1994).

Acceptable frequency and body location of this touch varies between societies, social classes and sexes (Lauranz and Shapira 1974, Beattie 1993). Increasing liberation of sexual mores amongst younger adults has led to more flexible attitudes to touching between the sexes or between those of the same sex, but attitudes amongst older people to touching are more traditional (Sampson 1982, Barclay 1994).

The use of the majority of physiotherapy techniques themselves require that they be performed by human hands on human skin (Hollis 1987, Low and Reed 1990). Massage is the systemic and scientific manipulation of the soft tissues of the body by the use of the hands (Tappen 1986, Hollis 1987, Davis 1991 Roberts-Warrior 1995). This is difficult to perform through the medium of clothes (Maxwell Hudson 1988).

Exercise specific to certain muscles requires that the therapist and patient both see the contraction in order to decide that movement is occurring at the appropriate point (Hollis 1987). Abnormalities of body posture cannot be detected with a person's outer clothes in situ. Certain parts of the body such as shoulder and pelvic levels and curvatures of the spine can only be observed if the patient removes his outer clothing (Hollis and Yung 1985, Roberts-Warrior 1995). Most electrotherapy modalities are

applied either to the skin or in close proximity to skin. In either situation it is crucial to observe the state of the skin during application (Forster and Palestanga 1985, Low and Reid 1991). It can be said that both the nature of the therapeutic relationship itself and the content of the therapeutic transaction are concerned with touch (Gibrum and Buckhodt 1982, Ojanlatva 1994). Although each therapist and patient define the boundaries of their specific therapeutic contact, in general the guidelines for acceptability of such contact are based on the social mores of the communities in which the therapy takes place (Lauranz and Shapira 1974, Payton 1986, Hosler 1983, Pratt and Mason 1981, Barclay 1994).

The present day reputation of physiotherapy in the Western world is based on scientific respectability, but it has not always been so (Joward 1966, Turnbull 19941). The earliest physiotherapy techniques originated in China and India and "rubbing" flourished in Greece under the fathers of Western medicine (Tappan 1986). The acceptability of massage as a serious healing remedy varied according to the social and sexual climate at different times in history (Maxwell Hudson 1988, Barclay 1994). In more liberated times massage has been associated with joy and self-discovery, but in more conservative times with repression (Hosler 1983, Davis 1991). This modality has followed two separate paths, that of healing in cases of pathology and that of pleasure and enjoyment. These two pathways have impinged upon each other sometimes to the detriment of the healing qualities of massage (Wareham 1955, Pratt and Mason 1981, Davis 1991). At certain times in history massage has become a convenient cover for prostitution (Barclay 1994). Tappan (1986) uses the word "reputable" regarding institutes of massage and medical gymnastics implying that there were also disreputable institutes offering the same modalities. Today institutes training and offering physiotherapy are carefully controlled and monitored by regulatory bodies and professional ethics are practiced to ensure that the reputable image of physiotherapy has pre-eminence in the minds of the patients and practitioners (WCPT 1989, Bottely 1993). Strong sanctions are placed on practitioners who do not maintain a strict code of behaviour to safe guard the reputation of the profession and also the safety of the patient (Barclay 1994).

Judeo-Christian religious views have detracted from the value of the body and neglected concerns about the body (Flusser 1989). Different words in both Hebrew and Greek have been translated "body" in some of our English versions of the Bible (Young 1991). Some interpretations of these words involve shame, corruption and weakness leading potentially to sin (Cruden 1960). Nakedness or uncovering the body is described as sinful, unlawful and shameful, so it is not surprising that the Council of Trent in 1563 denounced manipulation as wrong (Kaptchuck and Croucher 1986). Islam has many things in common with Judeo-Christianity, including attitudes to the body. Covering and seclusion of women is a post-Islamic custom for which there is no clear Quranic sanction (Pryce Jones 1989, Cossali and Robson 1986, Haq 1994). Even today in Western countries some religious groups are sensitive about exposing parts of the body (Sampson 982, Helman 1984, Davis 1991), particularly in the presence of someone of the opposite sex outside the immediate family circle (El Saadawi 1988, Najjar 1992).

Present day Arab culture has its origins in Islam and early Eastern Christianity, both of which preclude exposing the body. Islam is rooted in the culture of a particular time, that of 7th century Arabia (Ruthven 1991, Gezairy et al 1989). In many Islamic countries there is segregation of the sexes in childhood (Pryce Jones 1989). The purpose of custom is the maintenance of the family group and its honor, a curbs to indecency and obscenity and evidence of chastity (Ruthven 1991). Islamic dress for women is a way of securing relief from the unwanted attentions of men who see Western dress as "a harlots uniform" (Cossali and Robson 86, Jeetun 1992). Palestinian society has always had a more liberalized approach to covering the body, but the upsurge of Arab nationalism has recently been associated with a rise in Islamic fundamentalism and its accompanying dress codes (Najjar 1992).

The Quran contains guidelines to the limits of permissible behavior, but human interpretation sometimes renders these guidelines more rigid (Ruthven 1991 Cossali and Robson 1986, Pryce-Jones 1989). Eastern Christians have more liberal views than Muslims, but are much more modest that Western Christians. Some of this is due to these being amongst some of the earliest churches and thus closer to New Testament times. Also there are the influences imposed upon these church communities by the

fact of being a minority group within the Islam - dominated Ottoman empire for hundreds of years (Cragg 1991, Shakour 1989, Ateek 1989).

How do these cultural mores about touching and uncovering the body affect the therapist and the patient in the Middle East ? The therapist him/herself may be uncomfortable relating to patients of the opposite sex on the basis of physical touch (Khaddash 1992, Younis 1995, Roberts-Warrior 1995). Perhaps this is why Arab physiotherapists make such use of electrotherapy machinery rather than massage or exercise (Bithell and Lumley 1987, Martin 1988). A therapist may prefer not to touch a patient directly or may handle the patient roughly because of embarrassment and also from lack of bodily contact in other social relationships with the opposite sex. Additionally the prospect of seeing parts of the body exposed can be off putting. Perhaps this is why many physiotherapist touch the patients' clothes rather than their skin. Despite all these suggestions there is a vigorous profession of traditional healers many of whom are men (Soboh 1992). They carry out massage and cupping, both of which require direct skin contact and they treat both men and women (Khahl 1979).

Patients themselves may have certain preferences for treatment by a same sex therapist (Khaddash 1992). A pilot study in a Jerusalem hospital found that male patients don't object to a female therapist, but female patients object to treatment from a male therapist and many clinics have separate treatment times for the sexes with same sex therapists available at the appropriate times (Younis 1992).

Does this mean that students need to learn only to treat patients of the same sex ? Some aspects of physiotherapy, such as massage, are almost impossible to practice on a peer of the opposite sex (Nassr 1989, Younis 1992). In certain situations where a same sex therapist is not available, the patient's pain many override their sense of decorum and allow them to accept treatment from an opposite sex therapist whilst still preferring to be treated by a therapist of their own sex (Janzen et al 1969, Khaddash 1992, Soboh 1992). The age of the therapist makes a difference; a young man may be unable to treat a women of his own age especially if she is unmarried (Sampson 1982, Khaddash 1992), and vice versa, but a young therapist will find it easier to be accepted by an older patient of the opposite sex (Davis 1988).

These taboos about touching and uncovering the body influence the teaching of practical subjects. The custom in physiotherapy schools in western countries has been to practice physiotherapy skills on ones' peers, same and opposite sex (Dawson 1991). This is not acceptable in Arab society and two single sex practical classes have to be taught, each with a teacher of the same sex as the students (Dawson 1991). Hence it can be seen that the cultural context of an educational setting, has an important bearing on both teaching and practice (Gale et al 1981, Simister 1994).

5.4 PROBLEM SOLVING

In general terms a problem can be defined as "a stimulus situation for which an organism does not have a ready solution or "an internal and sequential process that includes cognitive, affective and psychomotor behaviours" (May and Newman 1980). Problem solving is used in every part of life (Barrows and Tamblyn 1980, Barrows 1990). Early ideas on problem solving saw it as a general trait (McGuire 1980) and psychologists thought that problem solving skills learnt in one area would transfer to other aspects of life. More recent ideas say that, because a person is able to follow the problem solving process in one situation does not necessarily mean that they will be good problem solvers in a different context (Bacchus 1988, Barrows 1990, Bhattachariji et al 1990). Dixon et al (1991) demonstrated that poor problem solvers had high stress levels, were less hopeful and had higher suicidal intent. They postulated that problem solving in general terms is an ability to adapt to life's demands.

Problems for a therapist and patient/client can be anything that has to be overcome or adapted in relation to impairment or disability (May & Newman 1980, Titchen and Coles 1991). Solving such problems is at the heart of effective therapy and is a joint process between therapist and patient. The process involved in problem solving has a number of stages (Newman Henry 1982). The problem is recognized/presented, defined and analyzed. Data is collected and a solution is developed and implemented. The final step involves outcome evaluation (Bliss 1976, Holmboe 1991). Skills are necessary to work through this problem solving process. Whether one is the patient or the therapist one needs to learn how to explore and clarify the problem, make goals based on understanding of the problem and act to accomplish these goals (Egan 1990).

Learning how to solve problems can be described as problem-based learning [PBL], (Neame 1981, Barrows and Tamblyn 1980, Schmidt and De Volder 1984, Morris 1993). In this process the problem is presented first in the learning sequence and the teacher facilitates the students clinical reasoning and the acquisition of the necessary

skills and information to solve the problem. Trigger materials are introduced in sequence in order to allow the student to work through the problem solving sequence. According to Neame (1981), trigger materials are designed to open a conceptual door for the student to step through. The learning experience gained by "stepping through the doorway" needs to be made sense of and related to previous learning (Higgs 1992).

Problem solving has been developed in Western societies and universities (Hanney 1980, Bobula and Gehlbach 1982, Newble et al 1978, Titchen and Coles 1991), the pioneers in medical education being McMaster University in Canada (Schmidt and De Volder 1984). The prime mover at McMaster was Howard Barrows who was concerned that students acquired substantial knowledge which they were unable to translate into practice in a patient situation. Miller (1967) summed up the reasons for the adoption of problem-based learning when he said that the best performance is based on sound information but the provision or acquisition of sound information is no assurance that good performance will follow (Barrows 1990).

PBL has also been tried in less developed countries (Bhattcharji et al 1990, Shahabunden 1987, Szeberenyi and Tigyi 1987), where the dominant culture is different to that in the west. Where it has been tried there has been positive feedback from both teachers and students (Onocha and Okala 1987), but in many countries where the dominant culture is conservative there is often great resistance to change. This is particularly so in Arab countries (Hamady 1960, Rizk 1953, Newman 1988, Dawson 1995).

The rest of this section will discuss the difficulties and possibilities for problem - based learning in Arab society. Sura Liv 49 in the Quran says that "Men have no control over their destinies." This statement could be interpreted as anti problem solving in that without control, there is no permission or ability to solve problems (Hamady 1960, Nydall 1987). Berque (1981) states that the oriental [person] prefers words to things and speech to action, because he has not mastered the world of things. It has been said that to a westerner nature rules, but can be mastered, to an oriental nature rules (Said 1978 and 1993). These two quotations, give one the feeling

that "orientals" or people from the Middle East believe that certain things cannot be mastered, problems cannot be solved. Laffin (1975) argues that an Arab is unwilling or unable to synthesize, he cannot solve his own problems (Rizk 1953, Westwood 1984, Toubia 1988), think for himself or use his initiative. He is also disinclined to accept new ideas and has no ability to generalize or grasp the whole of any concept (Rizk 1953, Nydall 1987, Hamada 1990).

These authors seem to say that the Arab mind is incapable of responding to problem-based learning, but perhaps it is worth recalling what has already been said about Arabic education in this connection. Lerner (1964) said that "Arab intellect has been obstructed by a system which gives no credit for original thought and has no tradition of research". He looks forward to a time when "stimulating discussion occurs between teacher and student based on reason rather that repetition". He, and other writers, argue that it is not Arab intellect which prevents problem solving, but Arab education itself (Abdulhadi 1992, Anabtawi 1986).

One facet of problem solving, which is a barrier to problem-based learning, is the element of uncertainty and the possibility of not finding the right answer immediately and being wrong. It is difficult for an Arab to accept criticism calmly (Hamady 1960, Hamada 1990), to be objective. His reaction to failure is offensive rather than defensive, he cannot admit failure and looks for someone else to blame (Rizk 1953, Chaudrey et al 1989, Di Giovanni 1993). The need to find the right answer first time poses difficulties for learning methods that tests out many possibilities before finding the best fit (Richards et al 1988).

The language medium itself may offer obstacle or assistance in problem solving. Berque (1981) asks "Is Arabic suited to logical thinking ?" It is flowery and powerful, but the thoughts expressed are often vague and difficult to pin down. The impact of words and forms are more important than the transmission of ideas (Kaplan 93). Thoughts are fitted to words rather than words to thoughts. These writers paint a pessimistic picture, but also say that Arabs are "a vigorous and intelligent race" (Hamada 1990, Beattie 1993).

The Quran says: "You [Arabs] are the noblest nation that has ever been raised up for mankind" [Sura iii The Imams]. Past history of the Arab people shows that they were leaders in many academic fields so it ought to be possible for problem based learning to occur today. Present day practices also give hope that problem solving occurs. Neumann and Neumann (1982) report that the Suez Canal University in Egypt were able to break free of traditional Arabic medical training; their programme evaluation found that students considered themselves "free and outspoken, able to think critically, adept in problem solving and skilled in self learning". Despite the evidence against Arab people solving problems, there is much evidence that they are capable and eager to solve problems if such solutions are set within the context of Arabic culture and not as alien Western practices (Lerner 1964, Khahl 1979, Vlaadingerboek 1990, Findlay 1994).

5.5 INDEPENDENT THINKING

According to Jarvis (1983), any professional person needs to develop critical awareness in all aspects of their practice and the ability to assess what is good or bad practice (Barrows 1990). This process is not only related to the period of professional education prior to beginning to function as a practitioner, but is a lifelong phenomenon (Lloyd 1992, Grant 1992) for any professional who expects to remain competent to practice (Caney 1983). Rogers (1982) believes that the goal of democratic education is to assist students to become individuals who are able to take action, capable of choice and critical of themselves. This is seen as real learning (Dewey 1910), what Entwistle (1981) would call "deep" learning rather than "superficial" learning. Implications for teachers are that their role changes from instructor to facilitator (Titchen and Coles 1991, Nias 1993). Classroom organization may change from one person [the teacher] being in charge, acting as the gatekeeper of knowledge for a group [students] to one in which, whilst the teacher is present, he may not take a prominent role once the ground rules are laid (Bligh 1986, Rudduck 1978, Nias 1993). In fact the setting of a classroom may not be appropriate at all (De Bono 1993, Bligh 1986, Nahl-Jakobovits and Jacobovits 1990).

Perry (1981) says that students who enter college need to change their behaviour from dualism to committed relativism. In school teachers are the authority figures, there are always correct answers and the locus of control is external. Intellectual growth demands a change to a situation in which there are no right answers only opinions, when one learns to develop one's own evaluation of situations. Committed relativists develop their own criteria for judgement, they can accept and evaluate different points of view and the locus of control is internal. Kurfiss (1983) estimates that 60% of college freshmen are dualists and many of that number remain so until graduation. Chaffee (1985) talks about critical thinking defined as: an active independent means of examining information, supporting one's ideas with evidence and discussing ideas in an organized fashion. Physiotherapy students are being educated to become independent practitioners (Caney 1983), they need to develop critical thinking and

become committed relativists by the time they graduate (Kowczek Hagerty 1992, Nightingale and O'Neil 1994).

In many parts of the world different strategies are being adopted to assist physiotherapy students learn the skills and attitudes necessary to enable them to take their place in the rehabilitation team (Christie 1990, Bate 1988, Solomon 1992, Brockie 1986, Beenbakker 1987). Various suggestions are made in the literature for promoting independent thinking (Onocha and Akawi 1987, Schwartz 1981, Stone 1990, Stone et al 1991, Wood 1992, Meyers 1988). Brockie (1986) advocates the promotion of good study skills as part of the orientation into higher education. He describes freshman students as having led a sheltered life "in which they were spoon fed information.." He believes that students must have support removed and be encouraged to organize and manage themselves and their learning.

Peng (1988) describes the beginning of self-learning at the Sun Yat Sen University in China and the reduction of didactic lecture hours achieved without reduction of standards. Christie (1990) puts forward the use of interactivity with videodiscs to allow students freedom to make mistakes and to study alone or in a group. Bate (1988) and Solomon (1992) describe the use of learning contracts to develop skills in adaptive, independent learning, increase motivation and develop skills for lifelong learning. Nahl-Jacobovits and Jacobovits (1990) explain the place of libraries in the development of independent thinking. They discuss the advantages of learning to search for information, improved hand-eye co-ordination and perseverance. All these strategies encourage critical thinking and prepare the way for independent practice. Kolb's (1981) theory of experiential learning marries these two ideas together by using real-world experiences which allow students to make deductions from concrete examples.

In order to become, and remain, competent practitioners, graduates need to learn the skills associated with life long learning (Grant 1992, Cerna 1987, Ayed 1991). Dubin (1972) proposed his theory of the half life of professional competence as "the time after graduation when...practicing professionals have become roughly half as competent as they were". The time period for this half life is five years for doctors

and three years for other health professionals (Teager 1987). As has been said elsewhere, Arabic education is presently in a cultural and academic strait jacket (Featherstone 1992, Kaplan 1993), but things have not always been so. Collins (1992) describes Baghdad as an early centre of Islamic creativity between 800 to 1000 AD. During this time Arabic teachers led the way in academic matters in Europe as well as the Middle East. Tragically, formalism set in as "texts were memorized and covered with commentaries, refinements became too narrow and trivial".

Academicization is a two -edged sword with which routines can take over leading to stagnation. Today most Arab students remain dualists (Perry 1981, Dawson 1995) from the beginning to the end of their academic career. Teaching methods in higher education are no different to those employed in primary and secondary school and teachers seem to find it difficult to deal with relativists or committed relativists, despite official statements about progressive teaching. However, as has already been said, this does not mean that Palestinian students are not capable of independent thinking. This type of thinking is necessary for the development of culturally relevant infrastructures for Palestinian society (Anabtawi 1986, Said 1993).

CHAPTER SIX

REVIEW OF CURRICULA

6.1 RELEVANCE OF CURRICULA

Bernstein (1973) suggests that a curriculum reflects the values society places on a particular educational practice. He defines society as "the group that has most power within a community". At any one time those with the power in a society may be politicians, educators, employers or parents; most of the time all these groups want to add their perspective to the curriculum debate (King 1973, Kogan 1973, Fish et al 1993, Busuttil 1991 and 1993). Horton and Raggitt (1982) see relevance as a purely contemporary issue but the "saber toothed curriculum" (Benjamin 1976) implies that relevance has always been an issue in curriculum planning and design (Hargreaves 1989, Barrow 1983, Bowerbank 1995). Dutch (1976) describes relevance as logic, contextuality, appositeness, applicability and appropriateness". A curriculum should be related to the society in which it is set. Education can have different purposes according to the prevailing philosophy; it can fit a person for his profession (Jarvis 1983), for their position in society (Bantock 1975, White 1973, Abdulhadi 1992) or, in its most liberal sense, introduce students to critical thinking or mastery of a body of knowledge (Hirst 1974, Maclure and Davies 1991, Barrows 1990).

What exactly is meant by the word curriculum ? Is it the syllabus of study followed by students (Skillbeck 1975) or does it include all the activities taking place in an educational institution (Bell and Pitt 1976, Pring 1976, Harvey and Green 1993) ? Hirst (1974) sees the curriculum as a programme of activities designed to enable a student to attain certain specific ends. For Ulich (1967) the curriculum represents an attempt to " provide a coherent sequence of impressions, exercises and cognitive subjects to enable students to participate consciously, conscientiously and productively in the cultural development of the nation and mankind as a whole". All these statements make assumptions about values and norms (Hallak 1990), who decides what is a coherent sequence, an appropriate programme (Scrimshaw 1976), how is

such a sequence or programme provided ? The answers to these questions bring us back full circle to who holds the power to make decisions and each society struggles with these problems trying to provide a curriculum which is pertinent and applicable to their particular way of life (WHO 1981, 1988 and 1991, Goodlad and Pippard 1982). It is against this background of general curriculum relevance that professional physiotherapy curricula can be viewed (Goodlad et al 1984). Physiotherapy educational programmes can be based in "academic health centres, liberal arts colleges, universities and medical schools" (Yarborough 1983 and 1984). Any of these environments can foster professional development. The American Physical Therapy Association [APTA] states its curriculum rationale as follows:

> "the knowledge, learning, society and ... persons that the curriculum is being planned for and their developmental status; and the process by which curricula are developed and implemented" (page number 2)

They describe the process of curriculum development as;

> "materials and procedures are developed, they are tried out and their results are appraised, their inadequacies identified, suggested improvements indicated. There is replanning, redevelopment and then reappraisal: and in this kind of continuing cycle it is possible for the curriculum to be continuously improved" (Yarborough 1984 page number 3).

An updated document (APTA 1990) adds that "the curriculum should be responsive to the changing roles and responsibilities of the physical therapist practitioner and the dynamic nature of the profession". The APTA as the largest member of the World Confederation of Physical Therapy [WCPT] and, as such, has a significant influence on the rest of the membership, especially developing countries (O'Hare 1992). The two extracts quoted from the APTA literature seem broad enough for individual countries to accept the principles advocated and translate them into practice appropriately for their own situations. In reality what happens is that the American model is accepted in total without much thought given to applicability (Dawson 1987, APTA 1990).

In Europe, a European Union Directive was introduced regarding general recognition of higher educational diplomas awarded and completion of professional education and training of at least three years (Botteley 1993). All paramedical education is included within this General Directive and a Standing Liason Committee of Physiotherapists [SLCP] has tried to coordinate physiotherapy education throughout the EU (McCoy 1991). Their report looks at trends in physiotherapy education in member countries in terms of aims and objectives, structure and course content. Changes mentioned are concerned with relocation of courses, higher academic status, modification of course design, expansion of curricula and changes in teaching methods. Both APTA and SLCP attempt to be relevant to their situations in terms of patient expectations and demands, changing patterns of health care delivery and economic and political pressures.

In addition to the official policies of these two bodies, individual country and college endeavors will be described to highlight the general data already mentioned. McCoy (1990), from the UK, asks what it is that physiotherapists need to know in order to underpin the physiotherapeutic management of patients and Beenbakker, from South Africa (1987), describes the search at the University of Witwaterstrand for a relevant physiotherapy curriculum to meet the needs of the different communities in South Africa. The Central Netherlands Hogoschule in Utrecht states in their prospectus that the main objective of the undergraduate physiotherapy course is the preparation of students for professional practice (Drost 1993). One assumes that they imply professional practice in Holland, but it is interesting to note that, because of high unemployment, most Dutch graduates work abroad (Maas 1990). Bunce from New Zealand (1982), Shepard and Jensen in USA (1990) and Holey in the UK (1993) discuss the changing needs of societies and professions and thus the ongoing changes needed in physiotherapy curricula. The brochure of Uppsala College of Health and Caring Sciences in Sweden (1993) summarizes these ideas when it says " we seek to give students a base for continuing education and research" (Uppsala 1993). Watts (1991) added to this debate in the Symposium for Physiotherapy Educators when she challenged teachers to look at the increasing diversity within the field of physiotherapy and asked where education fitted into this new pattern.

Relevance is a constantly changing concept at international and national level (Williams 1988, Shepard and Jensen 1990). The question put by Watts (1991) in the previous paragraph needs to be modified for each society. It is possible that national relevance may not always be in phase with international relevance but they must link up somewhere if there is to be comparability (WHO 1981). What is a relevant curriculum in a post industrial society is not necessarily relevant for a predominantly traditional, rural society (Moghaddam 1993, Dawson 1991, JMCC 1990). The Palestinian situation illustrates this principle.

A report written by Bithell and Lumley in 1987 commented that, in discussion with 35 Palestinian physiotherapists, they found a wide range of qualifications and great diversity in length and level of training of physiotherapists in Palestine. Apart from two assistant physiotherapy courses in the 1970s in Gaza and Bethlehem, all physiotherapists had to go abroad to train. Because Western Europe did not accept Palestinian pre entry qualifications for higher education most of these people went to Eastern Europe or to other Arab countries where training emphasized high technology, machinery oriented treatments suitable for urban populations but inappropriate for rural situations. Bithell and Lumley commented that " manual and remedial exercise skills seem very limited and therapeutic equipment present in health centres appeared to represent inappropriate expenditure." Personal communication with Palestinian colleagues indicate that ideas are based on "If the West has it we must have it " (Shehadeh 1989). Moghaddam (1986) describes a similar situation in Iran before the Islamic Revolution. Few intellectuals are asking what will best meet the needs of the maximum number of Palestinians (Bargouti 1987, Barghouti and Daibes 1991). Relevance may be hindered by feeling inferior, a desire to possess what more developed countries have and what developed countries will provide financial assistance for rather than what is most appropriate (WHO 1988 and 1991, Beenhakker 1987, Bowerbank 1995).

6.2 CONTEXT OF CURRICULA

Context can be described as "the setting of a concept, among its surroundings" (Dutch 1976, Hanks et al 1980). This setting is useful for helping to explain the meaning of that concept. All curricula are designed for particular purposes and contexts (Gale et al 1981, Thorell-Ekstrand 1994). Education reflects prevailing trends in society (Boutaleb 1988, Pacey 1994) and sometimes leads the way in setting new trends (Prothro and Diab 1974, Thorell-Ekstrand 1994). The philosophy upon which a curriculum design is based may be to continue the status quo or pave the way for change to occur (Golby 1976, Bacchus 1988, Titchen and Coles 1991). Becker (1977) argues that for change to be possible institutions need to be in a state of instability. Any society in which demography, culture, religion and politics are in a state of flux is ready for educational change. In order to achieve this new curricula need to be developed (Ed Net 1993, Dawson 1991).

At this point it would be appropriate to discuss the general environment in which educational change may be possible. The geographical context of any society influences communication between institutions (Smith 1966, Nixon 1990). Large distances prevent easy access to centres of learning and may affect transmission of information itself (Walker 1991, Brock and Lawler 1985). Neighbouring countries and peoples affect each other, neighbours with most power will have most influence. If a whole region is unstable it will affect all countries in that region and conversely a region which is very traditional will provide a difficult setting in which to bring about change (Hallak 1990, WHO 1988 and 1991, Kelly and Lewis 1987, Berstecher 1988, Rawlinson 1993).

Demography affects the possibility of change. Geographical topography influences where people live. Nations whose population are predominantly rural and scattered throughout large areas will find it difficult to communicate with each other (Ram Reddy 1988, Dawson 1991). The influence of external forces will affect the possibility of change (Gundara 1988, Tomiak 1988, CCINGO 1994). Nations with high levels of unemployment export many of their citizens to work abroad, their

contact with different ways of life affects what they want from life when they return home (Montero 88, Giacaman 88). The presence or absence of foreigners affects the level of change or resistance to change (Marimutha 1988, Cross 1988). Where there is dissatisfaction village life there is migration of large numbers of young people to the towns and cities and consequent disruption of rural life. Some countries attempt to redress the balance between town and village by encouraging town dwellers to spend periods of time living in rural areas (Chengxu 1988, Salzman 1987). In vast areas of the world there are countless refugees who have fled from their homes to safety (Hallak 1988, Prittie and Dineen 1973, McDowall 1989). This, coupled with the effects of war (Busuttil 1989), has led to areas of underdevelopment and devastation of land and aggregations of destitute people in already overpopulated areas affecting economic and political stability in the host society (Heater 1988). In places like Africa is added to this the effects of long term famine and its consequences. Issues such as size of population, size of family, infant mortality rates and literacy levels all contribute to the demographic context (Barghouti 1987, Giacaman et al 1991, Ishaq and Smith 1984).

Religion influences values, attitudes and beliefs, religious observance or secularization contribute to ways of life (Horner 1989). The three great monotheistic religions have many aspects in common but each has its own individual,sometimes exclusive, perspective which causes problems between Muslims, Christians and Jews (Manns 1988, Bonanno 1988). Multicultural and polytheistic societies contain additional variables that influence behaviour and environment. Religious fundamentalism of different kinds has contributed to all aspects of life. In this century the effects of atheism and agnosticism also have to be considered in the context of society and education (Chengxu 1988, Rigby 1995).

History adds another strand. Previous wars, defeats or victories, alliances and occupations affect countries for generations (Busuttil 1991). In modern historical times many changes have occurred in a short period of time. Who would have predicted the fall of the Berlin Wall or the breakup of the USSR (Sharansky 1989) ? Nations who were imperial giants prior to the First World War have become powerless since then and other nations become influential. Multicultural societies have

their own tensions at both national and international level (Bryant et al 1993). Where previous strong leaders held together nations made up of different religious and tribal groups that unity has given way to inter-tribal warfare (Malhotra 1989).

Political change has brought about tremendous alterations in context in the last ten years, let alone this century (Chengxu 1988, Easterman 1992). Once influential nations in Europe have become powerless and newer nations have come to the fore. The Arab world as an entity has become more powerful since the Sykes-Picot agreement was signed (Aldington 1957, Friedman 1989, Deegan 1993). The upheaval caused by the exploitation of natural mineral resources in the Arab world has opened that world to western materialism. Alongside this has been a religious backlash caused by Muslim leaders' perceptions of the negative aspects of western secular society. African countries previously ruled by small elite white groups now seek to determine their own future (Mandela 1995). The role of the United Nations has been to attempt to bring about consensus and reconciliation between nations with debatable success. Whatever its power in terminating hostilities between warring parties, it has provided a world context in which all national and international actions and problems can be discussed (Hourani et al 1993).

Within this world context it is possible to look at the situation of the Palestinians. In geographical terms it is part of the Middle East or Far East, consisting of 5600 squares kilometres [see Appendix Five]. Its population is currently just over 2 million with at least 1 million in the West Bank and around 1 million in Gaza. These two parts are separated by 80 kilometres of Israel. Gaza is much smaller, a flat plain of 365 square kilometres (Brown et al 1992) overlooking the Mediterranean Sea on the site of the biblical Philistia. Its population are farmers, fishermen and, since 1967, "day labourers" in Israeli orchards and construction sites which may be located in the areas of their villages before 1948. The West Bank has an eastern fertile valley bordering on Jordan with whom it shares the river Jordan and westerly a more arid hill country extending from Hebron in the south to Jenin in the north.

In demographic terms, although there are towns and cities of various sizes mainly concentrated in the central area, 70% of the population live in rural areas (Dawson

1988, McDowall 1989, Cooper et al 1991). Almost 50% of the population is below the age of 25 (PHRIC 1989, Rigby 1995). Refugees account for the majority of the population of Gaza which has a density of 2214 persons per square kilometre. The West Bank is less densely populated with 175 persons per square kilometre. Most Christians live in the West Bank, especially in East Jerusalem and Bethlehem, although the percentage of Christians is still less than 5%, becoming less each year due to emigration (Aburish 1993, Cragg 1991). Apart from the traditional Christian areas there are a few small Christian communities scattered through the north of the West Bank around Nablus and Ramallah (Horner 1989). In the Old City of Jerusalem there is a small Armenian Christian population who have been there since the massacre of Armenians in Turkey in 1895 (Boyadjian 1993).

Health indicators, such as infant mortality ratios of 40 - 50/1000 and the high incidence of cerebral palsy, which are characteristic of third world countries, are present alongside a high incidence of diabetes and hypertension which are diseases of the first world. Barghouti (1987) sees this juxtaposition as an indication that Palestine is a society in transition. Disability percentages in a country often indicate the level of development, WHO estimates 7.5% level of disability throughout the world with higher proportions in less developed countries (Helander 93). Giacaman et al (1991) estimated a disabled population of 2.5% in Palestine. Health care provision is a mixture of services which have evolved in the absence of a coherent health policy. Urban areas have more hospitals and clinics available than rural areas although refugee health needs are well met by UNRWA [United Nations Relief and Works Agency].

The three major providers of health care include the government health sector consisting of hospitals taken over by the Israelis from the Jordanians after 1967 and until 1995 administered by the Israeli Civil Administration. These serve a small sector of the population who have health insurance. Increasingly fewer families subscribed to this system after the basis of payment was changed from family to individual, as most Palestinian families are very large. Secondly there are charitable institutions supported by donations from inside and outside the country. Many of those who were supported by Islamic countries such as Kuwait and Saudi Arabia lost most of their

financial support after the Gulf War. Since the signing of the Peace Accords some western funders have withdrawn or relocated their funding to the Palestinian Health Authority. Thirdly "grassroots" primary health care has been provided by political and community groups since the beginning of the Intifada.

Religious influences dominate, Islam being the major influence on Palestinian society. The close proximity of Israel with its mixture of secular humanism and fundamentalist Judaism leads to conflict and frustration, particularly in cities like Hebron where Jewish settlers, supported by all the facilities of a modern state, live next to refugees and dispossessed farmers (CCINGO 1994). Jerusalem and its Al Aksar mosque is considered to be the third holiest site in Islam [after Mecca and Medina] because it was from Jerusalem that the Prophet Mohammed ascended to heaven. This site is also holy to Jews as the location of their Second Temple until A.D.70. In Hebron the Tomb of Abraham /Ibrahim is holy to both Jews and Muslims and both groups go to pray there. The massacre of Muslims in March 1994 was partly caused by such close proximity of the two religious groups (Burrell and Landau 1992). Christian holy sites abound while the indigenous Christian population slowly disappears (Aburish 1993). Bethlehem's Church of the Nativity and the Church of the Holy Sepulchre in the Old City of Jerusalem as well as being the centres for pilgrimage are also the local church for Palestinian Catholic, Orthodox,and Armenian Christians. All these strands are interwoven to make a fascinating picture but also contribute to a potentially explosive situation. In Jerusalem during Ramadan the cry of the muezzin mingles with the sound of church bells on Sundays and with the siren which announces the beginning and end of the Jewish shabbatt on Friday and Saturday.

Historically and politically this region has always been the scene of wars and occupation (Glubb 1969, McDowall 1989, Westwood 1984). Elsewhere a summary has been made of the ways in which politics and history have affected daily life in Palestine. More recently the Peace Accord between Arafat and Rabin have brought new possibilities for the future but these are being hampered by the rise of both Jewish and Muslim fundamentalism, the Palestinians lack of experience in the practicalities of democracy and their continued suspicion about Israel. There is now some doubt that the PLO enjoys the confidence of the local Palestinians because of

the constant delays in implementing the "Gaza, Jericho first policies". This has lead to greater support for the political parties influenced by fundamentalist Islam such as Khamas and Islamic Jehad (Ibrahim 1994), to the consternation of local Christians (Aburish 1993).

This is the context in which day to day life is lived in Palestine and in which educational, economic and health policies are being formulated. The rise of religious fundamentalism has the potential to stifle innovation because western secularization is associated with new methods in education (Rigby 1995). Return to tried and tested ways that do not lead people away from the basic values of religion may limit and even hinder progress and progress, in itself, can be seen as undesirable. The political uncertainty of the present moment may not be conducive to imagination or taking risks and many of the younger political leaders are considering that education is not a priority until freedom has been attained, as did black South Africans (Di Giovanni 1993, Woods 1987, Mandala 1995).

In the past Palestinians had a vibrant and clear picture of their own culture and values, today everything is shifting sand. Palestinians have been trying to follow the west for so long that they can no longer say categorically what is Palestinian culture. Palestinian educators need to find answers to these uncertainties in order to move forward to relevant, appropriate education which will enable the young people of the country to build a stable yet flexible society (Anabtawi 1986, Said 1993, Shehadeh 1993)

6.3 INTERNATIONAL COMPARABILITY OF CURRICULA

In 1985 the WCPT published a summary of the physiotherapy education programs offered by its, then, 39 member countries. In the Foreword to this document are written these words;

> "The programmes described are recognized nationally by the appropriate authorities, ... in each country and their inclusion in this document does not imply any official recognition by WCPT or any suggestion that they satisfy a level of attainment laid down by WCPT... It is not an academic body with powers to validate or approve the qualifications held by the physical therapists represented within it. Therefore it does not approve, recognize or evaluate qualifications at an international level" (Foreword).

The document goes on to say two other things. Firstly: "entitlement to licensure in one country does not confer an automatic right to licensure in other countries." Secondly " there is no one universal or international standard of professional education".

Contrasting with this is the 1990 version of the World Federation of Occupational Therapists [WFOT] booklet in which these words are written;

> " This document has been prepared ...to answer requests for advice or guidance in establishing programmes for the education of occupational therapists and to serve as an international standard for countries where such programmes are already in existence " (page number 5).

On the surface, these two organizations are saying contradictory things until one reads more carefully. WFOT is concerned with "minimum standards for establishing new programmes." In other words, they have prepared guidelines for people planning new initiatives, where no education of its kind has been before and WCPT is discussing the criteria for membership in an international professional organization

with standards in each country designed to suit their individual needs. The issue of international comparability is an important one for developing countries who want their graduates to be eligible to do higher studies in developed countries [see Appendix Two]. It is also important for those developed countries who take post graduate students from developing countries. However relevance is not necessarily transferable as cultural contexts vary so much. The USA has differences within its own system as accreditation is not automatic from state to state (Farina 1991).

APTA gives acceptance to institutions and individuals from inside and outside the USA on behalf of the US Department of Education and Council of Post Secondary Accreditation [COPA] on professional grounds, nevertheless physical therapists moving from Florida to California still have to pass the appropriate State Board Examinations in order to work in the public health system. Part of the problem with accreditation between countries is unfamiliarity with course content and differing ways of evaluating programs, in addition to langauge differences. Many Dutch physiotherapists want to work outside the Netherlands because of high unemployment rates in their own country: the Netherlands Universities Foundation for International Cooperation (NUFFIC 1990) published a document in 1990 comparing the Dutch grading system with the American credits system to make it easier for Dutch graduates to be assessed by American accrediting boards. In situations where freedom of movement of workers is required, as in the EU, standards of education need to be harmonized (McCoy 1991). In 1993 the SLCP published comparative data of various aspects of physiotherapy education in the 11 member states. The aims of this document were as follows;

- To provide accurate data for the member organizations of SLCP, competent authorities and government departments to determine the basis for free migration.
- To provide accurate data for the use of competent authorities to determine the need for adaptation periods or aptitude test for migrating physiotherapists.
- To present the data in a format which can be updated easily and regularly. (Section 1. Terms of Reference Botteley 1993)

The second item on this list implies that adaptation periods and aptitude tests may be needed in spite of the general freedom of movement. This is not surprising when one discovers that the length of courses vary from two and a half to four years, levels of awards from diploma to degree and clinical fieldwork time from 800 hours to 2942 hours (Botteley 1993). When looking at these figures one must also know the number of terms/semesters, number of weeks in each semester as well as information about the quality of clinical fieldwork available [see Appendices One and Two].

In the United Kingdom, the accrediting body is the Council for Professions Supplementary to Medicine [CPSM]; this body and the Chartered Society of Physiotherapy [CSP] have been jointly designated as the competent authorities to accredit qualifications from other countries in the EEC. For physiotherapists from outside the EEC the CPSM [Physiotherapists Board] seeks to deal with "issues of procedures for visits and the necessity for non-UK applicants to have their education, training and competence assessed as rigorously as do UK applicants" (CPSM Annual Report 1989-1990).

A closer look will now be taken at the standards of education in physiotherapy in the WCPT member organizations found in the Middle East [see Appendix Three]. In the 1980s Turkey, Israel, Egypt and Iran were WCPT members (WCPT 1985 and 1986). Cyprus is also included but as it is not involved in educating physiotherapists it has not been discussed in this study. At the present time Lebanon and Jordan are now members and Kuwait has applied for acceptance. Information from Turkey indicates that a degree is awarded in Ankara (Can 1995), but the SLCP document does not make clear the details of the programmes (Botteley 1993). The Turkish programs are four years in length but it is unclear what body awards the qualification (WCPT 85). In Syria UNRWA has a two year assistant physiotherapist programmme (Al Haj 1995). Israeli qualifications were originally based on a UK model from the 1950s (Werner 1987) and many Israeli physiotherapists trained in the UK and the USA before training programmes began in Israel. Within the last seven years the level has been upgraded from diploma to degree with degree completion courses offered to those who graduated with a diploma (Danziger 1990). There are three centres for physiotherapy education, at Tel Hashomer and Hasaf Arofeh Hospitals, both linked

with Tel Aviv University, and another in Beersheva. Egypt began educating physiotherapists during the time of President Nasser. Anecdotal evidence (Nassr 89) tells us that he had a back problem which was treated in Russia (Sadat 1987). He was so impressed with the physiotherapy he received that on his return to Egypt he initiated a Department of Physiotherapy in the Higher Institute of Medicine at Cairo University. Because of the Russian influence the course consists of 4 years full time at the university followed by one year full time in a variety of clinical placements (WCPT 1985). Lebanon has recently upgraded its course to a three year diploma at the University of Beirut in which the clinical education amounts to 2700 hours (WCPT 86). Jordan until the early 80s ran a three year hospital-based diploma course. It was set up after the Six Day War in 1967 when two British physiotherapists working in the West Bank got caught in Amman (Willoughby 1990). In 1985 this course was reduced to a two year course for physiotherapy assistants (Moore 1988) and ceased in 1988 (Abadi 1995).

Within the Palestinian area, until 1989, all physiotherapists were educated abroad (Dawson 1989, Krammer 1989, Vandam 1989, Verhoeff 1989). Prior to the start of the 4 year degree program at Bethlehem University there was no degree level physiotherapy education in the country. Most of those educated abroad went to other Arab countries, such as Egypt and Jordan, or to Eastern European countries, such as Russia, Poland, Rumania, East Germany and Yugoslavia (Bithell and Lumley 1987). Of these countries, only Poland is a WCPT member. In Poland all courses are university based, at degree level and are physical education oriented (WCPT 1985). A few places in Western Europe, such as Greece and Holland, did take Palestinians (Younis 1992). All courses in Holland are approved by WCPT but in Greece there only two schools are listed in the WCPT Handbook. Most of those who went abroad to train were men because of the family opposition to young Palestinian women living abroad without their parents.

Physiotherapy assistants were trained in the country from the early 1970s (Bithell and Lumley 1987). The two earliest courses were in Bethlehem and Gaza. The one in Gaza was based at what was then called the Baptist College and is now the Gaza College of Nursing and Allied Health where applicants were first trained as nursing

assistants. The curriculum model and tutors were American and most of its graduates were men, few of whom are still practicing in Gaza (Peach 1989). The Bethlehem course, based at the Mount of David Orthopaedic Hospital, was taught by British physiotherapists (Crosbie 1988) and trained both men and women, most of whom are still practicing in the West Bank. When the Intifada began in 1987 UNRWA and various NGOs [Non Governmental Organizations] set up physiotherapy assistant training programs. These were located in Ramallah, Nablus, Hebron and Gaza and staffed by foreign internationals from the UK, France and Belgium (Vandam 1989, Krammer 1989, Verhoeff 1989). The program set up by UNRWA was the most well planned and organized, the others being at differing levels. Most programmes were from one and a half to two years in length, except one in Gaza run by Enfants Refugees Du Monde which was three years in length. The tragedy for the Palestinian students who graduated from these programs is that they are not recognized outside the Occupied Territories except in the Gulf States which limits their possibilities to continue their studies abroad.

6.4 THE BETHLEHEM EXPERIENCE

The issues of context, relevance and comparability will now be addressed in the setting up of the Physiotherapy Programme at Bethlehem University. Before this discussion it would be useful to consider the history of the programme. The vision of educating physiotherapists locally was that of Edmond Shehadeh, the Director of the Bethlehem Arab Society for the Physically Handicapped (Shehadeh 1989). Having trained as a physiotherapist in France, he returned home and became involved in the society of which he is now Director. After the Six Day War in 1967, and into the 1970s, foreign organizations began to provide health care and rehabilitation in the West Bank. The Leonard Cheshire Foundation set up the BASPH, Caritas International set up the Caritas Baby Hospital and the Holy Land Christian Mission began the Mount of David Orthopaedic Hospital (Crosbie 1988). During this time a succession of international physiotherapists worked as volunteers at these centres and began to sponsor training for local people both inside and outside the country. An American physical therapist with an educational qualification and another colleague, wrote a proposal for a locally based training programme for physiotherapists (Palmer and Peach 1985). This programme was originally intended to be a post graduate diploma located at the BASPH, but the final outcome was a four year undergraduate degree validated by Bethlehem University (Dawson 1991).

As part of the preparation for the setting up of the programme, a survey was done in 1987 by Palmer and Peach to ascertain the approval of the local medical and health care institutions. Administrators from twenty institutions were interviewed and their support for the programme was unanimous. This number does not represent the Gaza Strip, but is reasonably representative of the West Bank. Fifty percent of respondents wanted a degree programme, this coinciding with the feelings of the Planning Committee and Administration at Bethlehem University (Palmer 1987). At about the same time that the survey was done approaches were made by the BASPH to BU as it was considered more appropriate that the programme be linked to an educational institution rather than a specific rehabilitation centre (Lowenstein 1987). At that time, and since then, BU was not in a position to fund any new enterprises and enlisted the

support of Save the Children Fund UK and Save the Children Federation USA and United Nations Development Project [UNDP]. These three organizations expressed willingness to fund international staff salaries, part of local salaries and student scholarships [SCF/UK], running costs and transport [SCF/USA] and equipment and books [UNDP] (Nevrodis 1987, Lowenstein 1988). The British Council was also, indirectly, involved in the planning. In 1986 the Jerusalem office commissioned a report on the level of physiotherapy practice in the Occupied Territories (Bithell and Lumley 1987). This report gave a baseline for current standards and future needs and recommended the proposal by Palmer and Peach as suitable for expansion into a physiotherapy curriculum of study. On returning to the UK the two authors of the report were anxious to find a Director for the new department and the job was subsequently advertised in the professional journals (Moore 1988).

The timing of this coincided with the early days of the Intifada when all universities and schools were closed by Israeli military order. Prospective directors were invited to visit Bethlehem prior to appointment to view the situation at first hand (De Roeper 1988). In August 1988 the author was appointed as Director from the UK and two other British expatriates, locally based in Jerusalem, joined the staff. Between September 1988 and February 1989 these three visited all health institutions in Palestine, wrote the curriculum, interviewed local staff and set up a selection process for the first cohort of full time students. Twenty two students began studying at the beginning of February with three international and two local staff at the Notre Dame Teaching Centre in Jerusalem, permission to work there having been gained from the Israeli Ministry of Health through the Jerusalem office of SCF USA (Dawson Dec 1988). Classes continued there until September 1990 when the universities reopened at which time the department moved to Bethlehem. Suitable classrooms not being available on campus, the department was housed at the BASPH in Beit Jala just outside Bethlehem where all physiotherapy classes were taught, non physiotherapy courses being taught on campus (Dawson Sept 1990). This location necessitated the use of the BU bus to transport students between the two campuses. In June 1995 the program moved to the Bethlehem Hall, a new annexe at BU and in September 1995 a Palestinian Director was appointed.

Bethlehem University is based on an American liberal arts model in which a minimum of 120 credits are required to graduate. One credit equals 15 theory hours of study or 30 practical hours. Emphasis is placed on theory at the expense of practice and very little credit is given for periods of clinical education (BU Handbook 1993). Passing grades extend from D [60%] to A [90%], but students are required to maintain a Grade Point Average [GPA] of C [70%] throughout their university career. Pre-entry qualifications centre around the Tawjihi examination which is taken in the final year of high school in two parts which are averaged to give the final score. Universities have a minimum acceptance Tawjihi level of 65% but many faculties ask for higher levels so they can filter out poorer students. BU also requires candidates to take the university entrance examination.

The context of the program is a Palestinian Arab, mainly Muslim, society which has been under occupation since 1967 and in which the Intifada took place between 1988 and 1992 (Dowling 1990, Giacaman 1988, Nixon 1990, Martin 1988). The aim of the program is:

> "to produce a graduate physiotherapist who is a competent, reflective practitioner, aware of the needs of the whole community and who is able to fulfill the role of health and disability educator and researcher in addition to the role of therapist" (BU Catalogue 1993 page 118).

Curriculum design took place in this setting. The draft proposal took an integrated approach to physiotherapy studies in which the student moves from less complicated conditions, patients and management to those with more complications (Palmer and Peach 1985, Dawson 1988). Apart from a few introductory courses such as PHTH 120 Introduction to Health Care, 110 Introduction to Physiotherapy, 121 Introduction to Anatomy and Physiotherapy, 220 Human Growth and Development, and 221 General Pathology, each theory module contains appropriate anatomy and physiology, specific pathology and general management of the particular type of patients, including other relevant disciplines, in addition to physiotherapy [PHTH 210, 310 and 311]. See Appendix Twenty Four for the paradigm and course descriptions.

Skills modules parallel the theory modules and highlight physiotherapeutic skills necessary for the management of the types of patients described in each theory module [PHTH 211, 212 and 312 Physiotherapy Skills 1, 2 and 3]. To emphasize the importance of community care such courses as PHTH 313 [Community Based Rehabilitation] and PHTH 314 [Adaptive Equipment Workshop] are included. Because this was the first degree programme in the country, it was important to include Management skills [PHTH 353] as well as Statistics [SOCI 430], Computer Use [MATH 252] and Research and Evaluation [PHTH 355]. BU does not have a hard sciences orientation at an appropriate level for health sciences, so a lot of the basic sciences were taught by physiotherapy staff not anatomists and physiologists. There is an excellent social sciences faculty which has enabled teachers from this faculty to teach Learning Theories [EDUC 350], Counselling [EDUC 301], Psychology [PSYC 232], Social Psychology [PSYC 234] and Sociology [SOCI 332] oriented towards health care and rehabilitation (Obot 1988, Otite 1987). Clinical Fieldwork periods are 6 full time blocks of between 6 to 8 weeks each interspersed between appropriate theory and skills teaching during years 2, 3 and 4 [PHTH 401, 402, 403, 404, 405 and 406]. Placements vary from inpatient hospital settings through outpatient clinics to community based physiotherapy (BU Catalogue 93). In total clinical hours exceed the 1000 hours minimum required by WCPT (BU Catalogue 1993, Bennett and Wakeford 1983). A copy of the programme paradigm is found in Appendix Twenty Four.

Selection of students was a huge task (Bennett and Wakeford 1983, Ferris and Rowland 1992, Balogun et al 1992), compounded by the fact that all other avenues of higher education was unavailable at the time. Because of this many young people applied for physiotherapy not because they wanted to study physiotherapy or knew anything about it, but in order to have the chance to study something rather than wait for the universities and colleges to reopen. This resulted in 170 applications for twenty five places (Dawson Dec 1988). Candidates took the English and Arabic parts of BU entrance examination and their Tawjihi results were scrutinised. Additionally interviews and practical aptitude tests were used.

Interviews were conducted in both English and Arabic by two interviewers, one of whom was a native Arabic speaker. This bilingual approach was taken to allow suitably motivated students, whose English was poor, to have the chance of selection. It was planned to offer all accepted students courses in English with remedial classes available for those who needed more help. The aptitude test used was devised by the staff of the physiotherapy department specifically with the Palestinian situation in mind (Dawson 1991). It contained items considered central to the practice of physiotherapy. Physical handling, communication, situation analysis and problem solving were included and each candidate rated on each test item. All parts of the selection process were analyzed and a rank order gained, from which the best 25 applicants were chosen, taking into consideration a geographical spread throughout the West Bank and Gaza Strip.

In school, and sometimes in higher education, students are "traditionally expected to take received wisdom as given" (Redding 1991). They do not challenge what is given to them nor do they anticipate the necessity to do so. Therefore a "recipe" approach to patient management is most common in physiotherapy practice with the same treatment methods applied to all patients with a similar diagnosis regardless of individual needs. Doctors give the stamp of approval to this by their authoritative, prescriptive approach to all other health workers. Trying to encourage problem based learning in order to bring about a problem solving approach to patient management was frustrating and frightening for students and "an up hill battle for staff" (Redding 1991). But by the beginning of the second year most students were able to develop their critical thinking processes (Schon 1987). Various ways were used to develop self motivation, role play, discussion groups, practical assignments in the community and, during the Gulf War, distance learning packages (Dawson 1991).

Evaluation of students was also problematic (Rowntree 1977, Matthews 1985, Holey 1993, Goodlad et al 1982). Every grade had to be discussed and teachers were invariably blamed for poor results, rarely did students accept responsibility for their own mistakes or poor performance. Most examinations previously experienced by students were written ones that simply required regurgitation of the teachers notes in order to pass. To prepare for examinations and tests students walk up and down

learning written material by rote. Most university courses are evaluated by means of two or three unit tests and a final examination, all of which are unseen and written. The final exam is worth 40% of the total marks and 60% for course work, most of which is taken up by the unit tests.

The physiotherapy department experimented with a great variety of evaluation methods (WHO 1981, Newman 1988, Katz and Snow 1980, Harden and Gleeson 1979), such as class participation and leading of group discussions, seminar presentation, patient case studies, both written and oral (Elton 1982) and Objective Structured Practical Examinations (Lazerus and Harden 1985, Harden and Gleeson 1979). These methods enabled students to "exercise greater independence in study" (Bithell 1991) and the quality of their critical thinking has been commented on by our Programme Evaluators (Dawson Dec. 1991). The culmination of the programme was a Comprehensive Final Practical Examination during which students examined a patient, previously unseen, in front of two examiners, discussed the appropriate management of their patient and wrote a report about the physiotherapy plan of treatment. Reports from the two Programme Evaluators have confirmed that graduates from the programme are competent to practice physiotherapy (Bithell 1993, Yung 1993). To date 92% of those who entered the programme have graduated. A recent survey of graduates for Save the Children Fund had a 62% response rate and showed that 37% were very satisfied and 63% quite satisfied with their education. Ninety five percent felt they had appropriate knowledge, 92% appropriate skills and 100% appropriate attitudes for working in physiotherapy (Dawson 1996).

Relevance has been considered from the planning stages until the present time. Conscious that those writing the curriculum for Palestinians were mainly expatriates, advice was taken from all available sources in the country (Martin 1988). Before designing the curriculum visits were made to all clinics, hospitals, rehabilitation centres and institutions employing, or considered potential employers of, physiotherapists. Attention was paid to working conditions and patterns, treatment modalities used and types of patients referred for treatment. Note was made of the high prevalence of children with cerebral palsy, congenital dislocation of the hip and Erbs palsy. Most of the population [70%] live outside the major conurbations

(Dawson 1989), and there is a paucity of health education and disability awareness. This led to the inclusion of PHTH 312, 313 and 314 in the curriculum. Lack of research data bases and management infrastructures in health institutions caused the inclusion of PHTH 353 and 355. The great number of young people disabled as a result of injuries sustained during the Intifada necessitated EDUC 301 and NURS 131 (Giacaman et al 1989).

In individual courses, whilst the overall content is similar to that taught in Europe, there were some differences noted such as more emphasis needed in the areas of poliomyelitis, cerebral palsy and facial palsy and less emphasis on conditions such as multiple sclerosis, Parkinsons syndrome and cystic fibrosis. Clinical specialties in which physiotherapy is currently used represent a narrow spectrum of what can be done by physiotherapy. In some areas doctors are only beginning to use physiotherapy for patients with psychiatric problems, learning difficulties or in obstetrics and gynaecology. The Bethlehem graduates have knowledge and skills in these areas that will be useful to them as health knowledge continues to progress. A lower profile was given to the use of electrotherapy, using a research based approach, to try to emphasize the judicious use of electrotherapy modalities. The appropriate use of exercise therapy was given the highest profile and massage was relegated to a role subsidiary to exercise.

Selection of students aimed at a geographical spread throughout Palestine, especially in areas where there was a dearth of physiotherapists living and many people were without access to physiotherapy, such as in the north and south of the West Bank. A policy was established of accepting 50% men and 50% women students provided there were enough suitably qualified candidates of both sexes. There is a great need for physiotherapists to work amongst women and children in the community and in Arabic society women are better accepted than men in a community setting. Priority was given to students who were able to demonstrate a commitment to the community in Palestine and were not afraid to work hard or make physical contact with patients. These issues were elicited by means of the interview and practical aptitude test respectively.

The language of instruction for most physiotherapy courses was English. Reasons for this include the fact that most staff were not fluent in Arabic, but also because most text books are written in English. Such text books often give a view of life in the West which is not always compatible with life in Palestine. Staff were aware of this and attempts were made to enable students to translate principles of treatment and management of patients from a Western to a Middle Eastern context without necessarily accepting all the details.

Practical classes, by virtue of the dominant Islamic culture, have to be single sex (El Saadawi 1988). This also means that female teachers usually work with female students and male teachers with male students in practical classes usually, although it is possible for an expatriate female teacher to work with male students but not vice versa. This problem doubles the number of teachers needed for practical courses and also poses difficulties for evaluation of students practical work. Practical classes require great effort from teachers as students do not have the concept of practicing until one reaches a required standard, but are content to practice a skill once and then stop. Practical examinations are very unusual and cause students much anxiety as they cannot learn answers by heart.

Programme Evaluators, or External Examiners, were involved from the beginning of the programme (Moore 1988) to try to achieve, if not international comparability, at least acceptable standards and credibility within the wider world of physiotherapy. One main examiner was appointed for each cohort of students and two examiners were present to supervise the conduct of the final examinations of the first cohort. Their reports have given assurance that selection methods, curriculum design, teaching methods and student and programme evaluation are comparable to degree courses in the UK (Bithell 1993, Yung 1993).

One of the weaker areas of the programme, as identified by the staff, was that of clinical education, a crucial part of any education which aims to produce competent practitioners (Fish et al 1991 and 1993). Conscious of this weakness certain steps were taken to deal with the problem. It was impossible for five teachers to be present all the time that the 22 students were doing clinical placements in different locations

and clinical colleagues were used to help in this. Standards of practice of working physiotherapists have not always been high enough to provide good role models for students. Clinical placements were limited to a few within reasonable distance so that staff members could visit regularly. However, at various times political events prevented students attending at certain clinical sites because of difficulties with permission to travel. Fortunately such students have been able to be relocated to suitable sites near their homes and expatriate staff had to visit their relocated placements.

To raise the standard of current physiotherapy practice the department had three strategies which are at different stages of completion (Lowenstein 1992). Firstly in 1990 and 1993 a part time "top up degree" was offered to working physiotherapists with a diploma. Since most of these people worked in locations to which students are sent, this offer acted as an incentive to help with student supervision. Secondly in 1992, in conjunction with the nursing and midwifery departments, a part time diploma in clinical supervision was started. Only three physiotherapists were in the first group but they have developed new supervision and management skills to benefit themselves, their employers and students (Dawson 1995). A second programme began in Fall 1994 which included seven physiotherapists. Thirdly in late 1993 a European Union grant was received to set up a two year continuing education programme for physiotherapists. This allowed experts in appropriate aspects of practice to be invited to run workshops to improve standards of practice (Dawson 1995).

A second full time cohort of 21 students, a second cohort of 25 "top up" students began in 1992 and 1993 respectively. The intention was to phase out expatriate teacher support by 1996 and to this end local staff were trained to take over running the department. All three local staff have a Teaching Diploma from BU and two of them have completed higher studies, one in Ulster and the other in Southampton. Against this background are set the research questions which will be described in the next chapter.

6.5 JUST LIKE IRELAND !

There are many similarities between the Emerald Isle and the Holy Land, despite their geographical separation. The history of both places begins many centuries ago. Beginnings of mankind in Ireland can be dated as long ago as 3000 BC (O'Brien and O'Brien 1992) and human society in the Middle East is at least as old (Cohen 1992). Since then Hibernia became variously Ireland, Southern Ireland, the Free State and the Republic of Ireland or Eire. Canaan became the empire of David and Solomon, the kingdoms of Israel and Judea, Falastina, Palestine and Israel.

Ireland has been colonized, occupied and displaced by Vikings, Scots, Romans and English (Beckett 1981); similarly Palestine has faced armies named Israelite, Assyrian, Egyptian, Arab, Turkish, British and Israeli (Glubb 1969). The populations of both countries in more recent times have experienced mass emigration to the new world due to displacement and the desire to seek a better life for their children free from the shadow of conflict. One could compare the Irish "Troubles" with the Palestinian Intifada (Lockman and Beinin 1989). Although the Irish conflict has been longer standing, the seeds of the Intifada were sown well before the establishment of the state of Israel. They have both placed heavy demands upon the British armies and found a place in the world media. The respective political movements, the Irish Republican Movement and the Palestine Liberation Organization have both used terrorist activities to draw attention to their case making the acronyms IRA and PLO household names (Wilson 1994) and both recently have turned from " terrorism" to political dialogue with some success.

Religious differences cause problems and divisions in both communities, those in Ireland between denominations of the same religion (O'Malley 1994), those in Palestine between three inter related monotheistic religions (Abu Rish 1993). Monasticism is still common in both countries, though vocations are fewer in Palestine than Ireland. The Orthodox monasteries of Mar Saba, and Wadi Qelt bear mute testimony to past monastic glories while the spiritual descendants of St. Patrick and St. Columba still influence many aspects of life in Ireland.

The Celtic and Levantine cultures are both rich in mysticism, poetry, music and tradition. The strength of their cultural heritages in the past contributed to the stability of family and community ties. Nowadays the influence of other cultures have eroded some of these traditions and extended families are gradually losing their cohesiveness. Language in both cultures is important in a poetic rather than a prosaic or utilitarian sense. Specific poetry and music from each region is instantly recognizable (Crossman and McLoughlin 1994, Boullata 1982) and often used to feed the revolutionary struggle.

Demographically both have similar size populations, 3.6 million in Ireland and between 2 to 3 million in Palestine. In each place there are some large urban conurbations and many remote rural areas. The climate is different with Ireland having typical northern European weather and Palestine exhibiting Mediterranean weather for eight months of the year with rain,and cold for a maximum of four months. Ireland is much greener due to the higher rainfall, hence its nickname the Emerald Isle. Except for a month or so in the early spring the Holy Land is not often green but brown. The population density is much higher in Palestine because of the smaller area of five and a half thousand square kilometers compared to Ireland's 84.5 thousand square kilometers [see Appendix Six]. Both communities are characterized by large families but the relative percentages of young people are different with Ireland having 26% of the population below the age of 15 and in Palestine over 50% are in this age range.

Economically neither country is completely self sufficient; perhaps this is one reason for the success of Ireland in the Economic Community. Each has larger neighbours with greater resources against whom they have to compete. Farming has traditionally been a key occupation and land a central concept of national identity. Tourism is also shared by both, whether secular or religious.

Sociologically both share a strong clan or "hamula" structure which influences private, public and political life. The importance of nuclear and extended family in the lives of individuals bears a marked resemblance. In Palestinian Muslim society, men and women tend to marry within the clan structure often to keep land under

control. Marriage in Ireland is more an individual, than clan, matter but those who marry outside the Catholic tradition and community may find themselves excluded from community activities in some rural areas.

This comparative aspect of the study was prompted by the visit of a physiotherapy colleague working in Dublin. Hearing discussion between faculty and students and seeing the way of life in Bethlehem his comment was "It's just like Ireland !" (Yung 1993) This led to further comparisons between Irish and Palestinian health care facilities, in particular physiotherapy education and practice.

Ireland has a well developed health service delivering health care to all its people by means of Health Boards. The country is divided into eight such boards on a geographical basis (An Roinn 1992). By means of this regionalisation hospital services, psychiatric services, community welfare, health and protection and services for the handicapped are provided. The Irish health service is financed by taxation and also to some extent by the National Lottery. Palestinian services are by comparison much less developed. Three types of health care are available as has already been mentioned. The three health sectors are Government Health Insurance services, private both fee paying and charitable and latterly grass roots health care provided by popular committees each linked to a particular political party (Barghouti 1987). As a result of the Peace Accord signed with Israel, Gaza and Jericho areas and more recently 7% of the rest of the West Bank are now the responsibility of the new Palestinian Authority. The Palestinian Health Council for the West Bank based in East Jerusalem and Ramallah, have both long term and short term objectives and strategies for organizing health care but means of financing health care are not yet forthcoming and progress is slow (Husseini 1994).

The first Physiotherapy School was founded in Ireland in 1905 (Keating 1986), compared with the early 1970s in Bethlehem and Gaza (Crosbie 1988, Peach 1989). There are two schools presently educating physiotherapists in Ireland one at Trinity College Dublin (Gatenby 1994) and the other at the University College of Dublin. Both places offer a four year degree in physiotherapy. At present there is one university, that at Bethlehem, offering a four year degree in physiotherapy in

Palestine, but two UNRWA colleges offering a two year diploma in physiotherapy, one in Ramallah, the other in Gaza. The degree program was recognized in the UK (CPSM 1993) but not yet in Israel because of problems caused by the political situation (Danziger 1994).

The curriculum in Ireland, whilst appropriate for the population of Ireland, (Mulcahy 1994) is similar to that in the United Kingdom and, because Ireland is a member of the European Community, the curriculum must be meet the standards of the Standing Liaison Committee for Physiotherapy in Europe (Botteley 1993). Bethlehem University, as all Palestinian universities, is based on the American model although the physiotherapy curriculum has been specially designed to meet the needs of Palestinian society (BU Catalogue 1989).

Details about BU curriculum have already been discussed in the previous chapter so this description will focus on the Irish curriculum (Botteley 1993). In common with most European schools of physiotherapy, in Ireland students enter university after 12 years of education. There is no selection process except in terms of physical fitness and no required pre-course work experience. There is an entry dispensation for mature students and student can transfer credits from other faculties or universities. The curriculum is science based with 3101 content hours, of which 575 hours are foundation subjects, 963 hours are devoted to physiotherapy based sciences, 498 hours to clinical sciences and 1050 hours to clinical experience (Botteley 1993). Applicants to physiotherapy are many and only those with high qualifications are accepted as physiotherapy is one of the three faculties with the highest standards of entry (Keating 1986).

Irish physiotherapists began their own professional society in 1983 (Keating 1986) and now have an office in Dublin administered by full time staff. It produces its own professional journal, Physiotherapy Ireland, which has a membership of over 1000 (Schmidt 1994). During the latter part of 1994 the physiotherapists in the West Bank set up a Physiotherapy Union and similar plans were made in Gaza. Palestinian physiotherapists are not always able to meet together because of travel problems but are eager to organize themselves. Before autonomy was gained it was necessary to

register any organization with the Israeli Civil Administration. This body prevented Gazan physiotherapists forming an Association in the 1980s, as it was required that all officers of any association be residents of Jerusalem and eligible to join the Histradut, the Israeli Labour Organization to which all associations must be affiliated. In late 1995 the new Palestinian Ministry of Health based in Gaza gave the Gazan Association the mandate to become the Palestinian Physiotherapy Association to which all West Bank physiotherapists must apply for membership (Shatali 1995). Since Gaza became an autonomous area the physiotherapists there were able to set up a Physiotherapy Association and currently have 70 members. A similar Association was set up in the West Bank in March 1995. A visit from the European Branch of the WCPT encouraged the two Associations to join together under the title of Palestinian Physiotherapy Association even if two separate branches are necessary.

For these reasons it was decided to carry out research comparing the two groups of physiotherapists and physiotherapy students. The Palestinian sample are drawn from all parts of the West Bank and Gaza Strip and the students from the final year of the Physiotherapy Department at Bethlehem University and the final year of the UNWRA College at Tireh near Ramallah. The Irish sample are from the Irish Physiotherapy Association and the students are third year students at Trinity College in Dublin.

CHAPTER SEVEN

METHODOLOGY

This study can be viewed as an extension of work already done by the author (Dawson 1982) and others (O'Neill 1976, Wagstaff 1987) in Europe, but also, because of the different cultural milieu, as an entirely new study that looks at a professional, ethnic group that has a rich Islamic heritage and has experienced enormous social and political changes in the last fifty years. It is hoped that the empirical data will show that Palestinians [especially students] are similar to their Irish peers and also show some differences between Palestinian students and graduates. Such similarities and differences will support the view that the Bethlehem University program has been successful, in that Palestinian students are, at least, as forward looking as Irish students and Palestinian graduates.

Arguments have been made that, despite the potential conflicts between Arabic culture, the predominent culture of health care and the present and future trends in physiotherapy practice, BU students and graduates are equipped to deal with these conflicts. Despite centuries of educational oppression and colonisation, despite the present day contraints that Islam places on the education, training and practice of health workers, it is possible for Palestinians to develop a culturally and professionally appropriate philosophy of care, relevent to the needs of Palestinian society. The author maintains that Palestinian culture is not antagonistic to innovations in education and practice and that all the influences mentioned in Chapter Three have contributed, directly or indirectly, to the Palestinian people's ability to change with the times.

Since the signing of the Peace Accord in 1993 the Palestinian people have been in receipt of health care advice from a multitude of European and North American sources to enable them to develop an appropriate health care model. As in every country, the success of its health care will depend partly on the quality of its personnel. Physiotherapy, as a relative newcomer to Palestine without longstanding

links with professional groups abroad, can make a clear contribution towards finding and implementing the most appropriate model for rehabilitation in the country.

The personal qualities of professionals influence the development of their profession and health care in general. In such as situation as that in Palestine, professionals can contribute to the planning and policy making process necessary to set up a system of health care delivery. If the profile of qualities needed to bring about change can be quantified to some extent, selection processes, training strategies and educational policies can focus on finding those people best suited and providing them with training and education to equip them for the task.

The sample used in this study was an opportunity sample, but it could be argued that the author's contacts with the physiotherapy population of the West Bank and Gaza Strip provided one of the best possible opportunities. Having worked in the country for eight years, taught at undergraduate, degree completion and continuing education level, provided the project with acceptability and the researcher with credibility. The questionnaires were distributed via Arabic speaking research assistants by hand, a common practice as the postal system is not reliable. The response rate for Gaza is 52% and a little less for the West Bank. There are no exact figures available for numbers of physiotherapists but tentative figures were sought from the two Palestinian Physiotherapy Associations (Shatali 1995). These figures indicate that around 300 physiotherapists are registered as members of the two organisations. The majority of returns from the West Bank were mainly from the south and central part. Lack of responses from the north may be due to the greater distances between Bethlehem and the places of work of potential respondents. It may also be due to the fact that, while the research assistant in Gaza was a physiotherapist and well known to all physiotherapists personally, the assistant working in the West Bank was a social sciences graduate known only to a few physiotherapists. It was through the good offices of the Pontifical Mission for Palestine that it was possible to employ two research assistants without whom the data would not have been collected in the time available.

Three instruments were used to survey opinions, the Cattell 16 Personality Factor [16PF] Form B, the Taiser Self Esteem Questionnaire [TSQ] and a biographical questionnaire designed specifically for the study [LESQ]. An in-depth study of curricula worldwide has already been described in Chapter Six. That material adds a qualitative perspective to a study that otherwise provides a mainly quantitative view from the questionnaire responses.

The Cattell 16PF Questionnaire Form B is one of six forms of the questionnaire available and was used to give a factor analytical personality perspective designed to make available information about an individual's standing, in a practicable testing time (Cattell et al 1992). It is a self-rating inventory measuring sixteen personality factors found in the normal population. Each of the factors are bi-polar in character with all respondents located on a continuum between high and low scores.

The positions on each factor are indicated by a sten (standard ten) score. Sten scores are elicited from sten tables which assume that scores are distributed over 10 equal-interval standard score points (assuming normal distribution) from 1 to 10. The population average is fixed at 5.5 and the standard deviation is 2.0 sten scores above or below the average. Any sten scores falling between 5 and 6 are considered 'average scores'. Sten scores above 6 are considered 'high'scores and below 4 are considered 'low scores'. However to be considered significantly high or low scores must be above 7 and below 4 (Krug 1981, Cattell et al 1992).

This particular instrument was chosen because the author had used it previously with British physiotherapy students (Dawson 1982) and it had also been used with British physiotherapists (O'Neill 1976). The form used previously was the Form C and it was originally intended to use that form again. However it was not possible to find Form C in Arabic. An Arabic version of Form B was obtained from the Education Faculty of the University of Jordan in Amman and, although much longer than Form C, which mitigated against completion, it was decided to use it as nothing else was available and the time needed to translate, test and administer an English to Arabic version would be outside the time constraints of the present study.

The bi-polar factors yielded are :

Factor	Low score		High score
A	reserved	versus	outgoing
B	less intelligent	versus	more intelligent
C	affected by feelings	versus	emotionally stable
E	humble	versus	assertive
F	sober	versus	happy-go-lucky
G	expedient	versus	conscientious
H	shy	versus	venturesome
I	tough-minded	versus	tender-minded
L	trusting	versus	suspicious
M	practical	versus	imaginative
N	forthright	versus	shrewd
O	placid	versus	apprehensive
Q1	conservative	versus	experimenting
Q2	dependent	versus	self-sufficient
Q3	self-conflict	versus	controlled
Q4	relaxed	versus	tense

The Taiser Self Esteem Questionnaire is a four point Likert scale employing 35 test items covering various aspects of feelings of self worth such as :

Question 5. "I think I am an honest person " and perceptions of others' feeling about the person such as :

Question 7. "My friends have no confidence in me."

Each item is scored from 1 to 4 (Strongly agree, agree, disagree and strongly disagree). Questions are posed in both positive terms such as :

Question 2. "I feel as a person that I am valued by others" and others couched in negative terms such as :

Question 10. "There are lots of things about myself that I would like to change" to prevent the respondent adopting a mind set in which he or she agrees with each statement. English and Arabic versions of the TSQ are found in Appendices Seven and Eight.

The TSQ was used for three reasons. Firstly it had been written by a Palestinian colleague teaching at Bethlehem University. Secondly it was available in both English and Arabic versions and thirdly it had already been used to compare British students and students from Saudi Arabia (Abdallah 1989) and was therefore considered appropriate to use when comparing Irish and Palestinian physiotherapists and physiotherapy students.

The LESQ Questionnaire was designed by the author to elicit biographical data from subjects to complement the personality and self esteem instruments. Its scope covers general and physiotherapy education, work experience and opinions about health care and physiotherapy inside and outside the respondent's home country. An initial version was designed in English and piloted using 10 English speaking expatriate physiotherapists working in the West Bank and Gaza Strip. Additional opinions were asked from 6 bilingual nursing, midwifery, education and physiotherapy colleagues at Bethlehem University. Revisions were made on the basis of comments made by these people in relation to clarity, relevance and appropriateness and in consultation with Professor Ivan Reid at the Department of Education at Loughborough University. The English version of the LESQ, which was then translated into Arabic, is found in Appendix Nine.

A back translation method was used in which two experts in English and Arabic translated blind from one language to the other (Brislin 1970, [Malpass and Davidson 1973, Werner and Campbell 1970] cited in Adballah 1989). Colleagues from BU English department were used. One of them translated from English to Arabic. The first draft was then typed, checked for typing errors and corrected. This finalised Arabic version was given to a second person who translated back to English and a revision process done as already described. A third bilingual physiotherapist expert was used to check on difficult words which had a specifically medical context and were not easy to translate from English to Arabic. The Arabic version of the LESQ is found in Appendix Ten. Adaptations were made to the English version of the LESQ for the Irish groups because of some differences in educational terminology based on discussions in Dublin with Mr. Peter Yung and Mrs. Sandy Wagstaff. A copy of the LESQ used for Irish participants is found in Appendix Eleven.

Populations used were Palestinian physiotherapists working in the West Bank and Gaza Strip, Palestinian physiotherapy students from Bethlehem University and the UNRWA School for Physiotherapy Assistants in Ramallah, all in their final year of study, physiotherapists from the Republic of Ireland and final year physiotherapy students from Trinity College Dublin. These were all opportunity samples. The Bethlehem student sample was obtained during teaching these students. The Ramallah student sample was obtained via a teacher at that college who was a graduate from the Bethlehem University Upgrading Program. The Palestinian physiotherapy sample was obtained with the help of two research assistants. In the Gaza Strip this was facilitated by a graduate physiotherapist from BU and in the West Bank by a researcher who had previously worked with AMIDEAST. The Irish samples, both student and graduate, were obtained with the help of Mr Peter Yung of the Physiotherapy School at Trinity College Dublin and the Council of the Irish Society of Physiotherapy.

Questionnaires to the West Bank and Gaza Strip were distributed and collected by hand with the assistance of two researchers and the Pontifical Mission for Palestine and translation of open questions from LESQ was done by a Gazan physiotherapy graduate of BU. Data were collected in Ireland by post with the assistance of the Council of the Irish Society of Physiotherapy and the Principal of the Trinity College School of Physiotherapy. The ISP asked for volunteers to help with the project at one of its meetings. Questionnaires were sent to all those who agreed to participate. The student respondents were invited to participate by Mr. Peter Yung, the Principal of the School of Physiotherapy at TCD. Completed questionnaires were either posted to the author in Bethlehem or brought by hand via visitors from the UK.

The number of Palestinian graduate responses from the 16PF is lower than the responses from the TSQ and LESQ and Palestinian student responses are all from BU because the 16PF was sent out at a later date. The Arabic versions of TSQ and LESQ were available before it was possible to find an Arabic version of the 16PF. Responses from Palestinian physiotherapists amounted to 167 and student responses to 25 for TSQ and LESQ. Irish students respondents amounted to 20 students from TCD School of

Physiotherapy. Graduate respondents in Ireland were initially slow in returning questionnaires. At the end of July 1995 only 33 questionnaires had been returned out of 63 who had previously indicated their willingness to be involved. At this point a reminder letter was sent out from TCD. Additional measures to increase the size of the Irish sample were also taken. A letter was written to the Council of the Irish Society of Physiotherapy asking if one of the Branches of ISP would release their membership list to the researcher and another letter published in the Journal of ISP asking for more volunteers to participate. It particularly asked that more male physiotherapists in Ireland get involved as the Palestinian population contained many more men than the Irish population. These measures increased the number of returned questionnaires to 56. A number of responses were received after the data had been analysed. These responses were not used in the study.

The data were analysed using Statistical Package for the Social Sciences (SPSS) for Windows. LESQ responses were considered to constitute nominal data so it was not possible to use parametric tests to analyse the data. Instead these data were analysed using Chi square and Mann Whitney tests, which as non-parametric tests are not as "robust" as parametric tests (Cohen and Manion 1994, Siegel and Castellan 1988). The 16PF results, because they came from a standardized test, constituted interval ratio data so it was possible to use correlation coefficient tests and t tests to analyse data obtained from sten scores. As the TSQ had previously been used by Abdallah (1989) on 900 British and Saudi subjects it was also treated as interval ratio data and correlation coefficient and t tests used for analysis. As the groups were not all the same size formulae for comparing unequal numbers were used (Kinnear and Gray 1994).

CHAPTER EIGHT

RESULTS

8.1 CATTELL 16PF QUESTIONNAIRE

There are eight groups whose profiles are described. Four of these are distinct sub-groups, Palestinian students, Palestinian graduates, Irish students and Irish graduates. In addition to these individual groups are two country groups, Palestinian and Irish, in which both students and graduates are viewed together and two age related groups, students and graduates, combining both Palestinian and Irish elements together. As the main subjects of the study are Palestinians it is appropriate to discuss the Palestinian profile first followed by Palestinian student and graduate pictures and repeat this order with the Irish profiles and finally to consider the combined student and graduate profiles.

8.1.1 Palestinians (students and graduates)

Here, as for each group described, the results are based on sten scores already described in Chapter Seven. There are a number of norm tables with which the profile can be compared, the most commonly used of which are the General Population norm tables. These combined Male and Female tables are the ones that have been used as the profile population contains both male and female respondents. General Population tables assume a mean age of 30 years, whereas this sample of 145 respondents has a mean age of 27 years. For this reason age correction factors for men and women were carried out for certain factors. See the Table and Figure One in Appendix Sixteen for summaries of 16PF data.

Palestinians [students and graduates in physiotherapy] differ from the general population in terms of *emotional stability* [C-], *boldness* [H+], *lack of sensitivity* [I-], *shrewdness* [N+], *group dependence* [Q2-] and *self-discipline* [Q3+]. See Appendix Nineteen for t test results for all groups for 16PF.

Low scores for *emotional stability* usually reflect anxiety (Krug 1981). Low scorers have less resources available to meet challenges, are able to reach personal goals only with difficulty and are easily distracted. Karson and O'Dell (1976) add that low scorers are "evasive of responsibilities". Palestinians as a national group have plenty of reasons for anxiety, many of them do feel that they are not able to meet the demands of life and have to struggle to get the education and employment opportunities they want for themselves and their families. Cattell (1989) says such people like "fairly routine jobs that do not call for responding to crises or unexpected demands". Where low C scorers are working as nurses they suffer from work-related stress. Physiotherapy, as practiced in the West, cannot be described as a routine job, but the old-style technician approach to physiotherapy was much more routine work. This technician approach to physiotherapy is still prevalent in areas in Palestine where physical medicine doctors trained in Eastern Europe hold sway over treatment decisions. Intra group differences show that graduates are more stable than students **(significant at the 0.05 level)**. Student days, particularly for those studying vocational professions are times when big challenges have to be faced, in terms of self awareness and learning to deal with the problems of patients and their families. Karson and O'Dell (1976) say that low C scores may not be considered to be so important for "persons of different, i.e. non-white-Anglo-Saxon backgrounds".

Boldness or venturesomeness is a characteristic of people who enjoy being the focus of attention, "strong nerved, confident, somewhat romantic, roving souls" (Cattell 1989), willing to take risks. This trait has been called the "Errol Flynn factor" (Karson and O'Dell 1976). Western ideas of Arabs may see them like this, riding across the desert on a camel. Settled communities of Arabs lose this romantic appeal but one can see shades of this boldness when driving a car in Hebron, Nablus or Gaza. If this trait can be viewed as not being afraid to ask for what you want, not easily accepting "No" for an answer then this is still a Middle Eastern trait.

This group is *tough-minded*, they are unsentimental, realistic and may be cynical. This characteristic is considered masculine and the strength of the trait may be influenced by over half the sample being male in a culture where there are clear gender differences in behaviour. Engineers and other technical groups possess this trait which helps them

to be logical and have a high stress tolerance. Given the technical, orthopaedic bias of physiotherapy practice in Palestine it is not surprising that practitioners have similar characteristics to engineers.

The *shrewd* man or woman wears a "social mask". He or she plays their cards close to their chest and prefer to keep problems to themselves. They are not easily swayed by feelings but are polite and diplomatic in their dealings with people and are especially successful in formal interactions. They are calculating, ambitious and insightful. This is certainly a Palestinian trait, but whether it is a personal characteristic or a social convention is difficult to decide as the "social mask" is donned very early in life.

Low Q2 scores can be seen as *group dependency* in Arab culture. Need for the support of groups, especially family groups is evident. These people enjoy society, they gain satisfaction from group identification and place a lot of emphasis on group processes. These words could have been easily written by an Arab for whom loneliness is a frightening thing.

High Q3 scorers can be described as the ability to "bind anxiety". Such persons are socially precise, with unconditional self-regard and a bias towards perfectionism. They want to maintain their self respect and be positively regarded by others. This group has a well defined occupational identity and the ability to keep trying when a problem is difficult to solve. Arabic society requires members to think well of themselves because others think well of them. Intra group differences are seen in this trait with graduates more *self disciplined* than students **(significant at the 0.005 level).**

Intra-group differences were found on six other factors which showed average scores for the whole group. Students compared to graduates were *warmer* [A+] **(significant at the 0.01 level)**, more *impulsive* [F+] **(significant at the 0.05 level)** and more *conforming* [G+] **(significant at the 0.01 level)**. Graduates were more *intelligent* [B+] **(significant at the 0.001 level)** and radical [Q1+] **(significant at the 0.0005 level).**

8.1.2 Palestinian students

Palestinian students show a different profile to the general population in being *warm hearted* [A+], less *intelligent* [B-], *emotionally unstable* [C-], *dominant* (E+), *impulsive* F+], *bold* [H+], *suspicious* [L+], *practical* [M-], *shrewd* [N+], *conservative* [Q1-] and *group dependent* [Q2-]. There are 16 subjects in the sample and as the mean age is 22 years age correction factors were done when calculating sten scores.
Lack of emotional stability [C-], *boldness* [H+], *shrewdness* [N+] and *group dependence* [Q2-] are similar to the profile of the whole Palestinian sample and have already been discussed in the previous section of this chapter, but *warmth* (A+), less *intelligence* [B-], *dominance* [E+], *impulsivity* [F+], *suspiciousness* [L+], lack of *imagination* [M-] and *conservative* attitudes [Q1-] are unique to the student profile. Appendix Sixteen shows a summary of all the 16PF profiles.

Warm hearted people show a marked preference for and frequently are more successful and satisfied in occupations where interpersonal contact is a critical feature. They enjoy social recognition, are not afraid of criticism and are often leaders of groups. This group is made up entirely of Bethlehem University students and reference back to Chapter Six will show that the selection process implicitly emphasizes this characteristic. It would seem that the respondents were well chosen in terms of this quality.

The low *intelligence* scores are surprising for university students. Intelligence is not a personality dimension but may provide a rough measure of intellectual ability against which to understand the personality. Cronbach (1970) suggests a minimum of 40 items is required to reliably assess intelligence. As there are few such items in any one form of the 16PF it may be inappropriate to pay attention to intelligence profiles. There are many instances when average or low scores do not reflect the examinees' actual intellectual level, such as anxiety, pre-occupation with troubles or being distracted by environmental stimuli. There has been no time during their education when this test could have been administered to students in Palestine without such pre-occupations and distractions.

Dominance, at first glance, would seem surprising in a group of young people from a culture which values age and experience. However these young people learnt to be self-assertive, forceful and confident during the Intifada. They also had to compete against many candidates to be accepted into the Physiotherapy Department. They were chosen for their ability to "put their ideas into practice", enjoy challenges and demonstrate leadership potential. Their experience of the competency-based, problem solving curriculum in the Physiotherapy Department enabled them to prove Cattell's Confidence-Ratio Theory that "people will act dominantly according to the degree to which they have the confidence to pit themselves against opposition".

Impulsivity can be seen as a characteristic of youth, showing the "primal exuberance of the natural child" and there is a steep downward trend on scores between the ages of 20 and 30. High F scorers are lively, enthusiastic and lacking in inhibitions. They enjoy jobs that offer change and variety and show much enthusiasm for work, providing it is of their choosing.

Suspiciousness means that high scorers do not forget the mistakes of others easily, they like to fight and are quick to take offence. However the positive side of this trait is that it makes for critical observation, promotes competition and positive performance in creative fields of work.

The opposite end of the pole to *imaginative* is *practical* [M-]. Low M scorers perceive the world using immediate sensory experience deriving awareness from the five senses. They value the concrete, are attentive to detail and are able to keep cool in emergencies. They prefer the familiar and predictable and have very good memories but may have difficulty "seeing the wood for the trees". In terms of patient management they are well able to work unsupervised.

Conservativism is less prevalent in people in middle life than in young people. Low Q1 scorers are appreciated for their staunchness and are able to maintain long-lasting relationships. They have usually been strongly socialized by their families and in their work rely on following clearly defined policies and procedures.

In addition to primary source traits, second order and composite factors can be calculated from various combinations of primary traits. Cattell believes that these secondary factors are better aligned with reality (Karson and O'Dell 1976). *Extraversion* is derived from warmth [A], impulsivity [F], boldness [H] and self-sufficiency [Q2]. Palestinian students sten score is 7.2. *Anxiety* derives from emotional stability [C], boldness [H], and suspiciousness [L] and yields a score of 6.4. *Adjustment* derives from intelligence [B], emotional stability [C], dominance [E], impulsivity [F], conformity [G], boldness [H], sensitivity [I], insecurity [O], radicalism [Q1] and tension [Q4] and yields a score of 4.7. *Creativity* derives from warmth [A], intelligence [B], dominance [E], impulsivity [F], boldness [H], sensitivity [I], imagination [M], shrewdness [N], radicalism [Q1] and self-sufficiency [Q2] and yields a score of 7.6. To summarise **Palestinian students are creative, anxious, extroverts with high leadership potential quite independent and self reliant but not very well adjusted to life.** No statistically significant gender differences were found.

8.1.3 Palestinian graduates

This group contains 129 subjects and their mean age is 27 years. The group profile differs from the Palestinian general and student profiles in *conformity* [G-] and from the Palestinian student group in low *sensitivity* [I-] and *self sufficiency* [Q2-]. There is one difference for composite factor scores, graduates showing below average *creativity*.

Conformity as already mentioned is less prevalent in those of middle years. One can hardly describe a population with a mean age of 27 years as middle aged but they are older than the student sample. Low scorers on the I factor can be described as "tough minded". They are concerned with facts and thinking rather than feeling and have utilitarian rather than aesthetic values.

Differences between the sexes were found for three factors. Males were more *bold* than females (**significant at the 0.05 level**) and more *secure* than females (**significant at the 0.001 level**). Females were more *tense* than males (**significant at the 0.01 level**). The

summary provided by second order factors describes a group who are **moderately extravert and self reliant with little creativity**.

8.1.4 Irish (students and graduates)

This sample is made up of two very disparate groups with a big age difference between them. There are 76 in the sample with a mean age of 34 years which is much closer to the Graduate group mean age of 38 years than the Students who have a mean age of 20 years. As the majority of respondents are female any age corrections necessary have been taken from Female General Population tables.

Three scores are above or below the mean, *dominance* [E-], *practicality* [M-] and *self discipline* [Q3+]. The Irish sample can be described as moderately *submissive*. Low E scorers are more responsive to inner demands than environmental cues, they behave deferentially to all in order to be liked by everyone. They are usually followers rather than leaders. As males show higher E scores than females, the low scores of this sample may be due to the majority of respondents being female. Moderately low M scores are shared with Palestinian students and have already been discussed. High Q3 scores are shared with the Palestinian sample and has also already been discussed. Intra group differences are found on factor Q3+ (*Self discipline*) in which students score lower than graduates but this difference is not statistically significant. Also students are more *outgoing* [A+] compared to graduates, less *intelligent* [B-], less sensitive [I-], low scoring on Q1 (*conservative*) where graduates are more radical and less imaginative [M-], all significant at the 0.01 level.

8.1.5 Irish students

There are 18 subjects in this group, the majority of whom are female, and the mean age is 20 years. They share low E (*submissive*) and M (*practical*) scores with the Irish sample. In addition Irish students are *outgoing* [A+], less *intelligent* [B-], *impulsive* [F+], *shrewd* [N+], *conservative* [Q1-] and *dependent* [Q2-]. None of these results are surprising and could be seen in any European student sample.

Differences between the sexes were found for a number of items. Males were more *emotionally stable* **(significant at the 0.05 level)**, more *secure* **(significant at the 0.001 level)** and more *self disciplined* (Q3+) than females **(significant at the 0.05 level)**. These gender differences should be viewed with caution as there were only two males in the sample. **Second order and composite factors show relatively low independence (4.5) and low creativity (2.6).**

8.1.6 Irish graduates

This sample has 56 subjects, the majority of whom are female, with a mean age of 38 years. The group profile shares *submissive* and *self discipline* characteristics with the Irish sample and is very different to the Irish student sample. Irish physiotherapists are *reserved* [A-], highly *intelligent* [B+], *sensitive* [I+] and *radical* [Q1+].

Low A scorers are described as *cool, aloof and detached.* They may focus on ideas and objects rather than people. They reject compromise and prefer to work alone. In occupational terms they make good research scientists. This group has the highest *intelligence* score of all the groups in this study. B+ scorers have the capacity to discern relationships between things and ideas. I+ scorers are *intuitive* and empathetic, they are not good working in groups as they dislike confrontation and hostility. Socially they enjoy new experiences and cultural activities. Factor I is described by some psychologists as "feminine". **Second order factors present a picture of fairly high control, leadership and adjustment.**

8.1.7 Student profile (Palestine and Ireland)

There are 36 subjects in this group and the mean age is 21 years. The student profile shows that they are *outgoing* [A+], less *intelligent* [B-], *emotionally unstable* [C-], *impulsive* [F+], lacking in *sensitivity* [I-], *suspicious* [L+], *shrewd* [N+], *conservative* [Q1-] and *dependent* [Q2-]. All of these factors have been discussed previously.

Intra-group differences were found on four factors. Irish students are more *intelligent* than Palestinians **(significant at the 0.05 level)** and more *stable* than Palestinians **(significant at the 0.001 level)**. Palestinian students are more *dominant* than Irish students **(significant at the 0.001 level)** and more *suspicious* than Irish students **(significant at the 0.05 level)**.

8.1.8 Graduate profile (Irish and Palestinian)

There are 185 subjects in this sample and the mean age is 33 years. Similar to the Irish sample, this group is made up of two very different sub groups. The Palestinian group is much larger, 129 compared with 56 and there are intra-group differences in age, the Irish sample with a mean age of 38 years and the Palestinians having a mean age of 27 years. Two factors are derived from both Irish and Palestinian sub groups, those of *dependence* [Q2-] and *self-discipline* [Q3+]. Other scores above or below average scores are more related to Palestinian graduate scores, those of *emotional instability* [C-], *boldness* [H+], lack of *sensitivity* [I-] and *shrewdness* [N+]. As all of these characteristics have been described previously there is no need to do so now.

Intra-group differences were found on nine factors. Palestinian graduates are *warmer* **(significant at the 0.0001 level)**, more *dominant* **(significant at the 0.005 level)**, *bolder* **(significant at the 0.05 level)**, more *suspicious* **(significant at the 0.001 level)** and *shrewder* than Irish graduates **(significant at the 0.0001 level)**. Irish graduates were more *intelligent* **(significant at the 0.0001 level)**, more *stable* **(significant at the 0.0001 level)**, more *conforming* **(significant at the 0.05 level)** and more *sensitive* than Palestinian graduates **(significant at the 0.0001 level)**.

8.2 TAISER SELF ESTEEM QUESTIONNAIRE

Groupings described follow the same order as found in the previous section dealing with the Cattell 16PF results. Copies of the TSQ Questionnaire in English and Arabic are found in Appendices Seven and Eight. In terms of this questionnaire the strength of answers is graded from Strongly agree, Agree, Disagree, Strongly

disagree. Responses are coded from 1 to 4 respectively. Assumptions could be made that respondents would agree with positively written questions and disagree with negatively phrased questions in a questionnaire dealing with the subject of self esteem. Answers that follow the system described above are called Typical answers and those that do not follow what might be expected are called Atypical answers. Questions are mentioned in the text if 25% or more of the sample give atypical answers. Typical answers are described if there are intra group differences in groups.

Mean ages of samples are similar to those described in the previous section but numbers in most samples are higher. The Palestinian sample includes 191, 25 Palestinian students and 166 Palestinian graduates. The Irish sample contains 76 with 20 Irish students and 56 Irish graduates. Combined graduate numbers are 222 and student numbers are 45. A summary of TSQ data is found in the table in Appendix Seventeen and also Figure Two in Appendix Seventeen. T test results for all groups are found in Appendix Twenty.

8.2.1 Palestinians (students and graduates)

The Palestinian sample gave atypical answers for 20% of the total number of questions [7 questions out of 35]. Most of the questions concerned feelings about one's self for example:

Question 3. **I often wish I could have more respect for myself.** 61% agreed with this statement.

Question 4. **There are times I feel useless.** 32% agreed with the statement.

Question 10. **There are a lot of things about myself that I would like to change.** 45% agreed with the statement.

Question 15. **If things go wrong I tend to blame myself.** 58% agreed with the statement.

Question 22. **Sometimes I feel that I cant do anything well.** 24% agreed with the statement.

One question dealt with the person's perception of others' feelings about them eg:
Question 17. **I often worry about what other people think of me.** 24% agreed with the statement.

One question addressed feelings about other people eg:
Question 28. **Sometimes I feel I can't trust people.** 47% agreed with the statement.

This profile shows a group who are not satisfied with themselves and want to change. Particularly they feel ill equipped to deal with life. Statistically significant intra group differences were found for Question 4 only. Students felt more useless than graduates, **(significant at the 0.01 level).**

8.2.2 Palestinian students

All Atypical answers given by the Palestinian sample are found in this group, in addition to Question 18 relating to being seen by others as a failure. The Palestinian student profile shows people who don't respect themselves [52% agreed with statement], sometimes can't do things well [32%], blame themselves when things go wrong [56%], feel useless [48%] and want to change [48%]. They worry what other people think about them [36%] particularly in terms of failure [36%] and feel they cannot trust people [52%].

Intra group differences show that females respect themselves less, want to change more and feel less trustful of others than males. None of these differences were statistically significant.

Three questions with Typical answers showed differences between the sexes. For Question 19. **I take good care of myself physically** , Question 22 [see page 127]. and Question 27. **I often feel that I am a failure,** more males answered Strongly agree than females. None of these differences were statistically significant.

8.2.3 Palestinian graduates

Atypical answers were found for Questions 3, 10, 15 and 28, similar to the Palestinian profile. In addition Question 12. **I am mixed up in my life**, was Agreed or Strongly agreed to by 70% of respondents. This group do not respect themselves, would like to change, blame themselves when things go wrong, feel that their lives are mixed up and cannot trust people. Statistically significant differences between the sexes were found for Question 28. Females are more trusting than males (**p= 0.05**).

8.2.4 Irish (students and graduates)

This profile shows a group with high self esteem and less than 25% Atypical answers to questions. Later it will be seen that Irish graduates contribute mostly to this picture as Irish students do give some Atypical answers but, being a much smaller group than the graduate group, do not contribute much to the mean Irish score. However they do show up on intra group differences.

Differences between graduates and students were found on Questions 3, 4, 7, 8, 10, 14, 17 and 27. Questions 3, 4, 7, 10, 17 and 27 have already been described in relation to Palestinian samples. Question 7 says "**My friends have no confidence in me**" and Question 14 says "**I have a low opinion of myself**".

Students were less sure that friends had confidence in them (**p=0.05**), had a lower opinion of themselves (**p=0.05**), felt more useless (**p=0.001**), were less satisfied with themselves (**p=0.0005**), wanted to change more (**p=0.05**), worried more about what others think of them (**p=0.01**) and felt more of a failure than graduates (**p=0.01**). Graduates had more respect for themselves than students (**p=0.005**).

8.2.5 Irish students

Atypical answers were found for Questions 10 and 22 in common with Palestinian students and graduates. Atypical answers to Questions 11 and 21 are peculiar to Irish students. The group profile shows a desire to change, a feeling of not being competent, a dissatisfaction with physical appearance (Question 21) and a lack of confidence (Question 11).

T tests showed differences between the sexes for Questions 11 and 22. Females feel less confident and less able than males. Gender differences were also noted for Questions 2, 27 and 35 in which were no Atypical answers. Females were more afraid of failure, and less sure or valued than males (**p=0.001**).

8.2.6 Irish graduates

No Atypical answers were found in this group and no differences between the sexes

8.2.7 Students (Palestine and Ireland)

Atypical answers were found for Questions 3, 4, 10, 12, 13, 15, 18 and 22. All these questions have previously been described except Question 13 **"I often wish I were someone else"**. Student sample scores for desire to change and not being able to do things well come from both Palestinian and Irish student groups. Lack of self respect, blaming one's self if things go wrong, and worry that others see you as a failure come from the Palestinian student profile and dissatisfaction with appearance comes from the Irish student profile. Desire to be someone else and feeling that one's life is mixed up are an accumulation of Atypical scores from both groups. The student sample seem to have a low self esteem. They don't respect themselves, feel useless and mixed up, they would like to change because they can't do things well, blame themselves, would like to be someone else and are dissatisfied with their appearance.

Significant differences between Palestinian and Irish students were found on Questions 1, 7, 11, 14, 17 and 21. Palestinians had a more positive attitude to themselves

(**p=0.005**), believed that friends have confidence in them (**p=0.001**), had more confidence in themselves (**p=0.005**) and were more satisfied with their appearance (**p=0.001**). Irish students had a lower opinion of themselves (**p=0.01**) and worried more what others thought of them (**p=0.05**).

8.2.8 Graduates (Palestinian and Irish)

No Atypical answers were found here but there were differences in the Typical answers between the two groups. Both sub groups had a positive self image but focussed on different aspects. Palestinian graduates had a more positive attitude to themselves (**p=0.001**), were more confident (**p=0.001**), took better care of themselves (**p=0.01**), were more satisfied with their appearance (**p=0.0001**) and felt that their family could rely on them more than Irish graduates (**p=0.001**), but also were more mixed up (**p=0.0001**) and worried more about what others thought of them (**p=0.001**).

Irish graduates had more respect for themselves (**p=0.0001**), had a greater sense of worth (**p=0.05**), liked who they were more (**p=0.0001**), were happier (**p=0.001**) and more friendly than Palestinians (**p=0.05**), but felt more useless (**p=0.005**) and wanted to change more than Palestinians (**p=0.0001**).

8.3 SIMILARITIES BETWEEN CATTELL 16PF AND TAISER SELF ESTEEM QUESTIONNAIRES

Although self esteem cannot be equated with personality, a person's perception of himself influences how he evaluates himself and thus how he completes a self rating inventory. In a previous study the author drew comparisons between 16PF scores and values elicited from the Allport, Vernon Lindsay Study of Values (Dawson 1982). In a similar fashion it should be possible to say that the 16PF and the TSQ are testing similar phenomena but from different perspectives. The 16PF being a well standardised test is already validated. The TSQ was validated in 1989 and has previously been used in one study. The fact that there are many correlations between the two tests adds strength to use of the TSQ.

The similarities recorded here between the two questionnaires were found to be significant using the Pearson Product Moment Correlation Coefficient test. All results were significant at the 0.05 level. A description of a characteristic followed by an alphabetical letter denotes traits from the 16PF questionnaire and those qualities described and followed by a number are from the TSQ. See Appendix Twenty Three for correlations between 16PF and TSQ.

Emotional warmth [A] correlates with having a *positive attitude to oneself* [1], *satisfaction with one's appearance* [21], *happiness* [25] and *reliability* [31]. *Intelligence* [B] links to feeling that one is *trustworthy* [26]. *Emotional stability* [C] correlates with feeling *confident* [11], feeling *competent* [22] and that other people can be *trusted* [28]. *Dominance* [E] relates to having a positive *attitude* to one's self [1]. *Conformity* [G] is linked to feeling *mixed up* [12] and *sensitivity* [23]. *Boldness* [H] correlates with satisfaction with *appearance* [21] and and *family relationships* [33]. *Sensitivity* [I] relates to *attitude* to self [1], not feeling *useful* [4], lack of *confidence* [11], low *opinion* about one's self [14] and *worrying* what others think about one [17]. *Practicality* [M] relates to being *able* to do things well [6]. *Shrewdness* [N] correlates with feeling *honest* [5] and confident [11]. *Conservativism* [Q1] correlates with feeling *useless* [4] and self *blaming* [14]. Being *relaxed* [Q4] is associated with feeling *able* to do things well [6].

8.4 LESQ BIOGRAPHICAL QUESTIONNAIRE

This questionnaire looks at data about general and physiotherapy education, work experience and opinions about continuing education, teamwork in health care, new aspects of the practice of physiotherapy and comparisons between home country and outside. The two graduate profiles contain answers to all these questions but the two student profiles have answers to a selection of questions appropriate to the fact that, at the time of completion, they were not practitioners. For this reason there are no detailed Palestinian or Irish profiles containing both graduate and student groups as the answers would be similar to those given by the country-graduate groups. Only where there are statistically significant differences between answers of sub group members will these be noted.

Copies of the questionnaire in English and Arabic are to be found in Appendices Nine, Ten and Eleven. There is a separate English copy for Irish respondents in Appendix Eleven as some questions had to be written in slightly different forms, for example, Question 7 in the Palestinian version asks "What was your Tawjihi average ?" and Question 8 asks "What Tawjihi stream did you take ?". Neither of these questions is appropriate to Irish respondents as they do not differentiate into Arts or Science streams for the school leaving examination and they have a different system of counting points for university entrance. Question 10 had also to be adapted as Palestinian respondents have three possible choices for schooling, private, government and UNRWA for refugees. In Ireland there are four different options those of state, private, church-fee paying and church-non fee paying. Detailed profiles for all groups can be found in Appendices Twelve, Thirteen, Fourteen and Fifteen and a summary of data in Figure Three of Appendix Eighteen. This section will concentrate on an outline profile of each group and emphasis on the statistically significant intra group findings from the Mann Whitney and Phi Coefficient tests. Numbers for the groups are similar to TSQ numbers.

8.4.1 Palestinian students

This group is made up of 16 final year students at Bethlehem University Physiotherapy Program and 9 second year students from Tireh UNRWA Physiotherapy Assistants Program. A detailed profile is found in Appendix Twelve.

The typical Palestinian student is a *single female aged 20 years old* who was born and lives in the *West Bank*. She gained a Tawjihi average of *between 70 to 79% in the Science Stream* and took the Tawjihi examination sometime *between 1990 and 1994*. She attended a *government school* for her general education and *Bethlehem University* where she took a four year degree in physiotherapy. She chose BU because it was the first place in the country to offer the subject and chose physiotherapy because it was needed as a result of the people injured in the Intifada. She is reasonably *satisfied* with her physiotherapy education. Although not yet graduated she has already developed patient and modality preferences. She prefers to treat patients with *orthopaedic*

problems, to *use exercise* and is happy to *treat both sex patients.* She feels reasonably *well prepared* for her clinical practice, except in some aspects of neurology. She believes that physiotherapists should *sometimes decide treatment plans* for their patients because doctors don't assess the patients thoroughly enough before they send the patient to the physiotherapy department. She feels that the physiotherapist *always has a health education role* especially in the prevention of back problems. She believes that physiotherapists should *always teach carers simple activities* to help them manage their disabled family member at home, especially therapeutic exercises. She feels that *doctors, nurses and social workers have good knowledge* about the work of a physiotherapist. She believes that she is *responsible for her learning* and has already *written some patient education materials.* She knows that there are *differences in physiotherapy practice* between Palestine and abroad, mainly related to availability of resources.

Significant gender differences were found in the group using Mann Whitney tests for Questions 12, 14 and 45. All p values are two tailed. All males had a longer period of physiotherapy education (**p = 0.05 level**), all males received a degree, females are divided between degree and diploma (**p =0.05**) but more females had prepared patient materials than males (**p=0.005**). See Appendix Twenty One and Twenty Two for LESQ Chi Square and Mann Whitney results.

8.4.2 Palestinian graduates

The typical Palestinian physiotherapist is *male, 27 years old and married with no children.* He could have been born in Gaza or the West Bank but is probably *working in the West Bank.* His Tawjihi score was *between 70 to 79%* and he took the Tawjihi examination *between 1980 and 1989.* He attended a *government school* for secondary education, studied physiotherapy to *diploma level inside the country* and graduated *between 1990 and 1995.* He studied physiotherapy because it was an important new profession and chose his particular college because it was the only choice he had. He was reasonably *satisfied* with his physiotherapy education. A more detailed profile is found in Appendix Thirteen.

He is employed as a physiotherapist in the West Bank in an *out patient clinic*, where he has worked for *between one to five years* and is reasonably *happy* to work there because it is close to his home. He prefers to treat patients with *orthopaedic problems,* prefers to *use exercise* and is happy to *treat both sex patients*. He was reasonably well *prepared to begin working* except in the area of paediatrics. He believes that physiotherapists should *sometimes have the right to decide on treatment regimes* for their patients because this is part of a physiotherapist's education. He believes that physiotherapists *always have a health education role*, especially in the area of prevention of injury. He thinks that physiotherapists should *always teach carers simple activities*, especially therapeutic exercises. He thinks that *doctors, nurses and social workers understand* very well what physiotherapists do.

He has attended at least one *workshop* in the last year inside the country and has not lectured or organised workshops. He has read *professional books* in the last year, obtained from the library at his place of work but has not read any *professional journals*, nor *written any patient education materials*. He believes that he is *responsible for his own learning* but does not know of any *research* that has changed the practice of physiotherapy. He knows there are *differences between physiotherapy practice inside and outside Palestine,* related to culture and the political situation.

Significant gender differences, using Mann Whitney and Phi Coefficient Tests, were found for Questions 5 ,6, 9, 12, 14 ,21 ,23C, 24C and 34B. More males are married with children **(p=0.01 using Mann Whitney and Phi Coefficient)**. More males than females took the Tawjihi examination earlier **(p=0.005 Mann Whitney)**, received longer education **(Mann Whitney p=0.005)** and received a degree than females **(Mann Whitney p=0.05)**. Males have been working for a longer time than females **(Mann Whitney p=0.05)**. Males have a greater preference for treating neurological patients **(Mann Whitney and Phi coefficient p=0.01)** and for using manipulation as a treatment modality than females **(Mann Whitney and Phi coefficient p =0.01)**. Males think that nurses have better knowledge of physiotherapy than females **(Mann Whitney p=0.05)**. Chi Square and Mann Whitney results are found in Appendices Twenty One and Twenty Two.

8.4.3 Palestinian students and graduates

Significant differences in responses were found only for Question 10. More graduates attended government schools than students (**Mann Whitney p=0.05**).

8.4.4 Irish students

The typical Irish physiotherapy student is a *single female aged 20 years*. She was born in *Ireland*, outside Dublin, and studies for a degree at *Trinity College School of Physiotherapy*. She scored at least *561 points on the Matriculation examination* which she took in *1990 or later*. She attended a *church non-fee paying school* for secondary education. She chose the profession because she wanted a career in health care and the college because it has a good international reputation. She is reasonably well *satisfied* with the course. She has already developed a preference for treating *cardio-thoracic patients and using exercise therapy*. She feels that she was well *prepared* for clinical practice.

She believes that the physiotherapist should *always decide the treatment plan* for her patients because physiotherapists are trained to assess patients. In her opinion, the physiotherapist *always has a health education role,* especially in aspects of exercise. Carers should *sometimes be taught simple activities*, especially chest physiotherapy. She thinks that *doctors, nurses and social workers understand quite well the role of the physiotherapist*. She has attended *workshops* in Ireland. She has read *professional books* in the last year, obtained from the library of the college, mainly in the area of orthopaedics. She may have read professional journals also obtained from the library. She has not *prepared patient education materials*. She believes herself *responsible for her learning* and knows about *research* that has changed physiotherapy practice. She knows that there are *differences in practice* inside and outside Ireland because of differences in perceived autonomy. A more detailed profile is found in Appendix Fourteen and Chi Square and Mann Whitney results in Appendices Twenty One and Twenty Two.

8.4.5 Irish graduates

The average Irish physiotherapist is *female, single and 38 years old*. She lives in *Dublin* and took her Matriculation examination *before 1980*. She did her physiotherapy education at *University College Dublin* and graduated *after 1980* with a *diploma*. She studied physiotherapy because she wanted to work in health care and chose UCD because it had a good reputation. She was reasonably *satisfied* with her education.

She has worked in a *general hospital* for more than five years because she likes the system and experience available. Her patient preference is for *orthopaedics* and modality preference for *exercise*. She feels that she was well *prepared* to work as a physiotherapist, except in the area of paediatrics. She believes physiotherapists should *always decide treatment plans* for their patients because physiotherapists are educated to do this. The physiotherapist *always has a health education role* specially in the area of prevention of injury. She does not *teach carers simple activities* to help manage their family member at home. She thinks that *doctors, nurses and social workers are reasonably well informed about physiotherapy*.

In terms of her own continuing education, she has attended *workshops* in the last year in Ireland but has not *organised* or *lectured* at these workshops. She has read *professional books,* particularly in the field of orthopaedics, which she has bought. She reads physiotherapy *journals* obtained from libraries. She has not prepared *patient materials*. She knows about *research* that has changed the practice of physiotherapy and *differences in practice* inside and outside the country caused by differences in perceived autonomy. A more detailed profile is found in Appendix Fifteen and Chi Square and Mann Whitney results in Appendices Twenty One and Twenty Two.

Significant gender differences were found for Questions 5 and 26. More males were married than females (**Mann Whitney p=0.05**). Males were more satisfied with the preparation for work received during education than females (**Mann Whitney p=0.05**).

8.4.6 Irish (students and graduates)

Significant group differences were found for a number of questions. More students than graduates were awarded a degree (**Mann Whitney p=0.0001**), and students are more confident than graduates of doctors' knowledge of physiotherapy (**Mann Whitney p=0.01**) and social workers' knowledge of physiotherapy (**Mann Whitney p=0.01**). Graduates are less reliant on teachers (**Mann Whitney p=0.05**) and show greater reliance on exercise as a treatment modality (**Mann Whitney and Phi Coefficient p=0.05**).

8.4.7 Students (Irish and Palestinian)

Significant group differences were found for a number of questions. More Irish students attended private schools (**Mann Whitney p=0.05**), more Irish were awarded a degree (**Mann Whitney p= 0.005**). Irish were more satisfied with professional education than Palestinians (**Mann Whitney p=0.0005**). Irish show greater preference for using electrotherapy (**Mann Whitney p=0.05**) and are more definite about physiotherapists making decisions about patient treatment than Palestinian students (**Mann Whitney p=0.0001**). Palestinians show greater preference for using exercise (**Mann Whitney and Phi Coefficient p=0.05**) and are more positive about the health education role of the physiotherapist than Irish students (**Mann Whitney p=0.005**)

8.4.8 Graduates (Irish and Palestinian)

Significant group differences were found for many questions possibly influenced by the greater number of men in the Palestinian group (**Mann Whitney p=0.0001**). More Palestinians than Irish attended government schools (**Mann Whitney p=0.0001**). Palestinians were better prepared for work as a result of their professional education than Irish (**Mann Whitney p=0.0001**). More Palestinians are unemployed than Irish (**Mann Whitney p=0.01**).

Palestinians were more positive about doctors' knowledge (**Mann Whitney and Phi coefficient p=0.05**), nurses' knowledge (**Mann Whitney p=0.0001**) and social workers' knowledge of physiotherapy than Irish graduates (**Mann Whitney and Phi coefficient p=0.0001**). Palestinians were more positive about teaching carers simple exercises (**Mann Whitney p=0.0001**).

Irish graduates had longer professional education than Palestinians (**Mann Whitney p=0.0001**), are older than Palestinians (**Mann Whitney p=0.0001**) and took the university entrance examination earlier than Palestinians (**Mann Whitney p=0.0001**). Irish respondents graduated before Palestinians (**Mann Whitney p=0.0001**), more received a degree (**Mann Whitney p=0.05**) and were more satisfied with their professional education than Palestinians (**Mann Whitney p=0.0001**).

Irish graduates have worked professionally for more years (**Mann Whitney and Phi coefficient p=0.0001**) and are more satisfied with their work than Palestinians (**Mann Whitney p=0.0001**). Irish physiotherapists show more preference for treating patients with cardio-pulmonary problems (**Mann Whitney and Phi Coefficient p=0.0005**) and patients with obstetric and gynaecological problems than Palestinians (**Mann Whitney p=0.05**). Irish respondents show greater preference for using electrotherapy (**Mann Whitney and Phi coefficient p=0.005**) and greater willingness to treat opposite sex patients than Palestinians (**Mann Whitney p=0.01**). The Irish group were more certain that physiotherapists should decide about patient treatment plans (**Mann Whitney p=0.0001**) and more positive about the health education role of physiotherapists than Palestinians (**Mann Whitney p=0.0001**).

More Irish physiotherapists have organized workshops (**Mann Whitney and Phi coefficient p=0.0001**) and lectured at workshops (**Mann Whitney and Phi coefficient p=0.001**). Irish graduates were more self reliant (**Mann Whitney p=0.005**) and more aware of differences in the practice of physiotherapy between countries than Palestinians (**Mann Whitney p=0.005**).

CHAPTER NINE

DISCUSSION

Child, in 1974, asked the question "Is there an occupational stereotype of the physiotherapist ?" He felt that physiotherapists had a unique blend of qualities that enabled them to perform their job. If there is an occupational stereotype in physiotherapy is it culture - free ? Is there a general international personality profile for physiotherapists or does the profile differ from country to country depending on differing social expectations and professional demands ? If these questions are answered then it may be possible to decide how much the personal characteristics of the physiotherapist contributes towards him or her being an innovative, problem-solving, forward thinker. This chapter will attempt to answer these questions.

The 16PF test looks at aspects of the self from a relatively "objective" point of view. It asks the respondent to choose from a selection of options what they would usually do, say or think in certain situations. Alternatively, measures of self-esteem and evaluations of the self concept, such as used in this study, are more "subjective", in that the person is asked to agree or disagree with statements written from a personal point of view. The respondent has to evaluate himself more personally in order to complete the questionnaire. Although the TSQ is shorter than the 16PF, it is potentially more threatening as it offers no middle ground between agree and disagree as an answer. One must bear these thoughts in mind when accepting the findings of the TSQ.

The LESQ questionnaire also is potentially threatening as it also asks direct personal questions about aspects of work and education in which the respondents' experience may be less than perfect. He or she may know the value of continuing education but not have taken advantage of any such opportunities. This causes a polarization between what one is or does and what one would like to be or do.

Two other general issues need to be discussed before each questionnaire can be looked at individually. Firstly is the issue of accuracy of translation from English to Arabic. The author had closest control over the LESQ as it was specifically designed for this study. However, even with this questionnaire, one was ultimately in the hands of other bilingual colleagues. One assumes that, as all of these translators were university teachers, their professional integrity can be relied upon, nevertheless the question must be raised.

Secondly one must address the cultural aspect of presentation of self. Western respondents are known to answer what they think the researcher wants to read. Middle Easterners want to give the best possible image of themselves and any significant others. It could be argued that Palestinian respondents may regard the author as a significant other before whom they want to appear in a good light. The fact that responses were anonymous makes it difficult to guess at the identity of respondents but it is possible to put together items of information that could identify respondents. The author wishes to emphasise that total confidentiality of subjects has been maintained throughout the project.

9.1 CATTELL 16PF QUESTIONNAIRE

Human behaviour can be very diverse and may be illustrated by most activities in which human beings engage (Beals et al 1977). The activities in which any group of people participate are set within a physical, psychological and sociological setting. This setting, be it social or professional, affects a person's self concept and professional attitudes and can be the result of a mixture of influences. Some of those influences are religion, education, age, political and historical development. This section will discuss how these influences contribute to the personality profile according to Cattell and in later sections how these link up with the professional profiles described. Appendix Sixteen shows Cattell 16PF profiles and Appendix Nineteen shows t test results.

The 16PF profiles show many **similarities between the two Irish groups** [students and graduates] and **differences can be seen between the other groups**. Palestinians [students and graduates], students [Palestinian and Irish] and graduates [Palestinian and

Irish] differ on some factors. Each group will be considered individually and possible reasons for findings will be discussed. As discussed before Palestinians will be looked at first, followed by Palestinian students and graduates, then the Irish group followed by Irish students and graduates.

9.1.1 Palestinian students and graduates

One of the major differences between Palestinian students and graduates which could account for differences in 16PF profile is age [see Table Four in Appendix Eighteen]. *Enthusiasm* [A], *impulsivity* [F], *dominance* [E] and *conformity* [G] are characteristics of youth and *emotional stability* [C], *self sufficiency* [Q2] and *self control* [Q3] increase with age. *Conforming* to the wishes of elders [Q1] in such matters as career and life partner are still common especially in the rural areas of Palestine and family pressures are stronger on young people who may still be financially dependent on their parents and older siblings. Those who are themselves parents and older siblings are less susceptible to such pressures, in fact they are exerting pressure on others. *Tender mindedness* [I] can also be attributed to lack of experience in deciding what aspects of life one can control and those towards which one has to take a philosophical view that these aspects of life must be endured if they cannot be changed. Respondents' answers are compared with General Population Scales whose mean age is 30 years. The graduate sample mean age of 27 years is closer to this scale than the student sample age of 20 years with older respondents [graduates] less conservative than younger ones.
The differences between students and graduates disagrees with Pearson's findings (1979) in which he found a trend in occupational therapy students of increased conservatism with age, older students being more realistic and less idealistic.

One would expect that students would show higher scores for *intelligence* than graduates, as students are in an academic environment and graduates have been away from such an environment for some time. The unexpectedness of the low intelligence results may be due to a mixture of reasons. The student sample are all from a degree course whereas the physiotherapists graduated from a variety of diploma and degree courses, however the life experience of graduates is greater than students. One third of the graduates were educated abroad. In these places they studied curricula mostly based

on Western ideas. Graduates are probably more used to answering multiple choice questions than students who went through the crucial final years of their school education during the Intifada during which time Palestinians withdrew from the influence of other cultures, especially Israeli and American. During the Intifada many schools closed for long periods of time and students lost weeks and sometimes months of schooling. At the end of the school year groups of students were promoted, assuming they had covered the material of the previous year. This promotion was enforced by the Education Department at the Israeli Civil Administration regardless of what knowledge and skills had been mastered in the previous year.This meant that young people entering university had gaps in their general knowledge that not all of them filled. *Outgoingness* [A] was a characteristic considered when these students were interviewed and *Tender mindedness* [I] was also considered to be a desirable quality for a physiotherapist. These factors are not usually considered in a technician model of physiotherapy which is probably why graduates do not show these characteristics. *Dominance* [E] may also be a result of the independent practitioner emphasis of the Bethlehem University curriculum [see Appendix Twenty Four].

Second order and composite factors provide a useful way of summarising the relationships found among the 16PF scale (Karson and O'Dell 1976). **Palestinian students came out significantly more extrovert, anxious and creative than any other group.**

Extraversion includes A [outgoing], F [enthusiastic], H [socially bold] and Q2 [group orientation]. This factor enables a person "to be good at making and maintaining interpersonal contacts but is not a good predictor of scholastic achievement" (IPAT 90). Making and maintaining interpersonal contacts is at the heart of the therapeutic relationship and central to the assessment process without which the physiotherapist is unable to plan an appropriate and individually tailored treatment programme. One aspect of the BU selection process highlighted the ability to establish a relationship with a child. The thinking behind this was twofold. Firstly, many of those in need of physiotherapy are children and secondly, if a person can relate to a child they can usually relate also to all other age groups.

Anxiety includes C [emotionally unstable], H [sensitive], L [suspicious], O [insecure] and Q3 [low self sentiment]. High scores on this factor "may indicate dissatisfaction with the degree to which one is able to meet the demands of life and achieve what one desires" (IPAT 1990). Palestinian health care is in a state of transition between a developing to a developed country. Almost every country in Europe is sending aid to build up the infrastructure of Palestine. Because of this many ways of achieving the same objective are being suggested by, a different approach from each country. This process, which has increased since the Peace Accord was signed, at a lower level has been going on since the beginning of the Intifada. In this climate Palestinians feel they are not in control. They have become dissatisfied with what they have achieved because of the unrealistic expectations they had about autonomy and now are becoming disillusioned.

Creativity includes B [intelligence], C [ego strength], E [dominance], H [adventurous], I [sensitive], M [imagination], and Q2 [self sufficient]. People who score high on this scale are "imaginative and experimenting but sometimes they cannot see the practical limitations on implementing their creative ideas" (IPAT 1990). The quality of creativity includes originality and adaptation to reality (Richards et al 1988), mental flexibility, spiritual expansiveness, physical stability and emotional fluidity (Firth 1995). This quality means that Palestinians are always able to fix things, even if it is a temporary change. There is always a way round a problem, even if only by failing to ignore the problem. There are plenty of good ideas around but not a lot of ability to follow through and put the ideas into practice. It is not easy for Palestinians to start small and build up slowly, the whole project must be in place before it can begin.

Palestinian graduates are more independent than all other groups. *Independence* includes E [assertive], G [low ego strength], H [venturesome], L [suspicious], M [imaginative], N [forthright], O [self assured], Q1 [radical] and Q2 [self sufficient]. People who score high on this factor "tend to be aggressive, daring and incisive and are likely to exhibit considerable initiative" (IPAT 1990). Social aggressiveness is more an Israeli than Palestinian trait, but a Palestinian who is fighting for his chance to go abroad to study will not take no for an answer. He will keep on pushing when a

European would have given up. A student arguing for a better grade for an examination or assignment can also be very persuasive.

9.1.2 Irish students and graduates

It is possible to argue that most of the differences between Irish graduates and students are related to age and the other differences to education processes and work experience.The mean age of the graduate sample is 17 years older than the students sample and the age range of graduates is greater than students. *Warmth* [A] and *impulsivity* [F] have already been categorised as accompanying youth. At the opposite end of the spectrum *radicalism* [Q1] and *self control* [Q3] have been described as related to older age groups. *Shrewdness* [N] can be accounted for by the differing motivations between students in the present and those who trained in the past. The spirit of altruism was more prevalent in members of the caring professions twenty years ago than today. Now students' main reason for choosing physiotherapy in Europe is to get into the lucrative field of sports medicine, while few students or graduates want to work with elderly patients.

High B scores [more *intelligent*] are indirectly linked to age through the life experience. Although students today need higher grades in university entrance qualifications to get into a degree programme in physiotherapy, these students scored lower than graduates, many of whom studied only to diploma level. One can only assume that this scale is more related to what might be called "common sense" than academic ability. *Tender mindedness* and *imagination* may be linked to both age and education. Selection nowadays for vocational progammes such as physiotherapy is often made on the basis of Matriculation grades. Old style interviews are not so common as numbers are too great to warrant staff time. All physiotherapy applications now go through UCCA rather than via the Chartered Society of Physiotherapy. *Tender mindedness* [I] also relates back to altruism and *imagination* [M] to a time when lack of facilities in departments of physiotherapy meant that physiotherapists had to use their imagination to find ways to achieve their objectives for their patients. Today departments of physiotherapy are usually fully equipped with sophisticated equipment that leaves little room for improvisation.

Second order and composite factors show that students had more tough poise than other groups. *Tough poise* includes A [reserved], E [dominance], F [enthusiastic], I [tough minded], L [suspicious], M [practical] and Q1 [traditional]. People who score high on this factor are "more influenced by facts than feelings, they are often insensitive to other people and orient their behaviour toward the more obvious rather than the subtleties of life" (IPAT 1990). The presence of this factor bears out what has been said about present day students being much more clinically detached from patients. One of the side effects of an increased scientific bias in education is that practitioners stand back more from patient involvement to evaluate the effectiveness of their interventions.

Superego strength and leadership are highest in Irish graduates. *Superego strength* includes G [conscientious] and Q3 [controlled]. People who are high scorers on this factor "have internalized the rules of the milieu in which they function. They are very reliable but may be so controlled as to be perceived as rigid or moralistic" (IPAT 1990). Reliability and acceptance, not rigidity and moralism are important aspects of patient/therapist relationships.

Leadership includes A [extraversion], F [enthusiastic], H [socially bold], O [self confident] and Q3 [controlled]. People with these traits "have the overall maturity needed to resolve conflicts while maintaining an emphasis on getting things done" (IPAT 1990). Irish graduates have worked hard to establish the importance of physiotherapy as an esssential part of the rehabilitation team. Considering that this group is mainly female they have achieved the establishment of the Irish Society of Physiotherapy in the male dominated world of health care in a relatively short time and have made their mark as professionals.

9.1.3 Palestinian and Irish

Differences between Irish and Palestinians result from religious, educational and social norms. One of the major differences between Ireland and Palestine is religious, Ireland being mainly Catholic Christian and Palestine being mainly Sunni Muslim. Irish Catholic Christianity is very community orientated under the spiritual authority of the

priesthood. The presence of a system that organizes most of one's life leads to behaviour which conforms to religious and societal norms [G] (Krahe 1992). *Sensitivity* to breaking those rules [I] and group censure affects people's self criticism and inward reflection (Abdallah 1989). In Islam people pray individually. Even where men pray together in the mosque they are not under the authority of a spiritual leader. In Sunni Islam every man is responsible for himself before God as reflected by [E] *dominance* [E] and *boldness* [H].

Palestinians have a great tradition of *warmth* and hospitality [A] dating from Bedouin times. Arabs going to Europe to study find that people there are slow to invite foreigners into their homes. The Western idea of a person needing "personal space" and time to be alone is alien to Arabic society. If one is ill, one should not be left alone but have companions all the time. This can be very tiring to Westerners living in such a setting who are used to being left alone until they feel better. Shrewdness [N] has long been a Middle Eastern trait as is known by anyone who has tried to bargain with shopkeepers in Jerusalem's Old City. All Palestinians drive a hard bargain in any transaction and are surprised that Westerners accept a given price without negotiating for better terms. *Sensitivity* [I] is not an Arab trait. A person is not encouraged to be reflective about themselves. Who you are is defined by your family and society. In a society in which there are always family members willing to comment on each member's activities, any decision made by an individual is reached after endless family discussions. (Hall and Neitz 1993).

Palestinian education has not encouraged problem solving but rote learning so it is difficult to know if the type of questions asked in the 16PF are familiar to respondents [B]. One also wonders if the questions lose something in translation from English to Arabic ([Przeworski and Teune 1970] cited in Abdallah 1989, Brislin and Yoshida 1994). Some of the questions are phrased in ways that are linked to Western culture. An example would be references to animals which are "haram" or forbidden as unclean to Muslims which interferes with the ability of respondents to deal with the questions rationally. This might cause one to doubt that the *intelligence* aspect of the 16PF is culture fair.

Most of the Irish sample live in and around Dublin, an area which has been least affected in recent years by the activities of the IRA. Everywhere in Palestine has been affected by the Intifada, although Jerusalem less so than the rest of the West Bank. This difference may account for the fact that emotional stability is greater in Ireland than Palestine [C]. If the Irish sample had included subjects from Ulster there may have been more emotional similarities between the two country samples. *Dominance* [E], *suspiciousness* [L] and *boldness* [H] indicate the effects of the Intifada when young people confronted the IDF almost daily. *Dominance* [E] shows their desire to take control of their own lives after generations of being pawns in the hands of other powers. *Boldness* [H] comes from the sense of power felt by people who have attacked armed soldiers, themselves armed only with rocks and home made bombs. *Suspiciousness* [O] arises from the sense of frustration when successive peace talks bring little real change. *Shrewdness* [N] can be be the result of having to tell a convincing story to talk one's way through a road block or curfew. It should be borne in mind that respondents completed the questionnaires prior to Gaza and Jericho gaining autonomy and that many of the findings may be different now that a measure of autonomy has been gained.

9.1.4 Comparison with other studies

This study needs to be put within the context of work done among similar groups. O'Neill in 1976 studied British physiotherapists, Dawson in 1982 studied British physiotherapy students and Wagstaff in 1987 studied European physiotherapists [see Table Two of Appendix Sixteen]. Comparing the results of this study with those of Dawson (1982) the following results are shown. **Palestinian students are less intelligent, less emotionally stable, more impulsive, bolder, more suspicious, shrewder, less self sufficient and less tense than British students**. A note of caution is given by (Karson and O'Dell 1977) that the low scores for [C] for young people "not of White Anglo-Saxon-Protestant variety may not be...serious".

Irish students are warmer, less intelligent, more emotionally stable, more dominant, more impulsive, bolder, less sensitive, less imaginative, less self sufficient and less tense than British students. Wagstaff (1987) also looked at Irish students

using the 16PF test but it is difficult to make comparisons as he gives a profile which is not easy to read. He describes the average Irish physiotherapy student as being " unwilling to defer gratification ... less control over their self conflict ... more willing to follow their urges, more expedient ... confident and forthright ... conservative and group dependent". These comparisons were made, not with the General Population, but with British Undergraduates (Saville and Blinkhorn 1987). Wagstaff's sample appears to differ significantly from the present Irish student sample on factors A, B, N and O., His students being less *outgoing*, more *intelligent*, more *forthright* and less *self assured* than this sample. Eight years separate the two studies during which time the physiotherapy profession in the Republic of Ireland has changed and become more independent and established and physiotherapy education has moved from diploma to degree level. Comparison of Wagstaff's sample with Palestinian students show differences on factors A, B, C, E, L, N, O and Q1. **Palestinian students being warmer, less intelligent, less emotionally stable, less trusting, more shrewd, less self assured and more group dependent than Wagstaff's students.**

Child (1974) also looked at a small group of British physiotherapy students from one school using the Eysenck Personality Inventory which compares in some ways with Cattell's 16PF Test. Child found this group of students to be" **neurotic extroverts".** This is a similar pattern to that of student occupational therapists (Bailey 1968) and student nurses (Lynn 1971). Palestinian physiotherapy students could also be said to be neurotic extroverts on the basis of their 16PF results. Child made the following comments about these two traits **"extroverts [are] people -oriented ... doers rather than thinkers, outgoing, relatively uninhibited and optimistic" and "a modest measure of neuroticism could be an advantage ... to correlate with drive energy".** These comments can apply to the Palestinian student sample.

Compared with British physiotherapists, **Palestinians are less intelligent, less emotionally stable, more impulsive, less conforming, bolder, less sensitive, more suspicious, shrewder and less self sufficient** (O'Neill 1976). **Irish physiotherapists are less warm, more impulsive, less conforming, bolder and more radical than British physiotherapists** (O'Neill 1976). Second order factor comparison of Palestinian and Irish graduates with British physiotherapists show Palestinian physiotherapists to be

more *extrovert*, have greater *tough poise* and are more *independent* than British physiotherapists and Irish physiotherapists are more *extravert* than British physiotherapists.

Peacock and O'Shea's research with American occupational therapists (1984) indicated that they " **are not distinguished from people in general in terms of personality, however a number of personality variables were significantly related to job performance**" such as need for social approval and need to give sympathy and comfort. O'Neill (1976) describes the "**balance of characteristics required for success in physiotherapy**" as being unique and Child (1974) says that "**physiotherapy requires a somewhat special blend of qualities**". This special blend appears to be different from country to country, undoubtedly influenced by the general and health care culture in that country (Goodnow 1970, Cole and Bruner 1971, Berry 1971, Hall and Neitz 1993).

9.2 TSQ QUESTIONNAIRE

The self concept is a complex idea involving who and what we think we are, who we could be, what we would like to be and who other people think we are. This personal, dynamic and evaluative picture is part of the way we look at ourselves and the world. How we feel about ourselves depends on all these aspects. We evaluate ourselves based on this picture built from childhood and developing out of every experience in our life. Self esteem is the result of our internal evaluation of the different aspects of the self concept. Burns (1991) describes a theory of self esteem "that implies that everyone needs to bear favourable attitudes towards himself...competence, adequacy and confidence [are] an acquired set of attitudes...learnt in the natural transactions of daily events."

The two main approaches to self concept and self esteem testing are those of self report and observation. The TSQ is a self report questionnaire that investigates both attitudes toward one's self and perceptions of others' attitudes towards self. The Likert scale is one of many self report approaches to assessing self. Other approaches include check lists in which a person indicates items that describe himself, Q sorts in which statements are sorted into categories, unstructured and free responses and projective techniques.

Inter group comparisons of TSQ results show many similarities between Palestinian students and graduates, some differences between Irish students and graduates, between Palestinian and Irish students and between Palestinian and Irish graduates [see Table Three of Appendix Seventeen]. Abdallah (1989) categorized the questions from his TSQ into four sub groups, those of *Physical Appearance, Positive Self Worth, Negative Self Image and Trustworthiness.* Although this sample was not analyzed in exactly the same way, the framework itself used by Abdallah allows individual questions to be grouped in a coherent fashion. For this reason intergroup differences will be discussed under these four headings.

9.2.1 Palestinian students and graduates

The Palestinian profile shows *positive self worth, satisfaction with appearance* and a feeling of *trustworthiness.* Generally, despite the lack of personal freedom of movement and national dignity, they feel worthwhile, attractive, trustworthy people. In professional terms, despite their problems to be recognised as independent practitioners they feel valued and trusted members of the rehabilitation team. Neither group has a *negative self image* although students feel less useful than graduates. Usefulness in general is related to the position within the family and amount of family responsibility assumed. Professional usefulness comes from competence and feeling secure in one's abilities to deal with the complexities of rehabilitation.

9.2.2 Irish students and graduates

This sample has a feeling of *positive self worth*, both student and graduate groups. Differences found regarding students' feelings of uselessness may have more to do with the inability to offer the level of service to the patient that their physiotherapy supervisors can. It may also reflect the lack of freedom of choice in clinical placement that a student may feel when she has to work in placements where she may not feel competent. General self worth of physiotherapists and students reflect the present status of the profession in Ireland. The Irish Society of Physiotherapy may be small compared to other physiotherapy professional bodies in Europe but it has been effective in

promoting the worth of practitioners in the country. The fact that both schools of physiotherapy in Ireland have been educating students to degree level for some years has also raised the status of the profession and consequently the self worth of practitioners.

Negative self image is more apparent for the student profile. They felt less respect for, and less satisfaction with, themselves and a greater desire to change. They had a lower opinion of themselves, a feeling of failure and worried what others thought about them. These feelings may reflect the physiotherapy student situation of being neither a "proper student" with all the freedoms that brings nor a physiotherapy practitioner with the respect that status brings. Students training for professions feel very confused about their role. In university they want to enjoy themselves as their peers do but tend to have more classes and long hours of clinical work which prevent them enjoying all the benefits of student life. When working in hospitals and clinics they are expected to behave as a practitioner without the full status of a professional.

Students felt less sure that other people had confidence in them. *Trustworthiness* comes from experience of being trusted and fulfilling that trust. If you are not sure that you can deliver what the patient wants and needs you will not inspire trust and consequently not feel trustworthy. This feeling accords with answers in other categories which reflect the desire to become a practitioner in whom other people can have confidence and the tension because the desire has not yet become a reality. Irish physiotherapists having developed the high status and high levels of competence in many aspects of the profession are a hard act for students to follow. Students who have studied to degree level may have greater scientific knowledge but the experienced practitioner is the one with the skills and attitudes that enable a stroke patient to learn to walk again.

9.2.3. Palestinian and Irish students

Differences were found between the two groups in relation to their concern about *physical appearance*. Palestinian students had a more *positive attitude* to themselves, in particularly they were more satisfied with their appearance and more confident than Irish students. These answers accord with the 16PF results and with the mores of

Palestinian society in which families have a very positive attitude to their children, believing them capable of anything they choose to do. Palestinian students believe themselves capable of good grades for every subject but are not good at judging their own performance when aspiration conflicts with reality. Irish students are more realistic about themselves. They know that their teachers will not give high grades unless their work is excellent. They have been taught to concentrate on improving areas of their work which are not up to standard and are more used to criticism than praise.

Both groups had a *positive self worth*. Having achieved a place at university and survived until the final year in a school of physiotherapy contributes to their self worth. As final year students they are looking to the future with expectation. After graduation they will begin to work in a field that they enjoy which gives them many possibilities. Such a prospect adds to a feeling of self worth. They have already seen how society values their professional colleagues and look forward to being valued themselves.

Irish students had *lower opinions* of themselves and worried more what others thought about them. This result may be related to comments made earlier on the group effects of Catholicism on Irish students. It also reflects Western society's concern with introspection and competition. Palestinian society is based on the concept of "shame and honour" in which you behave in such a way as to bring honour on your family and avoid shame. One must think of oneself as better than others and believe that others have a similar opinion about you (Abdallah 1989) and deny anything that would detract from your status. Palestinians believe that others have confidence in them more than Irish subjects. This reflects the positive attitude Palestinians have towards themselves and also the greater interdependence in Palestinian society. Young people at college or university, particularly if they are the eldest son, have great responsibilities concerning the welfare of the rest of the family. Obligation is placed on these young people to provide for the education of their younger brothers and sisters, especially if the father is dead, in prison or out of the country. Irish students, as most Europeans, have greater personal freedom and less concerns about the rest of the family. Families in Europe are smaller and more emphasis placed on the nuclear, rather than extended family.

9.2.4 Palestinian and Irish graduates

Palestinians take better care of themselves and are more satisfied with their *appearance*. Personal appearance is important to Palestinians, of whatever age, as first impressions count in their culture. Physical appearance is important for marriage much more than character, especially for women. Palestinians also have a more *positive attitude* to themselves, feel less useless and more confident. These findings are similar to the student profile and can be accounted for by the similarity between ages of Palestinian graduates [mean age 27] and the Palestinian student sample [mean age 20] and thus attributable to Arabic culture. The Irish sample contains many subjects in the 40 to 50 age group which contributes to the older mean age of the sample and differences between the two groups.

Irish physiotherapists have a greater *sense of worth* and like themselves more than Palestinians. This probably reflects the age differences in the two groups. It is easier to like yourself and consequently value yourself when there has been time to get used to yourself (Nightingale and O'Neil 1994).

Irish graduates have *less respect for themselves* than Palestinians. This probably reflects cultural differences between Ireland and Palestine where professionals such as physiotherapists are accorded different levels of respect. Physiotherapists in Ireland are quite well established, and although better respected now, are not accorded the status desired by practitioners (Wagstaff 1987). Since the Intifada physiotherapy has become a more respected profession in Palestine (Giacaman et al 1989) although it is still not really well understood. In general terms, it has been difficult for Palestinians to respect themselves when they felt that their neighbours, especially Israel did not respect them. The Irish sample is mostly female and, as such, not as highly respected as men in health care where the medical hierarchy is still male dominated (Parry 1995). Both of these factors lead to negative self image.

Palestinians see themselves as less *trustworthy* than Irish graduates, have less respect for themselves and worry more what others think of them. They also are more mixed up, less willing to change and not as happy as their Irish peers. It is not surprising to

see that Palestinians are mixed up and are resistant to change as their lives have seen such far reaching changes over the last 50 years, nor is it surprising that they do not respect themselves when they have experienced the lack of respect given to them by Israeli soldiers who enter and search their homes by force. The age group into which Palestinians fit, is similar to the age group who were most involved in the activities of the Intifada and most often detained. Their worry and lack of happiness also fit into the framework of the Occupation.

9.2.5 Comparison with other studies

As the TSQ was designed by Abdallah (1989), his is the only other study with which direct comparison can be made and it is important to compare this study with his findings. However in the general field of **self esteem** comparisons can also be made with Coopersmith (1967), Rosenberg (1965), Battle (1977), Olowu (1983), Lerner et al (1980), Halpin et al (1981) and Agrawal (1978) as it is important to set the present study within the general context of self concept research.

Abdallah compared students from one university in **England** and another in **Saudi Arabia**. He found differences between the two country groups. English students were more concerned about their *Physical Appearance*, had a higher *Positive Self Worth*, higher score on *Trustworthiness* and lower *Negative Self Image* than the Saudi students. These results are in direct contrast to the present study in which the Palestinian Arab students are more positive about themselves than the Irish students. It can be said that Palestinians have a higher self esteem than students from Saudi Arabia. This result reflects the differences in culture between a conservative Muslim country in which Westerners working there are segregated from the indigenous population and a more secular, open society in which expatriates are more integrated into the community and local people are more open to Western influences. It can also be said that English students have a higher self esteem than Irish students. This result may reflect the sample size of the Irish group and also the relative size and political situation of Ireland and England. Also the Irish group were all taken from one discipline whereas Abdallah's sample came from a number of different disciplines. Abdallah also found that locus of control was higher for Saudi students that those who were British. These comparisons

should, however, be viewed with caution as the sample size of Abdallah's study was much larger [400] and the student majors were different.

Other cross cultural comparisons of **self esteem** have been made for **American** and **Japanese** youths (Lerner et al 1980), **English** and **Nigerian** subjects (Oluwu 1983), **White Americans** and **American Indians** (Halpin et al 1981) and **Australian** and **Irish** adolescents (Agrawal 1978). Lerner et al (1980) found that Japanese youths had "a less favourable view of their bodies than Americans." Oluwu (1983) found that English subjects had more positive self concepts than Nigerians on all scales except religious. Halpin et al (1981) found American "whites" had higher self esteem than American Indians and Agrawal (1978) found Australian adolescents had higher self esteem than Irish adolescents. Coopersmith's Self Esteem Inventory which was designed for 10 to 16 year old school children was used with **English** and **West Indian** schoolboys and findings showed that the English boys had better self esteem that the West Indians (1967). Rosenberg (1965) used his Self Esteem Scale with American adolescents and Battle (1977) devised the Canadian Self Esteem Inventory to look at sex role differentiation.

Simmons et al (1994) in their study comparing **British** [B], **Saudi Arabian** [SA] and **Israeli Arab** [IA] adolescents found different values on a number of issues. The statement "What sort of person I would most like to be ?" gave rise to these answers; a pop star [B], a religious person [SA], an educated person or national figure [IA] and " What matters more to me than anything else ?" gave rise to these answers; animals [B], serving God [SA] and education [IA]. These studies highlight the variety of influences and constraints that young people experience in different cultures. On this basis it is clear that the cultural context of a person's life affects his or her view of themselves.

Parker and Chan (1985) looked at **physiotherapists** and **occupational therapists'** self perceptions and perceptions of each other. They found that physiotherapists [PT] attributed to themselves sociability and friendliness more than occupational therapists [OT] attributed to them. OTs were more balanced in their perceptions of PTs than PTs perceptions of OTs but PT/OT self concepts were relatively similar. These two groups

are probably the closest in the field of rehabilitation and, despite differences in philosophy, there is some overlap between the scope of practice of the two professions. It would seem from Parker and Chan's study that OTs are more realistic in their self reports than PTs. In view of this is would be appropriate to look at the TSQ results from Palestinian and Irish physiotherapists with some caution and doubt.

In concluding this section a quotation from Burns (1991) summarizes the concept of self esteem in this way " **... the signs of a healthy positive self image are ... an ability to modify ... principles in the light of new experience ... a confidence to cope with problems ... acceptance of self as a person of equal worth with others ... and a sensitivity to the needs of others.**" The art of physiotherapy is concerned with modifying principles, coping with the problems of patients and working together in a team. This involves accepting yourself as a person of equal worth with your colleagues and a sensitivity to the needs of others. Such a person would seem to be well suited to the profession of physiotherapy in any culture even though the setting of the profession may be different and self, patient and peer expectations vary from place to place (Pacey 1994, Nias 1993).

9.3 LESQ QUESTIONNAIRE

The modern practice of physiotherapy, although from Middle Eastern and Far Eastern origins, developed basically in the West. The history of this development has already been described in Chapter Two. This questionnaire was designed to try to find out if physiotherapy in Palestine has adopted the western outlook of those who began the profession or if, by now, a Palestinian model of practice is prevalent. **Do those practitioners who were educated abroad still practice their profession based on what they were taught in Poland, Yugoslavia or Egypt ? Did they give up their ideals of good practice when the resources needed were not available or did they take the principles upon which physiotherapy is based and use them to develop a model of practice suitable for the social, cultural, educational and political situation of Palestine ?** This questionnaire attempts to answer some of these questions by looking at the professional culture of Palestinian physiotherapy and comparing it with

an Irish physiotherapy culture. Inter group patterns show differences between Irish students and graduates, Palestinian and Irish students and Palestinian and Irish graduates See LESQ Chi Square and Mann Whitney results in Appendices Twenty One and Twenty Two.

9.3.1 Palestinian and Irish students

Answers about physiotherapy education showed many differences. Irish students were studying on a *degree* course, as all physiotherapy education in Ireland is at that level. In Palestine only Bethlehem University offers a degree in physiotherapy since 1988, the other school [UNRWA] offering a two year *diploma* for assistants. Differences in level of education, gave rise to many differences between the two groups.

More Irish students attended *private secondary schools* reflecting the middle class background of the average physiotherapist in Europe (Dawson 1982). The two Palestinian schools sampled have a bias towards refugees and poorer students, UNRWA having an obligation to provide education for refugees as part of its charter and BU making a commitment to supply physiotherapists for the poorer parts of the country. Irish students' greater *satisfaction with their education* may reflect the greater degree of choice they have in where to study and what subject to choose. UNRWA Tireh College for Physiotherapy Assistants offered the only choice for many girls from refugee families because of limited financial resources and parental pressure.

Choice of modalities reflects the different treatment trends in Ireland and Palestine. *Electrotherapy* is a modality much used in developed countries where financial resources are good and where the research basis of such treatment is more established, whereas *exercise* can be used with or without expensive equipment in a variety of settings. Irish students' more definite answers on the physiotherapist's responsibility to *decide on treatment programmes* differentiates between a society in which physiotherapists are viewed as independent practitioners in the rehabilitation team and one in which physiotherapists are still struggling to achieve recognition. Interestingly, Irish physiotherapists want the right to make appropriate decisions about patients, but do not want to share that responsibility with patients through *health education*. Palestinians

living in a developing country are more concerned with Primary Health Care and Community Based Rehabilitation in which professionals share their knowledge with CBR workers who work with disabled people in their own villages. Palestinian students have been influenced by the enthusiasm of some of their teachers for CBR.

9.3.2 Palestinian and Irish graduates

Many of the differences between the two groups stem from the fact that the Irish sample is older than the Palestinian one and the relative ages of the two professions. Irish respondents took the *university entrance examination* earlier, *graduated* from university or college earlier and have been *working* longer. The physiotherapy profession has developed rapidly in both countries, but having started earlier in Ireland, is now at a more advanced stage of development.

Some differences reflect the greater degree of choice in Ireland. Greater *satisfaction with education and working conditions* indicate that respondents were free to choose a profession, university and work place where they felt most comfortable and fulfilled. Palestinians were lucky to be offered a place at university. Many of those who studied abroad did not know what subject they would study until they arrived at the university and were told which departments had vacancies for new students. Many of the candidates who applied for physiotherapy at BU in 1989 had little idea of the content of the programme, they just wanted the chance to study. Because of the fact that all universities and colleges were officiallly closed at that time, to study physiotherapy under the umbrella of the Save the Children Federation and Notre Dame Centre in Jerusalem was the only option many candidates had for higher education.

Preferences in *treatment modalities* show that Irish physiotherapists make more use of *electrotherapy*, have a greater preference for *cardio-respiratory and obstetric/ gynaecology placements* and make clearer statements on physiotherapists' *right to plan treatment* (Schmidt 1994). Palestinian physiotherapists trained at technician level have a recipe approach to practice. All patients with a similar problem are given the same treatment, in the same order and administered in the same way. Until recently patients were not individually assessed to find out their particular problems.

Other differences reflect the respective political and social situations. Less paid *employment opportunities* for Palestinians reflect the fact that although there is an increasing need for physiotherapy services, hospital administrators and directors of centres for disabled people are either not able or willing to employ well educated professionals but prefer foreign trained or local untrained volunteers that cost them less money. Greater number of respondents attending *government secondary schools* in Palestine indicates the fact that middle class families prefer their sons and daughters to attend private schools and then study hotel management or business studies which command a higher salary than health care. Greater willingness to treat patients of the *opposite sex* by Irish respondents reflects the humanistic modifications of Judeo-Christian traditions found in Europe that are not found in the Middle East.

Differences in approaches to education are reflected in Irish respondents' greater opportunity to *lecture* at and *organise* continuing education workshops. There is still a heavy reliance on foreign expertise in Palestine. Those Palestinians who have studied abroad do not readily share their new knowledge and skills because that would be to lose some of their status and power. **Continuing education** in Palestine was sporadic and not well publicised until recently and the status of locally based courses was nothing compared with going abroad, even if the participant did nothing more than observe practice in a hospital or special centre. The limited number of these opportunities were closely guarded and consequently few people knew about differences in practice between countries.

As with students, Palestinian physiotherapists are more *team and community oriented* than Irish physiotherapists. This has to do with the relative level of industrialisation between Ireland and Palestine, with the profession in Ireland educated to work in larger industrial centres and Palestinians, although with a preference for special centres, also developing community outreach programmes to give service to remote village communities.

9.3.3 Irish students and graduates

The students, all studying on a degree programme, had greater confidence in *doctors' and social workers' knowledge about physiotherapy* than graduates. This may be due to the fact that the majority of the graduates had been educated to diploma level with the possibility to upgrade to degree at a later time (Keating 1986). Degree education takes place within the wider setting of a university whereas the setting for a diploma course is usually a uni-disciplinary School of Physiotherapy attached to a hospital. The wider setting allows the physiotherapy student to mix with medical students and other health care students and develop a positive attitude to colleagues. Additionally one of the approaches fostered by degree level education is the concept of team work in which all professionals know what their colleagues do so they can refer patients appropriately.

Graduates were more inclined to use *exercise* as a treatment modality than students. However it must be noted that many students did not complete all sections of the questionnaire and this influences the recorded results differentiating between students and graduates. Modern physiotherapy education and clinical education in Europe has a greater bias towards manipulation and mobilization techniques [because of the work of Maitland, Cyriax and McKenzie] than in the past. Those who completed diploma education learnt such treatment approaches at continuing education level rather than, as now, the basics of most specific treatment approaches are taught at undergraduate level.

It appears that graduates are less likely to put *responsibility for learning on teachers* than students.The scores for this question were accumulated allocating 1 for "**most responsible**", 2 for "**less responsible**" and 3 for "**least responsible**". This result may reflect the greater number of "less responsible" scores given by students than a true reflection of their reliance on teachers. The concept of self responsibility for learning is quite new for older graduates, that not being the way they were dealt with in college. For this reason they may have been more likely to allocate a score to the "most responsible" category than to all three categories in order of rank.

9.3.4 Comparison with other studies

As with the findings from the Cattell 16PF and TSQ questionnaires, it is important to link these results with other similar studies. Other studies in the area of physiotherapists' and physiotherapy students' **work preferences** mainly focus on *patient groups and choice of modalities.* Frontline, the news magazine of the Chartered Society of Physiotherapy reported in January 1995 a poll of student preferences of types of patients. This poll showed that 42% of British physiotherapy students were most interested in *sports medicine* in their first year of training, reducing to 25% by their final year. Just prior to graduation 22% of the students were keen to work in *Neurology*. Wells and Lessard (1986) found that *therapeutic exercise* (57%) was the most prevalent procedure used by students under supervision, although some students were making use of *home exercise programmes.* Peach (1978) showed that physiotherapy students found work with *geriatrics* only fairly rewarding and wanted a career working with younger patients. The author in a previous study looked at British physiotherapy students' clinical placement choices (Dawson 1985). Their preferences were based on **enjoyment of the work experience, wanting more experience in the particular clinic and more opportunity for learning about types of patients and approaches to treatment**. Most of them [80%] enjoyed clinical practice and 50% felt that they were well prepared for their work experience in clinical practice.

Neville and French (1991) found that students **valued constructive feedback** during clinical practice and the use of a **variety of teaching methods** by their clinical supervisors. Students also liked to be given **responsibility, space, freedom and independence with guidance and availability of help** during their clinical attachments. In research by Walish et al (1986) the most frequently expressed concerns of students during clinical affiliations centred on **clinical skills and interpersonal relationships**. These concerns were still expressed after a clinical affiliation by 25 to 35 % of students. May and Newman (1980) believe that students want an environment in which they are free to **test thinking skills in setting objectives for treatment, explore alternatives for patient management and discover solutions to patient problems** (Morris 1993).

A survey of professional and career satisfaction of **Kuwaiti** graduates showed that they were **satisfied with their education, choice of career and level of skills acquired** (Onuoha and Abdalla 1991) but were **not satisfied with their relationship with medical practitioners, with their status as physiotherapists or with public awareness of physiotherapy.**

Warren and Pierson in 1994 found that 60% of respondents with a bachelors degree and masters degree in physical therapy wanted to *work in hospitals after graduation*, 21% of bachelors students and 11% of masters level students wanted work in *rehabilitation centres* and 15% of bachelors and 20% of masters level students wanted to work in a *outpatient facility.*

At the recent WCPT Congress in the USA a young graduate from Kuwait said "My biggest challenge is trying to apply what I've learned in school to real people. Sometimes you have to modify your methods because people are not all alike" (Al-Mutiari 1995). Sotosky (1984) found that physiotherapists had positive attitudes towards **teaching patients** but expressed concern that they had not been adequately prepared in teaching skills during their basic training and Johansson and Dahlin-Andersson's research (1995) shows Swedish physiotherapists "focussed on procedures and regulations per se" rather than solving client problems. Schmidt"s survey of Irish physiotherapists in 1994 shows that 62% are working full time, 49% in the **public sector**, of which, 37% are working in hospitals.

The concerns expressed by the practitioners and students of physiotherapy in a wide variety of countries echo concerns expressed by practitioners and students of physiotherapy in Palestine and Ireland. The context of those concerns may be different but the central issues of trading off personal and client satisfaction, desire to give the best, most up to date treatment and concern to be viewed as an integral member of the rehabilitation team with a unique contribution to make to patient and client care are similar.

9.4 INNOVATION, INDEPENDENT THINKING AND PROBLEM SOLVING

In earlier chapters reference was made to the three attributes of **innovation, independent thinking and problem solving**. It would seem appropriate to consider the appearance of these elements in the three questionnaires used and discuss the contribution made by each of the questionnaires to the structure of the three characteristics. As has been mentioned in Chapter Four, *innovation requires imagination and the ability to change or break with existing norms or processes*. It involves taking risks and leaving behind the comfort of well known ways. In Chapter Five *independent thinking is described as critical awareness of practice and the ability to assess what is good or bad practice* and *problem solving as concerned with developing mechanisms for defining difficulties and discussing appropriate ways to achieve goals to overcome the problems*. Already in reporting results in Chapters Eight and discussing reasons for these results in Chapter Nine there have been glimpses of the three characteristics described above. In order to identify them more clearly it was necessary to devise a strategy for sorting responses and coding them under one or more of the three headings of **innovation, independent thinking and problem solving**.

Modern day physiotherapy in the Western world values these characteristics in their physiotherapy students and practitioners and educational strategies and methods are directed towards producing innovative, independent thinking problem solvers (May and Newman 1980, Dawson 1987, Hagerty 1992, Green 1985, Morris 1993). This study set out to determine if **the declared characteristics are appropriate for students and practitioners in the Middle East and if students and practitioners possess the potential to develop them**. Having discussed possible reasons for the particular pattern of attributes found in Palestinian and Irish students and physiotherapists it would now be appropriate to look at the elements that the three questionnaires bring to each desired attribute.

Firstly ***what does the Cattell 16PF Questionnaire contribute to these three characteristics ?*** All quotations used in this section, unless they are individually attributed, are from Cattell (1989) and IPAT (1992).

It is suggested that *emotional stability* [C+], *impulsivity* [F+], *boldness* [H+], *imagination* [M+] and *radicalism* [Q1+] are the major contributors to **innovation**. In this study graduates had average scores for *impulsivity, imagination and radicalism*. Irish respondents had high scores for *emotional stability* and all respondents had average scores for *boldness*. *Impulsivity* contributes the degree to which exuberance persists into adulthood, especially desire for variety, as does radicalism. *Bold* people are risk takers and adventurers who enjoy excitement. *Imagination* brings intuition and a tendency to focus on ideas and other mental processes. All of these characteristics can be associated with **innovation**.

Independent thinking is reflected in *aloofness* [A-], *dominance* [E+], *impulsivity* [F+], *expediency* [G-], *boldness* [H+], *tough mindedness* [I-], *self sufficiency* [Q2+] and *self control* [Q3+]. *Aloofness* brings cool detachment to follow your own ideas. *Dominance* brings assertiveness to push forward your plans. *Impulsivity* frees you from having to follow someone else. *Expediency* allows you to break the rules. *Boldness* allows you to take risks. *Tough mindedness* protects you from doubt. *Self sufficiency* and *self control* frees you from dependence and keeps you focussed. Brewster Smith (1978) describes Q3 (self control) as "the uniquely human capacity to observe ourselves as objects in whose social and internal image we are emotionally invested, causing us to evaluate our behaviour with forethought and afterthought and conduct ourselves accordingly".

In this study all scores were average for all factors listed above except that Irish graduates had low scores for *aloofness* [A-] and Palestinian graduates scored high on second order factor *Independence*. On the basis of these findings, it can be said that 16PF scores contribute little to independent thinking for Palestinian or Irish subjects.

Problem solving includes *warmth* [A+], *intelligence* [B+], *emotional stability* [C+], *toughmindedness* [I-], *radicalism* [Q1+] and second order factors *creativity* and *leadership*. Human *warmth* contributes the ability to relate to the person with the problem to be solved in the therapeutic context. *Intelligence* enables you to see the relationships between the problem and possible answers. *Emotional stability* frees the

problem solver from the emotional aspects of his or her own life. *Toughmindedness* gives freedom to explore the problem without too much mental anguish. *Radicalism* allows you to experiment with different possibilities in order to find answers to problems. *Creativity* allows you to be unorthodox in thinking, to look at new combinations of ideas to find a solution. *Leadership* means you can persuade others to accept your solution and act upon it.

In this study highest scores belonged to Irish respondents. Irish students were *leaders*, Irish graduates were *toughminded* and both groups were *emotionally stable*.
All other scores were low or average except for high *creativity* scores for Palestinian students. The 16PF scores contribute to the Irish problem solving profile.

Secondly, ***what does the TSQ Self Esteem Questionnaire contribute to innovation, independent thinking and problem solving***.

It is suggested that a *desire to change* (Question 10), and a *feeling that others trust you* (Question 26) and *like you* (Question 30) contribute to **innovation**. A desire to change is a pre-requisite to doing something new and knowing that others like and trust you gives you the emotional freedom to move into new areas. In this study Palestinian students had a great *desire to change* and all groups felt reasonably well *liked* and *trusted* by other people. TSQ scores make some contribution to all groups, especially Palestinian students, under the heading of **innovation.**

In terms of **independent thinking** a number of TSQ items are involved. Independence includes a positive *self attitude* (Question 1), a healthy self *respect* (Question 3) , self *confidence* (Question 11) and a good *opinion* of oneself (Question 14). An independent person must feel *useful* (Question 4), be *able* to do things well (Questions 6 and 22) and be *successful* (Question 27). His attitude to others must be that he does not *worry* what others think of him (Question 17), particularly that he does not worry about being seen as a *failure* (Question 18).

In this study Palestinians have positive self *attitudes*, self *confidence* and good *opinion* of themselves. Palestinian graduates feel *useful*, *able* to do things well and don't *worry* what others think. All graduates don't worry about being *seen as a failure* or feel themselves a *failure* and Irish graduates *respect* themselves. TSQ scores contribute nothing for Irish and Palestinian students but make varying contributions for graduates for **independent thinking**.

Five items are considered to contribute to **problem solving**. Problem solvers are *able* to do things well (Question 6 and 22), have a desire for *change* (Question 10), take *responsibility* when things go wrong (Question 15) and are *reliable* (Question 31).

In this study TSQ scores contribute to **problem solving** scores for all groups except Irish students. Palestinian graduates are *able* to do things well. Palestinian students desire to *change* and take *responsibility* when things go wrong. Irish graduates can also *do things well* and are *reliable*.

Thirdly, ***what do LESQ scores contribute to innovation, independent thinking and problem solving ?***

Newer aspects of physiotherapy practice are physiotherapists *deciding treatment plans* (Question 28), *health education role* of physiotherapists (Question 30) and *teaching carers* simple therapeutic techniques (Question 32). **Innovatory practice** is also based on knowledge of *research* that has changed practice (Question 49) and *knowledge of practice* in other countries (Question 50).

Irish respondents score higher in this category. Irish graduates know about *research* and *practice* in different countries, Irish students support the physiotherapist's *health education role* and all Irish respondents agree that it is the physiotherapist who should *decide the treatment plan* for his/her patients. Palestinians support *teaching carers* to assist disabled people at home. LESQ scores contribute most to Irish scores for **innovation**.

As far as **independent thinking** is concerned, *self learning* (Question 47B), *continuing education* (Question 35), *reading professional books* (Question 41) are as important as making *decisions about patient treatment* (Question 28). In this study all these items contribute to the Irish scores. Irish graduates *read professional books* and are involved in *continuing education* and all Irish respondents are *self learners* and *decide treatment plans*. In this category, LESQ contributes to Irish **independent thinking** scores.

Two items contribute to **problem solving**, those of *health education role* (Question 30) and preparation of *patient education materials* (Question 45). Health education involves finding a way to prevent further injury or disability. It may mean persuading the patient to alter his life style. Patient education materials are prepared to encourage patients to take responsibility for their own rehabilitation. Irish graduates are the only group to score on these items and so LESQ contributes only to their **problem solving** abilities.

A crude scoring system was worked out to indicate abilities relative to **innovation, independent thinking and problem solving**. 16PF and LESQ scores are based on highest group scores receiving 1 point. TSQ scores are based on lowest or highest scores in Agree or Disagree categories as appropriate. Scores for the four groups were tabulated and are recorded below. Adding together scores from all three questionnaires gives a composite picture for the four groups. This scoring system is displayed on page 169.

Innovation	Ps	Pg	Is	Ig
16PF	1	0	1	1
TSQ	1	0	0	0
LSQ	1	1	2	3
Independent thinking				
16PF	2	2	0	1
TSQ	3	8	0	4
LSQ	0	0	2	4
Problem solving				
16PF	1	0	1	3
TSQ	2	1	0	2
LSQ	0	0	1	1
Total	11	12	7	19

From these crude calculations Irish graduates are considered to be the **most forward looking** and Irish students **least forward looking**. However LESQ scores should be viewed with caution because high scores here are not the result of personal attributes but the function of social and professional opportunities.

This group of qualities which I have called "**forward thinking**" include the ability to put ideas together in a new way, the capacity to think for one's self and the ability to solve problems for one's self and others. These characteristics are much prized in health care practitioners (May and Newman 1980, Gartland 1984, Green 1985, Morris 1993) and undergraduate education aims that students should develop these qualities by graduation (Dawson 1987, Neville and French 1991, Shepard and Jensen 1990).

Gartland sees the heart of therapeutic interventions as "**qualities which enable them to relate to people... leading to a caring approach**" enabling the clinical interview to take place, which is the beginning of the problem solving process. Kawczak Hagerty (1992) sees that liberal education has a place in health care education to develop "**leadership, critical thinking and adaptability**". She believes that "**inquiry,**

judgement intuition ... and reflection are becoming paramount for [health care] practitioners." Dawson (1987), speaking of British physiotherapy students, believes that "**entrants to the profession [are] well equipped to analyze and assess situations, synthesize knowledge, plan, implement and evaluate therapeutic progress, promote health and teach and advise patients, carers and colleagues**". Green (1985) speaks of occupational therapy students" **qualifying with an average position of 3.8 on Perry's Scale of Personal Intellectual Development, which is a position of "multiplicity" in which " we don't know the answers yet**". She argues that position 5 "**seems to be a minimum for adequate functioning as a therapist when the student begins to move towards relativism**" where she is adaptable to change. Palestinian physiotherapists who have these qualities can compete on equal terms with their peers anywhere in the world (Glubb 1969, Bithell 1993, Yung 1993). If their education also gives them the knowledge, skills and attitudes appropriate for working in their own culture they will be capable of participating fully in planning, implementing and evaluating rehabilitation services in Palestine.

CHAPTER TEN

OVERVIEW AND CONCLUSIONS

OVERVIEW

The conclusion of a piece of work aims to pull together all the parts described up to that point. The various strands of information need to be brought together in one whole. Where that is not possible, suggested reasons need to be given. If answers are not forthcoming there may be questions about additional activities needed to complete the picture. Three hypotheses were postulated in Chapter One and now is the time to decide if enough evidence has been provided to refute or accept those hypotheses.

Before discussing the hypotheses it is appropriate to recapitulate the main points made so far. Chapter Two concentrated on the topic of culture. Potential conflicts for physiotherapy practitioners from cultures other than Judeo-Christian humanistic cultures were described. These conflicts were seen in terms of the origins of health care and rehabilitation. Despite evidence that early influences on health care were eastern, there is no doubt that modern philosophical constructs, ethics of practice, psychological and sociological theories have thoroughly western-dominated health care. The merits of education abroad versus local education were discussed in light of present and future rehabilitation needs in Palestine. It is argued in this thesis that it is possible to develop an Arabic model of physiotherapy, based on the basic principles of the profession and sensitively applied to Palestinian society. The mainly Islamic context of Palestine can be married to a carefully considered philosophy of care applied to physiotherapy practice.

Chapter Three looked at the plethora of influences that have affected Palestinian education from the time of the Prophet Mohammed onwards to the present. It was seen that the Palestinian education system had developed from a mixture of sources and consequently had no coherent core philosophy from which to make decisions about new trends in education. The stagnation of Islamic influence has brought rigidity and an

excessive respect for the written word that kills discussion and debate. The colonization by successive nations each added a little of their own culture to the melting pot. To have a variety of influences is not necessarily a bad thing. The United Kingdom and the United States of America are two examples of how such variety has been constructive. However, in order to build coherence out of chaos one needs to be prepared to examine the origins of the chaotic elements. As yet only a few Palestinians are doing this. The influence of Jordan and Egypt between 1948 and 1967 and of Israel since 1967 is closer to the surface. Jordan and Egypt were part of the philosophical stagnation of the Middle East, and each having other more pressing problems than the inhabitants of the West Bank and Gaza Strip respectively, left the Palestinians to develop as they could. These various influences have given rise to some confusion and lack of purpose but also are providing the stimulus for Palestinian physiotherapists to evaluate different approaches to health care in order to develop a definitive Palestinian approach.

The effects of the Israeli Occupation and Intifada have been well documented regarding life in general. The intended effects on education were to stifle any intellectual growth and muzzle the most intelligent leaders. In this, it failed as world media portrayed a picture of a dispossessed minority fighting for their rights and sent aid in the form of equipment and people. The unintended consequence of the Intifada was actually positive, that of stimulating innovatory approaches to teaching and learning that took Palestinian educationalists giant strides into the future. The atmosphere that bred Off Campus Teaching and Distance Learning has been the soil in which innovation has flourished. Without this atmosphere it would not have been possible to develop innovatory approaches to higher education and the BU Physiotherapy Program would not have been successful.

In Chapter Four innovation was introduced as a component of forward thinking and questions were asked about the possibility of innovatory approaches to teaching and learning being developed and sustained in the Arab world, and in Palestine in particular. Reference was made to the success and sustainability of innovatory educational activities in different Arab countries. Finally an evaluation was made of the potential for education innovation in Palestine against the background of international health care changes. Because of its political unrest, Palestine has been more open to

change than Jordan or Egypt. This political and social instability has enabled the Palestinians to be more ready for new ideas than their neighbours. The results in this thesis show that Palestinians can compete with Irish physiotherapists on equal terms even though they may not have the opportunities open to them that are available in Ireland.

The different issues faced and dealt with when setting up an innovatory physiotherapy curriculum at Bethlehem University were discussed in Chapter Five. Cultural and religious issues were raised in relation to philosophy of care and dress requirements for practical training. Teaching and learning in a foreign language raised issues related to patient-therapist interactions as translation of concepts is required. from the language of learning to that of practice. It was in this chapter that the other two elements of forward thinking, independent thinking and problem solving were introduced. The results show that Palestinian students and teachers are able to overcome problems, find alternative ways to achieve their objectives and sometimes just persevere patiently until circumstances change. Students and teachers have coped with the problems of bilinguilism and developed strategies for translating concepts from English to Arabic in meaningful ways. In this they have shown additional evidence of their independent thinking and problem solving abilities.

An in-depth evaluation of the Bethlehem University curriculum was made in Chapter Six. Reasons and rationales for inclusion or exclusion of subjects, combinations of educational activities, selection and assessment approaches were discussed. This discussion was set within the international context of physiotherapy education. Emphasis was placed on relevance of curricula to the economy and demography of the country in which the programme was taught. Religious and social context of practice were considered and the necessity for comparability between countries was debated. Evaluation by the External Examiners demonstrated the international comparability of the BU physiotherapy curriculum. The fact that 90% of graduates have secured jobs in Palestine indicates the relevance of the curriculum and the differences in types of work performed by graduates shows that the curriculum has addressed the appropriate social context (Dawson 1996).

These chapters provided the background for looking at the personality, self esteem and professional development of physiotherapists and physiotherapy students in Palestine. To provide a cultural contrast a similar population was chosen, from the Republic of Ireland, as from another small country with a similar history and fairly recently formed national association for physiotherapists. The results show that Palestinians as a group compare very favourably with the Irish groups sampled in terms of self esteem, personality and professional development. In part, that comparison is due to the philosophy of education and curriculum of study developed at Bethlehem University.

A number of questions have been raised in the author's mind in the course of this text, answers to which may assist in deciding if the three null hypotheses postulated in Chapter One can be accepted or not. Chapter Five asked if there is a context in Palestine in which a spirit of innovation can flourish. Various writers commented that in general, Palestinian education is still using out of date curricula, rigid approaches to student assessment and teacher-controlled classroom activities. One would expect that the departments of education in the various universities would be leading the way forward to develop Palestinian paradigms of education and practice. In general this is still not true, but there are a significant minority of university teachers changing their own approach and teaching in-service workshops to practicing school teachers. Chapter Six gave an example of an innovatory physiotherapy curriculum begun and continuing to function. Student and graduate replies in the LESQ indicate at least some satisfaction with their education. Their responses regarding various new roles for physiotherapists indicates that they have absorbed, at least in part, the competency-based, problem solving ideas of their teachers. Only time will tell if they continue at their present level of enthusiasm and commitment.

Chapter Seven explored methodological issues pertinent to the study. Sample size, selection and composition were reviewed along with reasons for choice of research tools. Results for the four groups were detailed in Chapter Eight relating to the three questionnaires and Chapter Nine attempted to explore possible reasons for the data.

CONCLUSIONS

Chapters Nine and Ten evaluated Palestinians in terms of self esteem, personality and professional development. Also beneath the stated characteristics were observed the three attributes of innovation, independent thinking and problem solving. It was argued that self esteem and personality provide the building blocks of innovation, the abilities for independent thinking and the freedom to solve problems. When comparing the four groups of Palestinian students, Palestinian graduates, Irish students and Irish graduates, Irish graduates proved to be most "forward thinking" followed by Palestinian graduates and students. Least "forward thinking" were Irish students. Comparing graduate groups Palestinians are less "forward thinking", comparing student groups Palestinians are more "forward thinking". The results show that **Palestinian students** are less innovative than Irish graduates, equally innovative with Palestinian graduates and more innovative than Irish students.

16PF results for Palestinian students show that they possess the qualities of impulsivity [F+] and boldness [H+], both of which enable a person to cope with change. **TSQ** results show a desire to change [Question 10] coupled with a feeling of security because they themselves [Question 30] and their friends [Question 26] trust them. **LESQ** results show them willing to share their skills with non-professionals [Question 32] and willing to learn about physiotherapy practice in other countries [Question 50]. Palestinian graduate results are similar. This all contributes to a developing context of innovation in Palestine. The educational atmosphere is ripe for change. Palestinian paradigms are being considered, including a Palestinian model of physiotherapy education and practice. An innovative physiotherapy curriculum has been introduced into Palestine and has already changed practice and education. Whether this curriculum continues to develop in line with the needs of Palestinian society depends on the commitment, attitudes and skills of those physiotherapists who now lead education and research in Palestine.

Therefore the first hypothesis: **An innovative physiotherapy curriculum cannot be introduced into Palestine is NOT ACCEPTED.**

There is evidence of innovative characteristics among the Palestinian students in terms of imagination, ability to break with existing norms and take risks, as mentioned in the previous paragraph. There is also evidence of independent thinking in the Palestinian sample as demonstrated by the 16PF results of dominence [E+], flexibility [F+] and boldness [H+]. TSQ results show a profile of a group who are confident [11], able [6], useful people [4] who have a positive attitude to themselves [1]. LESQ results show that they have a critical awareness of practice [50], the ability to assess their practice [23, 24 and 25] and to take action [28, 30 and 32], and are capable of choice [47] and self-criticism 22 and 26]. Palestinian physiotherapists are problem solvers as demonstrated by treatment planning jointly with clients and adaptation to life's demands etc. They are not intrinsically rigid in their thinking although most are still dualists. Some have moved towards being committed relativists as shown by understanding that there are no right answers, development of criteria for judgement, acceptance and evaluation of different points of view and internal locus of control all of which is evidence of the adaptability and intelligence of Palestinian students and graduates.

Graduate and student samples are very similar which is not entirely surprising as many of the physiotherapists graduated from BU and others have participated in the Clinical Supervisors' Diploma and Continuing Education programmes. Assuming that graduates' attitudes have developed over the course of their education and professional life, students' attitudes are at the same level before engaging in professional life. They are already forward looking at the point when they are about to graduate, which bodes well for their professional future. It would be interesting to compare their responses in ten years time when they have been working as physiotherapists for a similar length of time as the graduate sample. The following comment by Dore (1985) supports these findings: "Education develops basic qualities, skills and knowledge which enable specific skills to be acquired speedily and with real understanding... the aim should be to educate for both today's and tommorrow's jobs; the danger is that we train to do yesterday's jobs". Hopefully Palestinian physiotherapists are being educated for whatever tomorrow may bring.

Therefore the second hypothesis: **An innovative curriculum will not produce a more forward looking physiotherapist than a traditional curriculum is NOT ACCEPTED.**

Discussion in Chapter Three raised questions about the cultural relevance of much of the education in the Middle East. The lack of a Palestinian paradigm for any type of education has been commented on in Chapter Four. According to Boutaleb (1988) a comprehensive paradigm of education would be consonant with the teachings of Islam so there are no religious constraints on curriculum development. Chapter Six describes the care with which the Bethlehem University curriculum was written so that it was culturally relevant. The self esteem, personality and professional development profiles of students and graduates from this department have been discussed in Chapters Nine and Ten and show unique patterns of characteristics and professional awareness.

There is evidence of declining educational standards and stagnation of educational process in Palestine but this has not prevented physiotherapy education being relevant to the culture. Palestinian physiotherapists can compete intellectually with any nation on earth as they have demonstrated by their active participation in conferences and higher education programmes in Western countries. If the student sample are already forward looking and ready to respond to change then the curriculum has been a major factor in better preparing them to practice physiotherapy within their culture. The Palestinian students sampled are now graduated and are working with the graduates from the study in a variety of settings from hospital to out patient clinic, government centre to private clinic, rehabilitation centre to community based rehabilitation project. The appropriateness of the BU curriculum has enabled these graduates to apply the broad principles learnt in a range of therapeutic environments. The cultural relevance is evidenced by the ease with which graduates have been able to use, and continue to develop, their knowledge, skills and attitudes in different rehabilitation settings in their own culture.

Therefore the third hypothesis: **Cultural relevance is not necessary in a physiotherapy curriculum is NOT ACCEPTED**

The findings of this thesis would agree with the words of John Bagot-Glubb in 1969 when he says "the ability and intelligence of these people will convince the world and themselves of their ability to compete intellectually with any nation on earth". Although written over 20 years ago it is still true today. If development takes into account the Islamic religious and social context there is no reason for Palestinians not to take their place in the world community of physiotherapy. A fitting conclusion to this study can be made by quoting from Hall (1989) when he says: "Education is a serious business and a lifetime of experience has convinced me that no society and no culture should force its educational system on another".

CHAPTER ELEVEN

RECOMMENDATIONS

There are always some aspects in a study that do not go according to plan. Sections of work that were overlooked or had to be abandoned for some reason can be referred to this chapter. It was intended to separate the Palestinian graduate group into Gazan and West Bankers but due to an oversight when analysing the data this never happened. It would give richer data if this division were made to confirm anecdotal evidence that West Bankers are more open minded than Gazans.

The difficulties of obtaining enough subjects for the Irish graduate sample have been mentioned in Chapter Eight. Fifteen replies were received after data analysis was complete. Because of lack of SPSS Windows computer software at Bethlehem University the data analysis was done over a three month period at Loughborough University after which the author returned to Bethlehem. To obtain a more complete picture of Irish physiotherapists it would be appropriate to add these responses to those already received. Assuming that the additional 15 responses contained many younger respondents this would reduce the mean age of the Irish sample and allow age differences to be minimized. Even with the missing responses, the number of the sample amounts to less than 10% of the ISP membership, so cannot be considered representative of Irish physiotherapists.

Due to an oversight Palestinian graduates were not separated into those who had received their education [either full time or part time degree completion] at Bethlehem University. This division would allow better understanding of views of BU graduates compared with those who were educated elsewhere. Similarly sub dividing Palestinian students into BU students and UNRWA students would also make the picture clearer.

Additional aspects of research in this field have come to mind as work has been progressing. Anecdotal evidence says Gazans are more like Egyptians and West Bankers are similar to Jordanians. Using the same instruments for a sample of Egyptian and

Jordanian physiotherapists would enable this view to be examined. Similarly the Irish student sample are drawn exclusively from one of the two schools in Ireland. To sample both schools would give a truer picture of Irish physiotherapy students. It would also be interesting to compare Republic of Ireland students with those studying in Ulster to see if Northern Ireland is different to Southern Ireland.

All Palestinians were sampled before they experienced the measure of autonomy gained after the Peace Accord was signed. It would be interesting to see if their self esteem scores have changed since then. A possible longitudinal study could be done by sampling Bethlehem University students who are now graduated after three years working as physiotherapists.

There is much scope for comparisons between physiotherapists in different parts of the Arab world that would develop an Arab physiotherapy profile and compare differences from region to region. Also there is scope for comparing physiotherapy students at BU with nurses, midwives, social workers and, more recently, occupational therapy students. The Arab world is rich in information that westerners need to know to counteract the distorted view of Arab society so often portrayed in western media.

Recommendations regarding changes in the BU curriculum relate to lack of student satisfaction with their education. Both Palestinian students and graduates indicated that they felt least prepared for working with patients with paediatric and neurological problems and for using electrotherapy modalities. It is true that the BU curiculum did not put great emphasis on the use of electrotherapy as a treatment modality. Faculty members felt that, where it was appropriately used, it was used incorrectly and that for many patients electrotherapy was inappropriate. It is interesting to note that the topics of paediatrics and neurology were emphasised because of the injuries sustained during the Intifada. The unease with paediatrics and neurology may reflect the Palestinian trait of wanting to be perfect and requiring to know everything necessary for practice before graduation. This research covers a period of six years and includes four groups of full time and part time students. Longer time is needed in order to assess satisfaction with curriculum and development of continuing education attitudes. It would be interesting to survey graduates in another four years and students registered at that time.

On reflection, it is important in the the future that more courses are taught in Arabic, rather than English. Palestinian physiotherapy teachers use a mixture of English and Arabic in their classes and Palestinian teachers from other faculties teach almost wholly use Arabic. One advantage of phasing out expatriate teachers is that greater emphasis can be placed on teaching in Arabic. Students also need to take classes in Arabic language as classical Arabic, upon which written Arabic is based, is very difficult to grasp. During primary and secondary school these students' education was interupted many times and they never perfected their written Arabic. Emphasis on written and spoken English in major courses has also taught them to undervalue their native language which results in better communication with their teachers than with patients and their families.

In light of the undoubted success of the BU Physiotherapy Program it is recommended that other needed health care professional programs follow a similar innovatory pattern. In autumn 1996 a degree in Occupational Therapy [OT] began based on the model of the Physiotherapy Program, the two programs sharing some courses in common. The OT Program is externally funded jointly by Irish Aid and NORAD [Norwegian Aid]. Paramedical professional programs, such as speech therapy, audiology and radiography are still not offered at degree level in Palestine. Other health programs already in existence at BU, such as nursing and midwifery, are based on American or European models. Anecdotal evidence says that graduates from these programs are theoretically good but practically poor. It is time that Palestinian models of nursing and midwifery were used as the theoretical framework for programs of study for students who will practice in the setting of a Palestinian health care system.

Recommendations about clinical fieldwork relate both to type of placements and supervision. More placements are needed in community settings as most of the locations used are institution based. Popularity of CBR indicates that physiotherapists need to be able to work in home and work settings in villages and refugee camps where there is limited equipment. The recent graduation of the second group of clinical supervisors from BU means that there is a pool of physiotherapists trained and willing to supervise students. The use of clinicians demonstrates their value in student education and frees up faculty members for a more peripatetic role in clinical teaching.

One recommendation involves the cultural and social context in which educational programs are set. If educators come from a different culture they should make an in depth survey of customs, conditions and expectations of professionals, funders and clients before designing a curriculum of study for any ethnic group. All this takes time and effort to complete effectively and time seems something that few expatriates educators are prepared to give. The continued presence of expatriate staff undoubtedly contributed to the success of the physiotherapy programme in terms of acceptance in Palestinian society, increasing understanding of the situation of the Palestinian people and freedom to travel during difficult times of the Intifada and the prolonged curfews of the Gulf War. Provided that planning for new programmes is done methodically, graduates from such programmes need not feel dislocated from their culture, but enabled to relate the principles of their profession to the needs of their own society.

Importance should be attached to handing over to local staff as soon as they are well qualified to manage the programme, despite the problems of travel. In order to become a legitimate part of both Bethlehem University and Palestinian higher education, the programme must become Palestinianized in order to provide the most appropriate education for physiotherapists in Palestine. Expatriate educators should carefully examine philosophical assumptions behind their personal and professional values and attitudes in order not to undervalue either the intelligence, language or customs of their local colleagues and students. If the language of instruction must be English, caution must be exercised to ensure that translation into the local language is performed sensibly and sensitively and that there is no overt undervaluing of the students' native language.

A final recommendation appeals to the people of Palestine to take their future into their own hands, as much as they are able to in the present circumstances. Foreign funding is important for future development, but self sufficiency must be a priority for the longer term future. It will be painful for the Palestinian people to struggle towards autonomy and equally painful for their friends to watch them, but if Palestine is to survive it must become it's own master, at least within its own boundaries.

CHAPTER TWELVE

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Physiotherapy Curricula in Europe

Country	Award	Length	Location	Clin-Edu Hours	Foundat Hours	Clin-Sci Hours	Other Hours	PT-Sci Hours
Belgium	Bac/Dip	3/4	Univ/Int	1200	720	240	90	1200
Denmark	? Dip	3	Inst	800	700	300	30	1770
France	Dip	3/4	Inst	1470	459	505	173	723
Greece	Dip	3½	Inst	1504	864	560	176	1168
Italy	Dip	3	Inst	1600	480	245	42	225
NL	Bac	4	Poly	1850	875	430	130	1670
Portugal	Dip	3	Inst	1170	590	410	100	1100
Spain	Dip	3	Univ	1140	690	280	210	1280
UK	Bac	3/4	Univ	1000	520	551	132	422
Germany	Dip	3	Inst	2942	264	345	34	1894
Ireland	Bac	4	Univ	1050	575	498	15	963
Austria	Dip	?3	Inst	1250	520	390	50	1320
Finland	Dip	2½	Inst	1010	620	540	210	1640
Iceland	Bac	4	Univ	1212	557	282	?	986
Norway	Dip	3½	Inst	1728	646	202	?	1642

Poland	?Bac	4	?Univ	?	1054	314	172	1523
Switzerl	Dip	3/4	Inst	2000+	600	235	15	1035
Sweden	?Dip	2½	?Univ	1080	934	424	40	770
Slovenia	Dip	3+	Univ	2048	550	390	75	415
Belgrade	Dip	?3	Univ	?1650	360	165	225	990

APPENDIX TWO

PHYSIOTHERAPY CURRICULA IN THE DEVELOPING WORLD

Physiotherapy Curricula in Developing Countries

Country	Award	Length	Location	Clin-Ed	Foundat	Clin-Sci	PT-SCi	Other
Hongkong	Dip	3	Poly	1324	458	76	960	121
Taiwan	?Bac	4	Univ	2000	1226	270	810	612
India	Bac/Dip	2/3½	Inst	1600	510	480	980	--
Pakistan	Bac	3	Univ	---	---	---	---	---
Nigeria	Bac	3	UNiv	---	---	---	---	---
Kenya	?Dip	3	Inst	1484	546	448	770	70
Zambia	Dip	3	Inst	1986	492	378	750	406
S.Africa	Bac	4	Univ	1029	1442	216	1473	---
Zimbabwe	Bac	4	Univ	1505	994	619	1174	163
Sri Lanka	Bac	3	Univ	710	210	264	300	306
Columbia	?	3	Univ/Ins	1629	1440	342	846	474
Venezuala	?Bac	3	Univ	1300+	864	558	630	126

Physiotherapy Curricula in the Middle East

Country	Award	Length	Location	Clin Ed	Foundat	Clin Sci	PT Sci	Other
Israel	Bac	4	Univ	1050	786	960	575	320
Turkey	?Bac	4	?Univ	?1020	?915	?240	?1185	?800
Egypt	Bac	4/5	Univ	2640	1160	1360	2080	320
Jordan	Dip	2/3	Inst	660	270	810	330	210
Lebanon	Dip	3	Univ	2700	680	250	1040	230
Pal/BU	Bac	4	Univ	1080 min	700	180	750	465
Pal/UN	Dip	2	Inst	432	414	1026	576	558
Pal/MSF	Dip	2	Inst	?	295	138	225	--
Pal/ERD	Dip	3	Inst	?750	549	928	153	140
Pal/PRC	Dip	?2	Inst	?240	60	255	570	?
Pal/Bap	Dip	2	Inst	1200	30	30	99	13
Pal/MOD	Dip	2	Inst	1250	300	--	350	--

INDEX FOR CHARTS OF PHYSIOTHERAPY CURRICULA (taken from the SLCP classification)

Foundation Studies

Anatomy and Physiology
Kinesiology
Behavioural sciences
Research and Statistics
Pedagogic

Physiotherapy Sciences

Movement, biomechanics and ergonomics
Electrotherapy
Massage and manual therapy
Physical education and hydrotherapy
Orthotics and prosthetics
Assessment and evaluation

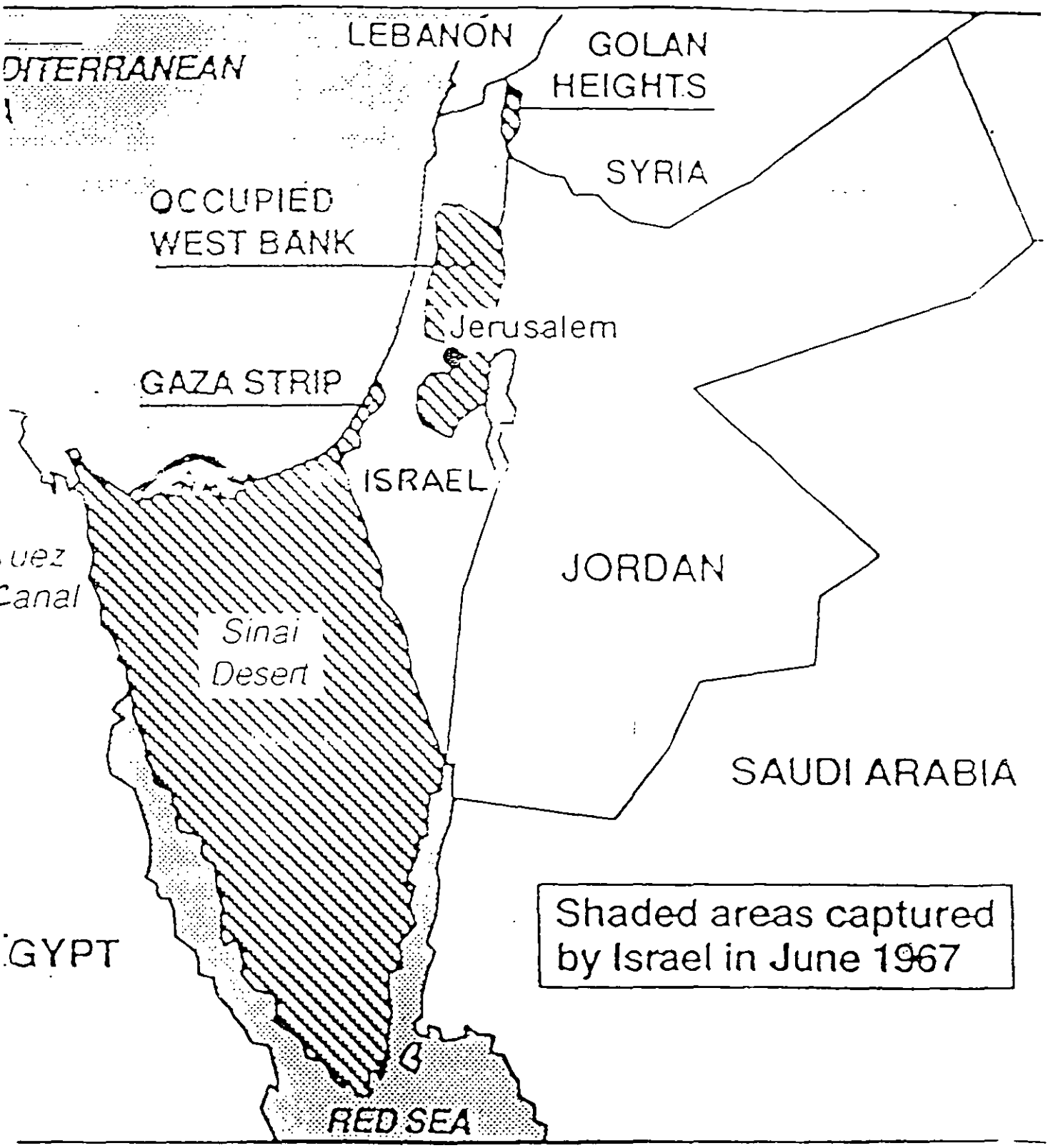
Clinical Sciences

All medical and surgical conditions and appropriate physiotherapy

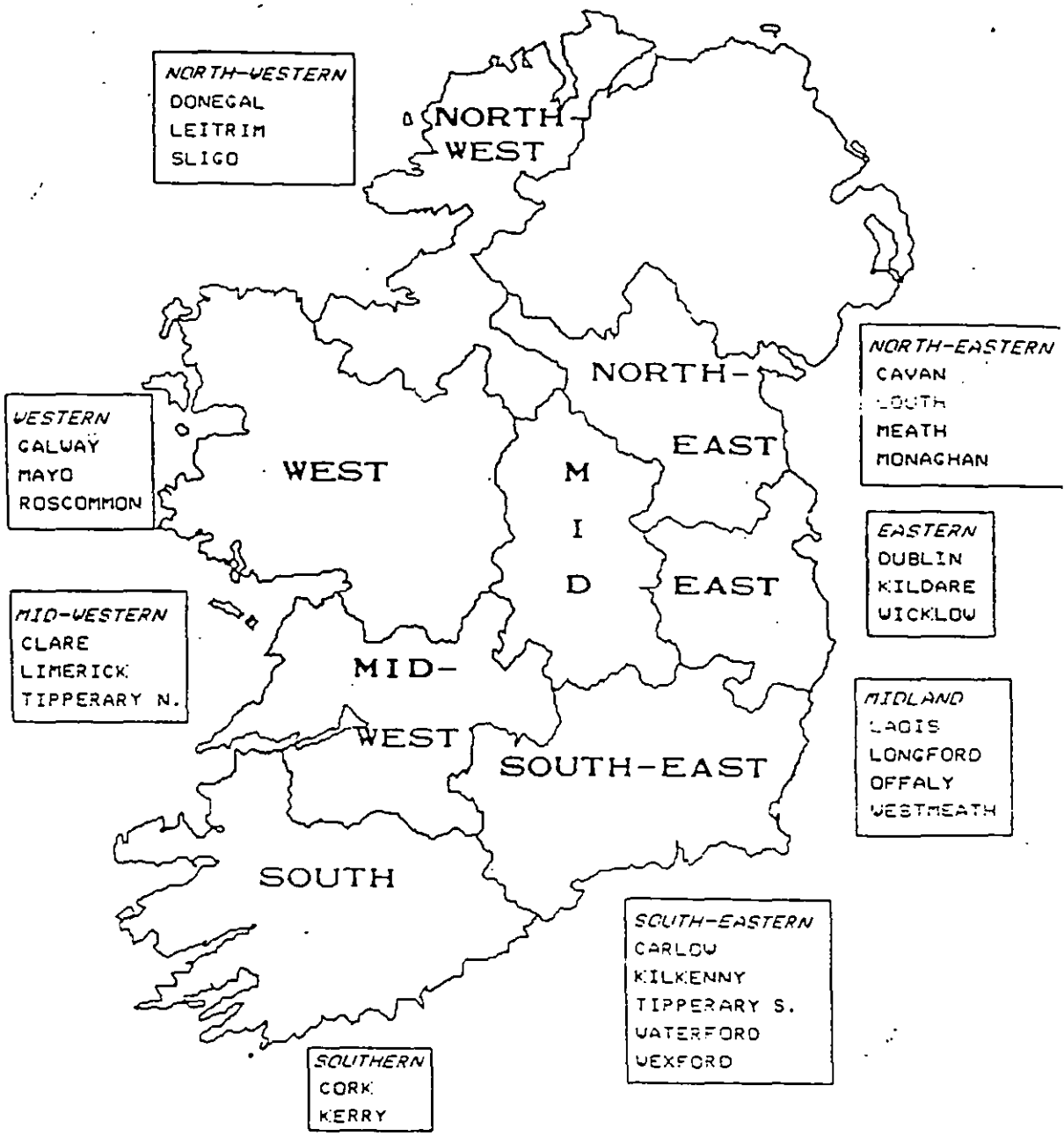
Other studies

Social legislation and ethics
Management
First Aid

APPENDIX FIVE MAP OF PALESTINE



APPENDIX SIX MAP OF IRELAND



APPENDIX SEVEN

TAISIR SELF-ESTEEM QUESTIONNAIRE (TSQ)

Age: _____ Sex: M / F

Introduction:

Please indicate how you feel about each of the items below by circling the appropriate response. The responses appear on the right-hand side of the page.

1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

Please remember to answer all items and to circle only one response to each item.

Note: 1 = Strongly Agree 2 = Agree 3 = Disagree
4 = Strongly Disagree

1.	Generally speaking I have a positive attitude towards myself	1	2	3	4
2.	I feel as a person I am valued by others	1	2	3	4
3.	I often wish I could have more respect for my self	1	2	3	4
4.	There are items when I feel useless	1	2	3	4
5.	I think I am an honest person	1	2	3	4
6.	Generally, I am able to do things as well as most other people	1	2	3	4
7.	My friends have no confidence in me	1	2	3	4
8.	Most of the time I am not satisfied with my self	1	2	3	4
9.	Sometimes I have ups and downs, but I think I am a worthwhile person	1	2	3	4
10.	There are a lot of things about myself that I would like to change .	1	2	3	4
11.	Generally, I feel quite confident and sure of myself	1	2	3	4

Note: 1 = Strongly Agree 2 = Agree 3 = Disagree
4 = Strongly Disagree

12.	Things are all mixed up in my life	1	2	3	4
13.	I often wish I were someone else	1	2	3	4
14.	I have quite a low opinion of myself	1	2	3	4
15.	If things go wrong, I tend to blame myself	1	2	3	4
16.	I think I have an attractive personality	1	2	3	4
17.	I often worry about what other people think of me	1	2	3	4
18.	I worry that other people might regard me as a failure	1	2	3	4
19.	I take good care of myself physically	1	2	3	4
20.	I often have a good feeling of well-being	1	2	3	4
21.	I am satisfied with my appearance	1	2	3	4
22.	Sometimes, I feel that I can't do anything well	1	2	3	4
23.	I think I am a sensitive person	1	2	3	4

Note: 1 = Strongly Agree 2 = Agree 3 = Disagree
4 = Strongly Disagree

24.	I like being who I am	1	2	3	4
25.	Generally, I think I am a happy person	1	2	3	4
26.	All in all, my friends trust me	1	2	3	4
27.	I often feel that I am a failure	1	2	3	4
28.	Sometimes, I feel I can't trust people	1	2	3	4
29.	I am usually satisfied with my friends	1	2	3	4
30.	I generally feel that other people like me	1	2	3	4
31.	I think that my family can rely on me	1	2	3	4
32.	I am usually a friendly person	1	2	3	4
33.	I am satisfied with my family relationships	1	2	3	4
34.	I feel that I have a number of good qualities	1	2	3	4
35.	People generally think of me as a decent person	1	2	3	4

APPENDIX EIGHT
TSQ QUESTIONNAIRE IN ARABIC
استبانة تسير للتقييم الذاتي

العمـــــر: _____ الجنـــس: انثى / ذكر الرقـــم: _____

تعـليمـــات:

الرجاء أن تذكر شعورك تجاه كل بند في الاستبيان وذلك بوضع دائرة حول الإجابة المناسبة. فالاجابات مطبوعة على الجانب الأيسر من الصفحة وقد تم اختصارها على النحو التالي: ١ = أب : أوافق بشدة ٢ = أ : أوافق
٣ = ل : لا أوافق ٤ = ل ب : لا أوافق بشدة

تذكر أن تجيب على كل البنود وأن تضع دائرة واحدة لكل منها.

العبـــــارة	أوافق جدا	أوافق	لا أوافق	لا أوافق بشدة
١. بشكل عام لدي تجاه متفاءل تجاه الحياة	١	٢	٣	٤
٢. أشعر ان الآخرين يقدرونني	١	٢	٣	٤
٣. كثيرا ما أتمنى أن احظى باحترام اكثر لذاتي	١	٢	٣	٤
٤. هناك أوقات أشعر فيها أنني غير مفيد	١	٢	٣	٤
٥. أعتقد أنني انسان صادق	١	٢	٣	٤
٦. أنا قادر بشكل عام عاى القيام بالأمور تماما مثل الآخرين	١	٢	٣	٤
٧. ان أصدقائي لا يثقون بي	١	٢	٣	٤
٨. أنا نادرا ما أكون راضيا عن نفسي بشكل عام	١	٢	٣	٤
٩. أحيانا تواجهني المشاكل إلا انني أعتقد أنني انسان ذا قيمة	١	٢	٣	٤
١٠. هناك الكثير من الأمور في شخصيتي أرغب في تغييرها	١	٢	٣	٤

العبـــــارة	أوافق جدا	أوافق	لا أوافق	لا أوافق بشدة
١١. على العموم أشعر أني واثق من نفسي.	١	٢	٣	٤
١٢. ان حياتي مليئة بالتعقيدات.	١	٢	٣	٤
٣١. كثيرا ما اتمنى لو اكون شخص آخر.	١	٢	٣	٤
٤١. ليس لدي اي اعتبار جيد لذاتي.	١	٢	٣	٤
١٥. اذا حدث وان ساءت الامور فانني الوم نفسي على ذلك.	١	٢	٣	٤
١٦. اعتقد ان شخصيتي جذابة.	١	٢	٣	٤
١٧. غالبا ما يقلقني ما يعتقده الناس عني.	١	٢	٣	٤
١٨. تقلقني فكرة ان الناس يعتبرونني شخصا فاشلا.	١	٢	٣	٤
١٩. اعتني جيدا بنفسي من الناحية الجسدية.	١	٢	٣	٤
٢٠. غالبا ما يجتاحني شعور جيد بالصحة والعافية.	١	٢	٣	٤
٢١. أنا راض عن مظهري الخارجي.	١	٢	٣	٤
٢٢. احيانا اشعر بانني غير قادر على اجادة عمل أي شيء.	١	٢	٣	٤
٢٣. اعتقد انني انسان حساس.	١	٢	٣	٤
٢٤. احب ما انا عليه.	١	٢	٣	٤
٢٥. اعتقد انني انسان سعيد بشكل عام.	١	٢	٣	٤
٢٦. على كل الأحوال أحظى بثقة أصدقائي.	١	٢	٣	٤
٢٧. غالبا ما اشعر انني انسان فاشل.	١	٢	٣	٤
٢٨. اشعر احيانا انني لا أثق بالناس.	١	٢	٣	٤
٢٩. انا عادة راض عن صحبة أصدقائي.	١	٢	٣	٤
٣٠. لدي شعور عام ان الآخرين يميلون الي.	١	٢	٣	٤
٣١. اعتقد ان عائلتي يمكنهاالاعتماد علي.	١	٢	٣	٤
٣٢. انا عادة انسان لطيف.	١	٢	٣	٤
٣٣. انا راض عن علاقاتي العائلية.	١	٢	٣	٤
٣٤. اشعر ان لدي عدد من الميزات الجيدة.	١	٢	٣	٤
٣٥. عادة ما يعتبرني الآخرين انسان محترم.	١	٢	٣	٤

APPENDIX NINE

LESQ QUESTIONNAIRE

QUESTIONNAIRE FOR PHYSIOTHERAPISTS

INTRODUCTION

This questionnaire is part of my research on "Cultural differences in teaching physiotherapy" and I would value your cooperation. If you would be kind enough to complete it and return it to me at the Physiotherapy Department, Bethlehem University.

I am trying to find out what practicing physiotherapists think and feel about their training, their job and their professional development. There are no correct answers only different opinions.
Of course, the information you give will remain confidential.

For questions with boxes please tick the appropriate box or boxes.
For questions with lines please answer in your own words.

Thank you for your cooperation.

V.L.Dawson, Physiotherapy Department

PERSONAL DETAILS

1 Age:

20 - 29	30 - 39	40 - 49	5 - 59	60+

2. Sex:

Male	Female

3. Where were you born ?

_____

4. Where do you now live ?

_____

5. Are you:

Married	Separated	Divorced	Widowed	Single

6. How many children do you have ?

None	1 - 3	4 - 6	More than 6

7. What was your Tawjihi average ?

Below 65%	65 - 69%	70 - 74%
75 - 79%	80 - 84%	Above 85%

8. Stream in Tawjihi:

Arts	Science

9. What year did you take Tawjihi ?

_____

10. Did you attend a:

Government school	Private school	UNRWA school

PROFESSIONAL EDUCATION

11. Where did you study as a physiotherapist ?

_____

12. How long was your programme of education as a physiotherapist/physiotherapy assistant ?

One year	Two years	Three years
Four years	More than 4 years	

13. In what year did you graduate ?

_____

14. What award were you given ?

Certificate	Diploma	Degree

15. Why did you study physiotherapy ?

_____

16. Why did you choose the place where you studied ?

_____

17. Were you happy to study there ?

Not at all	Not very well	Quite well
Well enough	Very well	

WORK EXPERIENCE

18. I am:

Working	Not working

19. Where do you work at the moment ?

_____

20. Why did you choose to work in this place ?

_____

_____

21. How long have you worked there ?

Less than 1 year	1 - 5 years	5 or more years

22. Are you happy working there ?

Not at all	Not very well	Quite well
Well enough	Very well	

23. What types of patients do you prefer to treat ?

Paediatrics	Orthpaedics	Neurology
Cardiovascular	Obstetrics/gynae	

24. What physiotherapy modalities do you prefer to use ?

Exercise	Electrotherapy	Manipulation	Massage

25. Do you prefer to treat:

Only males	Only females	Both M and F

25a. If only one sex, please give reasons:

_____

_____

26. How well were you prepared to work as a physiotherapist after graduation ?

Not at all	Not very well	Quite well
Well enough	Very well	

27. In what areas of physiotherapy were you not well prepared ?

_____

28. Do you think that physiotherapists should be able to decide on appropriate treatment for individual patients provided they receive permission from the doctor ?

Not at all	Sometimes	Always

29. Give reasons for your answer:

_____

_____

30. Do you think that physiotherapists have a role in health education ?

Not at all	Sometimes	Always

31. In what areas of health education can physiotherapists have a role ?

_____

_____

32. Do you think that physiotherapists should teach families of patients to do simple physiotherapy techniques ?

Not at all	Sometimes	Always

33. Give examples of simple techniques that can be taught to families:

_____

_____

34. Do you think that other health professionals understand what a physiotherapist does ?

	Not at all	Not very well	Quite well	Well enough	Very well
Doctors					
Nurses					
Social workers					

PROFESSIONAL DEVELOPMENT

35. What workshops/courses/seminars/lectures have you attended in the last year ? Please list:

_____

_____

36. Which of these workshops/seminars/lectures mentioned in Question 35 were taken outside of the West Bank and Gaza Strip ?

_____

_____

37. Have you organized any workshops etc in the last year ?

YES	NO

38. If your answer is YES please give details:

_____

_____

39. Have you lectured/spoken at any workshops etc in the last year ?

YES	NO

40. If your answer is YES please give details:

_____

_____

41. What professional books have you read in the last year ?
Please list:

_____

_____

42. From where did you get these books ?

43. What professional journals have you read regularly in the last year ?
Please list:

44. From where did you get these journal ?

45. Have you developed any written materials for patients, relatives or the general public in the last year ?

YES	NO

46. If your answer is YES please give details:

47. Who do you think is most responsible for your learning ?
Please indicate by putting numbers 1, 2 and 3 in the appropriate boxes:
(1) most responsible
(2) less responsible
(3) least responsible

Your teacher	Yourself	Your employer

48. Do you know of any research that has changed the practice of physiotherapy ?

YES	NO

49. If your answer is YES please give details:

_____

_____

_____

50. Do you think that there are any differences between physiotherapy practice in Palestine and overseas ?

YES	NO

51. If your answer is YES please give details:

_____

_____

Thank you for your help !

Please return to Lesley Dawson, Physiotherapy Department, Bethlehem University.

APPENDIX TEN LESQ QUESTIONNAIRE IN ARABIC

دائرة العلاج الطبيعي
هاتف رقم ٧٤٤٠٥٢

نموذج استمارة للمعالجين الطبيعيين

مقـــدمـــة:

يشكل هذا الاستبيان جزءا من دراستي بعنوان "الاختلافات الثقافية في تعليم العلاج الطبيعي" لذا أقدر كثيرا تعاونك معي وهلا تفضلت بتعبئة هذا الاستبيان وإرجاعه لي في دائرة العلاج الطبيعي في جامعة بيت لحم.

إن الهدف وراء دراستي هو محاولة معرفة ما هي وجهات نظر ومشاعر أخصائي العلاج الطبيعي الممارسين لهذه المهنة بخصوص تدريبهم، وعملهم وتطورهم المهني. لذا أرجوا أن تكون صادقا مع نفسك عند تعبئة الاجابات، حين لا توجد اجابات صحيحة وانما وجهات نظر مختلفة. وبطبيعة الحال ستكون المعلومات التي تدلي بها في موضع السرية التامة.

بالنسبة للأسئلة التي فيها مربعات ضع علامة (/) في المربع المناسب أو المربعاب المناسبة للأسئلة التي فيها أسطر لتكتب عليها اجابابك.

شكرا لك على تعاونـــك.

ف. ل. دوسون
دائرة العلاج الطبيعي

معلومات شخصية:

١. السن

٢٠-٢٩	٣٠-٣٩	٤٠-٤٩	٥٠-٥٩	٦٠ فما فوق

٢. الجنس:

ذكر	أنثى

٣. مكان الولادة: _____

٤. أين تسكن الآن: _____

٥. هل أنت:

متزوج	منفصل	مطلق	أرمل	أعزب

٦. كم عدد أطفالك:

لا يوجد	١ - ٣	٤ - ٦	أكثر من ٦

٧. كم كان معدلك في التوجيهية العامة:

أقل من ٦٥	٦٥ - ٦٩	٧٠ - ٧٤	٧٥ - ٧٩
٨٠ - ٨٤	٨٥ فما فوق		

٨. الفرع الذي درسته في التوجيهي:

أدبي	علمي

٩. في أي عام تقدمت لامتحان التوجيهي: _____

١٠. هل كنت تدرس في:

مدرسة حكومية	مدرسة خاصة	مدرسة وكالة

التدريـــــب:

١١. أين قمت بالتدريب كمعالج طبيعي أو مساعد معالج طبيعي؟

_____

_____

١٢. كم من الزمن استمر تدريبك لمعالج طبيعي أو مساعد معالج طبيعي؟

سنة	سنتين	٣ سنوات	٤ سنوات	أكثر من ٤ سنوات

١٣. في أي عام تخرجت؟ _____

١٤. ما هي الدرجة التي حصلت عليها؟

شهـــاده	دبلـــوم	درجـــة

١٥. لماذا درست مهنة العلاج الطبيعي؟

_____

_____

_____

١٦. لماذا اخترت المكان الذي تلقيت دراستك فيه؟

_____

_____

_____

١٧. هل كنت سعيدا في دراستك في ذلك المكان؟

مطلقـــا	ليس كثيرا	نوعا ما
كثيـــرا	كثيرا جـــدا	

العمـــــــل:

١٨. أنا

أعمـــــل	لا أعمـــل
معالج طبيعي	مساعد علاج طبيعي

* اذا كنت تعمل في الوقت الحاضر، لطفا أجب على كل من سؤال ١٩، ٢٠، ٢١ و ٢٢.

١٩. أين تعمل الآن؟

_____

٢٠. لماذا اخترت هذا المكان لتعمل فيه؟

_____

_____

_____

٢١. ما هي المدة التي عملت فيها في هذا المكان؟

أقل من عام	١ - ٥ أعوام	٥ أعوام فما فوق

٢٢. هل أنت سعيد بعملك في هذا المكان؟

مطلقتـــا	ليس كثيرا	نوعا ما
كثيـــرا	كثيرا جـدا	

٢٣. ما هي أنواع المرضى الذين تفضل أن تتعامل معهم؟

الأطفـــال	مرضى العظام	مرضى الأعصاب
مرضـى الصدر	الولادة والنساء	

٢٤. أي من أساليب العلاج الطبيعي التالية تفضل استخدامها؟

التمارين	العلاج بالكهرباء	العلاج بالأيدي
التدليك		

٢٥. هل تفضل أن تعالج:

المرضى الذكور فقط	المرضى الاناث فقط	كل من الذكور والاناث

* اذا كنت تعالج جنسا واحدا - أذكر الاسباب:

_____

_____

_____

٢٦. كم كان استعدادك لتعمل كمعالج طبيعي بعد تخرجك.

مطلقـــا	ليس كثيرا	نوعا ما
كثيـــرا	كثيرا جـــدا	

٢٧. في أي المجالات في العلاج الطبيعي لم يكن لديك الاعداد الجيد؟

_____

_____

_____

٢٨. هل في اعتقادك يجب ان يكون في مقدور أخصائي العلاج الطبيعي ان يقرروا نوع العلاج المناسب للمرضى شرط ان يحصلوا على اذن من الطبيب؟

مطلقـــا	أحيانـــا	دائمـــا

٢٩. أذكر الأسباب لاجابتك هذه:

_____

_____

_____

٣٠. هل في اعتقادك ان لأخصائي العلاج الطبيعي دور كمربين صحيين؟

مطلقـــا	أحيانـــا	دائمـــا

٣١. في أي المجالات من التربية الصحية يمكن ان يكون هناك دور لأخصائي العلاج الطبيعي؟

_____

_____

5

٣٢. هل تعتقد ان أخصائي العلاج الطبيعي يجب ان يعلموا عائلات المرضى القيام بأساليب العلاج الطبيعي البسيطة ؟

مطلقـــا	أحيانـــا	دائمـــا

٣٣. اذكر أمثلة على أساليب العلاج الطبيعي البسيطة التي يمكن تعليمها للعائلات:

_____

_____

_____

٣٤. هل تعتقد ان عاملين الصحة الاخرين يفهمون ماهية عمل المعالج الطبيعي؟

	كثيرا جدا	كثيـــرا	نوعا مـا	ليس كثيرا	مطلقـا
الأطبـاء					
الممرضين					
العاملين الاجتماعين					

التطـــور المهنـــي:

٣٥. ما هي ورشات العمل، المساقات، الحلقات الدراسية والمحاضرات التي شاركت فيها في العام الماضي؟ اذكرها لطفـا...

٣٦. أي من هذه الورشات، الحلقات الدراسية والمحاضرات التي ذكرتها في سؤال ٣٥ شاركت فيها خارج الضفة الغربية وقطاع غزة؟

٣٧. هل قمت بتنظيم ورشة عمل أو ما يشابه ذلك في العام الماضي؟

نعـــم	لا

٣٨. اذا كانت اجابتك نعـــم، اذكر التفاصيل عن ذلـك:

٣٩. هل قمت بالقاء محاضرات أو تكلمت في أي من الورشات في العام الماضي؟

نعـــم	لا

٤٠. اذا كانت اجابتك نعـــم، اذكر التفاصيل عن ذلـك:

٤١. ما هي الكتب المتخصصة التي طالعتها في العام الماضي؟

_____
_____
_____

٤٢. من أين حصلت على هذه الكتب؟

_____
_____
_____

٤٣. أي من المجلات المتخصصة طالعت بانتظام في العام الماضي؟ أذكرها لطفا:

_____
_____
_____

٤٤. من أين حصلت على هذه المجلات؟

_____
_____
_____

٤٥. هل قمت باعداد اي مواد للمرضى، الأقارب أو للجمهور في العام الماضي؟

نعم	لا

٤٦. اذا كانت اجابتك نعم، اذكر التفاصيل عن ذلك:

_____
_____
_____

٤٧. من هو المسؤول في رأيك عن تعليمك؟ لطفا ضع الأرقام ١، ٢، ٣ في المربعات المناسبة:

١- الأكثر مسؤولية ٢- المسؤول ٣- الأقل مسؤولية

مدرسك	نفسك	رئيسك

٤٨. هل تعرف عن أي بحث أحدث تغيير في ممارسة العلاج الطبيعي؟

_____

_____

_____

٤٩. اذا كانت اجابتك نعـــم، اذكر التفاصيل عن ذلـك:

_____

_____

_____

٥٠. هل تعتقد ان هناك اختلافات بين ممارسة مهنة العلاج الطبيعي في فلسطين والخارج؟

نعـــم	لا

٥١. اذا كانت اجابتك نعـــم، اذكر التفاصيل عن ذلـك:

_____

_____

_____

لـــك الشـــكر الجزيـــل علـــى تعـونـــك

الرجـــاء ان تعيـد هذا الاستبيـان الى ليـزلـــي دوســـون، دائـرة العـلاج الطبيعـي، جـامعـــة بيـت لحـــم.

APPENDIX ELEVEN

LESQ QUESTIONNAIRE IRISH VERSION

QUESTIONNAIRE FOR PHYSIOTHERAPISTS

INTRODUCTION:

This questionnaire is part of my research on "Cultural differences in teaching physiotherapy" and I would value your cooperation. I am comparing Palestinian physiotherapists attitudes with attitudes of physiotherapists in the Republic of Ireland.

I am trying to find out what practicing physiotherapists think and feel about their training, their job and their professional development. Please be completely honest with yourself as you fill in the questionnaire. There are no correct answers only different opinions. Of course the information you give will remain confidential.

For questions with boxes please tick the appropriate box or boxes. For questions with lines please write in your own words.

If you would be kind enough to complete it and return it to Peter Yung at the Physiotherapy Department in Trinity College.

Thank you very much for your cooperation.

V.L. Dawson, Physiotherapy Department, Bethlehem University.

PERSONAL DETAILS:

1. **Age :**

20 - 29	30 - 39	40 - 49	50 - 59	60+

2. **Sex :**

Male	Female

3. **Where were you born ? (Town and Country)**

_____

4. **Where do you now live ? (Town and Country)**

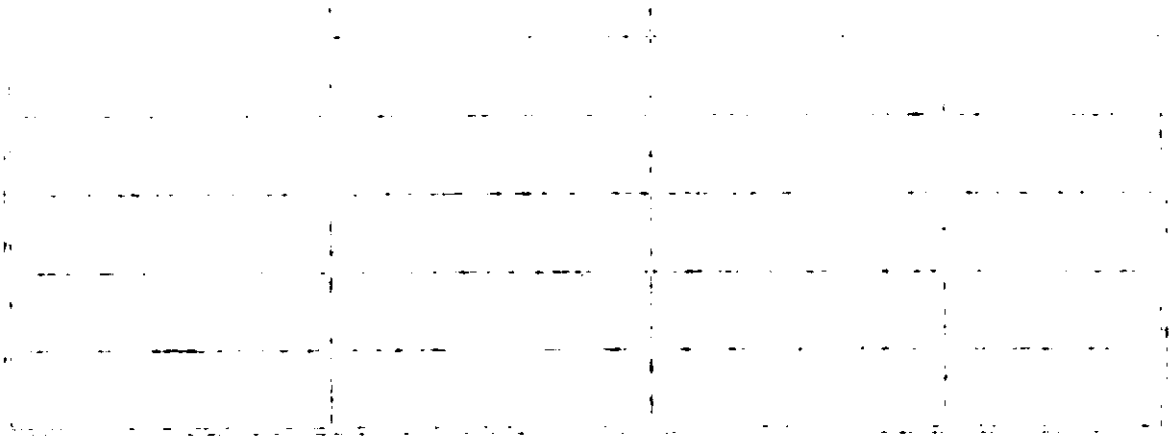
_____

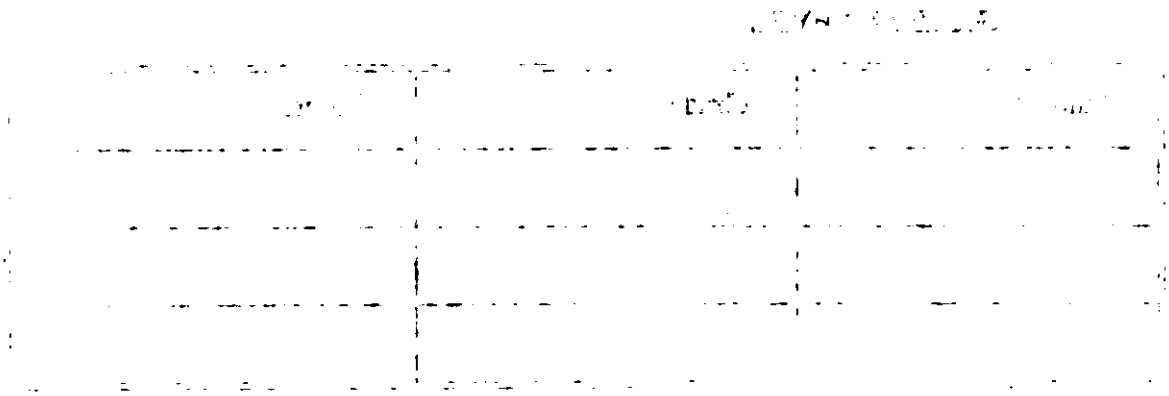
5. **Are you :**

Married	Separated	Divorced	Widowed	Single

6. **How many children do you have ?**

None	1 - 3	4 - 6	More than 6





8. **What year did you take your Leaving Certificate/ G.C.E./ A Level ?**

_____

9. **Did you attend a :**

Community School	Private School
Church School Fee Paying	Church School Non-Fee Paying

PROFESSIONAL EDUCATION:

10. **Where did you study as a physiotherapist ?**

_____

_____

11. **How long was your programme of training as a physiotherapist?**

3 years	4 years

12. **In what year did you graduate ?**

_____

13. **What award were you given ?**

Diploma	Degree

14. **Why did you study physiotherapy ?**

_____

_____

15. **Why did you choose the place where you studied ?**

_____

_____

16. **Were you happy to study there ?**

Not at all	Not very well	Quite well
Well enough	Very well	

WORK EXPERIENCE:

17. I am:

Working	Not working

* If you are not working at present, please do not answer Questions 18, 19, 20, 21 and 22.

18. Where do you work at the moment ?

_____

19. Why did you choose to work in this place ?

_____

_____

20. How long have you worked there ?

Less than one year	1 - 5 years	5 + years

21. Are you happy working there ?

Not at all	Not very well	Quite well	Well enough	Very well

22. What types of patients do you prefer to treat ?

Paediatrics	Orthopaedics	Neurology
Cardiovascular	Obstetrics/gynaecology	

23. What physiotherapy modalities do you prefer to use ?

Exercise	Electrotherapy	Manipulation	Massage

24. Do you prefer to treat :

Only male patients	Only female patients	Both M and F patients

24a. If only one sex - give reasons:

_____

_____

_____

25. How well were you prepared to work as a physiotherapist after graduation ?

Not at all	Not very well	Quite well
Well enough	Very well	

26. In what areas of physiotherapy were you not well prepared ?

_____

_____

27. Do you think that physiotherapists should be able to decide on appropriate treatment for individual patients provided they receive permission from the doctor ?

Not at all	Sometimes	Always

28. **Give reasons for your answer:**

_____

_____

29. **Do you think that physiotherapists have a role as health educators ?**

Not at all	Sometimes	Always

30. **In what areas of health education can physiotherapists have a role ?**

_____

_____

31. **Do you think that physiotherapists should teach families of patients to do simple physiotherapy techniques ?**

Not at all	Sometimes	Always

32. **Give examples of simple techniques that can be taught to families**

_____

_____

33. Do you think that other health professionals understand what a physiotherapist does ?

Profession	Not at all	Not very well	Quite well	Well enough	Very well
Doctors					
Nurses					
Social workers					

PROFESSIONAL DEVELOPMENT:

34. **What workshops / courses / seminars / lectures have you attended in the last year ? Please list:**

35. **Which of these workshops / seminars / lectures mentioned in Question 32 were attended outside Ireland ?**

36. **Have you organised any workshops etc. in the last year ?**

YES	NO

37. **If your answer is YES - please give details.**

38. **Have you lectured / spoken at any workshops etc. in the last year ?**

YES	NO

39. **If your answer is YES - please give details.**

_____

_____

_____

40. **What professional books have you read in the last year ?**
Please list:

_____

_____

_____

41. **From where did you get these books ?**

_____

_____

_____

42. **What professional journals have you read regularly in the last year ? Please list:**

_____

_____

_____

43. **From where did you get these journals ?**

_____

_____

44. **Have you developed any written materials for patients, relatives or the general public in the last year ?**

YES	NO

45. **If your answer is YES - please give details**

_____

_____

46. **Who do you think is responsible for your learning ?**
Please indicate by putting numbers 1, 2 and 3 in the appropriate boxes:
(1) most responsible
(2) less responsible
(3) least responsible

Your teacher	Yourself	Your employer

47. **Do you know any research that has changed the practice of physiotherapy ?**

YES	NO

48. **If your answer is YES - please give details:**

_____

_____

_____

49. **Do you think that there are any differences between physiotherapy practice in Ireland and overseas ?**

YES	NO

50. **If your answer is YES - please give details:**

_____

_____

_____

Thank you for your help.

Please return to Peter Yung, Physiotherapy Department, Trinity College, Dublin.

APPENDIX TWELVE

A PROFILE OF PALESTINIAN PHYSIOTHERAPY STUDENTS LESQ QUESTIONNAIRE

N = 25.

1. Age All 20 - 29 years.

2. Sex 28% male, 72 % female (Tireh students all female)

3. Place of birth 24% Gaza, 64% West Bank and Jerusalem.
Gaza about one tenth the size of the West Bank is over represented in these figures, a fact that indicates Gazans desire for education even if it means moving away from home.

4. Present home There was some confusion about what was meant by "home". Despite the fact that all students lived in the West Bank whilst studying at Bethlehem or Ramallah, 20% of them put Gaza as home describing where their family is.

5. All are single.

6. None have children.

7. Tawjihi average 52% scored between 70 to 79% and 24% scored 80% or above. The 24% who had scores below these levels are all female and students at the UNRWA Training School in Tireh.

8, Tawjihi stream, 84% Science Stream.

9. Year of Tawjihi exam, 24% between 1985 and 1989, 72% from 1990 or later. 83% of the women took the exam between 1990 and 1995.

10. Type of school attended, government 48%, UNRWA 24%, private 24%.

11. Place of PT education, BU 64% (including all the men) UNRWA Tireh 36%.

12. Length of programme, 2 years 36%, 4 years 64% (all the men).

13. Year of graduation, Tireh students graduated in 1995 and BU in early 1996.

14. Award given, Diploma 36%, Degree 64% (all the men).

15. Reasons for studying PT (more than one reason may be given)
"humanitarian work" 54%, "I like the work" 38%,
"an important new profession" 35%.

16. Specific college, "the first place in the country to offer the subject" 42%,
"good reputation/facilities" 19%, "it was my only choice" 35%.

17. Satisfaction with education, Very Well to Quite Well 68%.

18. None were working not having graduated at the time.

19. to 22. Not applicable

23. Preferred types of patients, Orthopaedics 64%, Paediatrics 26%, Neurology 26% (more males than females).

24. Preferred treatment modalities, Exercise 80% (all the men)
Manipulation 56% (71% of females), Massage 24%, (18% of females) Electrotherapy 8%.

25. All were happy to treat both men and women.

26. How well were you prepared for work?(Clinical fieldwork), Very Well and Well Enough 40%. No response from 60%.

27. Areas where not well prepared, (36% response rate)
paediatrics 8%, neurology 16%, electrotherapy 4%.

28. PTs ability to decide treatment, always 24%
sometimes 52%, (8% of females not at all)

29. Reasons, (84% response rate) doctors don't know enough about PT 40%, doctors don't assess the patients 44%.

30. PTs role as health educator, always 32%
sometimes 8%, (4% of males not at all).

31. Areas of health education, (72% response rate)
prevention and care of back problems 42%, instruction for carers of disabled people 35%, physical fitness 38%.

32. Should PT teach carers? always 64% (M>F), sometimes 32%.

33. Examples, (92% response rate) therapeutic exercises 73%, positioning 54%, massage 19%.

34. Colleagues knowledge of PT,
Doctors Quite Well to Very Well 94%, Nurses Quite Well to Very Well 88%, Social Workers Quite well to Very Well 94%.

35. Workshops attended, (28% response rate). A variety of topics similar to those mentioned by Palestinian graduates

36. All workshops attended inside the country.

37. to 44. Not applicable.

45. Developed written patient materials, (80% response rate of whom 68% said NO.

46. Details, related to low back pain, making simple equipment and home exercise programmes.

47. Responsibility for learning, self 88% (all the men), teacher 8%.

48. and 49. Not applicable.

50. Differences in PT practice between countries, 60% said YES.

51. Details (response rate 60%)
available resources 32%, perceived professional autonomy 28%, methods of teaching 20%.

APPENDIX THIRTEEN

A PROFILE OF PALESTINIAN PHYSIOTHERAPISTS
LESQ QUESTIONNAIRE

N = 164

Personal details

1. Age 72% are 29 years of age or under. This reflects the youth of the population and the profession and also the plethora of emergency training programs set up during the Intifada.

2. Sex 58% male and 42% female. Despite the increase in numbers of females training as physiotherapists inside the country during and since the Intifada the profession is still male dominated. Before there was the possibility to train locally it was not culturally acceptable for single women to go abroad to train, although a few did go to Egypt and to Eastern Germany.

3. Place of birth About 50% of the respondents came from Gaza and a similar number from the West Bank. It is interesting that there are as many physiotherapists in both places as Gaza is about one tenth the size of the West Bank. In terms of potential patients needing physiotherapy the numbers are coming closer together with Gaza having a population of close to one million and the West Bank just over one million.

Breakdown of numbers in each area show that most physiotherapists come from the more populated areas in Gaza or more northern areas of the West Bank such as Nablus and Jenin.

4. Present home - There is some movement away from Gaza to the West Bank. Many Gazans moving for work come to hospitals in East Jerusalem which is included in the West Bank figures.This trend ties up with answers to Question 17

about work. The largest movement is to Bethlehem and Ramallah. These two areas are more central and contain large rehabilitation centres. Jericho has a surprisingly small number of physiotherapists compared to its population size and importance in the new state of Palestine.

5. Marital status 59% married and 40% single. This reflects the Arab tradition of marrying early and the importance of family. Breaking down the numbers of those married by sex, there are 69% of males and 45% of females. Educated females tend to defer marriage until after graduation and many get a taste for single life when working , whereas men marry as soon as they have enough money . As the average age of the male sub sample is older this explains the higher number of males who are married.

6. Number of children 60% have no children, 26% have between one to three children and 12% have more than three children. Compared to the rest of the population these numbers are small as it is not unusual for a couple to have six or more children. Breaking down the group with children by sex there are a higher percentage of men (73%) than women (51%) who have children.

7. University entrance 68% had Tawjihi scores of between 70 to 79%, and 24% had scores of 80% or above. The minimum Tawjihi grade for university entrance is 65% although some departments, such as BU Nursing, ask for higher grades. This ties up with answers to Question 13.

8. Tawjihi stream 78% had specialized in the Scientific Stream as opposed to the Arts Stream (76% males and 82%). Many university and college departments will only consider applicants with Scientific Stream results. The Tawjihi is the school leaving examination recognized in most Arab countries. The level of it is between the British O and A levels and lower than the Israeli Bagrout.

9. The year the Tawjihi exam was taken 63% took Tawjihi between 1980 and 1989 and 23% from 1990 onwards. The 1980 to 1989 results may have advantaged or disadvantaged the students depending on where they took the exam. During the Intifada (1987 to 1992) there was much cheating in exams and threatening of teachers and examiners.

10. Type of school attended 65% attended government schools, 27% UNRWA schools and 7% private schools.

Professional education.

11. Physiotherapy education - 66% were educated in Palestine mostly in the West Bank. Programs in the West Bank were located in Bethlehem, Ramallah, Nablus and Hebron. In Gaza they were in Gaza Town. Those who went outside for their education went mainly to other Arab countries or to Eastern Europe.

12.How long was the program of study? This ranges from one to five years depending on the level of the program and the location of the school. Those educated abroad had either a three , four or five year program, those inside anything from one year to four. 39% did two years at UNRWA or other emergency schools in Ramallah, Nablus, Hebron and Gaza. 21% did four years at BU, 19% did three years either outside or with ERDM in Gaza, 11% did a one year program in Gaza in the 1970s and 11% did a five year program in Egypt.

13. In what year did you graduate? 20% graduated between 1980 and 1989 and 78% graduated between 1990 and 1995.This figure shows the increase in educational opportunities after the beginning of the Intifada compared with those available before 1987.

14.What award did you receive? 11% received a certificate, 58% a diploma (males 53% and females 65%) and 31% a degree.

15.Why did you study physiotherapy? The most important reasons given were "The profession was needed because of the Intifada" (35), "It was an important new profession" (36), "I like the work" (31) and "It is humanitarian work" (30). A combination of altruism and curiosity.

16.- Most of the reasons arise from limited choice such as "financial assistance was given"(34), "close to my home"(19) ,"it was the only choice I had"(65) and "it was the first place in the country to offer the subject"(25).This limitation of choice may lead to poor motivation, lack of willingness to learn etc and may be reflected in other answers.

17.Were you happy to study there? Assuming that answers on the scale from Quite well to Very well admit at least some satisfaction with the education we can say that this is true of 95%.

Work situation.

18. Working or not working 78% said yes (males 53% and females 65%). Highest unemployment rate of physiotherapists is in Gaza.

19.Place of work In all towns and refugee camps in Gaza . In the West Bank in Jerusalem, Hebron, Bethlehem, Ramallah, Qalqilya, Nablus, Jenin and Jericho. Types of centres - hospitals, rehabilitation centres, outpatient clinics and community settings.

20. Reasons for working in the place "It is close to my home" (32), "I was accepted" (29), "This was the only choice I had"(25), "To gain good experience"(25)

21.How long have you worked there? 31% less than one year, (males 24%, females 39%), 48% between one and five years (males 49% females 47%), 21% more than five years.

22. Are you happy working there? Again assuming that responses between Quite Happy and Very Happy indicate some satisfaction - 97% responded within these categories.

23. What types of patients do you like to treat? Paediatrics 42% (males 43% females 40%), Orthopaedics 73% (males 78% females 66%), Neurology 41 % (males 50% females 28%), Cardio-thoracic 5%, Obstetrics and gynaecology 6%.

24. What physiotherapy modalities do you prefer to use?
Exercise 82% (males 81% females 84%), Electrotherapy 20% (males 24% females 13%), Manipulation 56% (males 67% females 44%)
Massage 17% (males 20% females 13%).

25. Do prefer to treat same-sex patients? 82% were happy to treat both male and female patients. 22% of females preferring to treat their own sex and 12% of males.

25B. Reasons given for preferring same sex patients (36 responses)
"Both you and the patient feel more comfortable" (16), "Religion prevents you treating a patient of the opposite sex" (12). It is surprising that there is such a such a small number who are not willing to treat patients of the opposite sex (18%)

26. How well were you prepared to work as a physiotherapist after graduation?
Quite well to very well - 99%.

27. Areas in which you were not well prepared Paediatrics (28), Electrotherapy (20), Neurology (18), Hydrotherapy (13), Obstetrics (12).
Observations bear out these findings, Palestinian physiotherapy is a very orthopaedic model.

28. Do you think that PTs should be able to decide on appropriate treatment for individual patient? always 49%, sometimes 43%.

29 Give reasons "Physiotherapists are trained to plan treatment" (67), "There should be cooperation between doctor and PT" (39) "Doctors don't know enough about PT" (24).
88% response rate shows this is a burning issue. Do these results represent trust in their own abilities or mistrust of medical colleagues ?

30. Do you think that physiotherapists have a role as health educators?
always 50%, sometimes 48%

31. Details of health education role prevention of injury (56), physical fitness (46), management of disability at home (30), occupational advice (23) raising awareness in the community (23), counseling (18).

32. Do you think that physiotherapists should teach simple exercises to carers?
always 64%, sometimes 35%

33. Techniques to be taught to carers therapeutic exercises (117), positioning (49), use of ice/hot packs (35), activities of daily living (23), massage (21), transfers (17).

34.A Do you think that doctors understand what physiotherapists do?
Quite Well to Very Well - 95%

34B Do you think that nurses understand what physiotherapists do ?
Quite Well to Very Well - 99%

34C Do you think that social workers understand what physiotherapists do?
Quite Well to Very Well - 95%.

Professional development.

35. What workshops have you attended in the last year? 56% response rate. Details - gait re-education (28), rehabilitation of the disabled person (17), higher studies (13), weekly in-service training (13).

36. How many of these workshops were abroad?
83% of responses had attended the workshops inside the country and 17% abroad. This indicates the lack of opportunity or willingness to travel abroad and the lack of local experts to do workshops at home.

37. Have you organized any workshops in the last year? 16% (males 19% females 11%)

38. Details of workshops organized
paediatrics (5), neurology (3), disability (6), administration (2), sports injuries (2). This response rate indicates the dependent attitude of Palestinian PTs, they wait for someone else to do something. It also indicates the lack of training for local people who want to organism something.

39. Have you lectured at any workshops in the last year? 21% yes (males 26% females 16%).

40. Details of workshops lectured at spinal injuries (8), neurology (3), rheumatology/orthopaedics (8), treatment modalities (6).
There are similar comments to be made as for the previous question.

41. What professional books have you read in the last year? 60% response indicates the importance of the written word but also that some people do not read in a second language as very little material is written in Arabic.
Subjects - neurology (21), therapeutic exercise (21), rheumatology/orthopaedics (26). Some books by name mostly by subject area. Lots of non specific items (53). Mainly conditions and modalities.

42. From where did you get these books? 66% response rate.
Workplace (38), friends (22), from student days (15), libraries (36), bought them (25).
54% not reading to keep up to date, some of whom have been qualified almost ten years.

43. What professional journals have you read in the last year? 29% response rate
Physiotherapy (20), others in subject areas such as orthopaedics, paediatrics etc.

44. From where did you get these journals? 32% response rate.
Workplace (17), friends (9), libraries (11),subscribe (2).
Many people said "not available". Most literature available in a foreign language.

45. Have you written any patient materials in the last year? 39% yes (males 42% females 33%)

46. Details of materials written home exercise programs (19), care of the neck/back (11), dealing with disability (10).
The response rate indicates the oral rather than written tradition in Palestine also the youth of the profession.

47. Who is most responsible for your learning? Employer 10%,
teacher 33% (males 32% females 34%), self 69% (males 70% females 66%).
This indicates the dependence among many physiotherapists who see someone else responsible for their learning. There is little tradition of students taking responsibility for their own learning.

48. Do you know any research that has changed the practice of physiotherapy?
21% said yes.

49. Details of research play therapy, manual therapy versus ET, treatment techniques and assessment, standards of PT, use of long leg casts for CDH, continuous passive motion, physiotherapy in geriatrics, low back pain and sacro iliac joint problems, shortwave diathermy and tissue death, ice versus SWD, laser, community based rehabilitation etc.

50. Do you think there are any differences in practice in Palestine and abroad - 62% yes (males 68% females 54%).

51. Details of differences 63% response rate
"Culture and political situation" (60), "education/training" (43), "knowledge about PT" (54).
Most people have not been outside. Arabic culture believes what they do is the best.

APPENDIX FOURTEEN

A PROFILE OF IRISH PHYSIOTHERAPY STUDENTS LESQ QUESTIONNAIRE

N = 18

1. Age All between 20 to 26. Mean age 20.

2. Sex Male 11% Female 89%.

3. Place of birth Ireland 83%, Outside 17%.

4. Present home Dublin 67%, outside Dublin 33%.
I think there is some confusion whether the question means where do you live or where does your family live.

5. Marital status All single.

6. Children None.

7. Points from Higher level school certificate (taken from TCD University Handbook)
Range from 480 to 570. Mean 521.(480 - 500) 1, (501 - 520) 2, (521 - 540) 3, (541 - 560) 4, (561 and above) 5.

* No question equivalent to Tawjihi stream.

(9)8. Year when school leaving certificate was obtained
94% from 1990 onwards.In general males took the exam earlier than females.

(10)9. Type of secondary school attended community 33% private 11%, church/fee paying 11%, church/non fee paying 44%.

Most females attended church/non-fee paying and most men community schools.

(11)10. Place of education All at Trinity College Dublin.

(12)11. Length of program All 4 years.

(13)12. Year of graduation Not until 1996.

(14)13. Award given All degree.

(15)14. Main reasons for studying PT.
" Wanted to do something medical/health care " 44%.
" Wanted to work with people " 33%
" Knew a physiotherapist," " Wanted science/sport" 22% each

(16)15. Why this specific college?
" Well known internationally " 50%," Recommended by others " 33%
" Nearest to my home " 28%, "More practical than University College Dublin" (the other physiotherapy school in the Republic) 11%

(17)16.Satisfaction with place All between Quite Well to Very Well (72% very well)

17. None working, all still students

18. Present place of work Not applicable.

19. Reason for working there Not applicable.

20. Length of time worked there Not applicable.

21. Satisfaction with place Not applicable.

(23)22. Preferred types of patients response rate 56%
Cardiothoracic 28%, Rheumatology/Orthopaedics 22%, Paediatrics and Neurology 17%

(24) 23. Preferred treatment modalities Exercise/61%, Manipulation 44% (mostly males), Electrotherapy 39% .

(25) 24. Preference for treating same sex patients both sexes 94%, opposite sex.6% (one person)

(26) 25. How well were you prepared for work? (Clinical Fieldwork)
22% response rate all positive.

(27) 26. Areas in which not well prepared 1 response - auscultation and goniometry.

(28) 27. Physiotherapists ability to decide on treatment 94% always.

(29) 28. Reasons for physiotherapists right to decide on treatment
"Physiotherapists have the knowledge" 39%
"Physiotherapists are trained to do this" 61%
"Doctors dent know what we can offer" 33%

(30) 29. Physiotherapists role as health educator 94% always

(31) 30. Areas of health education; Aspects of exercise 72%, Healthy living 56% Ergonomics 39%, Home treatments 33%, Chest physiotherapy 28%.

(32) 31. Should physiotherapists teach simple exercises to carers?
Always 28%, sometimes 72% (more females than males)

(33) 32. Examples of what can be taught
Aspects of chest physiotherapy 78%, various types of exercises 67%,

positioning/posture 39%, passive movements, 33% passive stretches and heat/ice 28% each.

(34A) 33A. Doctors knowledge about physiotherapy From Quite Well to Very Well 94% (females better than males).

(34B) 33B. Nurses knowledge about physiotherapy 89% from Quite Well to Very Well (females better than males).

(34C) 33C. Social workers knowledge about physiotherapy 78% from Quite Well to Very Well.

(35) 34. Workshops attended 78% response rate
Most common topics; orthopaedics and sports injuries.

(36) 35. Where workshops were held 56% response rate
All inside Ireland except 1 (Belgium)

(37) 36. Workshops organized 89% response rate - all NO

(38) 37. No answers.

(39) 38. Workshops taught 89% response rate - all NO.

(40) 39. No answers.

(41) 40. Professional books read (as part of the course)
Orthopaedics 72%, Neurology 56%, Cardio/respiratory 44%
Different treatment modalities 83%..

(42) 41. From where did you get the books? 89% library, 67% bought them.

(43) 42. Professional journals read 56% Physiotherapy Ireland
50% Physical Therapy, 44% Physiotherapy UK
50% Orthopaedics/Rheumatology/Sports injuries.

(44) 43. From where did you get them? 89% Trinity library, 39% UCD library.

(45) 44. Have you prepared any patient materials? 78% response rate, 61% no.

(46) 45. Details of patient materials
Home exercise programs 11%

(47) 46. Who has most responsibility for my learning ?
my teacher 6%, myself 94%.

(48) 47. Knowledge of research 89% response rate, 50% said yes.

(49) 48. Details of research Examples given; Bobath concept, physiotherapy after knee surgery CPM (Continuous passive motion),TENS and pain

(50) 49. Are there differences in physiotherapy practice in Ireland and outside ?
83% response rate yes 72%.

(51) 50. Details of differences in physiotherapy practice response rate 67% examples given; perceived autonomy 44%, assessment skills and preferred modalities 22% each.

NB Numbers in brackets correspond to numbers in Palestinian student questionnaires.

APPENDIX FIFTEEN

A PROFILE OF IRISH PHYSIOTHERAPISTS

N=56

1.Age 34% in 20-29 range, Mean age 38.

2.Sex 93% female

3. Place of birth

Inside Ireland 50, Dublin 24, Wicklow 2, Longford 1, Meath 2, Limerick 8, Galway 1, Cork 2, Mayo 1, Offaly 2, Monoghan 1, Laois 1, Kerry 1, Kilkenny 1, NS 3.

Outside Ireland 6.

4. Present home

Dublin 34, Cavan 4, Kerry 3, Meath and Kildare 2, Dunboyne, Wexford, Limerick, Laois, Offaly, Louth, Wicklow, and Kilkenny 1, NS 6.

5. Status 46% married

6. Children 39% have children

7. and 8. Not applicable

9.Year of university entrance exam before 1980 55%, after 1980 45%

10. School 46% church non fee paying

11. Place of training Ireland TCD 22, UCD 25, Outside 5, NR 4.

12. Length of education 61% 3 years, 39% 4 years

13. Year of graduation before 1980 49% after 1980 51%

14. Award diploma 59%, degree 41%

15. Reason for studying PT

A. A profession that is needed	12
B. I like the work	14
C. It is humanitarian work	12
D. An important new profession	8
E. To get a job with a good salary	4
F. I was given the chance	4
H. I wanted to work in health care	17

16. Reason for choosing the specific college

A. I was offered a place	4
B. Financial assistance given	6
C. Good reputation	20
D. It was the only choice I had	25
E. Close to my home	7

17. Satisfaction with education Very Well and Well Enough 86%

18. Working 95%

19. Place of work General hospital 21, Outpatient clinic 6, private hospital/clinic 12, community 5, special centre 8, teaching 2.

20. Reason for working there

B. Close to my home	17
C. I like the experience/system	30
Good organization	3
E. I was under contract	2
F. I did CFW in the place	3
G. Good salary	5
H. Availability	15
I. To get experience	7

21. Length of time working 57% more than 5 years

22. Satisfaction with work Very Well and Well Enough 97%

23 Preference for treating Paediatrics 30%, Orthopaedics 72%, Neurology 35%, Cardiothoracic 22%, Obstetrics/gynaecology 17%

24 Preference for using Exercise 86%, Electrotherapy 41%, Manipulation 46%, Massage 23%.

25 Preferred sex of patient both sexes 96%

26 Preparation for work Very Well and Well Enough 49%

27. Aspects of PT in which not well qualified

A. Paediatrics	12
B. Neurology	8
C. Rheumatology/orthopaedics	9
D. Women's health	4

28 PTs decide treatment always 91%

29. Reasons why

A. Doctors don't know enough about PT	15
B. PTs are trained to do it	35
C. Doctors don't assess enough	5

30 HE role of PT always 88%

31. Details of HE role

A. Prevention of injury	23
B. Management of disability	7
C. Physical fitness	16
E. Occupational advice	6

32. Teach families always 29%

33. Techniques to be taught

A. Positioning	17
B. Therapeutic exercise	27
D. Transfers	9
I. Aids for daily living	4
J. Passive movements	16

34 Colleagues knowledge of PT (Very Well and Well Enough) Doctors 9%, Nurses 28%, Social Workers 48%

35. Workshops attended

A. Orthopaedics/rheumatology	47
B. Congress/conferences	26
C. Management	24
D. Cardio- thoracic	12
E. Paediatrics	6

36. Where the workshops were held

Inside Ireland 30, Outside 13, NR 13.

37 Organized Workshops 41%

38. Details of workshops organized

Highest number orthopaedics 11, responses 30. NR 26.

39. Lectured at Workshops 45%

40. Details of workshops lectured at 32 responses with a variety of subjects, eg lifting and handling, strokes, incontinence, spinal injuries and backs.

41. Professional books read 53 responses, most frequent orthopaedics 27 and neurology 18.

42. Source of the books

A. Colleagues	10
B. Bought	26

43. Journals read

Different physiotherapy journals 55.

44. Source of journals

A. Colleagues	14
B. Subscribe	17
C. Libraries	32

45. Prepared written patient materials 45%

46. Details of patient materials

37 responses

Most frequent home exercise programmes 12, neck/back care 8.

47. Most responsible for learning teacher 7%, self 95%.

48. Knowledge of research 41 responses, all except 3 positive.

49. Details of research

A. Cardio- thoracic	9
B. Gait re-education	2
C. Pelvic floor function	4

50 Differences in PT 89%

51. Details from Question 50

A. Perceived autonomy	16
B. Preferred modalities	10
C. Other	9.

APPENDIX SIXTEEN

TABLE ONE

CATTELL 16PF RESULTS FOR ALL GROUPS IN THE STUDY

Factor	Description	PS	PG	P	IS	IG	I	G	S
A	Warmth	6.8	5.7	5.8	6.6	4.5	5.0	5.3	6.7
B	Intelligence	2.9	5.2	5.0	4.3	6.7	6.1	5.7	3.6
C	Emotion. stab.	3.1	4.2	4.1	5.4	5.9	5.8	4.7	4.3
E	Dominance	6.3	5.6	5.7	4.8	4.7	4.7	5.3	5.5
F	Impulsivity	6.6	5.5	5.6	6.6	5.7	5.9	5.6	6.6
G	Conformity	6.0	4.9	5.0	5.4	5.6	5.6	5.1	5.1
H	Boldness	6.6	6.5	6.5	5.9	5.8	5.8	6.3	5.7
I	Sensitivity	5.2	4.5	4.6	5.0	6.2	5.9	4.5	4.4
L	Suspicion	6.4	6.0	6.0	5.1	5.2	5.2	5.8	6.3
M	Imagination	4.8	5.6	5.5	4.0	5.2	4.9	5.5	5.4
N	Shrewdness	6.6	6.9	6.9	6.0	5.4	5.6	6.5	6.3
O	Insecurity	5.6	5.7	5.7	5.3	5.3	5.3	5.6	5.4
Q1	Radicalism	4.2	5.7	5.5	4.4	6.2	5.8	5.9	4.3
Q2	Selfsufficient	4.1	4.8	4.7	4.8	5.1	5.0	4.9	4.5
Q3	Selfdiscipline	5.1	6.7	6.5	5.6	6.5	6.3	6.6	5.4
Q4	Tension	5.8	5.4	5.4	5.8	5.3	5.4	5.4	5.8

Legend for Tables and Figures in Appendices Sixteen to Eighteen

PS = Palestinian students, PG = Palestinian graduates

IS = Irish students, IG = Irish graduates

G = Palestinian and Irish graduates, S = Palestinian and Irish students.

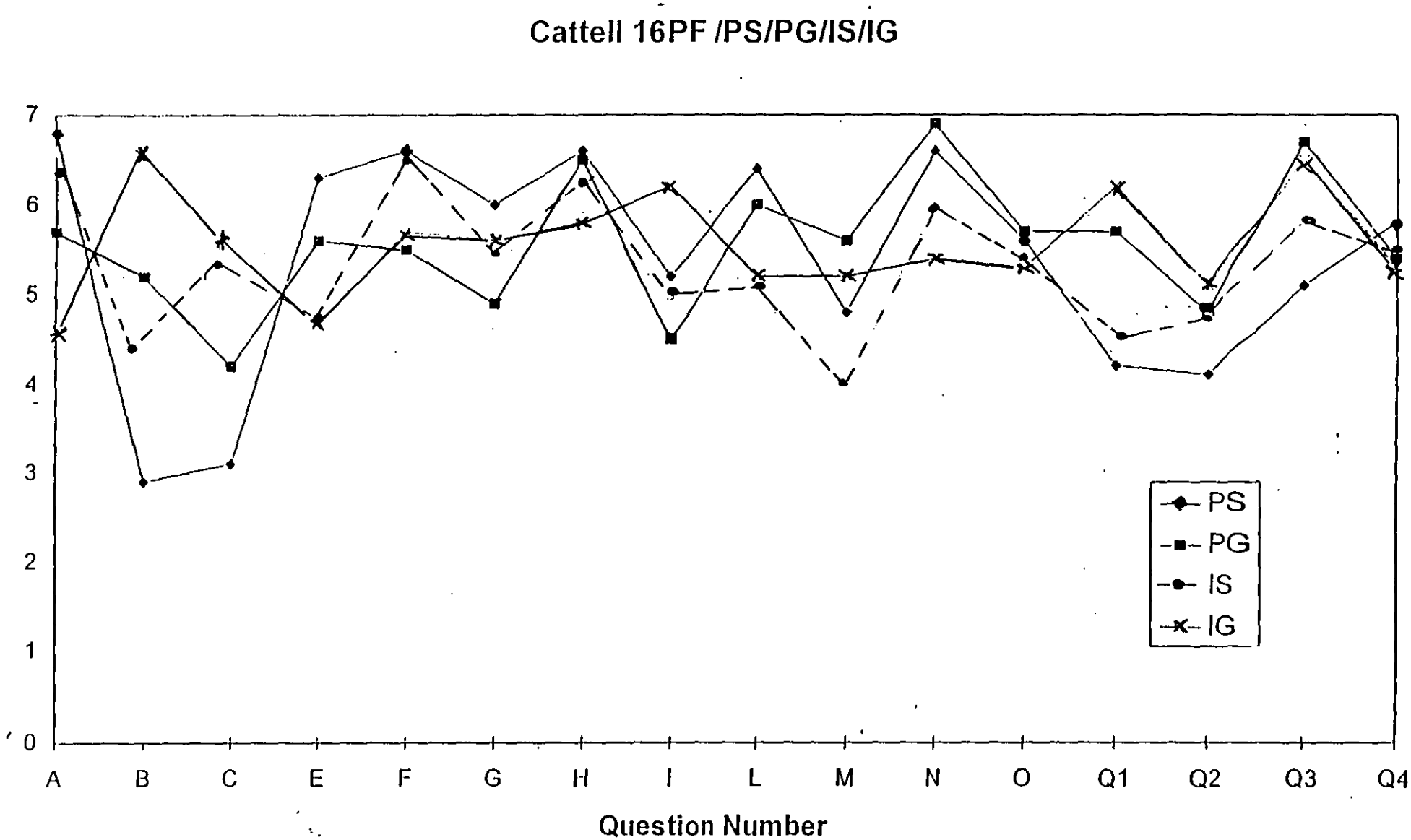


FIGURE ONE: CATTELL 16PF PROFILES FOR ALL GROUPS

APPENDIX SIXTEEN

TABLE TWO

CATTELL 16PF RESULTS COMPARED WITH BRITISH GRADUATES AND STUDENTS

Factor	Description	PS	PG	IS	IG	BG	BS
A	Warmth	6.8	5.7	6.6	4.5	5.8	6.0
B	Intelligence	2.9	5.2	4.3	6.7	6.7	6.5
C	Emotion. stab.	3.1	4.2	5.4	5.9	5.8	4.3
E	Dominance	6.3	5.6	4.8	4.7	5.2	6.0
F	Impulsivity	6.6	5.5	6.6	5.7	4.7	5.5
G	Conformity	6.0	4.9	5.4	5.6	6.5	5.3
H	Boldness	6.6	6.5	5.9	5.8	4.8	5.0
I	Sensitivity	5.2	4.5	5.0	6.2	6.0	6.0
L	Suspicion	6.4	6.0	5.1	5.2	4.6	4.6
M	Imagination	4.8	5.6	4.0	5.2	5.8	5.0
N	Shrewdness	6.6	6.9	6.0	5.4	5.4	5.0
O	Insecurity	5.6	5.7	5.3	5.3	5.8	5.6
Q1	Radicalism	4.2	5.7	4.4	6.2	5.2	5.0
Q2	Selfsufficient	4.1	4.8	4.8	5.1	6.7	6.0
Q3	Selfdiscipline	5.1	6.7	5.6	6.5	6.4	5.1
Q4	Tension	5.8	5.4	5.8	5.3	5.8	6.6
	Extraversion	7.2	6.2	6.1	5.6	4.4	5.5
	Anxiety	6.4	5.7	5.4	5.1	5.4	6.6
	Tough poise	5.2	6.0	6.2	5.0	4.7	5.6
	Independence	5.4	5.8	4.5	5.4	5.1	5.4
	Superego	5.6	5.7	5.5	6.1	6.3	5.9
	Adjustment	4.7	5.0	5.1	6.2	5.2	4.6
	Leadership	6.0	5.2	5.5	6.1	5.4	5.6
	Creativity	7.6	4.3	2.6	5.3	6.3	5.9

APPENDIX SEVENTEEN

TABLE THREE

COMPARISON OF GROUP MEANS FOR TSQ QUESTIONNAIRE

Question	Attribute	PS	PG	IS	IG
1.	Attitude	1.52	1.53	2.00	1.78
2.	Value	1.60	1.72	1.75	1.80
3.	Respect	2.30	2.16	2.25	2.95
4.	Useless	2.52	2.96	2.10	2.62
5.	Honest	1.56	1.43	1.65	1.40
6.	Able	1.76	1.59	1.75	1.73
7.	No confid.	3.76	3.60	3.25	3.62
8.	Not satisfied	3.16	3.35	2.75	3.34
9.	Worth	1.68	1.75	1.75	1.55
10.	Change	2.44	2.56	2.45	2.96
11.	Confidence	1.54	1.51	2.20	1.95
12.	Mixed	2.83	2.97	2.05	3.43
13.	Else	3.00	3.31	3.10	3.48
14.	Low opinion	3.61	3.62	3.00	3.45
15.	Blame	2.30	2.47	2.75	2.68
16.	Attractive	2.09	2.02	2.05	2.04
17.	Worry	2.75	2.96	2.10	2.57
18.	Failure	2.87	3.18	2.80	3.16
19.	Care	1.83	1.74	2.00	1.98

20.	Wellbeing	1.91	1.84	2.00	1.78
21.	Appear.	1.67	1.74	2.40	2.18
22.	Cant	2.83	3.00	2.70	2.91
23.	Sensitive	1.71	1.74	1.80	1.84
24.	Like	1.79	1.93	1.60	1.55
25.	Happy	2.04	2.00	1.80	1.71
26.	Trust	1.79	1.66	1.60	1.57
27.	Fail	3.29	3.42	2.95	3.43
28.	People	2.42	2.62	2.60	2.53
29.	Friends	1.75	1.82	1.60	1.77
30.	Other	1.96	1.94	1.95	1.91
31.	Rely	1.46	1.58	1.35	1.32
32.	Person	1.71	1.73	1.55	1.55
33.	Family	1.50	1.64	1.50	1.61
34.	Qualities	1.58	1.71	1.55	1.69
35.	Decent	1.63	1.55	1.65	1.59

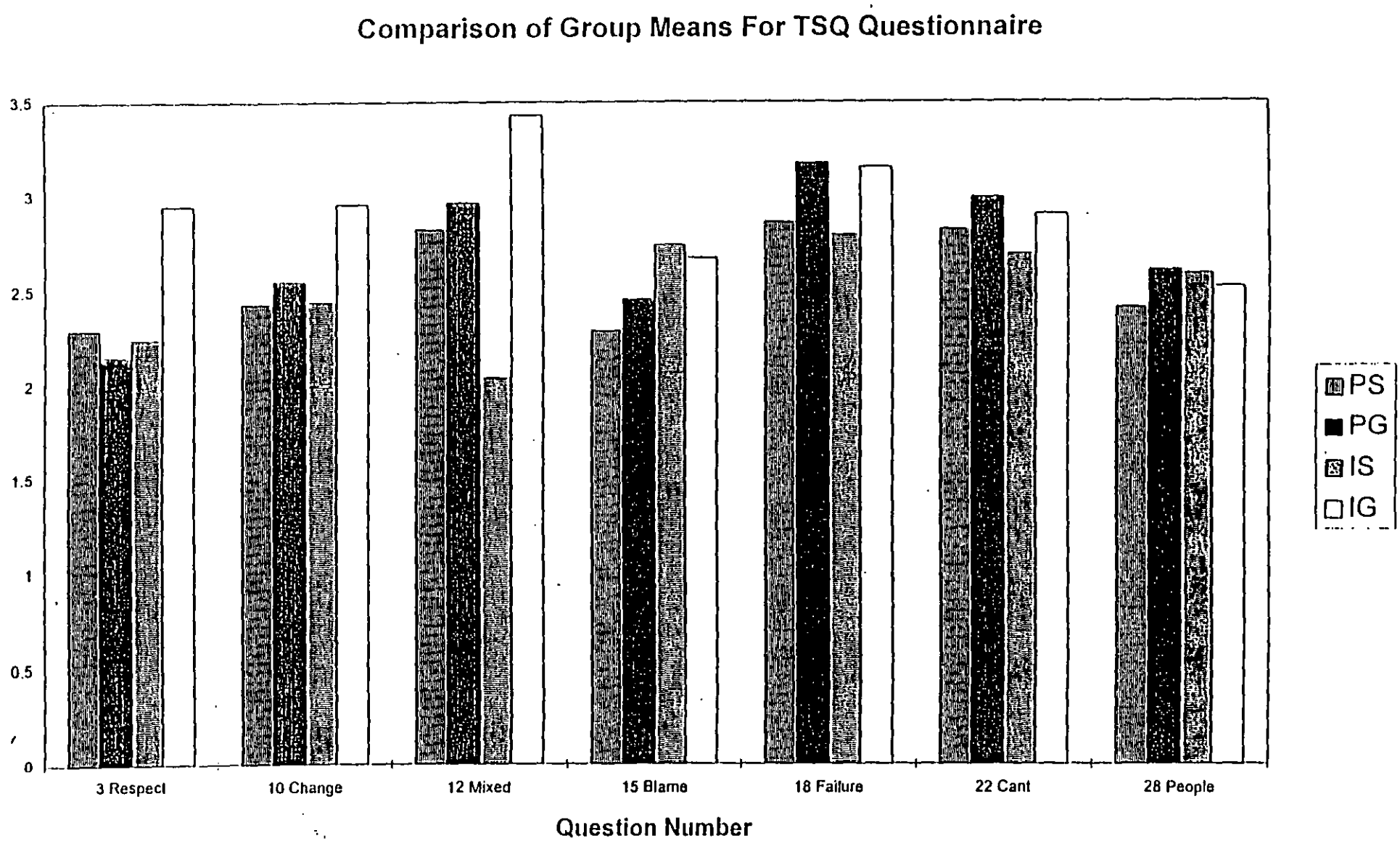
Legend for Tables and Figures in Appendices Sixteen to Eighteen

PS = Palestinian student, PG = Palestinian graduate

IS = Irish student , IG = Irish graduate

S = Palestinian and Irish students, G = Palestinian and Irish graduates.

FIGURE TWO: TSQ PROFILES FOR ALL GROUPS FOR SIGNIFICANT QUESTIONS



APPENDIX EIGHTEEN

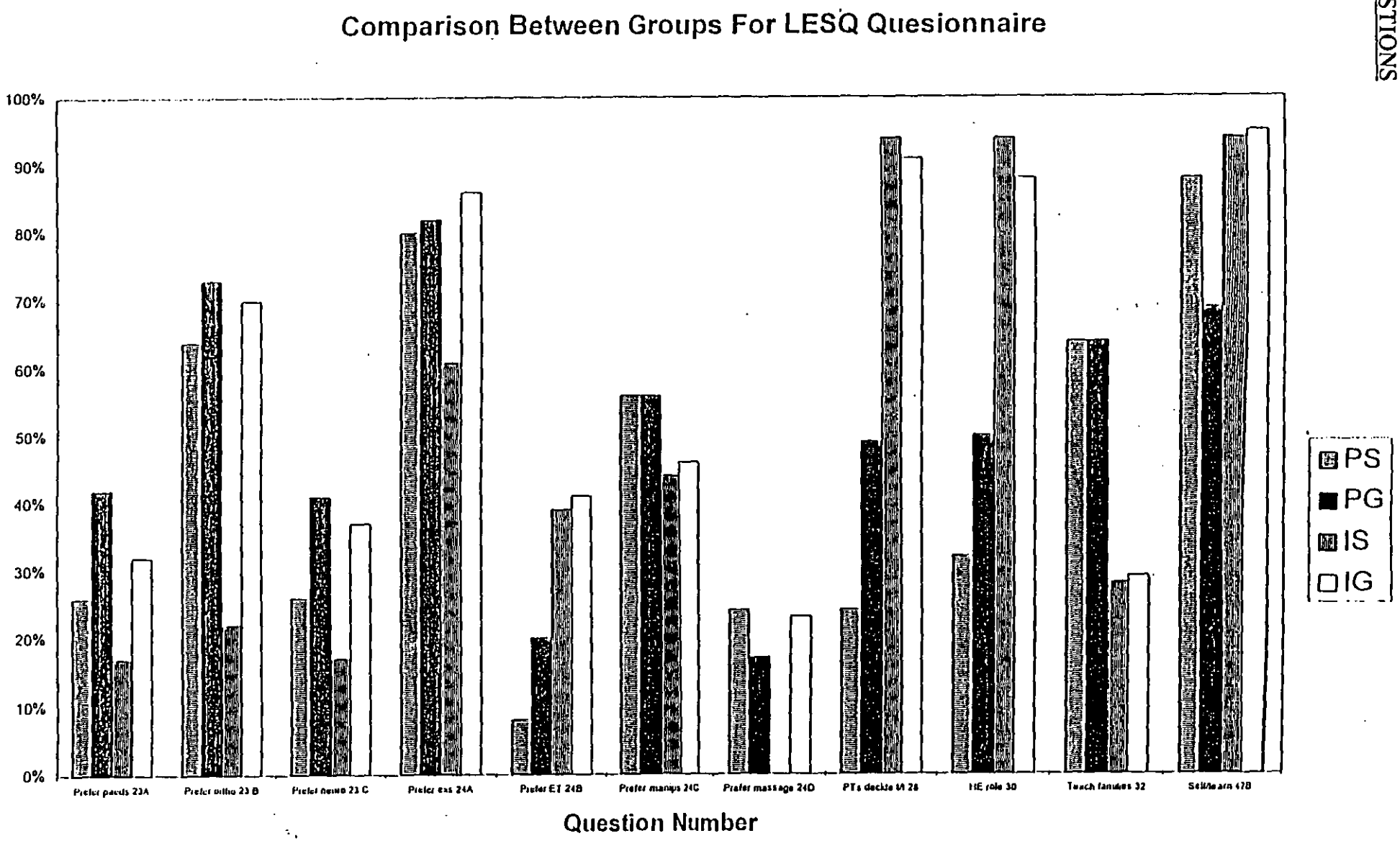
TABLE FOUR

COMPARISION BETWEEN GROUPS FOR LESQ QUESTIONNAIRE

Question	PS	PG	IS	IG
Age(20-29)	100%	72%	100%	34%
Status/mar.	0%	59%	0%	46%
Children	0%	38%	0%	36%
4 Year uni.	100%	100% 1980+	100%	44% 1980+
School	48% gov	65% gov	44% Chnonfee	46% Chnonfee
Length of ed.	64% 4+years	32% 4 years	100% 4 years	39% 4 years
Year of grad	NA	100% 1980+	NA	51% 1980+
Award/degree	64%	32%	100%	41%
Satisfied/vw/w	36%	80%	90%	86%
Working	NA	78%	NA	95%
Length working	NA	21% 5+years	NA	57% 5+ years
Satis.w/qw/we	NA	80%	NA	87%
Prefer paeds	26%	42%	17%	32%
Prefer ortho	64%	73%	22%	70%
Prefer neuro	26%	41%	17%	37%
Prefer chests	0%	5%	28%	25%
Prefer obs/gynae	0%	6%	0%	17%
Prefer exs	80%	82%	61%	86%
Prefer ET	8%	20%	39%	41%
Prefer manips	56%	56%	44%	46%
Prefer massage	24%	17%	0%	23%
Both sexes	96%	82%	94%	97%

Prep. for work	40%	80%	22%	49%
PTs decide t/t	24% always	49% always	94% always	91% always
HE role	32% always	50% always	94% always	88% always
Teach families	64% always	64% always	28% always	29% always
Drs know PT	24% VW/We	80% VW/WE	33% WE	62% QW
Nurs know PT	48% VW/WE	85% VW/We	39% WE	58% QW
SW know PT	52% VW/We	85% VW/WE	28% WE	39% QW
Organise WS	NA	16%	NA	41%
Lecture WS	NA	21%	NA	45%
Pat. materials	12%	39%	17%	45%
Teach /learn	08% most resp.	33% most resp.	6% most resp	7% most resp
Self/learn	88% most resp.	69% most resp.	94% most resp	95% most resp
Boss/learn	NA	10% most resp.	NA	0% most resp
Diff. in PT	60%	62%	55%	89%

FIGURE THREE: LESQ PROFILES FOR ALL GROUPS FOR SIGNIFICANT QUESTIONS



APPENDIX NINETEEN 16PF T TEST RESULTS/PALESTINIAN GRADUATES

t-tests for independent samples of SEX sex of respondents

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.H Boldness				
female	54	6.0926	1.557	.212
male	75	6.6533	1.419	.164

Mean Difference = -.5607

Levene's Test for Equality of Variances: F= .227 P= .635

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.13	127	.035	.264	(-1.083, -.039)
Unequal	-2.09	107.73	.039	.268	(-1.092, -.030)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.O Insecurity				
female	54	6.2407	1.636	.223
male	75	5.3333	1.388	.160

Mean Difference = .9074

Levene's Test for Equality of Variances: F= .617 P= .434

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.40	127	.001	.267	(.379, 1.436)
Unequal	3.31	102.48	.001	.274	(.363, 1.452)

t-tests for independent samples of SEX sex of respondents

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.Q4 Tension				
female	54	5.8519	1.698	.231
male	75	5.1333	1.298	.150

Mean Difference = .7185

Levene's Test for Equality of Variances: F= 5.732 P= .018

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.72	127	.007	.264	(.196, 1.241)
Unequal	2.61	94.94	.011	.275	(.172, 1.265)

t-tests for independent samples of SEX sex of respondents

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.C Emotional stability				
female	16	4.8125	1.276	.319
male	2	9.5000	.707	.500

Mean Difference = -4.6875

Levene's Test for Equality of Variances: F= .747 P= .400

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-5.01	16	.000	.936	(-6.673, -2.702)
Unequal	-7.90	1.96	.017	.593	(-7.240, -2.135)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.G Conformity				
female	16	5.2500	1.693	.423
male	2	8.0000	1.414	1.000

Mean Difference = -2.7500

Levene's Test for Equality of Variances: F= .413 P= .529

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.19	16	.044	1.258	(-5.417, -.083)
Unequal	-2.53	1.39	.179	1.086	(-16.548, 11.048)

t-tests for independent samples of SEX sex of respondents

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.O Insecurity				
female	16	5.4375	1.548	.387
male	2	3.0000	.000	.000

Mean Difference = 2.4375

Levene's Test for Equality of Variances: F= 4.236 P= .056

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.17	16	.046	1.124	(.054, 4.821)
Unequal	6.30	15.00	.000	.387	(1.613, 3.262)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.Q1 Radicalism				
female	16	4.2500	1.438	.359
male	2	4.5000	2.121	1.500

Mean Difference = -.2500

Levene's Test for Equality of Variances: F= .296 P= .594

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.22	16	.826	1.117	(-2.619, 2.119)
Unequal	-.16	1.12	.896	1.542	(-19.849, 19.349)

t-tests for independent samples of SEX sex of respondents

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.Q3 Self-discipline				
female	16	5.1250	2.029	.507
male	2	8.5000	.707	.500

Mean Difference = -3.3750

Levene's Test for Equality of Variances: F= 1.981 P= .178

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.28	16	.037	1.479	(-6.512, -.238)
Unequal	-4.74	3.85	.010	.712	(-5.353, -1.397)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.A Warmth				
Palestine graduat	142	5.6972	1.584	.133
Palestine students	16	6.7500	1.390	.348

Mean Difference = -1.0528

Levene's Test for Equality of Variances: F= .974 P= .325

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.55	156	.012	.413	(-1.869, -.236)
Unequal	-2.83	19.67	.010	.372	(-1.829, -.276)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.B Intelligence				
Palestine graduat	142	5.2535	1.426	.120
Palestine students	16	2.8750	1.455	.364

Mean Difference = 2.3785

Levene's Test for Equality of Variances: F= .178 P= .673

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	6.31	156	.000	.377	(1.634, 3.123)
Unequal	6.21	18.40	.000	.383	(1.574, 3.183)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.C Emotional stability				
Palestine graduat	142	4.2324	.958	.080
Palestine students	16	3.1875	1.642	.410

Mean Difference = 1.0449

Levene's Test for Equality of Variances: F= 8.886 P= .003

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.80	156	.000	.275	(.501, 1.588)
Unequal	2.50	16.17	.024	.418	(.158, 1.932)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.F Impulsivity				
Palestine graduat	142	5.5352	1.716	.144
Palestine students	16	6.6250	1.455	.364

Mean Difference = -1.0898

Levene's Test for Equality of Variances: F= 1.003 P= .318

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.44	156	.016	.446	(-1.972, -.208)
Unequal	-2.79	20.02	.011	.391	(-1.906, -.274)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.G Conformity				
Palestine graduat	142	4.9437	1.320	.111
Palestine students	16	6.0000	1.506	.376

Mean Difference = -1.0563

Levene's Test for Equality of Variances: F= 1.998 P= .159

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.99	156	.003	.353	(-1.754, -.359)
Unequal	-2.69	17.70	.015	.392	(-1.881, -.232)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.Q1 Radicalism				
Palestine graduat	142	5.7535	1.677	.141
Palestine students	16	4.1875	1.642	.410

Mean Difference = 1.5660

Levene's Test for Equality of Variances: F= .368 P= .545

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.55	156	.001	.441	(.694, 2.438)
Unequal	3.61	18.70	.002	.434	(.658, 2.474)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.Q3 Self-discipline				
Palestine graduat	142	6.6972	1.709	.143
Palestine students	16	5.1250	1.746	.437

Mean Difference = 1.5722

Levene's Test for Equality of Variances: F= .098 P= .755

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.48	156	.001	.452	(.680, 2.465)
Unequal	3.42	18.39	.003	.460	(.606, 2.538)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.B Intelligence				
Irish students	18	4.2778	2.218	.523
Palestine students	16	2.8750	1.455	.364

Mean Difference = 1.4028

Levene's Test for Equality of Variances: F= 3.011 P= .092

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.15	32	.039	.652	(.074, 2.732)
Unequal	2.20	29.59	.036	.637	(.102, 2.704)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.C Emotional stability				
Irish students	18	5.3333	1.940	.457
Palestine students	16	3.1875	1.642	.410

Mean Difference = 2.1458

Levene's Test for Equality of Variances: F= .140 P= .711

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.46	32	.002	.621	(.881, 3.410)
Unequal	3.49	31.93	.001	.615	(.894, 3.398)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.E Dominance				
Irish students	18	4.7778	1.665	.392
Palestine students	16	6.3125	1.537	.384

Mean Difference = -1.5347

Levene's Test for Equality of Variances: F= .117 P= .735

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.78	32	.009	.552	(-2.659, -.410)
Unequal	-2.79	31.94	.009	.549	(-2.654, -.416)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.L Suspiciousness				
Irish students	18	5.0000	1.879	.443
Palestine students	16	6.4375	1.548	.387

Mean Difference = -1.4375

Levene's Test for Equality of Variances: F= .113 P= .739

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.42	32	.022	.595	(-2.650, -.225)
Unequal	-2.44	31.84	.020	.588	(-2.636, -.239)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.A Warmth				
Palestine graduat	142	5.6972	1.584	.133
Irish graduates	58	4.5862	1.787	.235

Mean Difference = 1.1110

Levene's Test for Equality of Variances: F= .662 P= .417

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	4.33	198	.000	.256	(.605, 1.617)
Unequal	4.12	95.49	.000	.270	(.575, 1.647)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.B Intelligence				
Palestine graduat	142	5.2535	1.426	.120
Irish graduates	58	6.7069	1.767	.232

Mean Difference = -1.4534

Levene's Test for Equality of Variances: F= 7.643 P= .006

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-6.09	198	.000	.239	(-1.924, -.982)
Unequal	-5.57	88.83	.000	.261	(-1.972, -.934)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.C Emotional stability				
Palestine graduat	142	4.2324	.958	.080
Irish graduates	58	6.0000	1.727	.227

Mean Difference = -1.7676

Levene's Test for Equality of Variances: F= 29.108 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-9.23	198	.000	.192	(-2.146, -1.390)
Unequal	-7.35	71.76	.000	.241	(-2.247, -1.288)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.E Dominance				
Palestine graduat	142	5.6479	1.823	.153
Irish graduates	58	4.7586	1.857	.244

Mean Difference = .8893

Levene's Test for Equality of Variances: F= .060 P= .807

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.11	198	.002	.286	(.326, 1.453)
Unequal	3.09	104.15	.003	.288	(.318, 1.460)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.G Conformity				
Palestine graduat	142	4.9437	1.320	.111
Irish graduates	58	5.5690	1.948	.256

Mean Difference = -.6253

Levene's Test for Equality of Variances: F= 17.636 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.63	198	.009	.238	(-1.095, -.156)
Unequal	-2.24	79.25	.028	.279	(-1.180, -.070)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.H Boldness				
Palestine graduat	142	6.4577	1.505	.126
Irish graduates	58	5.8448	1.989	.261

Mean Difference = .6129

Levene's Test for Equality of Variances: F= 6.770 P= .010

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.37	198	.019	.259	(.103, 1.123)
Unequal	2.11	84.88	.038	.290	(.036, 1.190)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.I Sensitivity				
Palestine graduat	142	4.4718	1.496	.126
Irish graduates	58	6.1897	1.859	.244

Mean Difference = -1.7178

Levene's Test for Equality of Variances: F= 3.056 P= .082

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-6.85	198	.000	.251	(-2.212, -1.223)
Unequal	-6.26	88.63	.000	.274	(-2.263, -1.172)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.L Suspiciousness				
Palestine graduat	142	6.0000	1.584	.133
Irish graduates	58	5.2586	1.860	.244

Mean Difference = .7414

Levene's Test for Equality of Variances: F= 1.890 P= .171

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.85	198	.005	.260	(.229, 1.254)
Unequal	2.67	92.53	.009	.278	(.189, 1.294)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.N Shrewdness				
Palestine graduat	142	6.9014	1.850	.155
Irish graduates	58	5.4310	1.798	.236

Mean Difference = 1.4704

Levene's Test for Equality of Variances: F= 1.187 P= .277

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	5.14	198	.000	.286	(.906, 2.034)
Unequal	5.20	108.75	.000	.283	(.910, 2.030)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.A Warmth				
Irish students	18	6.5000	1.249	.294
Irish graduates	58	4.5862	1.787	.235

Mean Difference = 1.9138

Levene's Test for Equality of Variances: F= 1.823 P= .181

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	4.23	74	.000	.453	(1.011, 2.817)
Unequal	5.08	40.60	.000	.376	(1.153, 2.674)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.B Intelligence				
Irish students	18	4.2778	2.218	.523
Irish graduates	58	6.7069	1.767	.232

Mean Difference = -2.4291

Levene's Test for Equality of Variances: F= 1.347 P= .250

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-4.79	74	.000	.507	(-3.440, -1.418)
Unequal	-4.25	24.08	.000	.572	(-3.610, -1.248)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.I Sensitivity				
Irish students	18	4.9444	.873	.206
Irish graduates	58	6.1897	1.859	.244

Mean Difference = -1.2452

Levene's Test for Equality of Variances: F= 9.650 P= .003

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.74	74	.008	.454	(-2.151, -.340)
Unequal	-3.90	61.95	.000	.319	(-1.883, -.607)

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.M Imagination				
Irish students	18	3.9444	1.514	.357
Irish graduates	58	5.1897	1.791	.235

Mean Difference = -1.2452

Levene's Test for Equality of Variances: F= .883 P= .350

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.67	74	.009	.467	(-2.176, -.314)
Unequal	-2.91	33.13	.006	.427	(-2.115, -.376)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
FACT.Q1 Radicalism				
Irish students	18	4.2778	1.447	.341
Irish graduates	58	6.1552	1.755	.230

Mean Difference = -1.8774

Levene's Test for Equality of Variances: F= .231 P= .632

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-4.12	74	.000	.456	(-2.786, -.969)
Unequal	-4.56	33.95	.000	.412	(-2.714, -1.041)

APPENDIX TWENTY
TSQ T TEST RESULTS FOR PALESTINIAN GRADUATES

t - tests for independent samples of SEX sex of respondent

Variable	Number of Cases	Mean	SD	SE of Mean
CANT I cant do anything very well				
female	74	2.9459	.792	.092
male	91	3.0440	.815	.085

Mean Difference = -.0980

Levene's Test for Equality of Variances: F= .000 P= .996

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.78	163	.438	.126	(-.347, .151)
Unequal	-.78	157.91	.436	.126	(-.346, .150)

Variable	Number of Cases	Mean	SD	SE of Mean
CARE I take good care of myself physically				
female	74	1.7568	.679	.079
male	91	1.7253	.651	.068

Mean Difference = .0315

Levene's Test for Equality of Variances: F= .190 P= .663

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.30	163	.762	.104	(-.174, .237)
Unequal	.30	153.43	.763	.104	(-.175, .238)

t-tests for independent samples of SEX sex of respondent

Variable	Number of Cases	Mean	SD	SE of Mean
FAIL I feel that I am a failure				
female	74	3.3378	.688	.080
male	91	3.4945	.621	.065

Mean Difference = -.1567

Levene's Test for Equality of Variances: F= .116 P= .734

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-1.53	163	.127	.102	(-.358, .045)
Unequal	-1.52	148.84	.131	.103	(-.361, .047)

Variable	Number of Cases	Mean	SD	SE of Mean
PEOPLE I cant trust people				
female	73	2.4521	.765	.089
male	89	2.7528	.802	.085

Mean Difference = -.3008

Levene's Test for Equality of Variances: F= .068 P= .795

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.43	160	.016	.124	(-.546, -.056)
Unequal	-2.44	156.37	.016	.123	(-.545, -.057)

t-tests for independent samples of SEX sex of respondent

Variable	Number of Cases	Mean	SD	SE of Mean
CANT I cant do anything very well				
female	18	2.5556	.856	.202
male	2	4.0000	.000	.000

Mean Difference = -1.4444

Levene's Test for Equality of Variances: F= 5.167 P= .036

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.33	18	.032	.620	(-2.747, -.142)
Unequal	-7.16	17.00	.000	.202	(-1.870, -1.019)

Variable	Number of Cases	Mean	SD	SE of Mean
CONFIDEN Confident of myself				
female	18	2.3333	.686	.162
male	2	1.0000	.000	.000

Mean Difference = 1.3333

Levene's Test for Equality of Variances: F= 6.776 P= .018

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.68	18	.015	.497	(.289, 2.378)
Unequal	8.25	17.00	.000	.162	(.992, 1.675)

t-tests for independent samples of SEX sex of respondent

Variable	Number of Cases	Mean	SD	SE of Mean
DECENT I am a decent person				
female	18	1.7222	.461	.109
male	2	1.0000	.000	.000

Mean Difference = .7222

Levene's Test for Equality of Variances: F= 7.312 P= .015

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.16	18	.044	.334	(.021, 1.424)
Unequal	6.65	17.00	.000	.109	(.493, .951)

Variable	Number of Cases	Mean	SD	SE of Mean
FAIL I feel that I am a failure				
female	18	2.8333	.707	.167
male	2	4.0000	.000	.000

Mean Difference = -1.1667

Levene's Test for Equality of Variances: F= 3.396 P= .082

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.28	18	.035	.512	(-2.243, -.090)
Unequal	-7.00	17.00	.000	.167	(-1.518, -.815)

t-tests for independent samples of SEX sex of respondent

Variable	Number of Cases	Mean	SD	SE of Mean
NO.CONF Friends have no confidence in me				
female	18	3.1667	.514	.121
male	2	4.0000	.000	.000

Mean Difference = -.8333

Levene's Test for Equality of Variances: F= 2.188 P= .156

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.24	18	.038	.373	(-1.616, -.050)
Unequal	-6.87	17.00	.000	.121	(-1.089, -.577)

Variable	Number of Cases	Mean	SD	SE of Mean
PEOPLE I cant trust people				
female	16	2.5000	.514	.121
male	2	3.5000	.707	.500

Mean Difference = -1.0000

Levene's Test for Equality of Variances: F= . P= .

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.55	18	.020	.393	(-1.826, -.174)
Unequal	-1.94	1.12	.281	.514	(-7.537, 5.537)

t-tests for independent samples of SEX sex of respondent

Variable	Number of Cases	Mean	SD	SE of Mean
SENSITIV I am a sensitive person				
female	18	1.6667	.686	.162
male	2	3.0000	1.414	1.000

Mean Difference = -1.3333

Levene's Test for Equality of Variances: F= 3.203 P= .090

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.40	18	.027	.556	(-2.501, -.166)
Unequal	-1.32	1.05	.405	1.013	(-14.205, 11.538)

Variable	Number of Cases	Mean	SD	SE of Mean
VALUE Valued by others				
female	18	1.8333	.383	.090
male	2	1.0000	.000	.000

Mean Difference = .8333

Levene's Test for Equality of Variances: F= 2.250 P= .151

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.00	18	.008	.278	(.250, 1.417)
Unequal	9.22	17.00	.000	.090	(.643, 1.024)

PALESTINIAN STUDENTS AND GRADUATES

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
USELESS Feeling useless				
Palestine students	25	2.5200	.714	.143
Palestine graduat	166	2.9639	.859	.067

Mean Difference = -.4439

Levene's Test for Equality of Variances: F= .084 P= .773

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.46	189	.015	.181	(-.800, -.087)
Unequal	-2.82	35.36	.008	.158	(-.764, -.124)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
APPEAR I am satisfied with my appearance				
Palestine students	24	1.6667	.702	.143
Irish students	20	2.4000	.681	.152

Mean Difference = -.7333

Levene's Test for Equality of Variances: F= .164 P= .688

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.50	42	.001	.210	(-1.156, -.310)
Unequal	-3.51	41.00	.001	.209	(-1.156, -.311)

Variable	Number of Cases	Mean	SD	SE of Mean
ATTITUD Attitude to self				
Palestine students	25	1.5200	.510	.102
Irish students	20	2.0000	.795	.178

Mean Difference = -.4800

Levene's Test for Equality of Variances: F= 1.009 P= .321

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.46	43	.018	.195	(-.874, -.086)
Unequal	-2.34	30.92	.026	.205	(-.898, -.062)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
CONFIDEN Confident of myself				
Palestine students	24	1.5417	.588	.120
Irish students	20	2.2000	.768	.172

Mean Difference = -.6583

Levene's Test for Equality of Variances: F= 1.129 P= .294

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.22	42	.002	.204	(-1.071, -.246)
Unequal	-3.14	35.18	.003	.210	(-1.084, -.233)

Variable	Number of Cases	Mean	SD	SE of Mean
LOW.OP low opinion of self				
Palestine students	23	3.6087	.499	.104
Irish students	20	3.0000	.858	.192

Mean Difference = .6087

Levene's Test for Equality of Variances: F= .950 P= .336

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.89	41	.006	.211	(.183, 1.034)
Unequal	2.79	29.60	.009	.218	(.163, 1.055)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
NO.CONF Friends have no confidence in me				
Palestine students	25	3.7600	.436	.087
Irish students	20	3.2500	.550	.123

Mean Difference = .5100

Levene's Test for Equality of Variances: F= 1.182 P= .283

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.47	43	.001	.147	(.214, .806)
Unequal	3.38	35.74	.002	.151	(.204, .816)

Variable	Number of Cases	Mean	SD	SE of Mean
WORRY I worry about what others think				
Palestine students	24	2.7500	.989	.202
Irish students	20	2.1000	.641	.143

Mean Difference = .6500

Levene's Test for Equality of Variances: F= 8.564 P= .006

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.53	42	.015	.257	(.131, 1.169)
Unequal	2.63	39.78	.012	.248	(.150, 1.150)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
APPEAR I am satisfied with my appearance				
Palestine graduat	164	1.7378	.585	.046
Irish graduates	56	2.1786	.431	.058

Mean Difference = -.4408

Levene's Test for Equality of Variances: F= 7.923 P= .005

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-5.18	218	.000	.085	(-.609, -.273)
Unequal	-6.00	128.72	.000	.073	(-.586, -.295)

Variable	Number of Cases	Mean	SD	SE of Mean
ATTITUD Attitude to self				
Palestine graduat	166	1.5301	.536	.042
Irish graduates	56	1.7857	.494	.066

Mean Difference = -.2556

Levene's Test for Equality of Variances: F= 18.528 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.15	220	.002	.081	(-.416, -.095)
Unequal	-3.28	101.92	.001	.078	(-.410, -.101)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
CARE I take good care of myself physically				
Palestine graduat	165	1.7394	.662	.052
Irish graduates	56	1.9821	.556	.074

Mean Difference = -.2427

Levene's Test for Equality of Variances: F= 12.724 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.47	219	.014	.098	(-.437, -.049)
Unequal	-2.69	111.97	.008	.090	(-.422, -.064)

Variable	Number of Cases	Mean	SD	SE of Mean
CHANGE I would like to change				
Palestine graduat	165	2.5636	.799	.062
Irish graduates	56	2.9643	.631	.084

Mean Difference = -.4006

Levene's Test for Equality of Variances: F= 20.974 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.41	219	.001	.118	(-.632, -.169)
Unequal	-3.82	119.14	.000	.105	(-.608, -.193)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
LIKE I like who I am				
Palestine graduat	165	1.9333	.673	.052
Irish graduates	56	1.5536	.570	.076

Mean Difference = .3798

Levene's Test for Equality of Variances: F= 1.103 P= .295

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.79	219	.000	.100	(.182, .577)
Unequal	4.11	111.11	.000	.092	(.197, .563)

Variable	Number of Cases	Mean	SD	SE of Mean
MIXED I am mixed up in my life				
Palestine graduat	164	2.9756	.775	.061
Irish graduates	56	3.4286	.599	.080

Mean Difference = -.4530

Levene's Test for Equality of Variances: F= .364 P= .547

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.98	218	.000	.114	(-.677, -.229)
Unequal	-4.52	122.42	.000	.100	(-.652, -.254)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
CONFIDEN Confident of myself				
Palestine graduat	166	1.5060	.559	.043
Irish graduates	56	1.9464	.553	.074

Mean Difference = -.4404

Levene's Test for Equality of Variances: F= 22.386 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-5.11	220	.000	.086	(-.610, -.271)
Unequal	-5.14	95.56	.000	.086	(-.611, -.270)

Variable	Number of Cases	Mean	SD	SE of Mean
HAPPY I am a happy person				
Palestine graduat	165	2.0000	.518	.040
Irish graduates	56	1.7143	.563	.075

Mean Difference = .2857

Levene's Test for Equality of Variances: F= 13.932 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.49	219	.001	.082	(.124, .447)
Unequal	3.35	88.69	.001	.085	(.116, .455)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
PERSON I am a friendly person				
Palestine graduat	164	1.7317	.497	.039
Irish graduates	56	1.5536	.537	.072

Mean Difference = .1781

Levene's Test for Equality of Variances: F= 5.996 P= .015

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.27	218	.024	.078	(.023, .333)
Unequal	2.19	89.29	.032	.082	(.016, .340)

Variable	Number of Cases	Mean	SD	SE of Mean
RELY My family can rely on me				
Palestine graduat	164	1.5854	.542	.042
Irish graduates	56	1.3214	.471	.063

Mean Difference = .2639

Levene's Test for Equality of Variances: F= 9.112 P= .003

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.25	218	.001	.081	(.104, .424)
Unequal	3.48	108.35	.001	.076	(.114, .414)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
RESPECT Respect for self				
Palestine graduat	160	2.1563	.922	.073
Irish graduates	56	2.9464	.840	.112

Mean Difference = -.7902

Levene's Test for Equality of Variances: F= 4.037 P= .046

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-5.65	214	.000	.140	(-1.066, -.514)
Unequal	-5.90	104.66	.000	.134	(-1.056, -.525)

Variable	Number of Cases	Mean	SD	SE of Mean
USELESS Feeling useless				
Palestine graduat	166	2.9639	.859	.067
Irish graduates	56	2.6250	.676	.090

Mean Difference = .3389

Levene's Test for Equality of Variances: F= .433 P= .511

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.68	220	.008	.126	(.090, .588)
Unequal	3.02	119.47	.003	.112	(.117, .561)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
WORRY I worry about what others think				
Palestine graduat	164	2.9573	.770	.060
Irish graduates	56	2.5714	.759	.101

Mean Difference = .3859

Levene's Test for Equality of Variances: F= 3.365 P= .068

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	3.25	218	.001	.119	(.152, .620)
Unequal	3.27	96.42	.001	.118	(.152, .620)

Variable	Number of Cases	Mean	SD	SE of Mean
WORTH Worthwhile person				
Palestine graduat	166	1.7470	.620	.048
Irish graduates	56	1.5536	.537	.072

Mean Difference = .1934

Levene's Test for Equality of Variances: F= .141 P= .708

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.09	220	.038	.093	(.011, .376)
Unequal	2.24	108.32	.027	.086	(.022, .365)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
LOW.OP low opinion of self				
Irish students	20	3.0000	.858	.192
Irish graduates	56	3.4464	.658	.088

Mean Difference = -.4464

Levene's Test for Equality of Variances: F= .063 P= .802

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.40	74	.019	.186	(-.818, -.075)
Unequal	-2.11	27.40	.044	.211	(-.880, -.013)

Variable	Number of Cases	Mean	SD	SE of Mean
NO.CONF Friends have no confidence in me				
Irish students	20	3.2500	.550	.123
Irish graduates	56	3.6250	.590	.079

Mean Difference = -.3750

Levene's Test for Equality of Variances: F= .320 P= .574

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.48	74	.015	.151	(-.676, -.074)
Unequal	-2.57	35.72	.015	.146	(-.671, -.079)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
CHANGE I would like to change				
Irish students	20	2.4500	.826	.185
Irish graduates	56	2.9643	.631	.084

Mean Difference = -.5143

Levene's Test for Equality of Variances: F= 6.314 P= .014

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.88	74	.005	.179	(-.871, -.158)
Unequal	-2.53	27.36	.017	.203	(-.931, -.098)

Variable	Number of Cases	Mean	SD	SE of Mean
FAIL I feel that I am a failure				
Irish students	20	2.9500	.759	.170
Irish graduates	56	3.4286	.568	.076

Mean Difference = -.4786

Levene's Test for Equality of Variances: F= .264 P= .609

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.95	74	.004	.162	(-.802, -.155)
Unequal	-2.57	26.97	.016	.186	(-.860, -.097)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
NOT.SAT Not satisfied with self				
Irish students	20	2.7500	.786	.176
Irish graduates	56	3.3393	.581	.078

Mean Difference = -.5893

Levene's Test for Equality of Variances: F= 1.652 P= .203

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.54	74	.001	.167	(-.922, -.257)
Unequal	-3.07	26.77	.005	.192	(-.984, -.195)

Variable	Number of Cases	Mean	SD	SE of Mean
RESPECT Respect for self				
Irish students	20	2.2500	1.020	.228
Irish graduates	56	2.9464	.840	.112

Mean Difference = -.6964

Levene's Test for Equality of Variances: F= 2.472 P= .120

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-3.00	74	.004	.232	(-1.158, -.234)
Unequal	-2.74	28.75	.010	.254	(-1.216, -.177)

t-tests for independent samples of GROUP group

Variable	Number of Cases	Mean	SD	SE of Mean
USELESS Feeling useless				
Irish students	20	2.1000	.718	.161
Irish graduates	56	2.6250	.676	.090

Mean Difference = -.5250

Levene's Test for Equality of Variances: F= 2.144 P= .147

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.93	74	.004	.179	(-.882, -.168)
Unequal	-2.85	31.82	.008	.184	(-.900, -.150)

Variable	Number of Cases	Mean	SD	SE of Mean
WORRY I worry about what others think				
Irish students	20	2.1000	.641	.143
Irish graduates	56	2.5714	.759	.101

Mean Difference = -.4714

Levene's Test for Equality of Variances: F= 4.217 P= .044

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.48	74	.016	.190	(-.851, -.092)
Unequal	-2.69	39.42	.011	.176	(-.827, -.116)

APPENDIX TWENTY ONE

LESQ CHI SQUARE RESULTS FOR PALESTINIAN GRADUATES

SEX sex of respondent by CHILD.S Children or no children

CHILD.S Page 1 of 1

SEX	Count / Exp Val	6	7	Row Total
female	1	46 37.8	17 25.2	63 40.6%
male	2	47 55.2	45 36.8	92 59.4%
	Column Total	93 60.0%	62 40.0%	155 100.0%

Chi-Square	Value	DF	Significance
Pearson	7.49238	1	.00620
Continuity Correction	6.60653	1	.01016
Likelihood Ratio	7.66730	1	.00562
Mantel-Haenszel test for linear association	7.44404	1	.00636

Minimum Expected Frequency - 25.200

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	.21986			.00620 *1
Cramer's V	.21986			.00620 *1

*1 Pearson chi-square probability

Number of Missing Observations: 9

SEX sex of respondent by PREF.N Prefer to treat neurological patients

SEX	Count / Exp Val	PREF.N yes 1	PREF.N no 2	Row Total
female	1	19 27.5	48 39.5	67 41.6%
male	2	47 38.5	47 55.5	94 58.4%
	Column Total	66 41.0%	95 59.0%	161 100.0%

Chi-Square	Value	DF	Significance
Pearson	7.57439	1	.00592
Continuity Correction	6.70611	1	.00961
Likelihood Ratio	7.72467	1	.00545
Mantel-Haenszel test for linear association	7.52734	1	.00608

Minimum Expected Frequency - 27.466

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.21690			.00592 *1
Cramer's V	.21690			.00592 *1

*1 Pearson chi-square probability

Number of Missing Observations: 3

SEX sex of respondent by PREF.MAN Prefer to use manipulation

SEX	Count / Exp Val	PREF.MAN yes 1	PREF.MAN no 2	Row Total
female	1	30 38.2	38 29.8	68 42.0%
male	2	61 52.8	33 41.2	94 58.0%
	Column Total	91 56.2%	71 43.8%	162 100.0%

Chi-Square	Value	DF	Significance
Pearson	6.91791	1	.00853
Continuity Correction	6.09974	1	.01352
Likelihood Ratio	6.93627	1	.00845
Mantel-Haenszel test for linear association	6.87520	1	.00874

Minimum Expected Frequency - 29.802

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.20665			.00853 *1
Cramer's V	.20665			.00853 *1

*1 Pearson chi-square probability

Number of Missing Observations: 2

SEX sex of respondent by STATUS.S Married or not married

STATUS.S Page 1 of 1

SEX	Count / Exp Val	6	7	Row Total
female	1	31 40.8	38 28.2	69 42.1%
male	2	66 56.2	29 38.8	95 57.9%
	Column Total	97 59.1%	67 40.9%	164 100.0%

Chi-Square	Value	DF	Significance
Pearson	9.96636	1	.00159
Continuity Correction	8.97641	1	.00273
Likelihood Ratio	9.99148	1	.00157
Mantel-Haenszel test for linear association	9.90559	1	.00165

Minimum Expected Frequency - 28.189

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.24652			.00159 *1
Cramer's V	.24652			.00159 *1

*1 Pearson chi-square probability

Number of Missing Observations: 0

SEX sex of respondent by PREF.ET Prefer to use electrotherapy

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SEX	Count / Exp Val	PREF.ET yes 1	no 2	Row Total
female	1	10 15.6	75 69.4	85 45.9%
male	2	24 18.4	76 81.6	100 54.1%
	Column Total	34 18.4%	151 81.6%	185 100.0%

Chi-Square	Value	DF	Significance
Pearson	4.58526	1	.03225
Continuity Correction	3.80588	1	.05107
Likelihood Ratio	4.72885	1	.02966
Mantel-Haenszel test for linear association	4.56047	1	.03272

Minimum Expected Frequency - 15.622

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.15743			.03225 *1
Cramer's V	.15743			.03225 *1
Contingency Coefficient	.15552			.03225 *1

*1 Pearson chi-square probability

Number of Missing Observations: 4

SEX sex of respondent by PREF.N Prefer to treat neurological patients

SEX	Count / Exp Val	PREF.N yes 1	no 2	Row Total
female	1	23 32.9	59 49.1	82 45.1%
male	2	50 40.1	50 59.9	100 54.9%
	Column Total	73 40.1%	109 59.9%	182 100.0%

Chi-Square	Value	DF	Significance
Pearson	9.03760	1	.00264
Continuity Correction	8.14690	1	.00431
Likelihood Ratio	9.18828	1	.00244
Mantel-Haenszel test for linear association	8.98794	1	.00272

Minimum Expected Frequency - 32.890

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.22284			.00264 *1
Cramer's V	.22284			.00264 *1
Contingency Coefficient	.21750			.00264 *1

*1 Pearson chi-square probability

Number of Missing Observations: 7

SEX sex of respondent by PREF.O Prefer to treat orthopaedic patients

SEX	Count / Exp Val	PREF.O yes 1	PREF.O no 2	Row Total
female	1	54 59.9	28 22.1	82 45.1%
male	2	79 73.1	21 26.9	100 54.9%
	Column Total	133 73.1%	49 26.9%	182 100.0%

Chi-Square	Value	DF	Significance
Pearson	3.95774	1	.04666
Continuity Correction	3.31775	1	.06854
Likelihood Ratio	3.94762	1	.04694
Mantel-Haenszel test for linear association	3.93599	1	.04726

Minimum Expected Frequency - 22.077

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.14746			.04666 *1
Cramer's V	.14746			.04666 *1
Contingency Coefficient	.14589			.04666 *1

*1 Pearson chi-square probability

Number of Missing Observations: 7

SEX sex of respondent by PT.MAT Have you prepared any patient materials

SEX	Count / Exp Val	PT.MAT yes 1	PT.MAT no 2	Row Total
female	1	21 28.0	59 52.0	80 44.4%
male	2	42 35.0	58 65.0	100 55.6%
	Column Total	63 35.0%	117 65.0%	180 100.0%

Chi-Square	Value	DF	Significance
Pearson	4.84615	1	.02771
Continuity Correction	4.17857	1	.04094
Likelihood Ratio	4.91749	1	.02659
Mantel-Haenszel test for linear association	4.81923	1	.02814

Minimum Expected Frequency - 28.000

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.16408			.02771 *1
Cramer's V	.16408			.02771 *1
Contingency Coefficient	.16192			.02771 *1

*1 Pearson chi-square probability

Number of Missing Observations: 9

GROUP group by SCHOOL Type of secondary school attended

GROUP	Count / Exp Val	SCHOOL: govmt/comm 1	private 2	UNRWA/churchfee 3	Row Total
1 Palestinestudent		12	6	6	24
		15.2	2.3	6.5	12.9%
2 Palestinegraduat		106	12	44	162
		102.8	15.7	43.5	87.1%
Column Total		118	18	50	186
		63.4%	9.7%	26.9%	100.0%

Chi-Square	Value	DF	Significance
Pearson	7.50616	2	.02345
Likelihood Ratio	5.84823	2	.05371
Mantel-Haenszel test for linear association	.47585	1	.49031

Minimum Expected Frequency - 2.323
Cells with Expected Frequency < 5 - 1 OF 6 (16.7%)

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	.20089			.02345 *1
Cramer's V	.20089			.02345 *1
Contingency Coefficient	.19695			.02345 *1

*1 Pearson chi-square probability

Number of Missing Observations: 3

SEX sex of respondent by LEARN.B Is my boss responsible for my learning

SEX	Count / Exp Val	LEARN.B: most responsible 1	less responsible 2	least responsibl 3	Row Total
female	1	8 7.4	30 22.7	60 68.0	98 56.6%
male	2	5 5.6	10 17.3	60 52.0	75 43.4%
	Column Total	13 7.5%	40 23.1%	120 69.4%	173 100.0%

Chi-Square	Value	DF	Significance
Pearson	7.77187	2	.02053
Likelihood Ratio	8.09667	2	.01745
Mantel-Haenszel test for linear association	4.49424	1	.03401

Minimum Expected Frequency - 5.636

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	.21195			.02053 *1
Cramer's V	.21195			.02053 *1
Contingency Coefficient	.20735			.02053 *1

*1 Pearson chi-square probability

Number of Missing Observations: 47

SEX sex of respondent by LEARN.T Is my teacher responsible for my learnin

SEX	Count / Exp Val	LEARN.T most responsible 1	less responsible 2	least responsibl 3	Row Total
female	1	21 26.5	49 50.9	29 21.6	99 54.1%
male	2	28 22.5	45 43.1	11 18.4	84 45.9%
	Column Total	49 26.8%	94 51.4%	40 21.9%	183 100.0%

Chi-Square	Value	DF	Significance
Pearson	8.09509	2	.01747
Likelihood Ratio	8.34108	2	.01544
Mantel-Haenszel test for linear association	7.48967	1	.00621

Minimum Expected Frequency - 18.361

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	.21032			.01747 *1
Cramer's V	.21032			.01747 *1
Contingency Coefficient	.20582			.01747 *1

*1 Pearson chi-square probability

Number of Missing Observations: 37

SEX sex of respondent by KNOW.SW Social workers knowledge about physio

SEX	Count / Exp Val	KNOW.SW not at all well 1	not very well 2	quite well 3	enough 4	very well 5	Row Total
female	1	10 8.2	32 24.6	39 36.0	28 35.5	10 14.7	119 54.6%
male	2	5 6.8	13 20.4	27 30.0	37 29.5	17 12.3	99 45.4%
	Column Total	15 6.9%	45 20.6%	66 30.3%	65 29.8%	27 12.4%	218 100.0%

Chi-Square	Value	DF	Significance
Pearson	13.20798	4	.01030
Likelihood Ratio	13.42083	4	.00939
Mantel-Haenszel test for linear association	11.71317	1	.00062

Minimum Expected Frequency - 6.812

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	.24614			.01030 *1
Cramer's V	.24614			.01030 *1
Contingency Coefficient	.23901			.01030 *1

*1 Pearson chi-square probability

Number of Missing Observations: 2

SEX sex of respondent by KNOW.SWS SW knowledge of PT sorted

KNOW.SWS Page 1 of 1

SEX	Count / Exp Val	6	7	Row Total
female	1	22 15.3	97 103.7	119 54.6%
male	2	6 12.7	93 86.3	99 45.4%
	Column Total	28 12.8%	190 87.2%	218 100.0%

Chi-Square	Value	DF	Significance
Pearson	7.45495	1	.00633
Continuity Correction	6.38618	1	.01150
Likelihood Ratio	7.96654	1	.00476
Mantel-Haenszel test for linear association	7.42076	1	.00645

Minimum Expected Frequency - 12.716

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	.18492			.00633 *1
Cramer's V	.18492			.00633 *1
Contingency Coefficient	.18184			.00633 *1

*1 Pearson chi-square probability

Number of Missing Observations: 2

SEX sex of respondent by CHILD.S Children or no children

SEX	Count / Exp Val	CHILD.S 6	CHILD.S 7	Row Total
female	1	77 68.7	38 46.3	115 54.5%
male	2	49 57.3	47 38.7	96 45.5%
	Column Total	126 59.7%	85 40.3%	211 100.0%

Chi-Square	Value	DF	Significance
Pearson	5.50893	1	.01892
Continuity Correction	4.86722	1	.02737
Likelihood Ratio	5.51598	1	.01884
Mantel-Haenszel test for linear association	5.48282	1	.01920

Minimum Expected Frequency - 38.673

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	.16158			.01892 *1
Cramer's V	.16158			.01892 *1
Contingency Coefficient	.15951			.01892 *1

*1 Pearson chi-square probability

Number of Missing Observations: 9

SEX sex of respondent by PREF.MAN Prefer to use manipulation

SEX	Count / Exp Val	PREF.MAN yes 1	PREF.MAN no 2	Row Total
female	1	54 64.4	66 55.6	120 55.0%
male	2	63 52.6	35 45.4	98 45.0%
	Column Total	117 53.7%	101 46.3%	218 100.0%

Chi-Square	Value	DF	Significance
Pearson	8.06915	1	.00450
Continuity Correction	7.31219	1	.00685
Likelihood Ratio	8.13920	1	.00433
Mantel-Haenszel test for linear association	8.03214	1	.00460

Minimum Expected Frequency - 45.404

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.19239			.00450 *1
Cramer's V	.19239			.00450 *1
Contingency Coefficient	.18893			.00450 *1

*1 Pearson chi-square probability

Number of Missing Observations: 2

SEX sex of respondent by PREF.N Prefer to treat neurological patients

SEX	Count / Exp Val	PREF.N yes 1	PREF.N no 2	Row Total
female	1	38 46.3	79 70.7	117 54.4%
male	2	47 38.7	51 59.3	98 45.6%
	Column Total	85 39.5%	130 60.5%	215 100.0%

Chi-Square	Value	DF	Significance
Pearson	5.34639	1	.02077
Continuity Correction	4.71841	1	.02984
Likelihood Ratio	5.35175	1	.02070
Mantel-Haenszel test for linear association	5.32153	1	.02106

Minimum Expected Frequency - 38.744

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.15769			.02077 *1
Cramer's V	.15769			.02077 *1
Contingency Coefficient	.15577			.02077 *1

*1 Pearson chi-square probability

Number of Missing Observations: 5

SEX sex of respondent by STATUS.S Married or not married

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SEX	Count / Exp Val	6	7	Row Total
female	1	54 68.2	67 52.8	121 55.0%
male	2	70 55.8	29 43.2	99 45.0%
	Column Total	124 56.4%	96 43.6%	220 100.0%

Chi-Square	Value	DF	Significance
Pearson	15.05675	1	.00010
Continuity Correction	14.01508	1	.00018
Likelihood Ratio	15.32798	1	.00009
Mantel-Haenszel test for linear association	14.98831	1	.00011

Minimum Expected Frequency - 43.200

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.26161			.00010 *1
Cramer's V	.26161			.00010 *1
Contingency Coefficient	.25309			.00010 *1

*1 Pearson chi-square probability

Number of Missing Observations: 0

COUNTRY Nationality of respondents
by KNOW.DRS Doctors knowledge of PT sorted

KNOW.DRS Page 1 of 1

COUNTRY	Count / Exp Val	6	7	Row Total
Palestine	1	9 12.7	155 151.3	164 74.9%
Ireland	2	8 4.3	47 50.7	55 25.1%
	Column Total	17 7.8%	202 92.2%	219 100.0%

Chi-Square	Value	DF	Significance
Pearson	4.71934	1	.02983
Continuity Correction	3.53908	1	.05994
Likelihood Ratio	4.17794	1	.04095
Mantel-Haenszel test for linear association	4.69779	1	.03020
Fisher's Exact Test:			
One-Tail			.03504
Two-Tail			.04091

Minimum Expected Frequency - 4.269
Cells with Expected Frequency < 5 - 1 OF 4 (25.0%)

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.14680			.02983 *1
Cramer's V	.14680			.02983 *1
Contingency Coefficient	.14524			.02983 *1

*1 Pearson chi-square probability

Number of Missing Observations: 1

COUNTRY Nationality of respondents by KNOW.SWS SW knowledge of PT sorted

KNOW.SWS Page 1 of 1

COUNTRY	Count / Exp Val	6	7	Row Total
Palestine	1	8 20.8	154 141.2	162 74.3%
Ireland	2	20 7.2	36 48.8	56 25.7%
	Column Total	28 12.8%	190 87.2%	218 100.0%

Chi-Square	Value	DF	Significance
Pearson	35.21054	1	.00000
Continuity Correction	32.51496	1	.00000
Likelihood Ratio	30.44177	1	.00000
Mantel-Haenszel test for linear association	35.04902	1	.00000

Minimum Expected Frequency - 7.193

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.40189			.00000 *1
Cramer's V	.40189			.00000 *1
Contingency Coefficient	.37290			.00000 *1

*1 Pearson chi-square probability

Number of Missing Observations: 2

COUNTRY Nationality of respondents by LECT.WS Have you lectured at workshops

COUNTRY	Count / Exp Val	LECT.WS yes 1	LECT.WS no 2	Row Total
Palestine	1	33 42.5	121 111.5	154 73.3%
Ireland	2	25 15.5	31 40.5	56 26.7%
	Column Total	58 27.6%	152 72.4%	210 100.0%

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Chi-Square	Value	DF	Significance
Pearson	11.07050	1	.00088
Continuity Correction	9.93971	1	.00162
Likelihood Ratio	10.49511	1	.00120
Mantel-Haenszel test for linear association	11.01778	1	.00090

Minimum Expected Frequency - 15.467

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.22960			.00088 *1
Cramer's V	.22960			.00088 *1
Contingency Coefficient	.22378			.00088 *1

*1 Pearson chi-square probability

Number of Missing Observations: 10

COUNTRY Nationality of respondents by LENGTH.W Length of time working

COUNTRY	Count / Exp Val	LENGTH.W less than one year 1	1 - 5 years 2	more than 5 years 3	Row Total
Palestine	1	43 38.5	68 58.9	30 43.6	141 72.7%
Ireland	2	10 14.5	13 22.1	30 16.4	53 27.3%
	Column Total	53 27.3%	81 41.8%	60 30.9%	194 100.0%

Chi-Square	Value	DF	Significance
Pearson	22.63212	2	.00001
Likelihood Ratio	21.65501	2	.00002
Mantel-Haenszel test for linear association	14.53854	1	.00014

Minimum Expected Frequency - 14.479

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	.34156			.00001 *1
Cramer's V	.34156			.00001 *1
Contingency Coefficient	.32322			.00001 *1

*1 Pearson chi-square probability

Number of Missing Observations: 26

COUNTRY Nationality of respondents
by ORG.WS Have you organised any workshops

COUNTRY	Count / Exp Val	ORG.WS yes 1	ORG.WS no 2	Row Total
Palestine	1	24 34.5	131 120.5	155 73.5%
Ireland	2	23 12.5	33 43.5	56 26.5%
	Column Total	47 22.3%	164 77.7%	211 100.0%

Chi-Square	Value	DF	Significance
Pearson	15.55672	1	.00008
Continuity Correction	14.11390	1	.00017
Likelihood Ratio	14.36341	1	.00015
Mantel-Haenszel test for linear association	15.48300	1	.00008

Minimum Expected Frequency - 12.474

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.27153			.00008 *1
Cramer's V	.27153			.00008 *1
Contingency Coefficient	.26204			.00008 *1

*1 Pearson chi-square probability

Number of Missing Observations: 9

COUNTRY Nationality of respondents by PREF.CH Prefer to treat chest patients

COUNTRY	Count / Exp Val	PREF.CH yes 1	PREF.CH no 2	Row Total
Palestine	1	8 15.0	153 146.0	161 74.9%
Ireland	2	12 5.0	42 49.0	54 25.1%
	Column Total	20 9.3%	195 90.7%	215 100.0%

Chi-Square	Value	DF	Significance
Pearson	14.26713	1	.00016
Continuity Correction	12.29546	1	.00045
Likelihood Ratio	12.23983	1	.00047
Mantel-Haenszel test for linear association	14.20078	1	.00016

Minimum Expected Frequency - 5.023

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.25760			.00016 *1
Cramer's V	.25760			.00016 *1
Contingency Coefficient	.24946			.00016 *1

*1 Pearson chi-square probability

Number of Missing Observations: 5

COUNTRY Nationality of respondents by PREF.ET Prefer to use electrotherapy

COUNTRY	Count / Exp Val	PREF.ET yes 1	PREF.ET no 2	Row Total
Palestine	1	32 40.9	130 121.1	162 74.3%
Ireland	2	23 14.1	33 41.9	56 25.7%
	Column Total	55 25.2%	163 74.8%	218 100.0%

Chi-Square	Value	DF	Significance
Pearson	10.02573	1	.00154
Continuity Correction	8.92748	1	.00281
Likelihood Ratio	9.41832	1	.00215
Mantel-Haenszel test for linear association	9.97974	1	.00158

Minimum Expected Frequency - 14.128

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.21445			.00154 *1
Cramer's V	.21445			.00154 *1
Contingency Coefficient	.20968			.00154 *1

*1 Pearson chi-square probability

Number of Missing Observations: 2

GROUP group by PREF.EX Prefer to use exercise

GROUP	Count / Exp Val	PREF.EX yes 1	no 2	Row Total
3 Irishstudent		10 13.5	7 3.5	17 23.3%
4 Irishgraduate		48 44.5	8 11.5	56 76.7%
	Column Total	58 79.5%	15 20.5%	73 100.0%

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Chi-Square	Value	DF	Significance
Pearson	5.77626	1	.01624
Continuity Correction	4.24654	1	.03933
Likelihood Ratio	5.18635	1	.02277
Mantel-Haenszel test for linear association	5.69713	1	.01699
Fisher's Exact Test:			
One-Tail			.02347
Two-Tail			.03465

Minimum Expected Frequency - 3.493
Cells with Expected Frequency < 5 - 1 OF 4 (25.0%)

Statistic	Value	ASE1	Val/ASE0	Approximate Significance
Phi	-.28129			.01624 *1
Cramer's V	.28129			.01624 *1
Contingency Coefficient	.27079			.01624 *1

*1 Pearson chi-square probability

Number of Missing Observations: 1

APPENDIX TWENTY TWO

LESQ MANN WHITNEY RESULTS FOR PALESTINIAN STUDENTS

- - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

AWARD Award given on graduation
by SEX sex of respondent

Mean Rank Cases
11.25 18 SEX = 1 female
17.50 7 SEX = 2 male
25 Total

U	W	Exact 2-Tailed P	Corrected for ties Z	2-Tailed P
31.5	122.5	.0552	-2.2913	.0219

- Mann-Whitney U - Wilcoxon Rank Sum W Test

LENGTH Length of physiotherapy education
by SEX sex of respondent

Mean Rank Cases
11.25 18 SEX = 1 female
17.50 7 SEX = 2 male
25 Total

U	W	Exact 2-Tailed P	Corrected for ties Z	2-Tailed P
31.5	122.5	.055	-2.2913	.0219

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

PT.MAT Have you prepared any patient materials
by SEX sex of respondent

Mean Rank	Cases	
14.00	17	SEX = 1 female
8.86	7	SEX = 2 male
	24	Total

		Exact	Corrected for ties	
U	W	2-tailed P	Z	2-tailed P
34.0	62.0	.1139	-2.8248	.0047

LESQ MANN WHITNEY RESULTS FOR PALESTINIAN GRADUATES

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	STATUS	Marital status
by	SEX	sex of respondent

Mean Rank	Cases	
94.99	69	SEX = 1 female
73.79	95	SEX = 2 male
	164	Total

		Corrected for ties	
U	W	Z	2-Tailed P
2450.5	6519.5	-3.2160	.0013

- Mann-Whitney U - Wilcoxon Rank Sum W Test

	STATUS.S	Married or not married
by	SEX	sex of respondent

Mean Rank	Cases	
94.16	69	SEX = 1 female
74.03	95	SEX = 2 male
	169	Total

		Corrected for ties	
U	W	Z	2-Tailed P
2473.0	6497.0	-3.1473	.0016

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	CHILD	Do you have children
by	SEX	sex of respondent

Mean Rank	Cases
65.79	63 SEX = 1 female
86.36	92 SEX = 2 male
	155 Total

		Corrected for ties	
U	W	Z	2-Tailed P
2129.0	145.0	-3.2092	.0013

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	CHILD.S	Children or no children
by	SEX	sex of respondent

Mean Rank	Cases
67.91	63 SEX = 1 female
84.91	92 SEX = 2 male
	155 Total

		Corrected for ties	
U	W	Z	2-Tailed P
2262.5	9278.5	-2.7284	.0064

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	YEAR.T	Year Tawjihi taken
by	SEX	sex of respondent

Mean Rank	Cases
93.31	68 SEX = 1 female
72.96	94 SEX = 2 male
	162 Total

		Corrected for ties	
U	W	Z	2-Tailed P
2393.0	6395.0	-3.1773	.0015

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	LENGTH	Length of physiotherapy education
by	SEX	sex of respondent

Mean Rank	Cases
65.40	68 SEX = 1 female
92.41	93 SEX = 2 male
	161 Total

		Corrected for ties	
U	W	Z	2-Tailed P
2101.0	9447.0	-3.7807	.0002

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

AWARD. Award given on graduation
by SEX sex of respondent

Mean Rank	Cases
73.43	68 SEX = 1 female
86.54	93 SEX = 2 male
	161 Total

		Corrected for ties	
U	W	Z	2-Tailed P
2647.0	4993.0	-2.0009	.0454

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

LENGTH.W Length of time working
by SEX sex of respondent

Mean Rank	Cases
63.13	62 SEX = 1 female
77.18	79 SEX = 2 male
	191 Total

		Corrected for ties	
U	W	Z	2-Tailed P
1961.0	3919.0	-2.1988	.0279

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.N	Prefer to treat neurological patients
by	SEX	sex of respondent

Mean Rank	Cases
91.17	67 SEX = 1 female
73.75	94 SEX = 2 male

		Corrected for ties	
U	W	Z	2-tailed P
2467.5	6108.5	-2.7436	.0061

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.MAN	Prefer to use manipulation
by	SEX	sex of respondent

Mean Rank	Cases
91.26	68 SEX = 1 female
79.44	94 SEX = 2 male
	162 Total

		Corrected for ties	
U	W	Z	2-Tailed P
2532.0	6206.0	-2.6221	.0087

- - - Mann-Whitney U - Wilcoxon Rank Sum W Test

KNOW.N Nurses knowledge about physio
by SEX sex of respondent

Mean Rank	Cases
73.45	67 SEX = 1 female
87.18	95 SEX = 2 male
	162 Total

		Corrected for ties	
U	W	Z	2-tailed P
2643.0	9921.0	-1.9991	.0456

LESQ MANN WHITNEY RESULTS FOR IRISH GRADUATES

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREP.WOR	Satisfaction with preparation for work
by	SEX	sex of respondent

Mean Rank	Cases
25.88	49 SEX = 1 female
90.75	9 SEX = 2 male
	53 TOTAL

		Exact	Corrected for ties	
U	W	2-Tailed P	Z	2-tailed P
43.0	163.0	.0652	-1.9631	.0496

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	STATUS.S	Married or not married
by	SEX	sex of respondent

Mean Rank	Cases
29.62	52 SEX = 1 female
14.00	9 SEX = 2 male
	56 TOTAL

		Exact	Corrected for ties	
U	W	2-Tailed P	Z	2-tailed P
46.0	56.0	.0661	-2.1317	.033

LESO MANN WHITNEY RESULTS FOR PALESTINIAN STUDENTS AND GRADUATES

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

AGE Age of respondents
by SEX sex of respondent

Mean Rank	Cases
79.89	86 SEX = 1 female
106.01	101 SEX = 2 male
	187 TOTAL

U	W	Corrected for ties Z	2-tailed P
3129.5	6870.5	-4.4456	.0000

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

LENGTH Length of physiotherapy education
by SEX sex of respondent

Mean Rank	Cases
78.25	86 SEX = 1 female
106.61	100 SEX = 2 male
	186 Total

U	W	Corrected for ties Z	2-tailed P
2988.5	6729.5	-3.7394	.0002

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.ET	Prefer to use electrotherapy
by	SEX	sex of respondent

Mean Rank	Case
99.12	85 SEX = 1 female
87.80	100 SEX= 2 male
	185 Total

		Corrected for ties	
U	W	Z	2-Tailed P
3730.0	8425.0	-2.1355	.0327

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.N	Prefer to treat neurological patients
by	SEX	sex of respondent

Mean Rank	Cases
102.98	82 SEX = 1 female
82.50	100 SEX = 2 male
	182 Total

		Corrected for ties	
U	W	Z	2-tailed P
3200.0	8403.0	-2.9980	.00027

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

PREF.O Prefer to treat orthopaedic patients
by SEX sex of respondent

Mean Rank	Cases
98.07	82 SEX = 1 female
86.11	100 SEX = 2 male
	182 Total

		Corrected for ties	
U	W	Z	2-Tailed P
3561.0	8042.0	-1.9839	.0473

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

PT.MAT Have you prepared any patient materials ?
by SEX sex of respondent

Mean Rank	Cases
98.38	80 SEX = 1 female
84.20	100 SEX = 2 male
	180 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3370.0	7870.0	-2.1953	.0281

- - - Mann-Whitney U - Wilcoxon Rank Sum W Test

SATIS Satisfaction with education
by SEX sex of respondent

Mean Rank	Cases
84.32	85 SEX = 1 female
101.23	101 SEX = 2 male
	186 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3512.0	7167.0	-2.2150	.0268

LESQ MANN WHITNEY RESULTS FOR PALESTINIAN AND IRISH STUDENTS

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	AWARD	Award given on graduation
by	GROUP	group

Mean Rank	Cases	
18.76	25	GROUP = 1 Palestinian student
26.50	18	GROUP = 3 Irish student
	43	TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
144.0	477.0	-2.8293	.0047

---- Mann-Whitney U - Wilcoxon Rank Sum W Test

	H.E.ROLE	Do physios have a health education role ?
by	GROUP	group

Mean Rank	Cases	
15.38	21	GROUP = 1 Palestinian student
25.39	18	GROUP = 3 Irish student
	39	TOTAL

		Exact	Corrected for ties	
U	W	2-tailed P	Z	2-tailed P
92.0	457.0	.0056	-3.2179	.0013

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.ET	Prefer to use electrotherapy
by	GROUP	group

Mean Rank	Cases
22.80	23 GROUP = 1 Palestinian student
15.97	16 GROUP = 3 Irish student
	39 TOTAL

		Exact	Corrected for ties	
U	W	2-Tailed P	Z	2-tailed P
119.5	255.5	.0651	-2.5228	.0116

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	SATIS	Satisfactlon with educatlon
by	GROUP	group

Mean Rank	Cases
15.43	23 GROUP = 1 Palestinian student
28.11	18 GROUP = 3 Irish student
	41 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
79.0	506.0	-3.5476	.0004

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	SCHOOL	Type of secondary school attended
by	GROUP	group

Mean Rank	Cases
18.00	24 GROUP = 1 Palestinian student
26.17	18 GROUP = 3 Irish student
	42 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
132.0	471.0	-2.2491	.0245

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	AWARD	Award given on graduation
by	SEX	sex of respondent

Mean Rank	Cases
20.26	31 SEX = 1 female
26.50	12 SEX = 2 male
	43 TOTAL

		Exact	Corrected for ties	
U	W	2-Tailed P	Z	2-tailed P
132.0	318.0	.1492	-2.0745	.0380

- Mann-Whitney U - Wilcoxon Rank Sum W Test

	SCHOOL	Type of secondary school attended
by	SEX	sex of respondent

Mean Rank	Cases
22.89	31 SEX = 1 female
17.59	11 SEX = 2 male
	92 TOTAL

		Exact	Corrected for ties	
U	W	2-Tailed P	Z	2-tailed P
127.5	193.5	.2222	-1.2959	.1950

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.MS	Prefer to use massage
by	SEX	sex of respondent

Mean Rank	Cases
21.91	28 SEX = 1 female
15.14	11 SEX = 2 male
	39 TOTAL

U	W	Exact 2-Tailed P	Corrected for ties Z	2-tailed P
100.5	166.5	.0954	-2.3866	.0170

- - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	YEAR.T	Year Tawjihi taken
by	SEX	sex of respondent

Mean Rank	Cases
24.47	31 SEX = 1 female
13.14	11 SEX = 2 male
	92 TOTAL

U	W	Exact 2-Tailed P	Corrected for ties Z	2-tailed P
78.5	144.5	.0071	-3.5666	.0004

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

PT.MAT Have you prepared any patient materials ?
by SEX sex of respondent

Mean Rank	Cases	
22.27	26 SEX = 1	female
13.50	12 SEX = 2	male
	38 TOTAL	

		Exact	Corrected for ties	
U	W	2-tailed P	Z	2-tailed P
84.0	162.0	.0232	-3.3663	.0008

LESQ MANN WHITNEY RESULTS FOR IRISH STUDENTS AND GRADUATES

- Mann-Whitney U - Wilcoxon Rank Sum W Test

	LEARN.B	Is my boss responsible for my learning ?
by	GROUP	group

Mean Rank	Cases
40.50	13 GROUP = 3 Irish student
27.73	47 GROUP = 4 Irish graduate
	60 TOTAl

		Corrected for ties	
U	W	Z	2-tailed P
175.5	526.5	-2.8565	.0043

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	LEARN.T	Is my teacher responsible for my learning ?
by	GROUP	group

Mean Rank	Cases
25.17	18 GROUP = 3 Irish student
34.09	49 GROUP = 4 Irish graduate
	62 TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
282.0	453.0	-2.2257	.0260

- Mann-Whitney U - Wilcoxon Rank Sum W Test

	KNOW.DR	Doctors knowledge about physio
by	GROUP	group

Mean Rank	Cases
46.97	18 GROUP = 3 Irish student
33.74	55 GROUP = 4 Irish graduate
	73 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
315.5	845.5	-2.5599	.0105

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	AWARD	Award given on graduation
by	GROUP	group

Mean Rank	Cases
59.00	18 GROUP = 3 Irish student
32.20	56 GROUP = 4 Irish graduate
	74 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
207.0	972.0	-4.3458	.0000

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.EX	Prefer to use exercise
by	GROUP	group

Mean Rank	Cases
44.53	17 GROUP = 3 Irish student
39.71	56 GROUP = 4 Irish graduate
	73 TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
348.0	757.0	-2.3869	.0170

- - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	SCHOOL	Type of secondary school attended
by	SEX	sex of respondent

Mean Rank	Cases
40.11	65 SEX = 1 female
18.67	9 SEX = 2 male
	74 TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
123.0	168.0	-2.9889	.0028

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	LEARN.B	Is my boss responsible for my learning ?
by	SEX	sex of respondent

Mean Rank	Cases
28.74	51 SEX = 1 female
40.50	9 SEX = 2 male
	60 TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
123.0	369.5	-2.2816	.0225

- - - - - Mann-Whitney U - Wllcoxon Rank Sum W Test

LEARN.S Am I responsible for my learning ?
by SEX sex of respondent

Mean Rank	Cases
36.65	65 SEX = 1 female
43.61	9 SEX = 2 male
	74 TOTAL

U	W	Z	Corrected for ties 2-tailed P
237.5	392.5	-2.321.5	.0203

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

LEARN.T Is my teacher responsible for my learning ?
by SEX sex of respondent

Mean Rank	Cases
33.25	53 SEX = 1 female
21.17	9 SEX = 2 male
	62 TOTAL

U	W	Corrected for ties Z	2-tailed P
145.5	190.5	-2.3398	.0193

LESO MANN WHITNEY RESULTS FOR PALESTINIAN AND IRISH GRADUATES

--- Mann-Whitney U - Wilcoxon Rank Sum W Test

	AGE	Age of respondents
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
97.06	162 COUNTRY = 1 Palestine
145.98	56 COUNTRY = 2 Ireland
	218 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2521.0	8147.0	-5.7619	.0000

- - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	AWARD	Award given on graduation
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
109.35	161 COUNTRY = 1 Palestine
122.37	56 COUNTRY = 2 Ireland
	217 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3759.5	6852.5	-2.1137	.0345

Mann-Whitney U - Wilcoxon Rank Sum W Test

DECIDE Can physios decide treatment plan ?
by COUNTRY Nationality of respondents

Mean Rank	Cases	
96.45	160 COUNTRY = 1	Palestine
142.99	56 COUNTRY = 2	Ireland
	216 TOTAL	

		Corrected for ties	
U	W	Z	2-tailed P
2551.5	8009.5	-5.5499	.0000

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

DIFF.PT Are there differences in physio in different countries ?
by COUNTRY Nationality of respondents

Mean Rank	Cases	
101.31	156 COUNTRY = 1	Palestine
75.67	36 COUNTRY = 2	Ireland
	192 TOTAL	

		Corrected for ties	
U	W	Z	2-tailed P
2058.0	2724.0	-3.0685	.0022

Mann-Whitney U - Wilcoxon Rank Sum W Test

	GRAD.	Year of graduation
by	COUNTRY	Nationality of respondents

Mean Rank	Cases	
121.74	161	COUNTRY = 1 Palestine
64.24	53	COUNTRY = 2 Ireland
	214	TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
1973.5	3404.5	-6.7966	.0000

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	H.E.ROLE	Do physios have a health education role ?
by	COUNTRY	Nationality of respondents

Mean Rank	Cases	
97.16	158	COUNTRY = 1 Palestine
136.67	56	COUNTRY = 2 Ireland
	214	TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2790.5	7653.5	-4.7960	.0000

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	KNOW.DRS	Doctors knowledge of PT sorted
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
112.49	164 COUNTRY = 1 Palestine
102.57	55 COUNTRY = 2 Ireland
	219 TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
4101.5	5641.5	-2.1679	.0302

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	KNOW.N	Nurses knowledge about physio
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
118.09	162 COUNTRY = 1 Palestine
82.22	55 COUNTRY = 2 Ireland
	217 TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
2982.0	4522.0	-3.9890	.0001

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	KNOW.NS	Nurses knowledge about PT sorted
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
111.83	162 COUNTRY = 1 Palestine
100.66	55 COUNTRY = 2 Ireland
	217 Total

		Corrected for ties	
U	W	Z	2-Tailed P
3996.5	5536.5	-3.7239	.0002

- Mann-Whitney U - Wilcoxon Rank Sum W Test

	KNOW.SW	Social workers knowledge about physio
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
124.24	162 COUNTRY = 1 Palestine
66.86	56 COUNTRY = 2 Ireland
	218 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2198.0	3799.0	-6.0702	.0000

- Mann-Whitney U - Wilcoxon Rank Sum W Test

KNQW.SWS SW knowledge of PT. sorted
by COUNTRY Nationality of respondents

Mean Rank	Cases
118.12	162 COUNTRY = 1 Palestine
89.57	56 COUNTRY = 2 Ireland
	218 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3190.0	4736.0	-5.9202	.0000

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

LEARN.S Am I responsible for my learning ?
by COUNTRY Nationality of respondents

Mean Rank	Cases
107.19	143 COUNTRY = 1 Palestine
81.65	56 COUNTRY = 2 Ireland
	199 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2976.5	9572.5	-3.7895	.0002

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	LENGTH	Length of physiotherapy education
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
99.30	161 COUNTRY = 1 Palestine
136.88	56 COUNTRY = 2 Ireland
	217 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2447.0	7665.0	-3.9941	.0001

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	LENGTH.W	Length of time working
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
88.57	141 COUNTRY = 1 Palestine
121.26	53 COUNTRY = 2 Ireland
	194 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2477.0	6427.0	-3.8589	.0001

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	ORG.WS	Have you organised any workshops ?
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
113.16	155 COUNTRY = 1 Palestine
86.17	56 COUNTRY = 2 Ireland
	211 TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
3229.5	4825.5	-3.9348	.0001

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.CH	Prefer to treat chest patients
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
112.66	161 COUNTRY = 1 Palestine
99.11	54 COUNTRY = 2 Ireland
	215 TOTAL

		Corrected for ties	
U	W	Z	2-Tailed P
3597.0	5082.0	-3.7684	.0002

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.ET	Prefer to use electrotherapy
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
115.47	162 COUNTRY = 1 Palestine
92.23	56 COUNTRY = 2 Ireland
	218 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3569.0	5165.0	-3.1591	.0016

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREF.OB	Prefer to treat obstetric/gynae patients
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
110.82	161 COUNTRY = 1 Palestine
99.58	59 COUNTRY = 2 Ireland
	215 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3892.5	5377.5	-2.3370	.0194

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREP.WKS	Preparation for work sorted
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
100.04	161 COUNTRY = 1 Palestine
100.41	53 COUNTRY = 2 Ireland
	214 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3890.5	5321.5	-3.3632	.0008

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	PREP.WOR	Satisfaction with preparation for work
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
123.39	161 COUNTRY = 1 Palestine
59.24	53 COUNTRY = 2 Ireland
	214 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
1708.5	3139.5	-7.0676	.0000

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	SAME.SEX	Prefer to treat one sex patients
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
104.97	161 COUNTRY = 1 Palestine
120.58	56 COUNTRY = 2 Ireland
	217 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3859.5	6752.5	-2.6361	.0084

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	SATIS	Satisfaction with education
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
99.04	163 COUNTRY = 1 Palestine
191.91	56 COUNTRY = 2 Ireland
	219 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2777.0	7997.0	-4.5572	.0000

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

SATIS.W Satisfaction with work sorted
by COUNTRY Nationality of respondents

Mean Rank	Cases
86.60	141 COUNTRY = 1 Palestine
126.99	53 COUNTRY = 2 Ireland
	199 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2200.0	6709.0	-4.6105	.0000

- Mann-Whitney U - Wilcoxon Rank Sum W Test

SCHOOL Type of secondary school attended
by COUNTRY Nationality of respondents

Mean Rank	Cases
88.88	162 COUNTRY = 1 Palestine
169.16	56 COUNTRY = 2 Ireland
	218 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
1195.0	9973.0	-8.8537	.0000

- - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	SEX	sex of respondent
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
124.72	169 COUNTRY = 1 Palestine
68.86	56 COUNTRY = 2 Ireland
	220 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2260.0	3856.0	-6.5809	.0000

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	TEACH	Can physios teach families simple exs ?
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
120.48	164 COUNTRY = 1 Palestine
81.26	56 COUNTRY = 2 Ireland
	220 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2954.5	9550.5	-4.6039	.0000

- - Mann-Whitney U - Wilcoxon Rank Sum W Test

	WORK	Working at the moment
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
112.14	159 COUNTRY = 1 Palestine
96.26	56 COUNTRY = 2 Ireland
	215 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
3794.5	5390.5	-2.5684	.0102

- - - - - Mann-Whitney U - Wilcoxon Rank Sum W Test

	YEAR.T	Year Tawjihi taken
by	COUNTRY	Nationality of respondents

Mean Rank	Cases
122.15	162 COUNTRY = 1 Palestine
72.89	56 COUNTRY = 2 Ireland
	218 TOTAL

		Corrected for ties	
U	W	Z	2-tailed P
2986.0	4082.0	-5.5629	.0000

APPENDIX TWENTY THREE

CORRELATIONS BETWEEN 16PF AND TSQ

- - Correlation Coefficients - -

	ATTITUD	FACT.A
ATTITUD	1.0000 (267) P= .	-.1489 (233) P= .023
FACT.A	-.1489 (233) P= .023	1.0000 (234) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.A	APPEAR
FACT.A	1.0000 (234) P= .	-.1458 (230) P= .027
APPEAR	-.1458 (230) P= .027	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.A	HAPPY
FACT.A	1.0000 (234) P= .	.1375 (230) P= .037
HAPPY	.1375 (230) P= .037	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.A	RELY
FACT.A	1.0000 (234) P= .	.1412 (230) P= .032
RELY	.1412 (230) P= .032	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.C	CANT
FACT.C	1.0000 (234) P= .	-.1736 (231) P= .008
CANT	-.1736 (231) P= .008	1.0000 (265) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.C	CONFIDEN
FACT.C	1.0000 (234) P= .	.1410 (232) P= .032
CONFIDEN	.1410 (232) P= .032	1.0000 (266) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.B	TRUST
FACT.B	1.0000 (234) P= .	-.1595 (230) P= .015
TRUST	-.1595 (230) P= .015	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.C	PEOPLE
FACT.C	1.0000 (234) P= .	-.1464 (228) P= .027
PEOPLE	-.1464 (228) P= .027	1.0000 (262) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.E	ATTITUD
FACT.E	1.0000 (234) P= .	-.1285 (233) P= .050
ATTITUD	-.1285 (233) P= .050	1.0000 (267) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.G	MIXED
FACT.G	1.0000 (234) P= .	.1512 (230) P= .022
MIXED	.1512 (230) P= .022	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.G	SENSITIV
FACT.G	1.0000 (234) P= .	.1500 (230) P= .023
SENSITIV	.1500 (230) P= .023	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.H	APPEAR
FACT.H	1.0000 (234) P= .	-.1491 (230) P= .024
APPEAR	-.1491 (230) P= .024	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.H	FAMILY
FACT.H	1.0000 (234) P= .	-.1397 (231) P= .034
FAMILY	-.1397 (231) P= .034	1.0000 (265) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.H	PEOPLE
FACT.H	1.0000 (234) P= .	-.1389 (228) P= .036
PEOPLE	-.1389 (228) P= .036	1.0000 (262) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.I	ATTITUD
FACT.I	1.0000 (234) P= .	.1865 (233) P= .004
ATTITUD	.1865 (233) P= .004	1.0000 (267) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.I	CONFIDEN
FACT.I	1.0000 (234) P= .	.1580 (232) P= .016
CONFIDEN	.1580 (232) P= .016	1.0000 (266) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.I	LOW.OP
FACT.I	1.0000 (234) P= .	-.1384 (227) P= .037
LOW.OP	-.1384 (227) P= .037	1.0000 (261) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.I	USELESS
FACT.I	1.0000 (234) P= .	-.1872 (233) P= .004
USELESS	-.1872 (233) P= .004	1.0000 (267) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.I	WORRY
FACT.I	1.0000 (234) P= .	-.1509 (230) P= .022
WORRY	-.1509 (230) P= .022	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.M	ABLE
FACT.M	1.0000 (234) P= .	-.1522 (232) P= .020
ABLE	-.1522 (232) P= .020	1.0000 (266) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.N	CONFIDEN
FACT.N	1.0000 (234) P= .	-.1490 (232) P= .023
CONFIDEN	-.1490 (232) P= .023	1.0000 (266) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.N	HONEST
FACT.N	1.0000 (234) P= .	-.1302 (233) P= .047
HONEST	-.1302 (233) P= .047	1.0000 (266) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.Q1	BLAME
FACT.Q1	1.0000 (234) P= .	-.1475 (230) P= .025
BLAME	-.1475 (230) P= .025	1.0000 (264) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.Q1	USELESS
FACT.Q1	1.0000 (234) P= .	-.1505 (233) P= .022
USELESS	-.1505 (233) P= .022	1.0000 (267) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

- - Correlation Coefficients - -

	FACT.Q4	ABLE
FACT.Q4	1.0000 (234) P= .	.1574 (232) P= .016
ABLE	.1574 (232) P= .016	1.0000 (266) P= .

(Coefficient / (Cases) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

APPENDIX TWENTY FOUR

BETHLEHEM UNIVERSITY PHYSIOTHERAPY PARADIGM

A. FULL TIME PROGRAM

	SPRING		SUMMER		FALL	
I	ENGL 100	4	ENGL 119	3	PHTH 111	3
	PHTH 120	3	NURS 131	2	PHTH 121	4
	PHTH 110	3	MATH 152	2	PHTH 220	4
					PHTH 221	3
II	EDUC 250	3	PHTH 401	5	PHTH 212	5
	ENGL 322	3			PHTH 310	4
	PHTH 210	4			SOCI 245	3
	PHTH 211	5			SOCI 332	3
III	PSED 101	1	PSYC 232	3	PHTH 311	3
	PHIL 104	2	PSYC 234	3	PHTH 312	4
	PHTH 402	5	EDUC 301	2	PHTH 355	5
	PHTH 403	5				
IV	PHTH 404	5	PHTH 313	4	PHTH 353	3
	PHTH 405	5	PHTH 314	3	PHTH 330	3
	MATH 252	2			PHTH 406	5

TOTAL NUMBER OF CREDIT HOURS 130.

B. PART TIME PROGRAM

This program involves both lectures and home assignments. The students attend one day each week for classes and are expected to use Distance Learning materials to make up the required hours.

	FALL		SPRING		SUMMER	
I	ENGL 119	3	PHTH 220	4	PHTH 412	5
	EDUC 301	2	PHTH 411	4		
II	PHTH 407	3	PHTH 313	4	PHTH 314	3
	PHTH 413	5	PHTH 414	5		
III	PHTH 355	5	PSYC 435	4	PHTH 408	3
	MATH 252	2	EDUC 410	4	PHTH 353	3
	PHIL 104	2				

TOTAL NUMBER OF CREDIT HOURS 60.

COURSE DESCRIPTIONS FROM THE FULL TIME PROGRAMME

A. PREREQUISITE COURSES

PHTH 110 Introduction to physiotherapy (3 credits)
This course includes the history and development of physiotherapy as a profession. The role of physiotherapy will be discussed within the context of total health care, emphasizing the importance of community-based rehabilitation.

PHTH 111 Principles of physiotherapy (3 credits)
This course is designed to introduce students to the fundamentals of patient care, with practice of some of the "caring skills" provided to complement the theory. Students will

discuss the professional relationships and responsibilities of physiotherapists. The course aims to provide a theoretical basis for therapeutic use of manipulation, movement and thermal and electrical techniques.

PHTH 120 Introduction to health care (3 credits)
The emphasis in this course is on developing an understanding of international and local care systems, particularly as they relate to the West Bank and Gaza Strip. Other topics to be studied will include the classification and functions of medical, nursing and paramedical specialties. Clinical observation of different aspects of health care will be included in this course.

PHTH 121 Introduction to anatomy and physiology (4 credits)
The purpose of this course is to develop an understanding of normal movement and function. The student will be introduced to the study of the musculoskeletal, neurological, circulatory and respiratory systems. These topics will be studied in greater depth in subsequent courses. Students will be introduced to the concept of living anatomy.

B. MAJOR COURSES

PHTH 220 Human growth and development (4 credits)
This course aims to introduce the student to the broad dimensions of physical, psychological and social human growth and development from conception to death. It considers the normal milestones of development and the combination of influences which aid or hinder individuals achieving these goals.

PHTH 221 General pathology (3 credits)
This course aims to provide an understanding of basic pathological processes in order to appreciate the changes produced by specific diseases and clinical conditions treated by physiotherapy. Topics to be covered will include infection, inflammation, degeneration and cancer.

PHTH 210 Physiotherapy theory 1 (4 credits)
This course involves the study of pathological conditions affecting one area of the body. Further study of anatomy and physiology needed to understand the disease process will be included. The following topics will be studied; soft tissue injuries, trauma and orthopaedics, peripheral vascular disease, peripheral nerve lesions and arthritis. Topics will be considered regionally, covering upper and lower limb conditions.

PHTH 310 Physiotherapy theory 2 (4 credits)
This course involves the study of pathological conditions affecting more than one area of the body. Further study of anatomy and physiology needed to understand the disease processes will be included. The following topics will be studied; trauma and orthopaedics, neurology, paediatrics, general medicine and surgery, rheumatology, cardiovascular conditions, obstetrics and gynaecology, respiratory conditions, dermatology and burns.

PHTH 311 Physiotherapy theory 3 (4 credits)
This course involves the study of pathological conditions resulting in multiple disability and progressive conditions. Further study of anatomy and physiology needed to understand the disease processes will be included. The following topics will be studied; neurology, paediatrics, geriatrics and mental and physical disabilities.

PHTH 211 Physiotherapy skills 1 (5 credits)
This course expands some of the concepts introduced in PHTH 111 in order to integrate them into the physiotherapy process. Students will learn to examine and assess patients, plan treatment programmes, implement those programmes and evaluate their efficacy. Included in the course will be an orientation to clinical field work.

PHTH 212 Physiotherapy skills 2 (5 credits)
This course is related to PHTH 210, 310 and 211. Topics covered will include movement and manipulative skills and the use of thermal and electrical techniques appropriate to the pathological conditions studied. Students will develop these skills in practical laboratory sessions.

PHTH 312 Physiotherapy skills 3 (4 credits)
This course is related to PHTH 311. Students will develop skills appropriate to their role as educators in the community. Emphasis will be placed on raising awareness of the community to the rights and needs of disabled people.

PHTH 313 Community based rehabilitation (4 credits)
The aim of this course is to emphasize that rehabilitation can best take place in the work and home environment. Students will become aware of community needs and multi-disciplinary care for the whole person.

PHTH 314 Adaptive equipment workshop (3 credits)
The aim of this course is to teach people to design and make appropriate furniture, toys and everyday living aids with emphasis on the individual needs of a person with a disability and the local situation. The format of the course will be a four week full time workshop in Year Four preceded by two one-day seminars in Year One.

PHTH 330 Teaching and presentation skills (3 credits)
This course will attempt to apply some of the concepts from EDUC 250. Students will be introduced to a range of teaching methods and media and will develop preparation and presentation skills for use in health care and health education settings.

PHTH 353 Management in physiotherapy (3 credits)
This course aims to give the student an appreciation of the principles of management as related to planning and organization of health services. Topics to be covered will include; management of personnel and resources, setting objectives and policy making.

PHTH 355 Research and evaluation (5 credits)
This course will develop an understanding of the evaluation process and the different

research and evaluation methodologies. Skills developed will include; retrieval of information from a range of sources, critical analysis of research literature, conducting and reporting research studies as well as interpretation and application of research studies to the health sciences. During the course the student will carry out a small research project and write a report indicating the significance of their findings for physiotherapy practice.

PHTH 401 Clinical Fieldwork 1 (5 credits)
Students will complete an eight week full time period of supervised clinical practice during the Summer School in Year Two. This practicum will relate to PHTH 210, 211 and 212. Students will gain experience examining and assessing patients with conditions affecting one area of the body and will observe and begin to treat patients using manipulative and movement techniques only.

PHTH 402.403 Clinical fieldwork 2/3 (5/5 credits)
Students will complete two eight week full time periods of supervised clinical practice in the Spring Semester of Year Three. These periods will relate to PHTH 310 and 212. Students will gain experience in treating patients with conditions affecting more than one area of the body using manipulative, movement and electrotherapy modalities.

PHTH 404/405 Clinical fieldwork 4/5 (5/5 credits)
Students will complete tow eight week full time periods of supervised clinical practice during the Spring Semester of Year Four. These periods will relate to PHTH 210, 310, 212, 312 and 311. Students will gain experience in treating patients with multiple disabilities and progressive conditions. During PHTH 405 students will prepare a patient study that will be used in PHTH 314.

PHTH 406 Clinical fieldwork 6 (5 credits)
Students will complete an eight week full time period of supervised clinical practice during the Fall Semester of Year Four. During this period students will have some choice in the type of placement visited, dependent upon negotiations between themselves, Faculty members and clinical supervisors. Any students who has missed any part of the five previous fieldwork blocks must use part of the time to make up experience missed.

C. DEPARTMENTAL REQUIREMENTS

EDUC 250 Learning theories (3 credits)
This course introduces students to the cognitive, psychomotor and affective aspects of human learning. Focus will be placed on the different theories of theories and their application to the students' own learning processes and enabling patients and relatives to learn in the therapeutic situation.

EDUC 301 Counselling (2 credits)
This course aims to introduce the student to general principles of counselling and give an overview of different counselling techniques. Emphasis will be placed on the

development of appropriate counselling skills for therapists.

MATH 152 Maths for physiotherapy (2 credits)
This course reviews concepts of arithmetic that the physiotherapist uses in making measurements and calculating dosages for treatment modalities. It also enables students to understand the mathematical basis of many physiological concepts and processes.

MATH 252 Computer use for physiotherapy (2 credits)
This course is intended to introduce students to the application of computers to physiotherapy. Included in the course will be the use of soft ware for word processing, data base management and statistical calculations.

NURS 131 First aid and personal safety (2 credits)
This course is designed to provide the student with the principles and skills necessary to help victims of accidents, emergencies and disaster situations. It includes measures to be taken to ensure personal safety, thus leading to accident prevention in the home and community. This is a practical course, half of which will be devoted to mastering first aid skills.

PSYC 232 Psychology for physiotherapy (3 credits)
This course will enable students to acquire the necessary appreciation of the theories of psychology as applied to physiotherapy. This will include an awareness of personal behaviour and that of others in the therapist/patient relationship. Topics to be covered will include; perception, motivation, personality and attitudes. Emphasis will be placed on group discussion in order to develop problem-solving skills needed by a physiotherapist.

PSYC 234 Social psychology for physiotherapy (3 credits)
This course will introduce students to the effects of social groups on the behaviour of the individual.The nature and effects of group pressure, relationships and structures and development of attitudes will be studied. Particular attention will be paid to the effects of disability, loss, aging and bereavement.

SOCI 332 Sociology for physiotherapy (3 credits)
This course will focus on the structure and role of society and the process of socialization in different cultures. In particular attention will be paid to social influences on the patterns of disease, inequalities in health and effects of institutionalization.

SOCI 245 Statistics for the social sciences (3 credits)
This course comprises a study of the rationale. application and interpretation of statistical concepts pertinent to the social sciences. Frequency distribution and graphing, measures of central tendency, measures of relative standing, hypothesis testing, regression, correlation and probability are covered.

ENGL 100 Intensive English (4 credits)
A very comprehensive course encompassing the four basic skills of listening, speaking,

reading and writing with emphasis on sentence structures. The eclectic approach is not only the underlying philosophy of the course but also is the natural result of having three or four instructors teaching the same section.

ENGL 119 English for special purposes (3 credits)
This course consists of reading, speaking, writing and listening using materials in English related to the student's professional field. A section on medical and scientific terminology will be included for students in the health care field. The material is on an intermediate level of difficulty; sentence structure will be reviewed. Special emphasis will be given to oral communication by simulating situations similar to those in real life using lexical items the students have learned in their reading classes.

ENGL 322 Advanced oral communication (3 credits)
This course is designed to investigate the various elements of oral communication and to apply them through practice and experience. The student will demonstrate techniques of interpersonal relationships, the interview, small group discussion, debating and public speaking.

PHIL 104 Medical ethics (2 credits)
This course examines the principles of medical ethics pertinent to professional relationships and responsibilites. It teaches how to apply these principles to practical situations.

PSED 101 Physical education (1 credit)
This course provides opportunities for creative expressio and efficient large body movements through team sports and physical fitness equipment. The theory emphasizes physical fitness concepts and sports injuries.

COURSE DESCRIPTIONS FOR THE PART TIME PROGRAMME

PHTH 407 Clinical workshop 1 (3 credits)
This course aims to apply knowledge gained in PHTH 411 and 412 and develop practical skills in the areas of manipulation, movement and electrotherapy.

PHTH 408 Clinical workshop 2 (3 credits)
This course aims to develop expertise in the management of the particular groups of patients mentioned in PHTH 413 and apply the skills developed in PHTH 413 and 407 to the health care setting.

PHTH 411 Modern trends in physiotherapy 1 (4 credits)
This course is based on PHTH 211 and deals with all aspects of the physiotherapy process. Students will learn to examine and assess patients and plan, implement and

evaluate treatment programmes according to current physiotherapy practice. Emphasis will be placed on the development of problem solving skills.

PHTH 412 Modern trends in physiotherapy 2 (5 credits)
This course aims to familiarize students with current physiotherapy techniques and practice in manipulation and massage, exercise and recreational therapy and research-oriented electrotherapy.

PHTH 413 Modern trends in physiotherapy 3 (5 credits)
This course aims to provide students with the relevant skills needed in the management of special groups such as paediatrics, geriatrics, psychiatry and mental handicap, obstetrics and gynaecology.

PHTH 414 Modern trends in physiotherapy 4 (4 credits)
This course is related to PHTH 312. Students will develop skills appropriate to their role as educators in the community. Both Health education and disability education will be included.

EDUC 410 Principles and methods in adult education (4 credits)
This course is based on ENGL 322, EDUC 250 and PHTH 330 and aims to develop an understanding of learning theories, communication skills and methods of presentation relevant to teaching in the health care setting.

PSYC 425 Behavioural sciences for physiotherapy (4 credits)
This course is based on PSYC 232, 234 and SOCI 332 and aims to develop an appreciation of the patient as an individual and an understanding of the effects of society on individual behaviour and expectations.

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