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The predictors of success of Palestinian Tawjihi students in East Jerusalem : a multilevel analysis.

Rhonda G. Amer
University of Louisville

THE PREDICTORS OF SUCCESS OF PALESTINIAN TAWJIHI STUDENTS IN

EAST JERUSALEM: A MULTILEVEL ANALYSIS

By

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B.A., Hebrew University 2000
M.S.S.W., University of Louisville 2007

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A Dissertation Approved on

May 31, 2013

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DEDICATION

This dissertation is dedicated to my family particularly my parents, George and

Siham Amer, who eventually learned to embrace my free spirit and bless my pursuit of

my own path.

Your children are not your children.
They are the sons and daughters of Life's longing for itself.
They come through you but not from you,
And though they are with you yet they belong not to you.
You may give them your love but not your thoughts,
For they have their own thoughts.
You may house their bodies but not their souls,
For their souls dwell in the house of tomorrow, which you cannot visit, not even in your
dreams.
You may strive to be like them, but seek not to make them like you.
For life goes not backward nor tarries with yesterday.
~Kahlil Gibran

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ABSTRACT

THE PREDICTORS OF SUCCESS OF PALESTINIAN TAWJIHI STUDENTS IN EAST JERUSALEM: A MULTILEVEL ANALYSIS

Rhonda G. Amer

May 31, 2013

The purpose of this mixed-method research study was to identify the predictors of success of Palestinian Arab Tawjihi students in East Jerusalem schools. Three theories guided this research study and assisted in developing the conceptual framework; social disorganization theory, ecological theory, and achievement motivation theory.

Methods: The sample consisted of 20 schools and 522 students from 19 different neighborhoods. This study was based on existing data and observational data as well as some qualitative data to provide context for the model results. The existing data were gathered from the different schools, the Ministry of Education, local organizations, neighborhood representatives, and from human rights organizations such as B'Tselem[1] and Badil[2]. In-depth interviews were conducted with four students selected by school principals based on the students' willingness to participate. A two-level model with students on level 1 and schools on level 2 was tested.

Results: Results indicated that female students, students in the scientific Tawjihi stream, and those whose mothers were of higher education level perform better than male

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[1] An Israeli human rights center in the occupied territories (http://www.btselem.org/)

[2] Is a non-profit organization and resource center for defending the rights of Palestinian refugees and internally displaced persons (www.badil.org)

students, students in the literary stream, and students whose mothers were of lower education level. Students with higher student to teacher ratio, who attended schools that suffered from classroom shortage and lower building quality performed better than those who attended schools with more favorable characteristics. Students who attended schools with higher success and matriculating percentages performed better as well. There was one significant interaction effect between Tawjihi stream and school type revealing that the best performing students were those in the scientific stream in Public schools and the worst performing students were those in the literary stream in Waqf (Islamic) schools. The private Christian and Muslim schools and the private not-for-profit schools were not significantly different from one another in terms of this interaction effect. However, public schools showed the biggest difference with students in the scientific streams performing significantly better than the students in the literary stream. The difference was also significant for the Waqf schools and showed a trend for the private for-profit schools.

Conclusion: Implications from the results indicated certain measures need to be taken by schools, parents, and the Ministries of Education to encourage male students. The Ministries of Education need to be more deliberate about dropout policies and reassess their policies regarding assigning students to the different Tawjihi streams Moreover, there needs to be a reassessment of the contributing factors to higher performance among students regarding school characteristics. Parents and schools should work in collaboration with each other. On a school level, schools should provide all students with an equal opportunity to learn without being selective. Due to the abnormal political situation in Jerusalem, the factors which make up these data are constantly

affected. Therefore, an effort must be made to keep data current, through updated

research on a regular basis

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CHAPTER I: INTRODUCTION TO THE PROBLEM

Problem Analysis

Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education is compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on basis of merit. Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace. Parents have a prior right to choose the kind of education that shall be given to their children.

(United Nations, 1948, "Article 26")

The 1948 Universal Declaration of Human Rights Article 26 provided the foundation for the arguments in this dissertation study. Article 26 promotes the equal rights to education for all Palestinian students residing in East Jerusalem, an occupied city by the State of Israel. Article 26 guided the formation of the problem statement as well as the problem analysis of this study since this Article was and still is being violated by the state of Israel.

The purpose of this mixed-methods study was to identify the predictors of success of Palestinian *Tawjihi* (matriculation exam) students in East Jerusalem schools. Many reports are being written on the problem of education in East Jerusalem such as *Failed grade: The education system in East Jerusalem 2012* (Ir-Amim & ACRI, 2012), *The East Jerusalem School System – Annual Status Report* (Ir-Amim & ACRI, 2011), and *Compulsory education in Jerusalem between international law and the conditions of occupation* (Hijazi, 2012) to name a few. Very few research studies addressed issues that could influence academic achievement of Palestinian Students in East Jerusalem. One study, by Hijazi and Masarwa (2012), focused on identifying causes for dropping out in East Jerusalem schools. That said, there is still a gap in the knowledge concerning the leading contributors to the academic achievement of students in East Jerusalem.

A large number of reports, including the aforementioned emphasized the political dimension as the primary cause of these problems. The use of the three theories (a) social disorganization theory, (b) ecological theory, and (c) achievement motivation theory allowed for exploring the educational problem from different perspectives on both the micro and macro levels without ignoring the political dimension. Based on these theories, the conceptual framework of the study was developed. The conceptual framework included Neighborhood Characteristics, School Characteristics, and Individual Characteristics. These characteristics presented variables that are not explicitly political although they are heavily influenced by the reality of Jerusalem being an occupied city. The various predictors identified in this study are further explained in chapter two and three and tested with a quantitative nested multilevel design in chapter 4.

To better understand the problem addressed in this study, a number of qualitative interviews were conducted. Interviews included three representatives of the educational system from both the Palestinian and Israeli Ministries of Education, eighteen school principals, one school social worker, three organization representatives, and four Tawjihi students who sat for the Tawjihi Exams in the school year of 2011-2012. It was necessary to hear the voice of those involved in the system and those directly affected by it, based on the uniqueness of the situation in East Jerusalem. Therefore, these interviews were very useful and contributed to the knowledge of the obstacles facing the educational system in East Jerusalem. The information derived from these interviews was interwoven in the first two chapters with the mixed method analysis more clearly explained in chapter 3. Real names of school principals and organization representatives were replaced by the Initials of their first name only to ensure their privacy. In addition to these interviews, four in-depth interviews were conducted with four students. These interviews will be discussed in detail in chapter 4.

The purpose of this chapter is to present a historical overview of the reality of education in Jerusalem since the Ottoman era until the present day. This overview provides a better understanding of the struggles facing the educational system in East Jerusalem and the lack of autonomy of Palestinians being always under occupation starting with the Ottoman rule, followed by the British mandate, then the Hashemite Kingdom, and ending with the Israeli Occupation which continues at the present moment. The chapter also presents the current situation and challenges facing both the students and the educational system in East Jerusalem, as explained by the different participants in the qualitative part of this dissertation as well as various published reports.

Historical Overview

An understanding of Palestinian history is a critical starting point to comprehending contemporary Palestinian political and educational context. Within this section, I will discuss the evolution of the Educational System in Palestine resulting from the political changes starting with the Ottoman era. This section will not cover the history in its entirety but will present an overview of the major political events that impacted the educational system in the country.

Political Overview

Ottoman rule in Palestine began in1516 and lasted until World War I (WWI). One of the political highlights of this long period was the new land registration law imposed on Palestinians and implemented in 1858. It was referred to as the "Ottoman Land Law" (Gavish & Kark, 1993, p. 70). The Ottoman Empire's purpose was to gain more control over the land. However, land registration meant payment of high taxes and involved the risk of being drafted into the Ottoman army. Therefore, Palestinian *fellahin* (peasants) sought ways to avoid this by registering their lands in someone else's name, usually another Arab, often from the elite class.

Meanwhile, as a result of centuries of anti-Semitism, Theodor Herzl, born in Budapest in 1860, founded Zionism, a national movement that supports the existence and independence of a national Jewish state. In Europe, this was also a period of emerging nationalisms, and some sectors of Europe's Jews began to conceptualize themselves in nationalist terms. At the same time, colonialism was a flourishing aspect of European culture and politics. Herzl wrote a pamphlet in 1896 called *The Jewish State*. When the idea of having a Jewish state in Palestine was rejected by the Sultan of Turkey, Herzl

suggested that it be located in other countries such as "the island of Cyprus, the Sinai Peninsula, and the El Arish region and Uganda"(Herzl, 1896, p. 2). All these suggestions were met with opposition. Eventually, the choice was narrowed down to two countries, Palestine and Argentina. Because of the historical and religious factors that mainly entail the existence of the ruins of the Temple in Jerusalem, in 1906 the Zionist Congress decided to establish a Jewish state in Palestine. Herzl was not concerned with the indigenous population, overwhelmingly Arab Muslim with a minority of Arab Christians and Jews, and suggested that the natives would simply move to other countries (Herzl, 1896).

Two groups of people were interested in registering lands in their own names: Palestinians and Zionists, but both for different reasons. Zionists were seeking a homeland for immigrant Jews, and Arabs were seeking more prestige and power. It was during this period that some Palestinians' lands were sold to Zionists. Palestinian peasants, many of whom had been sharecroppers or tenants for generations, faced the unexpected loss of their land. The Ottoman Empire opposed Zionist land purchasing in Palestine. As a result and in order to achieve their goal of establishing a homeland in Palestine, Zionists sought Ottoman Jews to buy land for them. When the Ottoman Empire became aware of this, it issued a law forbidding the sale of lands to any Jew, including Ottoman Jews. However, at that point, Zionists had enough land to allow many immigrant Jews to settle in Palestine (Oke, 1982). This was the beginning of the Zionist existence in Palestine. Europeans were supportive of the Zionist plan to settle in, *Judaize* Palestine, and establish an exclusivist Jewish state. This unsettled Palestinians who were threatened of losing their homelands (Farsoun & Zacharia, 1997).

Palestinians were not aware that once land had been sold to Zionists it belonged to the Jewish National Fund and could not be sold to non-Jews (Pappe, 2006). When Israel was established in 1948, Jews only owned 6-7% of the land in Palestine. The land, houses, businesses, and bank accounts of Palestinians in exile, who were denied repatriation, were appropriated by the new state. It is worth mentioning that Israel has consistently denied Palestinians the right to return to their homeland as guaranteed them by United Nations (UN) General Assembly Resolution 194 (Pappe, 2006). This has been and remains to be the crux of the Israeli-Palestinian conflict. It is not about whether or how Palestinians fled, it is about why they are denied the right to return while any Jew without roots or origins in Palestine/Israel, has the right to become a citizen and claim it to be his/her country.

Before WWI, Thomas Edward Lawrence, (Lawrence of Arabia), the British representative in Cairo, promised the Arabs independence if they supported Britain against the Ottoman Empire. This promise was made in a letter by McMahon, the British High Commissioner in Egypt, to Sharif Hussein Bin Ail of Mecca in 1915. However, McMahon also stated that he did not intend to allow Palestine to be governed by the Arabs (Segev, 1999). In 1916, a secret agreement between France and Britain, known as the Sykes-Picot treaty, divided the region between France and Britain (Farsoun & Zacharia, 1997). Syria and Lebanon came under the French Mandate while Iraq and Palestine came under the British Mandate; a colonial form of governance in which foreign occupiers ruled over the local population.

In 1917 Britain expressed support for establishing a Jewish state in Palestine through correspondence between Arthur James Balfour, the British Foreign Secretary,

and Lord Rothshild, a Jewish leader. This was referred to as the Balfour Declaration. Palestinians were not explicitly named in the declaration but instead were referred to as non-Jews who would have only religious and civil rights. The Balfour Declaration failed to mention their national or political rights (Khalidi, 2006). This arrangement worried Weizmann, leader of the Zionist movement, who considered the division between France and Britain a threat to the establishment of a Jewish State in Palestine (Segev, 1999).

In 1947, the British government announced that the British Mandate would be turned over to the UN. In the same year the UN voted to partition Palestine into two states; one Jewish and one Palestinian, with Jerusalem under international control (Segev, 1999). In 1948 the British Mandate in Palestine ended and war broke out between Jewish and Arab forces.

During the 1940s, Jewish settlements were expanding in Palestine. Ben Gurion, one of the three founders of the state of Israel along with Weismann and Herzl, wanted to rid the region of as many Arabs as possible. Ethnic cleansing was strategically pursued in an attempt to establish a purely Jewish State. Three Zionist groups, Irgun and Lehi forces, which were supported by Hagana artillery, carried out the Deir Yassin massacre killing 250-350 inhabitants of Palestine. Around 75% of those killed were children, women, and the elderly. The survivors were shot after being paraded through the streets of Jerusalem in hopes that fear would compel Palestinians to flee. Consequently, many did flee, unarmed and with little money; others were expelled en masse (Khalidi, 2006).

In 1948 Israel declared independence; that year was the milestone in the lives of Palestinians. Between 1947 and 1948 around 750,000 Palestinians either fled or were expelled from their homeland because of massacres, violence, and ethnic cleansing

perpetrated by the Zionist movement (Khalidi, 2006). Israel has consistently refused the Palestinians' right of return. The year 1948 became known to Palestinians as Al-ghurbah (the year of exile) or Al-nakbah (the disaster). In Peteet's words, exile and disaster are "terms that evoke sentiments of loss, alienation, tragedy, and betrayal. The year 1948 marks the transition from the tangibility of Palestine to a state of exile" (Peteet, 1991, p. 19). Palestinians have become refugees in neighboring countries, mainly in Lebanon, Syria, Jordan, and internally, in the West Bank and Gaza Strip. In 1950, Jerusalem became part of the Hashemite Kingdom of Jordan (Khalidi, 2006). This lasted until 1967 when East Jerusalem was completely annexed by Israel. As a result the Palestinians living in East Jerusalem were granted Israeli residency but not citizenship. Status as residents came with some benefits such as health insurance but also the requirement of paying large sums in taxes (Vitullo, 1998).

Education Overview

Hagopian and Zahlan (1974) stated that education in Palestine during the Ottoman rule was very limited. There were three types of schools: state schools, private Muslim schools (*kuttab*), and Christian mission schools. State schools were part of the public education system established in Istanbul in 1847. *Kuttab* took place in mosques and public buildings and included primary and post-primary levels only. Christian mission schools provided Palestinian Christians with access to education. In the 1880s Sultan Abdul Hamid, emperor of the Ottomans, had a policy that prohibited Muslims from attending Christian schools. These Christian schools went beyond the primary level and were located in urban areas where the majority of the Christian population resided. Consequently, Christians constituted the majority of the educated class in that period

(Caplan & Caplan, 1980). Elementary education during the Ottoman period was available but secondary education was limited to the chief cities. Higher education did not exist in the region and the few with financial resources attended universities in Cairo, Beirut, and Istanbul (Hagopian & Zahlan, 1974). Those who were interested in secondary education had to seek it in Damascus, Syria. This required travel that most people could not afford. Thus, very few had the opportunity to pursue secondary education (Mar'i, 1978). During this time, girls' education suffered a lot and the majority of the students in all school types were boys (Tibawi, 1956).

Hagopian and Zahlan (1974) explained that during the British mandate education did not change much because the British were not interested in improving the educational system in Palestine. Schools were not adequate enough to meet the needs of the people, Christians continued to receive better education as well as have more access to schools than their Muslim counterparts, and there was a great discrepancy between rural and urban areas in terms of the availability of schools. The public school system in Jerusalem was developed by the British government in 1923 (Caplan & Caplan, 1980). Caplan and Caplan also noted that the only public school in Jerusalem that provided post-secondary II education during the first fifteen years of the mandate was the Arab College. It is notable that there was no secondary public education in rural areas, further accentuating the lack of British investment in developing the Palestinian educational system. Muslims resided mainly in rural areas and as a result, in 1943, only 25% of the Muslim children attended school compared to 90% of Christian children. The 1931 census shows that while 47.5% of Christians in Palestine were educated, only 11% of the Muslims had received a similar education. It is noteworthy that in 1944 less than 1% of the Palestinian

children sat for the matriculation exam. Until 1936 primary education did not exceed the ninth grade. Only two boys with the highest grades in each primary school had the opportunity to attend the Arab College where they received three years of education. At the end of this period they would sit for the matriculation exam (Caplan & Caplan, 1980). Caplan and Caplan (1980) further explained that after 1939, every city had its own secondary school but the British controlled students' access to higher education.

Twenty-four students were allowed in each class above the tenth grade. In 1936, the Arab College was divided and the secondary part of it became known as the Rashidiyeh School, which became one of the most well-known schools in the Arab world. The Rashidiyeh School started offering a post-matriculation class in 1945 and the graduates were admitted as sophomores to universities. This shift in the late 1940s, during the end of the British rule, had a positive impact on education in Palestine. According to Badran (1980) 30% of Palestinians could read and write. There was a notable increase in the number of public schools between the years 1942/43 and 1947/48. By 1947/48 there were 555 public schools. This meant there was an increase in the number of students who attended public schools from 58,325 to 103,000. The number of students who attended private schools as well as religious ones at that time was estimated to be around 45,000.

Badran further explained that girls' education at that time was not encouraged. Girls' education was permissible in some areas but less so in the countryside. Moreover, co-ed schools were not allowed and there was not enough money to invest in schools for girls at that time. It is important to note that during this period Palestinians had no control of the curriculum. Rather, it was controlled by the British (Tibawi, 1965).

According to Caplan and Caplan (1980), in 1948, Jerusalem was divided into East and West with East being populated primarily by Arabs and West by Israeli citizens. The educational system in East Jerusalem suffered tremendously and private schools closed for a while until 1951 when some reopened. Between 1948 and 1951, education was informal and limited to private or voluntary education by former teachers.

Because East Jerusalem was annexed as part of the Hashemite Kingdom of Jordan in 1950, the compulsory governmental (public) school system there was integrated into the Jordanian educational system from 1950-1967. Unlike the public schools, private schools in East Jerusalem did not initially follow the Jordanian curriculum and were allowed to teach their own curriculum, preparing students to attend English, French, German and American universities. However, in 1961, the Jordanian government imposed their curriculum on the private schools. Unlike the private school curriculum, the Jordanian curriculum was geared towards preparing students to attend Arab universities such as the University of Amman, Cairo, Damascus, and Baghdad.

This lasted until 1967 when the Israeli authorities allowed the private schools to resume teaching their own curriculum (Caplan & Caplan, 1980). This meant readopting the curriculum that prepared students to attend English, French, German, and American universities again. For example, students were required to take the General Certificate of Education (GCE) exam instead of the Jordanian Tawjihi exam.

Although reverting back to the original curriculum focus did allow students in East Jerusalem private schools access to a broader education, education in other school types was still suffering. Consequently, education of Arab students in general still lagged behind in comparison to education of Israelis. Jiryis (1976) stated that in 1962-1963 Arab

secondary education was limited to 10 schools attended by 1,425 students as opposed to 132 schools for the Jewish population that offered education to 41,425 Jewish students. The secondary education of Arab students also suffered due to poor education in elementary schools. This is evidenced by the findings of Jiries who stated that the failure rate in secondary school certificate examination among Arab students was 58% in 1963-1964 and increased to 66% in 1970-1971.

After the annexation of East Jerusalem in 1967, Palestinians living in East Jerusalem paid taxes and in return, received services and benefits from Israel such as maintenance of public roads and having health insurance. Despite this, many neighborhoods were, and still are, below the acceptable standard level of living and many schools, if even available, were inadequate. After the annexation, there was an attempt by Israel to incorporate East Jerusalem schools in its educational system following the declaration of extending the "public utility services and of municipal and administrative facilities to all parts of the city" (Israel Ministry of Foreign Affairs (MFA), 1967, para.1). This attempt was partially successful since public schools came under the Municipality and the Israeli Ministry of Education supervision. The result was that private schools refused this imposition and remained independent --it is worth mentioning that most schools continued to use the Jordanian curriculum. Consequently, between the years 1967 and 1970, a large number of students transferred to private schools allowing the Arabs some autonomy over their educational system in East Jerusalem (Dumper, 1997 as cited in Rempel, 1997). The number of students in public high schools dropped from 1,317 to 166 (Rempel, 1997).

Many schools from all school types in East Jerusalem, according to Caplan and Caplan (1980), closed during the 1967 war. In 1967 the Israeli government reopened the public (government) schools which offered free education. Teachers in East Jerusalem went on strikes organized by the Jordanian Ministry of Education and offered to pay those teachers Jordanian salaries as long as they refused to work for the Israeli government. The Israeli government recruited teachers to replace those who refused to break the strike and opened the schools again. As a result, the Jordanian authorities acknowledged this defeat to retain the educational system. They continued to pay the teachers their salaries while allowing them to work in the Israeli school system and receive salaries from the Israeli government.

Further unrest, particularly after the 1967 war, was evidenced by student-led demonstrations and strikes. These strikes and demonstrations lasted for two years. In an attempt to control these strikes, the Israeli authorities took strict measures to control the political upheaval in schools, primarily against the largest and most active ones in Jerusalem. For example, the Mamoniye girls' school was divided into two sections to decrease the number of students at the school and to control students' political activity. In 1969 there were 12,000 Arab students in the public school system, thirty-one elementary and preparatory schools, and two secondary schools, the Rashidiyeh boys' school and the Mamoniye girls' school (Caplan & Caplan, 1980). As was previously mentioned, the number of students in the secondary schools deteriorated due to the huge number of students who transferred to private schools. To illustrate, Rashidiyeh, the leading public secondary school for boys in Jerusalem, had 800 students in 1967 and only 489 students in 1968 when it reopened after the war (Caplan & Caplan, 1980).

When the schools re-opened in 1968, the Israeli authorities forced the Israeli Arab curriculum to prepare students for the Bagrut examination, which is the Israeli matriculation exam, instead of the Tawjihi matriculation exam. One of the major differences between the Bagrut curriculum and the Tawjihi curriculum is that the Bagrut disregards any information about the Palestinian nationality or culture and is geared more towards the history of Israel. Moreover, there is a lot of emphasis in the Bagrut on the Hebrew literature and language. In 1967, after schools reopened, ninety-six students were eligible to sit for the Bagrut examination and only four of them passed. In September of 1968 the census dropped to 81 and in 1969 none of the students passed the Bagrut examination. In September 1969, 28 students were enrolled at the school and by the end of 1969 school year, the number of students dropped to 12. This situation changed in 1970 and Rashidiyeh started teaching a double curriculum; Bagrut and Tawjihi (matriculation exam). This increased the census to 85 and in 1971 to 178. Moughrabi (2001) stated that up until 1994, the Jordanian curriculum was used in the West Bank [and in occupied East Jerusalem in schools that taught the Tawjihi curriculum]; the Egyptian curriculum was used in the Gaza Strip. The Israeli authority monitored the educational system and books were censored. Furthermore, Israel did not invest in the Arab educational system. This resulted in a weak system with little to no access to academic resources.

It was not until 1994, following the 1993 Oslo Accords or what is also known as the Oslo Peace Negotiations, that schools in East Jerusalem started using the Palestinian Curriculum developed by the Palestinian Ministry of Education in the West Bank. This added another level of complexity since both the Israeli and Palestinian systems were

involved in the educational system of the Arab sector in East Jerusalem; Israel provided

funding for public schools and partial funding for some private schools and the

Palestinian ministry of education provided the curriculum.

Present Status of East Jerusalem

Jerusalem is currently divided into two parts; East and West. East Jerusalem is

supposed to be mainly populated by Palestinians. However, this is not the case. Many

Arabs in East Jerusalem neighborhoods were expelled from their homes by Jewish

settlers and many new apartments are being built in occupied East Jerusalem to house

Jews. In April 2012, the Jerusalem Local Planning Committee approved building 2,600

new apartments for Jews in Givat Hamatos area in East Jerusalem (Hasson, 2012).

Moreover, there are almost 200,000 Jewish settlers living in East Jerusalem (Choshen &

Korach, 2010). West Jerusalem is primarily inhabited by Israeli citizens. This segregation

between East and West also includes the educational system as schools are mostly

segregated with schools in East Jerusalem attended only by Palestinian students and

schools in West Jerusalem attended mostly by Israeli students.

Schools in East Jerusalem are divided into two groups based on the Israeli

Ministry of Education's definition as presented in Table 1. The first group is the official

and recognized schools and includes the Public school system. These schools fall under

the direct auspices of the Israeli Ministry of Education and the Jerusalem Municipality.

These schools are free and funded by the Israeli authorities. The second group is the

unofficial but recognized schools by the Israeli Ministry of Education and it includes both

the schools that receive funding from the Israeli Ministry of Education and those that do

not accept that funding. Those that receive funding include the private Christian and

private Muslim schools that are also funded by religious and charitable organizations and known to offer better education and curriculum with additional subjects. This category also includes the Sakhnin and for-profit schools (also known as the contractor schools). Those who refused the funding include the Waqf Islamic schools, which are Islamic religious schools, the private not-for-profit schools, and the United Nations Relief and Works Agency (UNRWA) schools in East Jerusalem. UNRWA helped Palestinian refugees in numerous ways including education. They established schools in Syria, Jordan, Lebanon, West Bank, as well as in the Gaza Strip. UNRWA schools in East Jerusalem followed the Palestinian curriculum and taught up to the tenth grade. After the tenth grade, students had to transfer to other schools. The overcrowding and underfunding of these schools compromised the quality of education, particularly for those inside Shu'fat Refugee Camp (Dayan, 2010; United Nations, 2011).

Table 1 *East Jerusalem Schools by Type*

Type of School	Authority
Recognized and official schools	Israeli Ministry of Education & The Municipality of Jerusalem
Public schools	
Recognized but unofficial schools	All but Waqf (Islamic) schools & private not-for profit schools receive funding from the Israeli Ministry of Education in addition to their private funding resources and tuition.
Private schools	Private – Either Muslim, Christian, or not-for-profit schools
Waqf (Islamic) schools	Palestinian Ministry of Education
UNRWA schools	United Nations Relief and Works Agency
Private for-Profit & Sakhnin (contracting schools)	Private- Receive funding from the Israeli Ministry of Education

Note. All follow the Palestinian Curriculum with the exception of some schools that receive funding from the Israeli Ministry of Education who started using books revised and printed by the Israeli Ministry of Education.

Based on information retrieved from The Jerusalem Institute for Israel Studies (JIIS) (2011), there are two school systems in West Jerusalem, the Ultra-Orthodox

Educational Division, which is exclusively religious and is associated with Agudat Yisrael (MFA, 2008), and the Jerusalem Education Authority division, which includes state education. The curriculum of the Jerusalem Education Authority division is secular and based on "the values of Jewish culture and scientific achievement, love of the homeland and loyalty to the State of Israel and the Jewish People" (MFA, 2008). As for state-religious education, it is "dependent on the religious Zionist parties (which merged in the mid-1950s to form the National Religious Party)" (MFA, 2008). Both divisions, as well as the Arab education division that was just explained, include special needs education.

The segregation between Palestinians and Israeli citizens is not the first of its kind. It has been previously practiced in countries with multiple ethnicities, races, or religions. For example, during the Apartheid era in South Africa, segregation was based on race (Berghe, 1966; Beutel & Anderson, 2008) while in Northern Ireland the segregation was based on religious denomination (Niens & Cairns, 2005). Irwin (1993) stated "[t]he system of segregated education in Northern Ireland contributes to the perpetuation of prejudice and social conflict" (as cited in Donnelly & Hughes, 2006, p. 469). Irwin's statement was intended to support integrated education, which according to Irwin, encourages understanding and friendship (as cited in Donnelly & Hughes, 2006). In colonial Britain, discrimination was racial; black children were excluded from schools, which caused their underachievement. Graham and Robinson (2004) stated "[t]he *Time Educational Supplement* reported in 1998 that black boys were 15 times more likely to be excluded from school" (p. 4).

The history of Palestine and the educational system in it has been subjugated to various forms of manipulation and constraints throughout the years. The political circumstances played a vital role in controlling people's lives including their educational opportunities. Lack of resources has always been a challenge facing the Palestinians. Though the Palestinian curriculum is currently being used, the educational system in East Jerusalem, as is evident in the historical background section, was always controlled by another entity. The Palestinians were never in full control over their own educational system. Even now with the different school types, the only schools the Palestinian Ministry of Education has full control of are the Waqf (Isalmic) ones.

Problems Facing the Educational System in East Jerusalem

"Only the educated are free" (Epictetus, 50-120) illustrates the victimization of the Palestinian children in occupied East Jerusalem who are faced with educational deprivation. For the purposes of this research, it was pivotal to develop an understanding of the elements that influence the academic achievement of students as well as the current challenges facing the educational system in order to determine the predictors of success for these students in East Jerusalem schools.

There are a number of problems facing the educational system in East Jerusalem. These problems stem from the reality of Jerusalem being an occupied city with the majority of its resources being controlled by the occupying authority, Israel. The problems pertaining to the educational system in East Jerusalem that will be discussed are: unequal budget distribution between East and West Jerusalem school systems, classroom shortage and classroom over-crowdedness in free public schools in East Jerusalem, lack of resources, high dropout rate among Palestinian students, attempts to

Israelize the educational system in East Jerusalem, educational and environmental deprivation, lack of supervision, the negligence of the Israeli Ministry of Education, and the high poverty rate among Palestinians particularly among children.

Unequal Budget Distribution

At the time of this research, there were no documented policies regarding budget distribution in East Jerusalem. Since the annexation of the city in 1967, Alyan et al. (2010) reported that the Israeli government had not assigned an "official" budget to promote the development of East Jerusalem. In general, the government ministries did not provide sufficient documentation regarding the policies and services for Arabs (Abu Baker, 2003). As a result, local (Israeli and Arab) and non-governmental organizations in Jerusalem did not have percentages portraying the budget distribution between East and West Jerusalem particularly in the education sector. That said, one of the very few reports that included some information on the budget was written by Alyan et al. (2010) who noted that based on the 2008 Municipality data, the budget allocated for an elementary student in East Jerusalem was around 577 Israeli Shekels (NIS) compared to 2,372 NIS allocated for a student in West Jerusalem. This further highlighted the discrepancy between East and West as well as the intentional discrimination against Palestinian students in East Jerusalem. Yosef Pepe Alalo[3] stated about East Jerusalem schools:

> I visited many schools and their condition is bad, including the newest ones. In one of the new schools I visited I saw empty rooms and asked why they were empty. I was told they had not received tables, shelves or books and therefore the rooms have no use. The budget shortage of the schools in East Jerusalem is huge;

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[3] The former Israeli deputy mayor and holder of the East Jerusalem education portfolio until June 2010 (Dayan, 2010, p. 11)

unlike in West Jerusalem, where schools receive budgets for self-administration,

schools in East Jerusalem don't have money. The consequences are far-reaching: I

always got complaints from schools that could not pay for their electricity because

they did not have money and they got cut off, could not heat the classrooms, or

reached a point where their phones were disconnected. (Dayan, 2010, p. 11)

This testimony was invaluable since it reflected the Israeli authorities' awareness of the

deficiencies and unaddressed needs in the Arab educational system in East Jerusalem.

This indicated that there has been intentional discrimination practiced by the state of

Israel against Palestinian children in Jerusalem that aims at perpetuating ignorance

among the Arab community in Jerusalem. Lack of funding also caused a lack of

resources in schools. Therefore, this testimony extended to highlight the problem of a

shortage or absence of resources, which will be discussed separately.

Instead of investing in improving the educational settings for Palestinians residing

in Jerusalem, Israel invested more in a military academy, national park, a Jewish tourist

visitor center, and an educational campus for Jewish people, all of which was supposed to

be implemented in Arab neighborhoods. These projects are to be implemented with the

full awareness that some of these neighborhoods lack public schools and are in need of

residential buildings (Alyan, Sela, & Ramati, 2012). However, despite complaints and

demands, Israel continued with these projects benefitting its own people while being

aware of the injustice it inflicted on Palestinians in Jerusalem.

In a meeting with the Director of Arab Education at the Israeli Municipality, the

Director was hesitant to provide any explanation for the unequal budget distribution

between students in East and West Jerusalem, stating only that politics could be part of

the reason (L., personal communication, October 30, 2012). It is important to mention that not all school types in East Jerusalem receive budgets from the Israeli Ministry of Education. Only public schools, which include schools that were under the auspices of the Israeli municipality and ministry of education, and a large number of private schools including Christian, Muslim, and for profit received that funding. The rest of the school types including Waqf Islamic schools, private not-for-profit schools, and UNRWA schools, did not receive funding. Some of those schools that did not receive funding from the Israeli Ministry of Education had budget problems. These problems manifested themselves in a lack of resources (S., personal communication, September 2012). The principal of one private not-for-profit schools stated that they were reconsidering their decision to refuse the Israeli Ministry of Education's funding because they could not keep up with school expenses (I., personal communication, October 2012).

Funding. It was important to explore the funding element that was mentioned in the previous section particularly since there was reluctance on the part of principals to disclose information about this topic. One school principal refused to even participate in the study because he did not want to address any funding questions. Therefore, school principals and the Director of Arab Education at the Israeli Municipality were asked to comment on this issue in interviews conducted between July 2012 and January 2013. Many school principals stated that Palestinians living in East Jerusalem pay taxes to the city government. Accessing funding for education should be viewed as their right and not out of good will. Others mentioned that funding was viewed as an economic rationale and gesture by the Israeli Ministry of Education to address the allegations that Israel was discriminating against the Palestinian community by denying them the basic right to

decent education. Regarding the secrecy around this topic, the Director of Arab

Education at the Israeli Municipality stated that school principals were never asked to

treat the funding issue with such secrecy. They were allowed to reveal any information

about the amount of funding if they chose to (L., personal communication, October 30,

2012). She further elaborated that in regards to using the books that were printed by the

Israeli Ministry of Education, an issue that will be further discussed, the Israeli Ministry

of Education could take the necessary procedures to cut any funding of schools that did

not abide by this decision. However, at the time of this research, this had not been

implemented yet although The Israeli Ministry of Education was aware that many schools

refuse to use those revised books. Furthermore, the funding variable was pivotal because

it did affect the amount and quality of resources schools had. This consequently

influenced the quality of education students received. It was observed that the majority of

schools that received funding were faring much better than those without in terms of

academic and building resources.

Classroom Shortage and Over-crowdedness

> Based on Israel's 1949 Compulsory Education Law:

> Compulsory education applies to all children . . . This education is provided free

> of charge throughout the entire system from age 5. In addition, the law provides

> for free education for adolescents aged16 and 17, as well as for 18-year-olds who

> did not complete their schooling in grade 11 in accordance with the curriculum.

> (MFA, 2003, para.1)

This law applies to every child who resided in the country whether registered in the

Ministry of Interior or not (U.S. Department of State, 2011). However, based on many

reports published by Israeli organizations such as Ir-Amim, International Non-governmental Organizations such as Save the Children, and Local Organizations such as Faissal Husseini Foundation among others, this law has been violated by Israel. This violation is manifested in classroom shortage in free public schools, overcrowded classrooms, inadequate buildings of the available schools, as well as the lack of resources that affected the quality of education in East Jerusalem (Palestinian Centre for Human Rights (PCHR), 2011).

Reports and studies published by the aforementioned organizations uncovered that one of the pressing problems in East Jerusalem was classroom shortage in public schools. Following a complaint to the High Court of Justice by parents of 26 students who had no place in the public school system (Dayan, 2010) and despite the order of the Israeli High Court of Justice in 2001 to build 245 classrooms, by 2005, only 13 classrooms were built (Nieuwhof & Handmaker, 2005). PCHR (2011) reiterated this by reporting that out of the 1000 classrooms needed only 257 were added since 2001. Khoury (2005)[4] stated that the Israeli government blamed East Jerusalemites for the classroom shortage because they refused to sell their land to enable Israel to build schools for Arab students. Yet, the government somehow managed to illegally secure and confiscate land in East Jerusalem to build houses for more than 200,000 settlers (Israeli citizens who, forcefully, took over the homes and lands of indigenous Palestinians) and provided their children with all the educational resources needed. Hever (2007)[5] supported Khoury by stating that "[t]he Education Ministry claim that residents refuse to sell lands to build schools in East Jerusalem, but 35% of lands in East Jerusalem were

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[4] Former Palestinian Authorities' Minister of state for Jerusalem Affairs.
[5] An Israeli economist and researcher at the Alternative Information Center; a Palestinian-Israeli activist organization established in 1984.

confiscated for settlement construction" (p. 30). He further explained that "Palestinian pupils make up 22.2% of the educational system in Israel, they receive only 17.6% of the allocation of teaching hours and 19.5% of classrooms; the average number of pupils per classroom is higher, as is the teacher student ratio" (p. 7). As a result of not addressing the needs of the Palestinian Arab educational system, based on the 2009 State Comptroller's Report, there was a shortage of 1000 classrooms in East Jerusalem (Maimon & Alyan, 2011). As of 2012, this number increased to 1,100 classrooms. This number included new classrooms that needed to be built and others that needed to substitute old classrooms that were particularly inadequate. Based on 2012 statistics, 720 classrooms in East Jerusalem were categorized as insufficient (Ir-Amim & ACRI, 2012). On top of this massive shortage, the available classrooms suffer from over-crowdedness with an average class-size of 32 students in East Jerusalem schools, in comparison to only 24 students in West Jerusalem schools (PCHR, 2011). In addition, some neighborhoods do not even have high schools. This had a particularly negative effect on girls' education because some parents refused to send their daughters to other neighborhoods (Dayan, 2010).

One way by which the Israeli Ministry of Education dealt with this problem was through renting buildings to open new classrooms. This solution was somewhat impractical because teachers have to walk from one school building to the other to teach classes. With the school administration's attempt to work around the schedule, this still took away from the teaching time (M., personal communication, December 2012). Another public school principal stated that The Israeli Ministry of Education rented a building, opened few classes, and announced that a new school had been opened to

Palestinian students. He further explained that this is a twisted way of dealing with the classroom shortage problem because it gives the impression of providing a resource but in a very substandard way (A., personal communication, September 20, 2012).

A report by Dayan (2010) uncovered that as a result of the classroom shortage, many families are forced to send their children to expensive private schools. Keeping in mind the high poverty rate among Palestinians residing in Jerusalem, this is problematic for those families who could not afford to pay such high tuitions, particularly if they have to send more than one child to a private school system.

Though classroom shortage was not a major issue in private schools, it was a problem in Waqf (Islamic) schools. Private schools tended to have high tuition that not all families can afford while Waqf (Islamic) schools required only a symbolic amount that was waived if the family could not afford to pay it. As a result, there was a high demand on Waqf schools, which fell directly under the auspices of the Palestinian Ministry of Education. However, in order to expand and build new schools, the Israeli government had to grant license to the Palestinian Ministry of Education. This had been a continuous struggle for the Palestinian Ministry of Education. The director of the East Jerusalem Education Bureau stated that as a result of not being granted the licensing to build new schools, the Palestinian Ministry of Education was forced to rent buildings that were not designed to be schools. Consequently, those schools might not have playgrounds or other necessary academic resources such as laboratories. An additional problem was having to evacuate the building if the landlord refused to renew the contract (S., personal communication, September 2012).

Lack of Resources

Resources were not only limited to physical items but also to teachers'

qualifications since they were essential in providing educational resources. A number of

public schools for Arab students were inadequate and many did not have playgrounds,

libraries, or even science or computer labs (Dayan, 2010; Jibril, 2008). A member of the

parents' committee at the Ahmad Sameh al-Khalidi school in Abu Tor explained:

> In the two schools operating in rented buildings the crowding in the classrooms is
>
> unbearable. On the second floor of one of them there are 203 students with only
>
> one bathroom . . . The yard is small and does not have room for everyone, which
>
> forces some of the students to stay in the classrooms even during recess. (Dayan,
>
> 2010, p. 6)

Furthermore, teachers did not receive adequate training and, due to limited

budgets, children were not provided with extracurricular programs (AbuHilal, 2011). The

lack of qualified teachers was partly due to the insufficient budget dedicated for teacher

training. Also, access restrictions prevented school principals in East Jerusalem from

hiring teachers from the West Bank who required special permits to enter the city

(PCHR, 2011). Hiring teachers from the West Bank is difficult because teacher's access

permits are often denied by the Israeli authorities. A teacher from the Arab Orphan

School stated "[b]etween 5 April 2006 and 6 May 2006, I have been absent from school

six days. On each of these days, I came from Bir Nabala and reached the beginning of

'Atarot but because there was such heavy Israeli army presence there, I returned home"

(Al-Haq, 2006, p. 3). On top of all these financial and resource deprivations, teachers and

students were confronted with political barriers, such as the separation wall: a concrete

barrier stretching 6-8 meters above ground or a complicated barbed wire fence with electrical sensors depending on the location (B'Tselem, 2010) and checkpoints (checkpoints separate Jerusalem from the West Bank, which is the territory under the Palestinian Authority) (Shalhoub-Kevorkian[6], 2010). These physical barriers created further obstacles to accessing education institutions. The separation wall affected the residency status of some families and thus, their ability to register their children in the Israeli Ministry of Interior and consequently in the school system in East Jerusalem (Nieuwhof, & Handmaker, 2005; Shalhoub-Kevorkian, 2010).

To support the literature on this matter, I noted during my personal visits to some of the privately owned, recognized but unofficial schools that they did not have adequate playgrounds. Some existing playgrounds were not even paved. There were hardly any athletic fields or outdoor equipment for physical education lessons. Some schools did not have computer or science labs. The schools were located in unsafe areas where traffic signs were hardly available and streets were not well maintained. Building exteriors appeared to be very shabby. However, building interiors were better maintained since that assured funding from the Israeli Ministry of Education. However, even with funding from the Israeli Ministry of Education, some buildings also look dilapidated from the inside. It is important to mention that these schools were mostly privately owned for-profit and are licensed by the Israeli Ministry of Education. These were schools owned by Arabs. The Israeli Ministry of Education granted these individuals license to open these schools and only checked for safety measures that need to be attended to in the new school. However, the ministry did not monitor resources or the quality of the resources that are available.

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[6] A Palestinian Arab criminologist, a clinical social worker, and a specialist in human rights and women's rights. Grew up in Haifa and received her M.A & Ph.D. in Law from the Hebrew University of Jerusalem.

For instance, some schools claimed to have libraries, but the ministry did not check the quality of the library or the conditions of playgrounds that in quite a few schools is just an unpaved space. By granting these schools licensing and funding, these schools would be obliged to follow the rules and regulations of the Israeli Ministry of Education. These schools were increasing in number. The numbers of the students enrolled in these schools went from 2,000 in the year 2001 to 28,280 in 2011 (Ir Amim & ACRI, 2012). This meant that even more children were receiving education in settings that were not necessarily adequate and where resources were scarce. These attributes could directly affect the quality of education.

The inadequate conditions of buildings and lack of resources was not only limited to these privately owned, recognized, but unofficial schools but also to Waqf (Islamic) schools that have few resources. Some classrooms did not have windows and the walls were all cracked. However, the problems facing the Waqf schools were of a different nature since officially, the Palestinian Authority (PA) was not allowed to do any work in Jerusalem based on the Oslo Accord (United Nations, 2011) and the State of Israel rarely granted the Palestinian Ministry of Education licenses to build new schools (I., personal communication, November 11, 2012). As a result, the Palestinian Ministry of Education was left with limited options. These mainly included renting buildings that were not intended to be schools (S., personal communication, September 2012). This in part affected the resources that could potentially be provided by the school since landlords tend to prohibit any major changes to the buildings. Moreover, there was always the risk of evacuation. This was the case of one of the Waqf schools in this study. As a result of the evacuation order, the Palestinian Ministry of Education stopped funding because it

was considered a waste of money to invest in a school that was to be evacuated. Instead, the ministry is trying to find other alternatives to secure a school for all the students in the very near future. That said, there is still no secured backup plan for this school. The school principal stated that there was a school that was in the process of being built but it will take few more years for the building to be ready (R., personal communication, October 25, 2012).

Dropout

Based on data from the 2009-2010 school year, only half of the 87,624 children who were of school age in East Jerusalem attended free public schools (Dayan, 2010). The rest of school age children either attended private schools, Waqf schools (Islamic schools), UNRWA schools, and some do not attend any kind of school at all (PCHR, 2011). Dayan (2010) presented a breakdown of the number of Arab students in East Jerusalem by school type for the school year 2009-2010. Based on the report that was written in collaboration with The Association for Civil Rights in Israel (ACRI)[7], 42,271 students were enrolled in public schools (excluding Kindergarten) with a registration percentage of 50.78% of the total number of students. Unofficial but recognized schools by the Israeli Ministry of Education – commercial for-profit schools -- had 20,603 students, a registration percentage of 24.75%. Waqf (Islamic) schools had 6,408 with a percentage of 7.7%. Private and UNRWA schools had 13,955 students with a percentage of 16.77%. A simple calculation left 4,387 (5.27%) of the children out of the educational system since they were not enrolled in any type of school. This information was supported by PCHR (2011).

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[7] An Israeli human rights organization established in 1972 to address violations committed by Israel.

According to Dayan (2010) the dropout rate in East Jerusalem was 50%; in West Jerusalem it was 7.5%. A report by Ir Amim and The Association for Civil Rights in Israel that was published in August 2012 stated that based on statistics published by The Jerusalem Education Administration (MANHI), the dropout rate among Arabs was 5% in the eighth grade, 10% in the ninth grade, 17% in the tenth grade, 30% in the eleventh grade, and 40% in the twelfth grade (2012). It was evident that the dropout problem was not only persistent but also increased as children grew older. This indicated that the population most at risk was the school children in the eleventh and twelfth grades. Based on interviews with school principals, it was stated that this is the age in which students, boys in particular, either felt the need to begin working in order to financially support their families or believed they were incapable of passing the Tawjihi examinations and quit school out of fear of failure. A number of principals stated that teachers receive low salaries in general, and students, being aware of this, start thinking that education does not necessarily assure a good income. It was also brought to my attention that Palestinian children in Jerusalem are open to the Israeli influence and have many options available for them in terms of joining the labor force. They could easily find any menial job that would pay better than a teacher's salary. These influences played a role in the increasing dropout percentage among Palestinian students. As for girls, this was the age where some families preferred to marry their daughters off. This could be an effect of financial pressures such as not being able to support the family. Marrying off a girl was perceived as a method to save the family some financial burdens or it was a way to secure their daughter through marriage; this was related to honor issues and social expectations. It

was stated by a few of girls' school principals that the phenomena of early marriages was becoming more prevalent (M. & A., personal communication, September 20, 2012).

As a result of the dropout rate and other environmental deprivations in East Jerusalem, there has been an increase in child labor and juvenile delinquency during recent years (PCHR, 2011). Child labor is a denial of children's right to education. The reality of many children in East Jerusalem represented the failure of the ideals expressed in Israel's Declaration of Independence, including the "Youth Labor Law, 1953 [which] was enacted to prevent child labor and financial manipulation of children that might damage a child's health, education or normal development" (Kadman & Windman, 2005, p. 28).

Israelization of the Educational System

From the historical overview, it was noted that there was an attempt by the state of Israel to "Israelize" the educational system in East Jerusalem by forcing its own curriculum on schools and imposing the Israeli Matriculation system *Bagrut*. This attempt was faced with opposition and consequently, it failed. However, after 1967 a number of public schools fell immediately under the auspices of the Israeli Ministry of Education and the Municipality and they are still known as public schools. This attempt to Israelize the educational system has been recently renewed in a different form and fashion with the same goal in mind.

Arab schools in East Jerusalem use the Palestinian curriculum which requires them to buy books from the Palestinian Authority (PA). This is creating a problem since Israel pressures schools in East Jerusalem to use their books – they use revised version of the books printed by the Palestinian Ministry of Education with sections, words, and

maps being eliminated claiming that they presumably lead to incitement against the State of Israel. This directly targets the national and cultural identity of Palestinian students in East Jerusalem since the eliminated sections are related to Palestinian history and nationality. So far, private schools have been resisting using the revised books but as one school principal stated:

We can only resist up to a certain point, and then what? Israel not only requested schools to use their books but also loaded the books on trucks and distributed them to Schools in East Jerusalem. This is an attempt to *Judaize* the educational system. Israel is doing this to control and provoke the people. It is an imposition on the rights and on the culture of Palestinians in Jerusalem. They deleted the Palestinian Authority's logo. They also deleted any words of incitement against Israel or the occupation, words such as Palestine and *Nakba* (the disaster); they also deleted a whole chapter of the history book of the Tawjihi curriculum [matriculation exam books] which addressed the racial discrimination in South Africa; two paragraphs from the Arabic language book of the 11th grade about agriculture and water were deleted because they indicate that Israel stole the fertile land and underground water (H., personal communication, January 5, 2012).

Israeli officials have stated "they have the right to ensure textbooks are accurate, don't incite violence and respect Israel's legitimacy" (Sanders, 2011). However, Jibreel, the director of the East Jerusalem Education Bureau, stated that this act is purely for political purposes:

We're talking about a radical [Israeli] government that is trying to impose its own

identity on the Palestinians in East Jerusalem. Knowing that Israel doesn't

recognize Palestinian identity, it is a political reflection rather than [for] any kind

of educational or pedagogical [reason]. (Kestler-D'Amours, 2011)

The attempt to Israelize the Arab educational system, particularly textbooks, further

challenges article 26 of the Human Rights Declaration which emphasized that education

should "be directed to the full development of the human personality and to the

strengthening of respect for human rights and fundamental freedoms" (United Nations,

1948, "Article 26," para.2). By censoring textbooks and deleting terms that identify with

the national identity of the Arab children and by imposing Israeli textbooks on East

Jerusalem schools, Israel is implementing a covert form of ethnic cleansing in the form of

deconstruction of the Palestinian national and cultural identity.

Adoption of the new revised textbooks is and has been rare. Very few schools

have adopted the new revised textbooks printed by the Israeli Ministry of Education, but

only through the tenth grade, because they still followed the Palestinian Tawjihi

curriculum. The use of different books could jeopardize the academic achievement of

students in the Tawjihi examinations. At the time of this research, many of the public

schools that were directly under the umbrella of the Israeli Ministry of Education and the

Jerusalem Municipality were not even using the revised textbooks printed by the Israeli

Ministry of Education. Most private schools stored those books and were instead using

the books printed by the Palestinian Ministry of Education. A few school principals stated

that in order not to risk going against the demands of the Israeli Ministry of Education,

they did not provide the students with the books from the Palestinian Ministry of

Education but instead, parents bought the books and requested that schools use those books to educate their children (I. & T., personal communication, September 2012). This practice supports Article 26 which stated that "parents have a prior right to choose the kind of education that shall be given to their children" (United Nations, 1948, "Article 26," para.3).

The Israeli Ministry of Education has been accused by many school principals and local organization representatives of being too lax about providing licensing to individuals to open private for-profit schools. The concern is that these schools are overly compliant with and deferent to the Israeli Ministry's requests, as evidenced by their willingness to use revised books printed by the Israeli Ministry of Education instead of ones provided by the Palestinian Ministry of Education. As a school principal stated, "there are no clear requirements. The Israeli ministry approves any initiation to open a school because they are obliged to educate Jerusalemites and it's easier for them to approve and grant a license than to have to open schools themselves. It would be much cheaper for them" (A., personal communication, September 18, 2012).

This statement was strongly negated by the Director of Arab Education at the Israeli Municipality who stated that each year they receive 200 applications for new schools and only 50 are accepted (personal communication, October 30, 2012). The school principal elaborated that some for-profit school principals were taking this initiative to open new schools as some kind of business from which they could profit instead of putting their focus on bettering the education system. They were not working with a clear conscious and with the intention to benefit the students. These schools are used as a means to prevent kids from being in the streets but they put no emphasis on

education. She stated that some school principals are not qualified to be principals to start with and that the Israeli Ministry of Education grants the license to anyone (A., personal communication, September 18, 2012). This was emphasized by another school principal of the privately owned for-profit schools (also known as commercial/contractor schools or as Sakhnin schools) who stated that one of the reasons for establishing these schools was to at least prevent children from running loose and protecting them from the relative dangers of being in the streets (A., personal communication, September 18, 2012).

Negligence of the Israeli Ministry of Education

How a society treats its minorities is another reflection of its democratic values. Committed to providing equality for every citizen is an integral part of Israel's principles and the country strives hard to meet the tough standards that it has set for itself in this regard. (Jonas, 2005, p.25)

Though the Declaration of Independence specifically addresses "citizens" and most of the Palestinians in Jerusalem were considered not citizens but "residents", this same law also claimed that the "Arab educational system would be recognized and funded" (MFA, 2008). Israel's have only worsened the education conditions among Palestinians in East Jerusalem. This is presented in the high dropout rates, classroom shortages, budget distribution, lack of resources, and poverty status in East Jerusalem.

Israel's failure to provide access to quality education to Palestinians in East Jerusalem conflicts with the Declaration of independence as well as with the Fourth Geneva Convention, article 50, that clearly states the occupying entity "shall facilitate the proper working of all institutions devoted to the care and education of children" (International Committee of the Red Cross (ICRC), n.d., "Article 50," para. 1).

The Israeli Ministry of Education has been accused by a number of school principals and organization directors of not being interested in educating Palestinians residing in East Jerusalem. However, the Director of Arab Education at the Israeli Municipality stated that, to the contrary, both the municipality and the Israeli Ministry of Education were interested in providing Palestinians with education because the State of Israel actually spends more money on the uneducated than on the educated. She further elaborated that they were aware of the shortages and they are trying to fill the gaps (personal communication, October 30, 2012).

This opinion directly contradicted the majority of school principals who clearly stated that the Israeli Ministry of Education was not interested in educating the Palestinians residing in Jerusalem but was instead only protecting itself media and public scrutiny by offering funding, granting license to open new privately owned schools, and by building new schools and classrooms with no regard to the quality of buildings or even to the quality of education received. It was only a way to prove that it was providing Palestinians in Jerusalem with the free education the law requires it to provide. (I. & S., personal communication, September 15, 2012).

Lack of supervision.

Information available at the time of this research indicated that none of the recognized, unofficial schools in this study that were licensed and funded by the Israeli Ministry of Education received customary oversight visits from an education inspector from the Israeli Ministry of Education. These visits are regularly provided to recognized and official schools in East Jerusalem and to schools in West Jerusalem. This supported the principals' claim that the Israeli Ministry of Education is not genuinely interested in

the quality of education Palestinians receive. Moreover, the efforts of the Ministry and investment in the Arab sector was only a way to prove that it was providing Palestinians in Jerusalem with the free education the law requires it to provide. However, no educational supervision was provided to these recognized but unofficial schools. Only safety inspectors were sent to schools for inspection because they determined the amount of funding the school received from the Israeli Ministry of education (K. & T., personal communication, September, 2012). This was reiterated in a report by Ir-Amim and ACRI which stated that there was hardly any supervision by both the Israeli Ministry of Education and the Jerusalem Municipality. The number of supervisors for the official schools in East Jerusalem was only five compared to sixteen for schools in West Jerusalem. As for unofficial but recognized schools in East Jerusalem, there are five supervisors as opposed to twenty-six supervisors in West Jerusalem schools. Consequently, and due to this shortage in East Jerusalem, these visits by supervisors were usually limited to one, just to simply have the school be recognized by the Israeli Ministry of education (2012). The Director of Arab Education at the Israeli Municipality added that supervisors were also sent to recognized but unofficial schools upon the principals' request. Usually this happened when there was a teacher who needed to be licensed (personal communication, October 30, 2012). Some public schools complained about inefficient supervision and often under-qualified supervisors who did not provide effective guidance and help to teachers (M. & A., personal communication, November, 2012). Most of the recognized but unofficial schools affirmed that the supervisors were sent to schools only upon request, mainly when a teacher needed to be licensed. Moreover, one school principal stated that it was better that supervisors did not visit the

schools. He explained that private schools did not want supervisors to interfere in the school system particularly since most of the schools refused to use the books printed by the Israeli Ministry of Education (I., personal communication, September 2012). This was further supported by the Director of Arab Education at the Israeli Municipality who stated that private schools want to be independent (personal communication, October 30, 2012).

Poverty Status

According to 2008 statistics, 65.1% of Palestinian families in East Jerusalem lived under the poverty line. The same year, only 30.8% of Jewish families in West Jerusalem fell under the poverty line. This left 74.4% of Palestinian children in East Jerusalem living under the poverty line as opposed to 45.1% of Jewish children in West Jerusalem (Alyan et al., 2010). At the time of this research, this percentage was not decreasing; to the contrary, the poverty level among Palestinians was only getting worse. Based on 2010 statistics, the percentage of poverty among Palestinian children reached 84% (The Palestinian Information Center, 2011). These figures further stress the challenges facing Palestinian residents in East Jerusalem and draw attention to the need for free education. Having to pay high tuition for private schools exceeds the ability of many families. This accentuates the problem of the educational system in East Jerusalem of access to quality or even basic education.

Additional Contributing Factors

Based on personal communication with some school principals in Jerusalem as well as with the Director of the East Jerusalem Education Bureau, some common concerns were highlighted. Several principals stated that education was bound not only

by buildings or resources but also by students' motivation and interest, which was lacking. Also, though education was and continues to be a priority for many parents, they often lack the resources that determine what they can offer their children. Parents also struggle with the influence of rapid social changes on their children, including technology and access and exposure to the Israeli and Western life styles. Moreover, a number of parents are illiterate. This creates another struggle for both the parents and the schools. A number of teachers are unskilled and unqualified but there has been no alternative since it has been difficult to hire teachers from the West Bank. Furthermore, many teachers in East Jerusalem prefer to work at schools that offered higher pay. A large number of teachers follow the teacher-centered approach that does not allow students to develop critical thinking skills and be active participants in their learning process. This does not allow students to grow and be responsible for their education; students' main concern was instead the grade. As one principal stated:

> Universities are not preparing administrators and teachers to be educational leaders with the vision and capabilities to improve the quality of education. The curriculum is not helping to place the students in the age we live. The complexity of life in Jerusalem, loss of identity and the lack of political and cultural direction are all at play to produce a mediocre educational system at the best. (S., personal communication, January 22, 2012)

All of the above mentioned problems are well known to both the Israeli officials and to the Palestinians. The Israeli advisor of the East Jerusalem affairs in the Jerusalem Municipality stated that they were aware of the current problems and they were trying to address them (personal communication, January 17, 2012).

Additionally, the multi-referential educational system has also been problematic since there is no uniformity among the varying school types. While some schools teach only the Tawjihi curriculum, other schools either teach both the Tawjihi and the General Certificate Examinations (GCE) curriculum, or the Tawjihi and the Israeli Matriculation *Bagrut* curriculum, the Tawjihi and the German Goethe curriculum, or the Scholastic Assessment Test (SAT) only. Moreover, private schools consider the for-profit and the Sakhnin schools a threat to the quality of education in East Jerusalem. As for some of the for-profit schools, some principals in this research stated that private schools considered them their enemies and refused to collaborate with them. This division negatively affected students since some principals clearly stated that in cases of student transfers, the type of school the student is transferring from can affect their decision on whether to accept the student or not (A. & Gh., personal communication, November 2012).

Consequences of the Educational Obstacles and Impacts for Social Justice

Analysis of the statistics and information presented in various reports indicated that the population mostly affected by the persisting problems was school age children, particularly children ages 15-18. They are subject to environmental and educational deprivations that jeopardized their future. Though they are the ones directly affected, the entire community is also affected as educational deprivation fosters a culture of ignorance. Ignorance certainly impedes the community from thriving and defending itself against the occupier. Elliott and Merrill (1941) emphasized the role of resources in determining the failure or success of an individual. As a result, "individual disorganization is thus a form of social disorganization. The majority of disorganized individuals have been produced by the dynamic and unstable society of which they are a

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part" (p. 80). This further supports the notion that individuals and communities affect each other.

Being a colonial state, Israel works to enhance its own resources so as to advance its people and preserve its existence. This is not a simple battle over Palestinians' right to education but it is a battle of survival and freedom. Controlling education is a strategy for maintaining occupation. By depriving Palestinians in East Jerusalem of quality education or, even simply, education, Israel sustains its control. Shalhoub-Kevorkian (2010) referred to the educational deprivation imposed by Israel on the Palestinians as a "tool for collective punishment" (p. 335). This action clearly defies Human Rights laws.

Unequal budget distribution between East and West Jerusalem schools, the lack of resources on the Palestinian side in East Jerusalem, and the physical political barriers manifested in the separation wall and the checkpoints to name but a few were all ethical issues that warrant immediate attention. The figures and facts presented further corroborate the human rights violations Israel has been and continues to commit, particularly regarding children's right to education. The lack of formal, written policies that clearly state the budget distribution between East and West Jerusalem both illustrate and result in enormous disparities in the Arab educational system.

This intentional and institutional educational discrimination in Jerusalem based on ethnicity even negates Israel's own Declaration of Independence in 1948, which states that the state of Israel will:

Ensure complete equality of social and political rights to all its inhabitants

irrespective of religion race or sex; it will guarantee freedom of religion,

conscience, language, education and culture . . . and it will be faithful to the

principles of the Charter of the United Nations. (MFA, n.d, para. 13)

Though the declaration calls for equality for all inhabitants, Israel discriminates against

Palestinian children by denying them equal rights to education. This is an ethical concern

that needs to be addressed in order to save a people from falling into a culture of

ignorance and loss. The discrimination not only targets education, but the abolition of a

national and cultural identity for an entire people, using the educational system as a

weapon.

In 1976, as previously explained, Palestinians residing in Jerusalem were granted

Israeli identity cards – not citizenship – and in return they were required to pay several

kinds of taxes (Vitullo, 1998). As a result of paying taxes, Palestinians were supposed to

receive benefits similar to the benefits their Israeli counterparts receive. Yet, that was not

implemented and consequently the Arab educational system suffered tremendously. In

addition, many Arab neighborhoods did not receive the minimum services such as street

and traffic maintenance that any other Israeli neighborhood received, which left quite a

large number of Arab neighborhoods in dire conditions.

Regarding education in particular, the discrimination Palestinian children are

subject to is depicted in the unequal distribution of funding between East and West

Jerusalem schools. More attention is given to the education of Israeli Jewish children.

This is considered discrimination because Arabs and Israelis in Jerusalem pay the same

amount of taxes and should have been entitled to the same types and quality of services.

The consequences of the unequal budget allocation was manifested in all the problems

previously discussed such as classroom shortage in East Jerusalem, inadequate school

buildings, lack of resources, and high dropout rate (Dayan, 2010)[8]. These consequences are directly related to the problem of quality and access to education. Education is the right of every child according to article 2 of the Convention against Discrimination in Education adopted in 1960 (United Nations Educational, Scientific and Cultural Organization (UNESCO), n.d). Consequently, all of these systemic deficiencies impede the academic success of Palestinians in Jerusalem.

The multiple problems facing the educational system resulted in social injustice against Palestinians residing in East Jerusalem. Promoting social justice is one of the leading goals of the Social Work profession. Based on the social work Code of Ethics, social workers should "challenge social injustice. Social workers pursue social change, particularly with and on behalf of vulnerable and oppressed individuals and groups of people" (National Association of Social Workers, 2008). Though Israel is not bound by any ethical principal, from a social work perspective, Israel has been violating the social work code of ethics throughout the years by depriving Palestinian children residing in the East Jerusalem region from receiving one of their fundamental rights: education. This is not a call for Israel to change its actions to comply with the social work code of ethics. Rather, it is an attempt to draw attention to a social justice problem in a particular part of the world where children are not receiving their basic human rights. Therefore, it is our duty as social workers to be concerned about the injustice Palestinians in Jerusalem are subjugated to by Israel. Hence, the value of social justice held by social workers should not be ignored. Israel violated articles 28 and 2 of the Convention on the Rights of the Child adopted by the general assembly in 1989 (Child Rights International Network

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[8] An Israeli report writer at Ir Amim (City of Nations); a non-profit Israeli organization founded in 2004 and "Seeks to render Jerusalem a more viable and equitable city for the Israelis and Palestinians who share it."

(CRIN), n.d), Israeli Compulsory Education Law (MFA, 2003), Fourth Geneva

Convention in 1949 – article 50 (International Committee of the Red Cross, n.d), the

Convention against Discrimination in Education – article 3 (UNESCO, 1960), and the

Human Rights Declaration – article 26 (United Nations website, n.d). Israel has failed to

observe its international treaty obligations by denying thousands of Palestinian children

their right to education as articulated by the Universal Declaration of Human Rights and

recognized by all civilized democratic societies.

Israelizing the Arab educational system, particularly textbooks, as previously

mentioned, further challenges article 26 of the Human Rights Declaration. Article 26

emphasized that education should "be directed to the full development of the human

personality and to the strengthening of respect for human rights and fundamental

freedoms" (United Nations, 1948, "Article 26," para.2). By censoring textbooks and

deleting terms that identify with the national identity of the Arab children and by

imposing Israeli textbooks on East Jerusalem schools, Israel would be deconstructing the

Palestinian national and cultural identity in order to maintain its control and existence.

Using the educational system as a means of oppression is not a new phenomenon

in Palestine/Israel. During the first *intifada* (uprising), which started in 1987, Israel

forcefully closed around twelve hundred schools in the West Bank for an extended period

of time preventing more than three hundred thousand students from attending school

(Collins, 2004). For that generation, a gap in education was noted, especially in:

> lowering academic standards in general and increasing the chances that younger
>
> students would fail to achieve basic literacy, the situation also reportedly led to
>
> poor performances by secondary school students on the *tawjihi* [matriculation]

exam, and, in some cases, to widespread cheating by some students who knew

that failure on the exam would bar them from higher education and from a range

of desirable career paths. (Collins, 2004, p. 143)

Israel was not the first state that targeted education to enforce such injustice. This was

echoed in Northern Ireland where Catholic schools faced limitations in terms of funding

and resources (Gallagher & Cormack, 1994). South Africa practiced such discriminations

against black people (Berghe, 1966) and even Jewish people themselves experienced

discrimination and persecution in Poland (Rudnicki, 2011). All these incidents involved

one group suppressing the other and monopolizing all the resources to enhance their own

well-beings.

Research from Rudnicki (2011), concluded that Jews valued education and

religion by making education accessible and by emphasizing the importance of religious

teachings in the religious divisions. They found in both education and religion a means to

preserve their national identity. Yet, they denied the Palestinians this right when they

legitimized it for themselves. Palestinians also valued education and found in it a sense of

security (Davies, 1979), so did blacks in Britain who approached education as a necessity

for "social mobility and success . . . education is often perceived as a means of resistance

in confronting the prism of Eurocentric knowledge" (Graham & Robinson, 2004, p. 656).

The irony is that history is repeating itself but with different characters. Half of the

Jewish children in Poland attended Polish schools because they were free (Rudnicki,

2011) and half of the Palestinian children in East Jerusalem attend free public schools

funded by Israeli authorities (The Palestinian Centre for Human Rights (PCHR), 2011).

Jewish schools in Poland received some funding from local authorities, but these funds

were cut at some point (Rudnicki, 2011). Similarly, the public school system in East

Jerusalem suffered from scarcity of funding from Israel. In addition, Rudnicki provided

more information on the discrimination against Jews in the education sector where, in the

1930s, higher education for Jews was blocked and Jewish students had to sit in separate

seats in lecture halls. Yet, despite experiencing the bitterness of being discriminated

against, Israeli citizens are now discriminating against other people: the Palestinians. If

the gap in East Jerusalem education system had been addressed sooner, the disparities

would not have been this severe. Maimon and Alyan (2011) stated that "[t]he East

Jerusalem school system has suffered from severe neglect for many years. Therefore any

solution of the resulting problems requires a deep overhaul and a comprehensive long-

term plan to overcome the ongoing failure of the authorities" (p. 1).

Summary

The Education system in East Jerusalem is facing many battles that jeopardize not

only the quality and access of education but also the national identity of Palestinian

children residing in Jerusalem. The social injustice that is imposed on Palestinian

children in Jerusalem is intentional and is part of a political schema that aims at

destroying the infrastructure of the Palestinian community presented in its children. Once

Palestinian children in Jerusalem lose focus and direction, the entire community will be

affected and weakened. This strategy that Israel is using is very common in areas of

conflict. The same strategy was used in South Africa and Israel is not an anomaly. Israel

is enhancing the education of its people while restricting Palestinians from receiving

similar opportunities. Pappe[9] (2006) used the term "ethnic cleansing" to describe Israel's actions to "depopulate" Palestinians (p. 2). However, it does not take a gun to wipe out a nation. Stripping a nation of its cultural and political identity does that.

The purpose of this study is not only to better understand the presenting problems facing the Arab educational system in East Jerusalem that were thoroughly explained in this chapter, but also to understand the effects of these problems on the academic achievement of the students.

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[9] An Israeli historian and senior lecturer of Political Science at Haifa University. He is also Academic Director of the Research Institute for Peace at Givat Haviva and Chair of the Emil Touma Institute for Palestinian Studies, Haifa.

CHAPTER II: LITERATURE REVIEW

"The foundation of every state is the education of its youth." ~ Diogenes Laertius

This chapter introduces and explains three prevailing theories and discusses their relevancy to the current study. The chapter includes an elaboration on the extent to which each theory has influenced issues relating to academic achievement of school students. These theories provide a better assessment of the characteristics that could directly or indirectly influence the academic achievement of students in East Jerusalem schools. The three theories on which the theoretical framework of this research is based are social disorganization theory, ecological theory, and achievement motivation theory. Both the social disorganization and the ecological theories address macro issues. These two theories provide a better understanding of the individuals' environment and surrounding whether immediate or distant: family, school, neighborhood, community. The ecological theory allows for an understanding of the interactions between the individual and the micro, mezzo, exo, and macro levels. Both theories explain how the individuals' experiences and exposures to different environmental and familial factors could influence their academic outcome, which is the focus of this research. As for achievement motivation theory, it is a micro theory that is concerned with individual characteristics and the individual's wants and needs to succeed or avoid failure. This theory allows for a better understanding of the individual characteristics and along with the macro theories, it will be possible to better comprehend the predictors of achievement from a holistic

approach. Though the study did not involve student surveys to make the achievement motivation theory applicable, the in-depth interviews with students addressed issues relating to this theory. Therefore, having some understating of the theory is pivotal.

To further to explain the theories, literature supporting the use of these theories in similar fields of research is provided as well as rationale of why and how these theories aided in developing the conceptual framework of this study. While some studies identified a clear theoretical framework to guide the research, others did not. However, the studies that were not guided by theory still explain a number of factors that resonate with at least one of the three theories. The studies chosen primarily involved minority groups. This was a good fit for my own research as Palestinians are the minority group in occupied Jerusalem. Most of these subjects live in disadvantaged neighborhoods.

As previously mentioned, the political dimension was emphasized as the leading cause of all the struggles facing the educational system in East Jerusalem. No doubt that the political factor is crucial, but other elements directly or indirectly caused by the political factor should not be marginalized. These elements are addressed in both the social disorganization theory and the ecological theory and include family, school, neighborhood, and individual. Understanding these characteristics and their impact on the academic achievement of students would allow for a better understanding of both the predictors of success and the barriers students face during their academic endeavors. Students are also influenced by their environment. The environmental characteristics are those elements that are external to the individual, yet, could influence the individual's achievement.

The conceptual model, which guided the research and was derived from the three theories, is then presented. Also, literature supporting the choice of each variable is discussed.

Social Disorganization Theory

Khawla Abu Baker[10] (2003) stated that Palestinian "children do not suffer from mental retardation but rather from environmental deprivation" (as cited in Bligh, 2003, p. 79). The statement sought to explain the reasons contributing to the educational gap between Arabs and Jews in Jerusalem. Deprivation and social disorganization are intertwined and one can lead to the other. Environmental deprivation in East Jerusalem was a result of social disorganization that affected every aspect of the individual's life be it social, familial, educational, or personal. However, deprivation can also cause further disorganization. McCarroll (2008) stated "[a]reas of social deprivation tend to characterize high levels of social disorganization" (p. 191). It is a vicious cycle that only calls for the restoration of social organization in order to heal.

Elliott and Merrill (1941) explained that social disorganization is "derived from the conflicting social attitudes and values which make group consensus impossible" (p. 43). However, Elliot and Merrill also focused on the importance of understanding social organization in order to understand social disorganization. Both depend on the "degrees of disharmony of interests in a dynamic society" (p.18). Social organization can, thus, be understood through social interaction processes which include "[c]ommunication, conflict, competition, accommodation, and assimilation" as defined by Park and Burgess (as cited in Elliott and Merrill, 1941, p. 8). Functionalists state that "social problems

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[10] A board member of International Family Therapy Association (IFTA) and The Israeli Association of Family Therapy.

occur when society, or some part of it, becomes disorganized. Social disorganization

occurs when a large organization or an entire society is imperfectly organized to achieve

its goals and maintain its stability. When disorganization occurs, the organization loses

control over its parts" (Zastrow, Kirst-Ashman, 2010, p. 498).

This is very applicable to the educational problem in East Jerusalem. The fact that

one entity, Israel, governs and controlled both Israeli citizens and Palestinians in an area

of conflict with little input from the latter group is in itself a key element in causing

social disorganization. The attempt of the Israeli government to maintain its stability was

presented in 1967 by trying to extend its power to the Palestinian educational system.

This meant exercising control over the Arab community's education including the

curriculum in an effort to Israelize the educational system in East Jerusalem (O'Sullivan,

2011).

Elliott et al., (1996) stressed the important role neighborhoods have in facilitating

the achievement of youth through social activities. Disorganized neighborhoods deprive

youth from these opportunities and increase the chances for delinquency (as cited in

Bowen, Bowen & Ware, 2002).

Opportunities in East Jerusalem neighborhoods are limited. Based on

observational data, as well as questionnaire forms used to collect data on each

neighborhood with the help of local representatives, neighborhood councils, and local

organizations, many neighborhoods in East Jerusalem did not provide minimum

standards of living. Quite a large number of neighborhoods did not have traffic signs or

well-paved streets (United Nations, 2011). In the entire area of East Jerusalem, there was

only one public library provided by the Jerusalem Municipality and an additional library

in the old city that only few people knew about since it was thought to be only exclusive

to the use of the Armenian school and Armenian community in Jerusalem. Additionally,

many neighborhoods lacked basic resources such as playgrounds, clubs, or parks.

There are a number of definitions of what community is. Garvin and Tropman

(1992) stated that "[a] community exists when a group of people form a social unit based

on common location, interest, identification, culture, and/or activities" (as cited in Fellin,

1995). Also, Elliot and Merrill (1941) presented various definitions of community, but

one that stood out especially was a definition by Wirth (1933), which stated that a

community is "a territorial base, distribution in space of men, institutions, and activities,

close living together on the basis of kinship and organic interdependence, and a common

life based upon the mutual correspondence of interests tend to characterize a community"

(as cited in Elliott and Merrill, 1941, p. 789). Elliot and Merrill (1941) further explained

that "community disorganization is in a special way related to the decay of political

interest in the local community" (p. 791). This decay of political interest is represented in

the lack of resources available for the Palestinian community in occupied East Jerusalem.

These resources went beyond education to include a serious neglect, on the Israeli's part,

of the infrastructure needs in the Palestinian Neighborhoods. This will be elaborated on

further in this study (Hever, 2007; United Nations, 2011).

The political decay element was one of the major concerns in East Jerusalem, an

area of political conflict where the powerful controlled the resources of the minorities. As

would be expected, and as it has already been observed and documented, the politically

dominant, majority group, Israelis, were not interested in the enhancement and

development of the subordinate minority group, Palestinians. This was emphasized by

Hever (2007) who stated that "the policy of the Education Ministry perpetuates if not exacerbates the educational gap, and that the program to reduce the gap is merely intended 'to throw sand in the eyes'" (p. 7). These latent policies of discrimination have resulted in further social disorganization.

Some manifestations of social disorganization in a community are crime, political corruption, unemployment, discrimination whether racial or religious, mobility, and migration (Elliot and Merrill, 1961). Moreover, social disorganization is an indicator of lack of community competence, which Cottrell (1981) defines as "one in which the various component parts of the community are able to collaborate effectively in identifying the problems and needs of the community; can achieve a working consensus on goals and priorities; can collaborate effectively in the required actions" (as cited in Fellin, 1995). Barbarin (1981) further explaines that community competence involves citizens and groups utilizing existing resources to find ways to solve existing problems (as cited in Fellin, 1995).

With a fragmented educational system in East Jerusalem, it is quite challenging to utilize resources that are scarce to start with. The fragmentation occurs on multiple levels. On the one hand, there are two separate educational systems in Jerusalem, one for Arabs and the other for Israeli Jews. More resources are allocated for the Israeli Jews educational sector. On the other hand, there are multiple school types in the Arab sector with some school types having more access to resources than others. Moreover, the lack of financial resources in communities as well as social and educational resources made it more challenging and complicated to advance the educational achievement of students.

Social disorganization theory was used to explain disorganization on different levels whether broad or narrow, as was explained by Elliot and Merrill (1961). For example, it could be seen on a state level and on an individual level. Therefore, social disorganization theory will be explained on various levels that relate to this study; family disorganization, mobility and social disorganization, and individual disorganization.

Family Disorganization

According to Elliott and Merrill (1941), family disorganization can be divided into two groups, primary and secondary tensions. Primary tensions are related more to personality, while secondary tensions are related to outside factors. Most of the secondary tensions were important for the study and they involved "economic, occupational, cultural (including education), status, disparity in age, ill health, parent-child relationships, and interference of in-laws" (p. 669). As for the primary tensions, they relate to personality clashes due to generational differences between parents and children. Also, with the exposure of children to the Israeli culture and all the temptations that come along with this occupying entity, the generational gap between parents and children became wider and harder to address (S., personal communication, January 2012). As some school principals stated, male students are more concerned with showing off, owning cars, impressing girls, and playing loud Hebrew music in their cars. Principals referred to this behavior as an attempt to be "hip." This behavior challenges the parent-child relationship as well as parents' authority (I. & S., personal communication, January 2012).

Mobility and Social Disorganization

This aspect is relevant in an area of conflict where mobility is affected by the political limitations presented in the form of physical barriers. These barriers have caused the migration of many people into Jerusalem in order to preserve their residency status. Elliott and Merrill explained mobility as "an ecological term, describing factors and phenomena which can be measured from the standpoint of the individual's adjustment to his human and non-human environment" (p. 300). They further explained that mobility "involves psychological as well as physical change" (p. 301).

Though some families in East Jerusalem have gone through major mobility changes (migration), others had and still have to go through continuous mobility struggles and changes on a daily bases trying to get from point A to point B. This not only forms physical strains but also emotional, mental, and psychological. Moreover, besides the psychological and physical changes that individuals had to go through, the mobility disorganization also caused disruptions in the educational system. Many teachers and students could not reach their schools (United Nations, 2011). Also, many of them were not granted permits to access Jerusalem where they work and study. Of all Palestinian school students, 75.2% use alternative roads to get to school and 69.4% have been absent due to lack of access (Palestinian Central Bureau of Statistics (PCBS) & Resource Center for Palestinian Residency and Refugee Rights (BADIL)[11], 2006). This problem not only affects access to education but also affects the quality of education received due to continuous forms of disruption. This results in continuous absences of both teachers and students. A number of school principals and the Director of the East

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[11] "BADIL Resource Center for Palestinian Residency and Refugee Rights is an independent, community-based non-profit organization mandated to defend and promote the rights of Palestinian refugees and IDPs" (BADIL, 2010).

Jerusalem Bureau stated that eventually, because of impediments to mobility, hiring

teachers from the West Bank became a burden that was mostly avoided by schools and

numbers of students from the West Bank started diminishing (S., personal

communication, August 26, 2012).

Individual Disorganization

Elliott and Merrill (1941) explained that "disorganized individuals produce

further social disorganization in so far as their anti-social or ineffective conduct

represents deviations from the norm. Individual and social disorganization operate in a

vicious circle . . . Each disorganized individual affects other individuals and in so doing

produces social disorganization" (p. 61). They further explained that individual

disorganization was caused by two factors, personal and social disruptions with social

disruptions having more impact on individual disorganization. Personal factors included

illness, personal inadequacies, or mental problems; social disruptions included economic

problems that result in other difficulties such as "dietary deficiency, ill health, or mental

conflict" (p. 72). Moreover, Elliott and Merrill emphasized the role of resources in

determining the failure or success of an individual. As a result, "individual

disorganization is thus a form of social disorganization. The majority of disorganized

individuals have been produced by the dynamic and unstable society of which they are a

part" (Elliott & Mirrell, 1941, p. 80). Individual disorganization can also be displayed in

juvenile delinquency, alcoholism, unemployment, and suicide (Elliot & Merrill, 1941).

Instability is a trait of the East Jerusalem community. This is mainly attributable

to the unstable political situation that affects all aspects of an individual's life, including:

(a) economic stability manifested in diminished employment opportunities; (b) social

instability illustrated in families having to migrate into East Jerusalem, thereby losing their social support system. (People in East Jerusalem are preoccupied with making ends meet that they do not have the time to connect and build social networks); and (c) academic deprivation due to the previously explained problems that stand in the way of providing quality education to students in East Jerusalem.

Shalhoub-Kevorkian (2010) addressed the effects of militarization in East Jerusalem as it relates to community, family, and individual disorganization. Shalhoub-Kevorkian conducted several interviews with Palestinians living in East Jerusalem. The result revealed that militarization in East Jerusalem was very disruptive and negatively influenced people's social ties, social and familial network, and led to a feeling of social exclusion. Families in Jerusalem faced difficulties commuting back and forth to the West Bank to visit other family members, leading eventually to a sense of exclusion. Parents became fearful of allowing their children to play in the neighborhood because of settlers' invasions. Militarization is a form of suppression that leads to internal conflicts within the community itself. These internal conflicts eventually lead to lost sense of cohesion and belonging within the community. Being humiliated by soldiers at checkpoints leads to a loss of respect and credibility; students expressed witnessing their teachers being humiliated by soldiers and how that triggered awareness in them of the vulnerability of their teachers. Based on these interviews, it is evident that political disorganization leads to community disorganization and to individual disorganization.

Another study by the Palestinian Ministry of Higher education (2005) revealed that parents' inability to pay for their children's education due to financial difficulties was one of the reasons that lead to students' dropout. Female students were at risk of

getting married at a young age while male students joined the work force at a young age to help provide for the family. The financial difficulties were a result of the disorganization within the community mainly due to political pressures. As a result, disorganization within the community also affected children's education.

The majority of the studies that have used social disorganization theory have addressed issues of crime. Social Disorganization Theory was first introduced by Shaw and McKay (1969/1942) after noticing that high delinquency rates continued to persist in some neighborhoods of Chicago regardless of changes in the ethnic and racial groups that resided in those communities. They eventually came to the realization that "neighborhood ecological conditions shape crime rates over and above the characteristics of individual residents" (Kubrin & Weitzer, 2003, p. 374). Few studies have used social disorganization theory to address educational achievements and behaviors.

Bowen, Bowen, and Ware (2002) used social disorganization theory to understand youth's perception of the effect of neighborhood and family processes on adolescents' educational and social behavior. The findings of the study indicated that neighborhood social disorganization had more effect on educational behavior than family processes had. There was a weak relationship between parenting constructs and academic behavior; "[s]upportive family relationships facilitate educationally supportive parenting behaviors" (p. 485). Neighborhood social disorganization strongly affected supportive parents, which supported the study's hypothesis that parents' ability to provide emotional support for their children was compromised when neighborhood environment included negative peer influence, crime, and violence. When correlated with neighborhood social

disorganization, race/ethnicity and poverty did not yield significant effect on educational

outcomes.

Lee and Madyun (2009) examined the impact of neighborhood disorganization on

black-white achievement gap. The findings showed that social disorganization theory

explains the experience of white students whereas social mobilization theory better

explains the experience of black students. The results of the study showed that black

students with neighborhood disadvantage, where there are high levels of crime and

poverty, performed better than the advantaged black students and better than the white

students. However, these results were not the same for white students. Those who were

disadvantaged did not perform better than the advantaged white students. This raised a

question of why black students benefited from disadvantaged neighborhoods. There were

some possible answers. The first possibility was the disadvantaged neighborhoods were

highly populated with blacks. The second possibility was that blacks formed relationships

and support within their community, which helped them cope. This was related to the

social mobilization theory, since they "[mobilized] a collective resource embedded in

their durable social ties within their racially homogeneous groups" (p. 164). This study

highlighted a difference based on race that was not identified as a factor in the study by

Bowen, Bowen, and Ware (2002). In my study, there was a significant difference

between Palestinian and Israeli students in terms of the quality of education they receive

and resources available to them. Many Arab students lived in disadvantaged

neighborhoods compared to their Israeli counterparts.

Ainsworth's (2002) study investigated whether neighborhood characteristics,

which included "high-status residents, residential stability, economic deprivation, and

racial/ethnic diversity" (p. 123), predict educational outcomes, whether the mediating

variables affect educational outcomes, and to what extent these mediating variables

explain the effect of neighborhood characteristics on educational outcomes. The

mediating variables included collective socialization, social control, social capital,

perception of opportunity and institutional characteristics. The results showed that some

neighborhood characteristics, in particular high-status residents, strongly predicted

educational outcomes. High-status residents were those who had college degrees and

good, professional jobs. Their presence contributed to the advantage of the neighborhood

in that they served as positive role models to youth in the community. The mediating

variables explained 40% of the effect of neighborhood characteristics on educational

outcomes with collective socialization having the strongest effect.

Ewumi (2012) conducted a study in Nigeria to explore the effects of gender and

socioeconomic status on academic achievement. The results of the study showed a

significant negative relationship between academic achievement and gender and a

significant relationship between socio-economic status and academic achievement

(Ewumi, 2012). This study showed that males achieved better than females. Also, the

study found that home and family atmospheres affected the academic achievement of

students. Students who came from a safe, supportive, and structured home tended to do

better (Ewumi, 2012). Moreover, the study highlighted the importance of neighborhood

socio-economic status, stating that students who attended schools in low socio-economic

status neighborhoods tended to have lower scores on achievement tests unlike students

who attended schools in high socio-economic status neighborhoods (Ewumi, 2012). This

was due to the lack of resources (e.g. young, inexperienced teachers) in schools in low

socio-economic status neighborhoods. Additionally, the study distinguished between parents' perception of education, stating that middle to upper income parents and teachers typically encourage and support education while lower income parents think of education as teachers' responsibility. These findings highlight the importance of encouraging collaboration between parents and schools, particularly with low-income parents, in order to improve the students' academic achievement (Ewumi, 2012).

Social disorganization theory reflects the reality of Palestinian students in East Jerusalem. The educational achievement of Palestinian students in East Jerusalem is being compromised by their environment and by their attributes as individuals. Each individual has certain attributes, such as gender and motivation level, that could potentially influence him/her. There are also immediate family characteristics, neighborhood characteristics, and school characteristics which all play a role in the individual's life. On a macro level, the political characteristics affect each and every microsystem mentioned including the individual. Any disruption in any of the microsystems can lead to disruption in other systems. This can lead to disorganization whether on the individual, familial, social, community, or political level.

Ecological Theory

Ecological theory explains the interactions between the individual and the micro, mezzo, exo, and macro levels. Explaining the interaction would also lead to unfolding the effects of these different levels on the individual. The academic achievement of individuals is influenced by their surroundings and interactions. Therefore, the ecological theory has contributed to the current study.

McKown (2005) stated that ecological theory "examines the relationship between varied structures and processes in the social environment and individual thought, feeling, and behavior" (p. 179). These structures influence the individual's behavior. McKown further explained that "alterations at one or many levels of the ecology can lead to changes in the individual" (p. 179).

The ecological theory calls for exploring different microsystems that might influence a behavior/outcome. The microsystems would include the family, peers, schools, and neighborhoods. Therefore, it would not be enough to examine the individual characteristics or experiences in one specific microsystem (Bowen, Bowen, & Ware, 2002). Bronfenbrenner (1979) defined these systems as follows:

> A microsystem is a pattern of activities, roles, and interpersonal relations experienced by the developing person in a given setting with particular physical and material characteristics [such as schools, families, religious institutions, neighborhoods, peers]. (p.22)

> A mesosystem comprises the interrelations among two or more settings in which the developing person actively participates [such as, for a child, the relations among home, school, and neighborhood peer group; for an adult, among family, work, and social life]. (p.25)

> An exosystem refers to one or more settings that do not involve the developing person as an active participant, but in which events occur that affect, or are affected by, what happens in the setting containing the developing person [such as political pressure and its impact on the individual student, parents employment and its impact on the individual student, parents religious beliefs and its impact on

the individual student, school type and funding resources and its impact on the

individual student]. (p.25)

A macrosystem refers to consistencies, in the form and content of lower-order

systems (micro-, meso-, and exo-) that exist, or could exist, at the level of the

subculture or the culture as a whole, along with any belief systems or ideology

underlying such consistencies [such as the culture in which students grew up, the

poverty in which they grew up]. (p.26)

Additionally, Bronfenbrenner accentuated the importance of other people, mainly

those in the immediate microsystem, in influencing the development of the individual,

including their academic success (Bronfenbrenner, 1979). This was also supported by

Wang, Haertel, & Walberg, (1994) who stressed the important roles teachers and friends

have in this process (as cited in Alfaro, Umana-Taylor, & Bamaca, 2006).

According to Zastrow and Kirst-Ashman (2010), the ecological perspective is part

of systems theory that focuses on the functioning of the individual and the family systems

within their environment (person-in-environment approach). Zastrow and Kirst-Ashman

(2010) further explained that the ecological perspective includes "social environment,

transactions, energy, interface, adaptation, coping, and interdependence" (p. 28). This

includes all of the aforementioned elements that will be examined in this study

(individual and environmental variables including family, neighborhood, school and

political characteristics).

Ashford and LeCroy (2010) reiterated this by stating that "human beings, like all

other living beings, can be understood only in the context of the systems in which they

live. Critical to the ecological perspective is its holistic view of people" (p. 134) and any

change in any of these systems – identified by Brim (1975) and Bronfenbrenner (1977);

"microsystems, mesosystems, exosystems, and macrosystems" (as cited in Ashford &

LeCroy, 2010, p.134) -- would lead to a change in individual behavior (McKown, 2005

as cited in Stewart, 2007). The ecological perspective allows social workers to examine

both person and environment together instead of separately. It also allows for

modifications in the environment (Ashford & LeCroy, 2010).

Exosystem was of particular interest in this study because it directly affects

students' lives. Bronfenbrenner (1979) explained exosystem as "consisting of one or

more settings that do not involve the developing person as an active participant but in

which events occur that affect, or are affected by, what happens in that setting" (p.237).

Regarding to students' academic achievement, the exosystem was illustrated in the

policies and political pressures that directly affect students, even though they are not part

of the decision making process on that level.

To elaborate on this point, different policies on the political and educational levels

affect the different school types in East Jerusalem. For example, based on the Oslo

Accord, the Palestinian Authority is not allowed to do any work in East Jerusalem

(United Nations, 2011). Consequently, Waqf (Islamic) schools in particular lag behind in

terms of resources, be it academic, manpower, or even simple building resources. This

was accentuated by the Director of the East Jerusalem Bureau who stated that the Israeli

government did not grant them license to build new schools. Therefore, they were left

with one option, to rent buildings that were not designed to be schools (S., personal

communication, August 26, 2012). This strategy of not granting licenses is not only

limited to building schools but also to anything that involves the Palestinian residents in East Jerusalem.

Funding is a big aspect of the policies inflicted on schools in East Jerusalem and is strongly related to the type of school. Some schools refuse to receive funding, such as the private non-profit schools and the Waqf Islamic schools, while others strongly depend on funding from the Israeli Ministry of Education. Public schools are funded by the Israeli Ministry of Education. Private schools including Christian, Muslim, and for-profit schools also received funding, but that only constitutes 75% of the total funding Israeli schools receive (L., personal communication, 20 October, 2012). The amount of funding schools receive from the Israeli Ministry of Education depends on the resources available at the school. This includes teachers' qualifications, building resources, and total number of students who attended the school. The more resources, the more funding the schools receive. Yet, none of those schools receive 100% funding (L., personal communication, 20 October, 2012). Some of the Christian and Muslim private schools receive additional funding from local or international resources (United Nations, 2011). Evidently, policies have a great effect on funding, which was determined by school type and school resources. Also, policies hinder the work of the Palestinian Ministry of Education in Jerusalem. A lack of resources negatively impacts the quality of education these students receive.

In addition, different forms of political pressures are manifested in the Separation Wall and checkpoints. These force a large number of people to migrate into East Jerusalem for easier access to schools and workplaces, job opportunities for parents, but primarily to preserve their residency status in East Jerusalem. This is a concern for

Jerusalemites because they do not want to risk losing their only legal right to be residents in Jerusalem, particularly since mentioned, between the year 2005 and 2011 a total of 7,468 Palestinians had their residency status revoked by the Israeli Ministry of Interior (B'Tselem, 2011). These drastic changes affected students since some had to transfer schools and many families left their homes and support system to start a life in a different area. Family ties were also affected by these political pressures because families were separated from each other, with some living in the occupied territories in the West Bank (W.B.) while others in occupied East Jerusalem.

Access to and commuting back and forth from the W.B. to visit family and friends was and remains problematic. Many teachers living in the occupied territories in the W.B. are not granted permits to access East Jerusalem schools and many students have to take bypass roads to access schools (N., personal communication, July 2012). As a result many students have transferred from schools in East Jerusalem to schools in the West Bank. A number of school principals stated that they hardly have any teachers or students from the W.B. anymore and this has affected the quality of education since many of the good teachers cannot access East Jerusalem schools (M., personal communication, August 2012).

The political element can be discussed on both a macro and exo level, depending upon the interaction of the individual to that system. Clearly it is recognized that the political system does affect the individual. However, if the individual is not directly interacting with the political system it would be deemed an exosystem. The political situation affects the overall culture and dynamics of families because they are more protective and fearful of their children's safety. As Hever (2007) mentioned, female

students tend to drop out of school if they have to commute to other neighborhoods to attend. This is a consequence of families being protective of their daughters and worrying about their safety. Moreover, on the macro level, in some but not all communities, certain cultural and social mores can affect girls' education. Some communities tend to marry their daughters off at a young age. This was one of the reasons for dropping out of school, as mentioned in a report by Hijazi and Masarwa (2012).

Alfaro, Umana-Taylor, and Bamaca (2006) assessed the influence of mothers, fathers, teachers, and peers on Latino adolescents' academic motivation. Findings indicated that same sex parent support was significant for academic motivation (mothers' educational support of daughters and fathers' educational support of their sons). Teachers' support was significant for both boys and girls. As for generational status, it was negatively related to both boys' and girls' academic motivation. Peer support and parents' educational level were not significant for either boys or girls academic motivation.

Stewart (2007) used the ecological theory of human development to investigate the individual and school structural effects on the academic achievement of African American high school students. Results indicated that individual predictors such as "student effort, parent-child discussion, positive peers" (p.16) increased students' academic achievement. Also, school climate including "[a] sense of school cohesion felt by students, teachers, and administrators" (p. 16) is crucial for students' outcomes. This study indicated that individual-level indicators are highly associated with academic achievement, while school structural factors had small effect on academic achievement. Though Alfaro, Umana-Taylor, and Bamaca (2006) found that peer support was not significant, this study found that positive peers increased students' academic

achievement. The conflicting results from different studies on what predicted academic achievement shows the difficulty in understanding it achievement and how different cultures and environments can have a differential impact on academic achievement.

Muola (2010) conducted a study to investigate the relationship between school achievement and home environment. The factors investigated in this study were parental encouragement, parents' occupation, parents' education, family size and learning facilities at home. There was a low positive correlation between academic achievement and parents' occupation, education, family size and learning facilities at home, but no significant correlation was found with parental encouragement. The recommendation was to focus on the way encouragement was provided rather than how often it was provided. Parents were encouraged to be aware of the importance of the home environment for their children's achievement and to have reasonable and achievable goals instead of setting goals that would cause anxiety and fear of failure.

Stewart (2006) conducted a longitudinal study to explore the effect of family and individual predictors on the academic success of twelfth grade African American students. The results of the study showed that both individual and family predictors are important, with individual predictors directly affecting the academic achievement of students. Family predictors had both a direct and indirect effect on academic achievement. The predictors were: caregiver education, caregiver school involvement, family income, student motivation, household educational resources, students' perception of the school environment, and extracurricular involvement. The study found that previous achievements highly affected the students' achievements in the 12th grade. Moreover, students' motivation directly affected achievement. Family income did not

have an effect on achievement. Educational resources at home had a direct effect on achievement. As for the education of the caregivers and their involvement in the school, both had an indirect impact on achievement on 12th grade students. The extent by which caregivers provided an educational environment and structure at home influenced students' achievement. That was why African American families with low income lacked many resources that did not allow for the provision of a positive learning environment at home. Therefore, the findings indicated that involvement of parents or caregivers in their children's academic experiences is important and affects the students' academic achievement. School environment impacted achievement as well, particularly if students felt that teachers cared about them and there was good quality teaching. Finally, involvement in extracurricular activities proved to have a positive impact on academic achievement as well (Steward, 2006).

Theory of Achievement Motivation

The theory of achievement motivation integrates "two disciplines of scientific psychology: one concerned with assessment of individual differences, the other with basic behavioral processes" (Atkinson & Feathers, 1966, p.5). Whatever the outcome is, whether success or failure, it is the responsibility of the individual (Atkinson & Feathers, 1966).

Achievement motivation theory indicates that the socialization process at a young age is one of the ways by which individuals gain a sense of motivation or lack of motivation. This is supported by Shorr (1997) who stated that research on brain development found that the first three years of a child's life determine the development of human capacities more than any other later years. Shorr further explained that child

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development researchers found that early daily experiences shape children's capacity to learn.

Atkinson explained that the theory of achievement motivation is limited to achievement-oriented activity where the individual undertakes an activity with the expectation that this activity will be evaluated on some level of excellence. This theory also suggests that when there is a challenge to achieve something, there is the expectancy that the outcome will be either that of success or failure (Atkinson & Feather, 1966). Therefore, this theory emphasizes the resolution of the conflict between the tendency to succeed or fail with focus on the extrinsic motivations to embark on an activity, particularly if the achievement-oriented tendency is negative (Atkinson & Feather, 1966).

In other words, Atkinson (1957) explained that the theory of motivation should capture two problems: selection of path of action and consideration of the level of difficulty or vigor of the action. The problem of the selection of path is a result of the availability of other options from which the individual can choose, depending on the level of the difficulty of the task. If the individual does not have a choice to select a path, then the focus would be on the level of performance.

Atkinson (1957) further added that there are three variables at the heart of the motivation theory: motive, expectancy, and incentive. Motive is "a cognitive anticipation, usually aroused by cues in a situation, that performance of some act will be followed by a particular consequence" (p.360), expectancy is "the relative attractiveness of a specific goal that is offered in a situation, or the relative unattractiveness of an event that might occur as a consequence of some act [rewards & punishments] " (p. 360), and incentive is "conceived as a disposition to strive for a certain kind of satisfaction, . . . pride in

accomplishment, or the sense of belonging and being warmly received by others, or the feeling of being in control and influential" (p. 360). Two motives of interest that are evaluated against a standard of excellence are the motive to achieve success and the motive to avoid failure. The strength of the motivation is a multiplicative function of the three variables: motive, expectancy, and incentive "Motivation= f (Motive X Expectancy X Incentive)" (p.361).

According to Atkinson (1957), the implications of this theory are:

[P]erformance level should be greatest when there is greatest uncertainty about the outcome, i.e., when subjective probability of success is 0.50, whether motive to achieve or the motive to avoid failure is stronger within an individual. . . . person in whom achievement motive is stronger should prefer intermediate risk, while persons in whom the motive to avoid failure is stronger should avoid intermediate risk, preferring instead either very easy and safe undertakings or extremely difficult and speculative undertakings (p. 371).

In other words, the person whose achievement motive is stronger would choose a task that has intermediate difficulty levels where the odds are 50-50. The activity chosen should maximize the anxiety about failure. The person with a stronger motive to avoid failure would avoid tasks with intermediate risk and instead, choose an easy one so as to decrease the chances of failure or a very difficult task to justify the failure due to the level of difficulty and avoid self-blame or embarrassment. Both choices theoretically decrease the individuals' anxiety.

Another thing to consider is the importance of the difficulty level of the task; if the task is very easy, the excitement of the accomplishment would not be great. If the task

is very difficult, there would be a high sense of pride for achieving it. What follows is an elaboration of three important elements in this theory: the tendency to achieve success, the tendency to avoid failure, and the resultant achievement-oriented tendency.

The Tendency to Achieve Success (*Ts)*

This reflects on the individual interest in succeeding and on getting positive outcomes. This involves "the motive or need to achieve success (*Ms),*the strength of expectancy (or subjective probability) that success will be the consequence of a particular activity (*Ps)*, and the value of success is assumed at that particular activity (*Is)"* (Atkinson & Feather, 1966, p. 328). The value of success is determined by the difficulty of the activity "(i.e., *IS=1-Ps)"* (Atkinson & Feather, 1966, p. 328). Though past studies neglected the importance of the difficulty of the task or the expectancy of success as motivational variables that could be manipulated, the theory of achievement motivation gave these variables more importance and attention (Atkinson & Feather, 1966).

Regarding students, researchers found that IQs alone are not determinant of success or failure. What makes a significant difference is the expectations to perform better. Carr et. al. (1991) "have found that children with high IQs and high expectations of success in school do, in fact get the highest grades. Children with high IQs and children with low IQs and low expectations receive lower grades than children with low IQs and high expectations" (as cited in Tella, 2007).

The Tendency to Avoid Failure (*T-f)*

The motive to avoid failure (M_{AF}) combines multiplicatively with the expectancy of failure *(P_f)* and the incentive value of failure *(I_f)*. The special assumption that

incentive value of failure is more negative the easier a task, $I_f = -P_s$, together with the assumption that $T_{-f} = M_{AF} \times P_f \times I_f$, produces the general implications:

1. The tendency to avoid failure should be strongest when a task is one of intermediate difficulty. The difference is the strength of tendency to avoid failure, attributable to a difference in the difficulty of the task (P_f) will be substantial only when M_{AF} is relatively strong.

2. When the difficulty of a task is held constant, the tendency to avoid failure is stronger when M_{AF} is strong than when it is weak, but the difference in strength of tendency to avoid failure (M_{AF}) will be substantial only when the task is one of intermediate difficulty (Atkinson & Feather, 1966, p. 332).

The Resultant Achievement-Oriented Tendency

This is basically the result of the conflict between the tendency to approach success (T_s) or to avoid failure (T_{-f}); ($T_s + T_{-f}$). The resultant achievement-oriented tendency is positive when the tendency to achieve success is greater than the tendency to avoid failure ($M_S > M_{AF}$) and negative when the tendency to avoid failure is greater than the tendency to achieve success($M_{AF} > M_S$) (Atkinson & Feather, 1966). The following equation presents the basic determinants of the resultant achievement-oriented tendency:

$$T_s + T_{-f} = (M_S \times P_s \times I_s) + (M_{AF} \times P_f \times I_f)$$ (Atkinson & Feather, 1966, p. 333).

Based on the assumptions about the determinants of the tendency to avoid failure, the following two hypotheses are provided:

Hypothesis 1. Persons in whom $M_{AF} > M_S$, who therefore have *negative* resultant achievement-oriented tendencies, will avoid intermediate risk when constrained to undertake an achievement-oriented activity by some extrinsic tendency.

Hypothesis 2. The tendency to avoid failure, in resisting and dampening (i.e., subtracting from) the influence of positive tendencies to undertake an activity, will *normally* produce a decrement in achievement-oriented performance (Atkinson & Feather, 1966, p. 335).

To put it in simple terms, the theory of achievement motivation helps us understand the individual characteristics that affect students' success. This theory is important for this study because it explains why some individuals have the motivation to succeed and others do not. This theory indicates that the motivation for achievement is a result of the conflict between the motivation for success and the motivation to avoid failure. According to Atkinson, the way individuals resolve this conflict depends to a large extent on the individual's childhood experience (Covington, 1984). Thus, using the achievement motivation theory along with the social disorganization and ecological theories will result in a better understanding of many of the factors that influence students' success.

As previously mentioned, the motivation to achieve varies from one person to the other; for some people the motivation to achieve is high while for others it is low (Muola, 2010). As for students, who are the focus of this research, Salvin (2006) emphasized the importance of motivation in determining both the direction a person goes and what keeps that person going. For school children, it is important to promote motivation at a young age since that is when their beliefs, values, and self-concept begin to develop. It is these

factors that directly influence their evaluation of their own capabilities (as cited in Muola, 2010). This highlights the important role parents play in shaping these beliefs. Parents can provide independent training which encourages the child to be self-reliant and independent and consequently, promotes achievement motivation (Atkinson & Feather, 1966). Majoribanks (1979) also highlighted the importance of achievement training, dependent on the interaction between child and parents. During this time parents have high goals and expectations of the child to show competence when performing any task (as cited in Muola, 2010). Another complementary suggestion is that the socialization process and learning experiences affect the formation of the achievement motivation of individuals. This involves role models in the individual's lives. Those who are exposed to high achievers as models in their lives tend to want to achieve. Similarly, those who socialize with models who are low achievers do not develop a high need for achieving (Gesinde (2000) as cited in Tella, 2007). This could also be applicable in school environment. Children spend at least 6 hours a day at school in which they are in constant contact with teachers. Teachers can be significant role models in children's lives. The interaction between teachers and children along with the type of instruction and motivation they provide to students would influence children's beliefs about themselves, their potential, and capabilities. This is also a form of socialization that starts at a young age in the school system.

A study by Patrick, Kpangban, & Chibueze (2007) focused on students' need and desire to achieve high scores in science exams. The purpose of the study was to explore how motivation affected students' scores. The findings indicated that motivation significantly affected achievement on science tests, motivation is not gender-dependent,

and motivated students in single sex schools achieved better than students in coeducational schools.

Duda (1980) conducted a study on Navajo students. This study was an attempt to provide a different conceptualization of achievement motivation when applied to diverse groups in various situations. Results indicated that "(1) achievement is situationally and culturally determined; (2) success and failure are often distinct entities and, thus, should be assessed separately; (3) achievement could be defined as personal characteristics and behaviors rather than as the outcomes and products of one's actions; and (4) definitions of success and failure could focus on the group as well as the individual" (p. 329). The last point referred to the difference between collectivist and individualistic cultures. In a collectivist culture the success of the group meant also the success of the individual. The findings of this study challenged McClelland's definition of achievement as the "need to achieve" (p. 317) and the presence of the competitive element. This drew the attention to the fact that the term "achievement" could mean different things in different cultures; therefore, cultural elements should not be ignored and the meaning of achievement in each culture should not be disregarded. Navajo Indians did not perceive competition to be an important factor and saw no need for it. Achievement and success for them was not bound to accomplishments such as receiving high scores, but was tied more to a person's character and attributes. This study highlighted the voice of the students, not often the case in other studies. It took into consideration the cultural element as a variable in defining success because it is not universal or stable across cultures. Other studies already defined "success" depending on what they wanted to measure, be it an examination

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scores or going to college. Often, success was associated with a score, but this study allowed students to define what success meant to them.

Tella (2007) explored how motivating students towards academic gains could explain learning outcomes in mathematics. Results showed that academic performance varied depending on the degree of motivation and also varied among males and females. This study showed that there are gender differences unlike the study by Patrick, Kpangban, & Chibueze (2007).

A study by Dass-Brailsford (2005) aimed at identifying the factors that assist resiliency in black youth in South Africa living in severe socioeconomic environments. Academic achievement was used as an indicator of resiliency. Based on the findings of the study, this group of academically successful black students "was high achieving, had strong initiative and motivation, was goal oriented and experienced the self as having agency" (p. 574). The group also had supportive families, relationships with teachers (who were also black), role models and other supportive members in the community.

Achievement motivation theory could indirectly be reflected in teachers' qualification, and parents' demographics. The importance of the socialization process in promoting and providing motivation is an essential element in this theory that would possibly affect the academic achievement of students. Neighborhood characteristics (e.g. the resources available for students) could be motivating factors for students to achieve better.

The three theories presented: Social Disorganization Theory, The Ecological Theory, and Achievement Motivation Theory, all work together in order to explain the predictors of success of students. Social Disorganization Theory stresses on the role of

resources in determining the success or failure of individuals (Elliott & Mirrell, 1941);

The Ecological Theory highlights the importance of the interaction between the various

systems and the effect of such an interaction. This involves the effect of role models,

whether from the school, the neighborhood, or the family on the individual. As for the

Achievement Motivation Theory, it emphasizes the significance of motivation on

achievement.

Proposed Conceptual Framework

The following framework presents the proposed variables for the study. These

variables were derived from the three theories; social disorganization theory, ecological

theory, and, to a lesser extent, achievement motivation theory. Literature was provided to

support the choice of these variables. The conceptual framework presents two main

groups of variables that would impact the matriculation score as the dependent variable--

individual variables (e.g. individual and family characteristics) and environmental

variables (e.g. neighborhood and school characteristics).

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┌─────────────────────────────────────────────────┐
│ (1) Individual variables (IVs)                    │
│  ┌───────────────────────────────────────────┐   │
│  │ Individual Characteristics                │   │
│  │   • Gender                                 │   │
│  │   • Transfer Student                       │   │
│  │   • Tawjihi Stream                         │   │
│  │   • Neighborhood & school in the same area │   │
│  └───────────────────────────────────────────┘   │
│  ┌───────────────────────────────────────────┐   │
│  │ Family Characteristics                     │   │
│  │   • Family Structure                       │   │
│  │   • Parents' Level of Education            │   │
│  │   • Parents' Employment                    │   │
│  │   • Income                                 │   │
│  └───────────────────────────────────────────┘   │
└─────────────────────────────────────────────────┘

┌─────────────────────────────────────────────────┐
│ (2) Environmental variables (IVs)                 │
│  ┌───────────────────────────────────────────┐   │
│  │ Neighborhood Characteristics               │   │
│  │   • Political Pressure                      │   │
│  │   • Religious Support                       │   │
│  │   • Neighborhood Assets                     │   │
│  │   • Educational Facilities                  │   │
│  └───────────────────────────────────────────┘   │
│  ┌───────────────────────────────────────────┐   │
│  │ School Characteristics                      │   │
│  │   • School Type                             │   │
│  │   • School Gender                           │   │
│  │   • Classroom Shortage                      │   │
│  │   • Teachers' Qualifications                │   │
│  │   • Teachers' Years of Experience           │   │
│  │   • Quality of Buildings                    │   │
│  │   • Amount of Resources per school          │   │
│  │   • School effectiveness                    │   │
│  └───────────────────────────────────────────┘   │
└─────────────────────────────────────────────────┘

        ┌──────────────────────────┐
        │ Educational              │
        │ achievement (DV)         │
        │                          │
        │ (Matriculation Score)    │
        └──────────────────────────┘
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Figure 1. Hypothetical Model of Educational Attainment for Students in East Jerusalem

Individual Variables

Individual variables included both individual and family characteristics. It was very unlikely to have siblings all taking the matriculation exam at the same time, so children were not nested within families; therefore, family characteristics will be listed under the individual level and not as a separate variable.

Individual characteristics.

Gender. The Director of the East Jerusalem Education Bureau stated that girls in general performed better on the Tawjihi examinations than boys. Boys have more distractions and feel an obligation to help provide for the family. They were also tempted by the menial job opportunities that were usually available in West Jerusalem. As a result, they ended up spending less time on school work (S., personal communication, September 2012). This was supported by a female school principal who expressed that girls were more dedicated and invested more time in studying. This was because getting a good Tawjihi score would ensure their enrollment in college instead of being married off at a young age (M., personal communication, August 2012). A study by Hijazi and Masarwa (2012) on student dropout in East Jerusalem schools found that one the leading cause for female students' drop out was marriage. For male students, it was joining the labor force due to a decline in family economic resources.

Studies focusing on Arab cultures have found that female students performed better than male students. A study by Khwaileh and Zaza (2011) on the performance of undergraduate students at the University of Jordan which found that female students achieved better than male students. Another study by Al-Mulhim, Elsharawy, and Al Awad (2012) in Saudi Arabia found that female medical students performed better than

their male counterparts in subjective tests while the difference on written examination results was insignificant. A study by Makkawi (2012) on Palestinian female students in the West Bank and Gaza found that the overwhelming majority of distinguished Tawjihi students in the school year 2004/05 were females. This was also the case in previous years. The study found that some of the reason for that success included family support, attending girls' schools instead of co-ed ones, having supportive female teachers who were dedicated to their role as educators, individual characteristics of students being motivated, persistent, and having self-confidence, and lastly, the understanding that being educationally successful allowed for a role in the public sphere that would not be an option if they were not academically successful. Female students, unlike their male counterparts, needed to be educated in order to be involved in the public sphere. As was stated by Makkawi, if they were not academically successful, their options would be limited to getting married at a young age or staying with their family and doing domestic work.

Transfer student. This variable referred to whether students changed schools or remained at the same school. A study by Rumberger and Larson (1998) found that students who changed schools particularly in the last five years of school, were twice as likely to drop out of high school than students who did not transfer. Another study by Astone and Mclanahan (1994) suggested that changing schools due to residential mobility could lower the academic achievement of students. The study presented few explanations including the importance of the relationship between the student and the peers and teachers, not using all the resources available at the school, and not having a full understanding of the school system.

Tawjihi stream. The Tawjihi system is divided into multiple streams: literary, scientific, trade, industrial, and agricultural. The success rate varies among these streams. A report by the World Bank (2006) presented some statistics on the success rate of the different Tawjihi streams in the West Bank and Gaza Strip from 1995 to 2009. The report showed that the success rate of students in the scientific stream is the highest. School principals explained that this was due to the assignment of students to the different streams. The most common streams were scientific and literary. Students with higher grades were usually assigned to the scientific stream and the rest automatically assigned to the literary stream. One remark that was made by a number of principals is that due to this method of distribution, the scientific stream usually includes few students and the literary stream was left with a large number of students with lower academic performance for the most part (I., S., & R., personal communication, November 2012). What makes the Tawjihi stream very critical were the findings of a report that stressed the lack of life and work skills literary stream students suffer from after graduation (Tertiary Education Project, 2005).

Family characteristics.

Family characteristics included family structure, employment, level of education, religion, and income.

Family structure. This variable included the marital status of the parents, parents' age, and the number of people per household. This would reflect on the home atmosphere which could influence the individual's academic attainment. Muola (2010) found that family size played a role in students' academic achievement. The smaller the family, the more attention and help the parents could provide their children. Shields and Hanneke

(2008) found that based on GPA and American College Testing (ACT) scores, the older the parents were, the better the academic achievement of the children was. As for marital status, Astone and McLanahan (1991) found that children from intact families had better academic achievement than students from non-intact families. Children coming from a single-parent household or stepparent families were more likely to be disengaged from school. Also, children coming from a single-parent family reported lower academic expectations on the parents' part and less attention and help from parents.

Parents' level of education. While a study by Muola (2010) investigating the relationship between school achievement and home environment found a weak correlation between academic achievement and parents' education, a study by Woessmann (2001) found a strong correlation between parents' education and students' educational performance. Parents' with higher education would be able to assist their children with school work and provide them with the resources needed to improve their academic achievement more than parents with lower education (Muola, 2010). In Woessmann's study, students whose parents completed secondary school or higher achieved better than those whose parents completed elementary school only (2001). A study by Davis-Kean (2005) also found that parents' education had an effect on children's outcome manifested in their beliefs and expectations of their children.

Parents' employment. This included parents' employment and employment status. Parents' employment referred to whether parents were employed or not and employment status referred to the type of profession they practice, be it an academic or non-academic job. Muola (2010) conducted a study to investigate the relationship between school achievement and home environment. Based on students' answers on the

questionnaires, there was a significant positive correlation between academic achievement and parents' occupation. Muola's findings supported that better home environment leads to better academic achievement and that parents' employment is usually associated with their level of education. Parents' with better employment status, namely academic type jobs versus non-academic type jobs, would be able to offer their children more support and to provide them with more resources that would affect their academic achievement. Though Muola's study gave more attention to employment status, Stevens and Schaller (2011) focused on parents' job loss and its effect on children's academic achievement. Stevens and Schaller (2011) found that parent's job loss has a negative effect on children's academic performance represented in grades retention.

Income. This reflected on the socioeconomic status of the family. A study by Lacour and Tissington (2011) on the effects of poverty in the United States on academic attainment found that poverty negatively affected academic achievement. This was due to the lack of resources available for students, which created a gap between them and students who were financially better off. Furthermore, a study by Maani and Kalb (2007) conducted in New Zealand found that family income affected students' academic performance and decision to leave school at the age of 16. They also found that the effect of family income was not only dependent on the recent income but also on the income resources during early childhood. This reflected on parents' investment in their children's early childhood education and the resources they made available for their children. This was significant because the study found that childhood and teenage school performance played a role in students' decision to leave school.

Neighborhood and School in the Same Area.

A study by Sinha, Payne, and Cook (2005) revealed that students' academic achievement was improved when they attended schools with diverse students. This diversity was contingent on having children attend schools in different neighborhoods to increase the diversity of the school's population. Thus, attending schools that were not in the students' neighborhood had a positive effect on students' academic performance. Neild and Blafanz (2006) conducted a study on 9th grade students in the school year 1999-2000 in urban neighborhood high schools in Philadelphia. The findings of this study suggested that students who attended schools in their neighborhoods performed worse because of the effect of neighborhood characteristics, lack of funding and resources for neighborhood schools, and teachers tended to be under-qualified. When students did not attend schools outside their neighborhoods, schools within the neighborhoods ended up being burdened by students from economically challenged backgrounds who also had academically risk factors affecting their achievement. With such high-concentration of students and under-qualified teachers with limited resources, the academic achievement of students would be hindered. This corresponded with the previous study that stressed the importance of having schools with diverse students because that would prevent the concentration of students with challenged backgrounds in one school. Despite the findings of these studies, reports on East Jerusalem highlighted the damaging effect attending schools outside the neighborhood had on female students. The effects can be as extreme as having female students drop out of school as was mentioned in a Report by Hever (2007). This is due to the political dimension that plays a big role in the lives of people in East Jerusalem. It is important to note also the male

dominated cultural context that places females in a position of being sheltered and over-protected. This creates some difficulties for female students in regard to commuting to other neighborhoods to pursue their education.

Environmental Variables

Environmental characteristics were those elements that were external to the individual, yet, could influence the individual's achievement. Environmental variables consisted of neighborhood characteristics and school characteristics.

Neighborhood characteristics. Included political pressures, religious support, neighborhood assets, and educational facilities.

Political pressure. Political pressures included the presence of checkpoints, home demolitions, separation wall, and army and police patrols, all of which disrupted the daily activities and mobility of inhabitants, and in this specific study, students. Elliot and Merrill (1941) explained that "community disorganization is in a special way related to the decay of political interest in the local community" (p. 791). They further explained that mobility "involves psychological as well as physical change" (p. 301). The decay of political interest in East Jerusalem is exhibited in the political pressures imposed on the Palestinians by the State of Israel. This lack of interest in Palestinians in East Jerusalem is related to a political goal of increasing the population size of Israelis and decreasing that of Palestinians. The Israeli authorities practice various ways to ensure this increase. This includes:

Physically isolating East Jerusalem from the rest of the West Bank, in part by building the separation barrier; Discriminating in land expropriation, planning, and building, and demolition of houses; Revoking residency and social benefits of

Palestinians who stay abroad for at least seven years, or who are unable to prove that their center of life is in Jerusalem; Unfairly dividing the budget between the two parts of the city, with harmful effects on infrastructure and services in East Jerusalem. (B'Tselem, 2010, p.1)

This variable was important in my research since it reflected the disorganization on both the neighborhood and individual levels. Neighborhoods and Individuals are constantly exposed to psychological and physical change. They are directly affected by the decay of political interest in East Jerusalem. This is a critical element for students attending schools in East Jerusalem due to the political pressures they faced on a daily basis. Students cross checkpoints daily, run the risk of being harassed by Israeli soldiers, and some students have to cross the Separation Wall. In South Africa for instance, the Apartheid regime had a drastic effect on the black community leading to social disintegration. This negatively influenced the black community on multiple levels including the family level, economical level, education level, and community level (Emmett, 2001). *The impact of Israel's separation barrier on affected West Bank communities* (2003) report presented the disruptive effects of the Israeli Separation Wall on West Bank Palestinian communities. These effects included social disruptions with people struggling to access resources, economic struggles that came as a result of isolating people from their source of income as well as confiscating and destroying land that was mainly agricultural in order to construct the Wall, migration of the inhabitants due to the political pressures, and a decrease in the quality of education. To further accentuate the lack of political interest in bettering the educational system in occupied East Jerusalem, it was stated in an article by Asali-Nusseibeh that one of the leading

causes of dropping out of school was the lack of encouraging and motivating educational environments in East Jerusalem schools. That was partly due to the limitations the Israeli authority put on Palestinians, such as not granting them permits to build new schools in East Jerusalem. That resulted in forcing the Palestinian Ministry of Education to rent buildings that were not designed to be schools and to use them as educational facilities. Consequently, many schools suffered from overcrowding and lack of academic and recreational resources (2012). To exemplify this problem in figures, between 2005 and 2011 a total of 7,468 residency status was revoked by the Israeli Ministry of Interior out of which 4,577 were revoked in 2008 (B'Tselem, 2011) This encouraged the migration of Palestinians into East Jerusalem. This migration put a lot of pressure on East Jerusalem schools (S., personal communication, August 26, 2012).

Religious support. Receiving religious support through the availability of churches and mosques in the neighborhoods is important, especially in a community such as Jerusalem where people consider religion a main source of support and comfort. The results of a study by Ellison and George (1994) found that people who attended church had more social support and were part of a social network. They felt more cared for than those who did not attend church. Kim (2013) conducted a study in South Korea addressing the effect of religion on the society level and the individual level. The study confirmed that people who were involved in religious activities were more content and happy than those who were not. On a societal level, religious organizations often contribute to the society in aspects relating to, among other things, health and education. These studies indicated that having religious support contributes to individual's organization as well as to the community's organization. Churches and mosques in

Jerusalem provide the opportunity for developing social networks within the community. Therefore, the availability of religious support could be pivotal.

Neighborhood assets. This variable included neighborhood conditions in terms of resources such as refuse removal, traffic signs, paved streets to name a few. Also neighborhood assets were reflected in the number of businesses, institutional and recreational resources, public libraries, vocational training centers, and health resources. Some studies pointed out that the achievement of students was also dependent on what the students were exposed to and what resources were available for them. Madyun (2011) argued that based on the collective socialization model, every adult in the community served as a model for youths in that same community. The involvement in certain organizations allowed individuals to gain access to opportunities and also to learn skills. Therefore, the availability of resources was critical for youth.

Elliott and Merrill emphasized the role of resources in determining the failure or success of an individual (Elliott & Mirrell, 1941). A study by Hijazi (2009) on youth sector in East Jerusalem highlighted the importance of having local organizations in the community that would offer services and opportunities for youth. The results of the study showed that most youth were not involved in any educational or recreational activities and spent most of their time after school either with friends or watching TV at home. Moreover, many local organizations, a number of which offer educational programs to help students, faced many difficulties that prevented them from developing their programs and activities. That said, the study highlighted the importance of having local organizations because of their influential role in providing frameworks for students that would reduce dropout chances, such as offering educational programs for those who have

educational difficulties or engaging those who are not interested in academic education in vocational programs. Therefore, gathering information on the resources available in the different neighborhoods was pivotal.

Educational facilities. Some reports on the educational situation in Jerusalem indicated that because some neighborhoods did not have schools, students were forced to commute to other neighborhoods to pursue their education. That negatively influenced girls in particular because parents refused, for safety reasons, to send their daughters to other neighborhoods (Dayan, 2010). This was supported by Mahlomahola (2011) who found that one of the reasons for girl's dropout was the distance to school. Hever (2007) reiterated this point in his report stating that lack of schools within neighborhoods led to female students drop out because their parents refused to send them to neighboring villages for safety reasons.

Having schools within the neighborhoods could also affect the academic achievement of students. Shumow, Vandell, and Kang (1996) found that parents were more involved in neighborhood schools, which can positively affect students' academic achievement. Based on Math and Reading tests scores in a study by Sinha, Payne, and Cook (2005), it was found that students who attended school with other students from their neighborhood, along with students from diverse neighborhoods, yet, similar in their developmental resources, achieved higher scores on these two tests. Having peer groups who attended the same school can promote educational motivation since the focus is on school related issues instead of neighborhood issues if they were neighborhood peers only. Also, having such a group would require students to be of the same age instead of having varying ages in the group, which could possibly have a negative effect.

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School Characteristics.

School type. In a study by Newhouse and Beegle (2006), it was noted that students in public schools in Indonesia performed better than students in private schools. Moreover, there was a difference in the future academic performance depending on the school type attended; students who graduate from a general high school were more likely to enroll in college. School type can also influence parents' school choice. A study by Cappellari (2004) found that the type of high school Italian students attended depended mostly on their abilities as individuals and on their family background. In East Jerusalem, there are multiple school types. This variable could have an effect on the academic achievement as was indicated in the aforementioned studies. The funding that schools in East Jerusalem receive is sometimes dependent on the school's religious affiliation and school type. The sources of funding also determine the amount of funding received. Funding affects a school's ability to provide students with a healthy educational environment and adequate resources.

In East Jerusalem, it was expected that Christian private schools receive high funding from international religious resources and churches. Therefore, Christian schools would have good resources and better school buildings than many other schools in East Jerusalem. This could potentially affect the academic achievement of students. Also Private Muslim schools received funding from Muslim institutions or well-off Muslim families. Thus, schools from different types have different resources that could affect the quality of education.

It is commonly believed that Private schools in East Jerusalem offer better quality education. This was supported in a United Nations report (2011) "[p]rivate schools are

considered to offer high quality education and often provide additional subjects to the mainstream curriculum, such as foreign languages, music and the arts" (p. 85).

School gender. The gender of the students of a school could have an effect on the academic performance of students. The Palestinian Director of Education in Jerusalem stated that girls' schools have higher academic achievement than boys' schools (personal communication, September 2012). The dropout rates in boys' schools were greater, therefore resulting in a school environment that was not constantly promoting academic excellence. A study by Patrick, Kpangban, & Chibueze (2007) conducted in Delta State found that motivated students in single-sex schools performed better than students in co-ed schools. This finding was based on test results where students in single-sex schools achieved higher scores than those in co-ed schools. One explanation that was presented in the study was that educational programs in single boys school provided a good learning environment as well as space for students to develop self-esteem. No explanation was provided for the single girls school.

Classroom shortage. Determining whether classrooms suffered from over-crowding would help identify whether schools suffer from classroom shortage. This could reflect on the quality of education as supported in a study by Earthman (2002), where it was found that overcrowded classrooms have a negative effect on students' academic performance. This was supported by Greenwald, Hedges, and Laine (1996) who stated that smaller class size results in better academic achievement.

Teacher's qualifications. A study by Yara and Otieno (2010) found that there was a positive correlation between trained teachers and students' academic performance. Ghaffar, Rizvi, Asdaque, and Bilal (2011) stated that in order to have high academic

achievement, schools needed to have competent teachers. Moreover, a study by

Woessmann (2001) stated that having experienced and well-educated teachers positively

affected the quality of education. Reports on education in East Jerusalem indicated that

schools in East Jerusalem suffered from lack of qualified teachers due to the closures

imposed by Israel on the West Bank (Palestinian Territory), which prevented teachers

from entering Jerusalem (PCHR, 2011).

Quality of buildings. A study by Earthman (2002) on the effects of school facility

conditions on academic performance found that there was a positive relationship between

quality of buildings and students' academic performance. Also, the condition of the

school building affected both the students' performance and the teachers' effectiveness.

That said, Woessmann (2001) found that having instructional materials and resources was

more important than having school resources, which yielded an ambiguous relationship

with student performance. Based on personal interviews, principals from private schools

put less emphasis on the importance of the quality of buildings and more on students'

motivation to learn, while principals from Islamic schools where buildings were in dire

conditions emphasized the importance of having good buildings. Taking into

consideration the inconsistency in the findings and opinions, the effects of this variable

would be worth examining.

Amount of resources per school. A study by Yara and Otieno (2010) on the

relationship between teaching and learning resources and the academic performance of

students in Mathematics in schools in Kenya found that having teaching resources

changed teachers' attitude to teaching and also has a positive correlation with academic

performance. It was further noted that having classrooms and laboratories had a positive

effect on academic performance. Ghaffar, Rizvi, Asdaque, and Bilal (2011) supported the importance of physical resources such as drinkable water, laboratories and furniture. Also, Earthman (2002) found that having a comfortable room temperature was important. These physical resources influenced the academic performance of students. A study by Mattar (2011) on high and low performing schools in Lebanon found that low-performing schools lacked resources such as computers and laboratories and the schools needed some maintenance. Additionally, unlike high-performing schools, low-performing schools were not well connected with their surroundings.

     School effectiveness. School effectiveness was conceptualized as a healthy environment that enabled students to academically perform well. Academic performance in this study was presented in the percentage of students' absence per school, percentage of students matriculating per school, and matriculation exam success rate per school. A study by Macneil, Prater, and Busch (2009) suggested that schools that provide students with a healthy learning environment allow students to have better results on standardized tests. The focus was on school climate, which was measured on "the 10 dimensions of the Organizational Health Inventory" (p.73). The ten dimensions emphasize having "[g]oal focus, [c]ommunication adequacy, [o]ptimal power equalization, [r]esource utilization, [c]ohesiveness, [m]orale, [i]nnovativeness, [a]utonomy, [a]daptation and [p]roblem-solving adequacy" (p. 78). The two elements that were found to significantly affect the school climate were having a goal focus and adaptation. It was the principal's responsibility to identify the school culture and interact with the school climate in a way that would promote goal focus and increase adaptation. The focus on school effectiveness was emphasized in a book by Sadker and Zittleman (2009) who highlighted five elements

a school should have in order to be an effective one; strong leadership, clear mission, safe and structured environment, supervision of students' progress, and high expectations of students. These five elements lead to better academic results. Schools that have these five elements enable students to perform better by providing them with a more effective learning environment. Both studies focused on school climate as the essence of school effectiveness.

Moreover, school accountability was highlighted in two studies and was related to effectiveness. Macneil, Prater, and Busch (2009) measured school accountability by students' success rate and dropout rate. Ratings ranged from exemplary to low-performing schools with more accountable schools having better ratings. The other study by Glennie, Bonneau Vandellen, and Dodge (2012) addressed the issue of school accountability also in terms of school effectiveness and students' academic achievement. This study stressed that in order for schools to be accountable they have to improve schools and make them effective for all students including those who struggle academically. Providing effective schools for all students would lead to better success rate among students. Silver, Sanders and Zarate (2008) stated that ineffective schools can lead to students' disengagement. This would be manifested in frequent absences that eventually lead to dropout. The school environment was also highlighted in this study where the findings indicated that having racial and ethnic diversity within the school allowed students to be more engaged. Furthermore, when students were provided with courses that interested them, they felt more engaged. The study emphasized the effect of the school experience on the students' academic achievement.

Outcome variable

There was one outcome or dependent variable in this study: the matriculation exam score for each student. The matriculation exam score was critical in determining the academic future of students. It was their ticket to pursue higher education. Students could pass the matriculation exam, get incomplete, or fail. The passing score of the exam was also important. As was stated by the Director of the East Jerusalem Education Bureau, the Palestinian Ministry of Higher Education made a decision in 2010 not to admit students to universities if their Tawjihi score is less than 65. This applies to all Universities except for two, Al-Quds Open University and Al-Quds University. These two universities enroll students for a one-semester probation period, and based on the student's performance, it would be determined whether the student is allowed to finish his or her degree or be dismissed. Even if students obtain their degrees from universities abroad or in Israel, their degree is not accredited by the Palestinian Ministry of Higher Education if their Tawjihi score was less than 65 (S., personal communication, August 26, 2012). An "incomplete" is assigned when a student fails in up to three subjects but has the opportunity to retake those exams. A failing score indicates the student failed in more than three subjects and has to repeat the Tawjihi school year.

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Summary

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This chapter was an overview of the three theories that provided the foundation for the study and the conceptual framework. A literature review was also included to support the choice of these theories as well as the variables presented in the conceptual framework. It is worth mentioning that the studies discussed above were conducted in various environments with a number of different ethnicities. Results differed depending

on the environment and the sample. Therefore, when conducting a study it is important to account for the cultural background of the sample and the context in which the study is conducted because that could tremendously influence the outcome.

The social disorganization theory, ecological theory, and achievement motivation theory all complement each other and aid in enhancing the understanding of the presenting problem of the educational system in East Jerusalem. Both the social disorganization theory and the ecological theory are macro theories while the achievement motivation theory is a micro one. This mix of macro and micro theories allowed the researcher to analyze the problem from multiple angles, which consequently allowed for providing varying suggestions to improve the educational system in East Jerusalem.

CHAPTER III: METHODOLOGY

Research Goal and Hypothesis

"Research is to see what everybody else has seen, and to think what nobody else has thought." ~Albert Szent-Gyorgyi

The purpose of this mixed-method study was to identify the predictors of success of Tawjihi students in East Jerusalem (mainly populated by Palestinian). Also, this study aimed at exploring barriers that prevented students living in East Jerusalem from being successful. Social disorganization theory, ecological theory, and achievement motivation theory were used to guide the development of a conceptual framework. These theories assisted in answering the question of whether the relationship between individual, family, neighborhood, and school characteristics influenced the outcome of the individual on the Tawjihi examinations (matriculation exams).

Multilevel modeling was one way to explore how each broader level influenced the other levels that were nested in it. Individuals were nested in families and individuals were nested in schools and both schools and families were nested in neighborhoods. However, in this study, it was very unlikely to have siblings all taking the matriculation exam at the same time so children were not nested within families. Therefore, family characteristics were listed under the individual level and not as a separate variable. Hence, individuals were nested within schools that were nested within neighborhoods. The multilevel modeling also assisted in understanding the relationships between these

various characteristics, which consequently led to a better understanding of the outcome on the individual level. The study predicted that students with different individual characteristics, in different schools, and different neighborhoods within East Jerusalem would have different matriculation scores with some individuals, schools, and neighborhoods having better matriculation scores than others. There were three hypotheses that guided the study:

Hypothesis 1: It was hypothesized that on the individual level, girls, students who did not transfer, those who were in the scientific Tawjihi stream, those whose neighborhood and school were in the same area, those with supportive family characteristics, those with married parents, those who had older parents, those who had fewer people per household, those with parents with higher levels of education, those whose parents were employed in academic jobs, and those from families with better income, would perform better than students who did not have these characteristics.

Hypothesis 2: It was hypothesized that on the school level, Christian private girls' schools that had less classroom shortage, better qualified teachers, better buildings, more resources, and better school effectiveness would have better matriculation results and higher success percentages than other schools that did not have these characteristics.

Hypothesis 3: It was hypothesized that on the neighborhood level, students who lived in neighborhoods with less political pressure, with more religious support, more neighborhood assets, and more educational facilities would achieve academically better than those who lived in neighborhoods that did not have these characteristics.

Research Design

The research design of this mixed-method study was based on existing data, observational data, and a number of in-depth interviews with students who took the matriculation exam in the school year 2011-2012 to provide some insight to the results of the model testing. A cross-classified random effects model was tested. This design was a two-level cross-classified random effects model, in which students (level one) were cross-classified by neighborhoods (level-two) and schools (level-two); this meant that the effects of level 2 on level 1 result from "two cross cutting hierarchies" (Fielding & Goldstein, 2006, p.22) .

Multilevel modeling, where the focus is on understanding the context in which children receive their education has become the premier design to analyze educational data (Garner & Raudenbush, 1991). Multilevel modeling allows not only for understanding context but also provides an understanding of the intra-class correlation, which measures the degree of dependence between individuals who are nested in similar environments. For example, multilevel modeling could measure the degree of dependence between individuals who attended the same school (Kreft & de Leeuw, 1998). Kreft and de Leeuw (1998) stated that multilevel modeling is one of the best methods to answer questions relating to the effect of a specific environment on a specific group of people, in this case students. This means that multilevel modeling has been developed to analyze hierarchical models, "lower-level observations nested within higher level(s)" (p.1) such as students nested in schools.

The theories used are reflective of multilevel modeling. The social disorganization theory explains how disorganization on one level can lead to

disorganization on another level. The ecological theory explains how each level is nested

within another level and explains the interactions between these levels. Bronfenbrenner

(1979) explained the individual's experience "as a set of nested structures, each inside the

next, like a set of Russian dolls" referring to the four interrelated systems; microsystem,

mesosystem, exosystem, and macrosystems (p. 22 as cited in van de Vijver, van Hemert,

& Poortinga, 2008, p. 6).

Garner and Raudenbush (1991) point out three distinct contributions of multilevel

modeling in analyzing social-scientific data that has a nested structure. Observations in a

nested structure are not independent from each other, an important assumption in other

analytical models. With multilevel modeling, the interdependence of the observations are

recognized and accounted for. Multilevel modeling is also ideal for examining cross-

level effects, including within group interactive effects. This type of analysis also

provides more appropriate interpretation of the explanatory power of the model by being

able to separate "true" variance from sample variance.

The classification structure of the data for this study is shown in Figure 2. This

figure shows that the design of the study was a two-level cross-classified random effects

model, in which students (level one) were cross-classified by neighborhoods (level-two)

and schools (level-two).

Classification Diagram		Unit Diagram		

Level 2: School (k)

school 1 · school 2 · school 3

Level 1: Student (S) (i)

S1 S2 S3 S4 S5 S6 S7 S8 S9 S10

Level 2: Neighborhood (j)

Neighborhood1 · Neighborhood 2 · Neighborhood 3
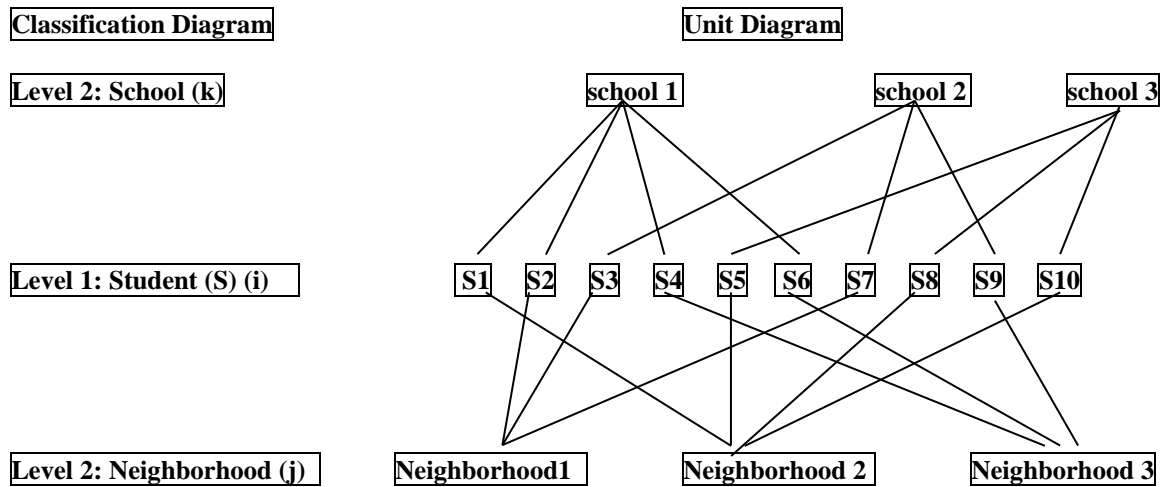
Figure 2. Cross-Classified Structure Classification Diagram

Data Source

This study was based on existing data and observational data as well as some

qualitative data to provide context for the model results. The existing data were gathered

from the different schools and from the Ministry of Education, with a few follow up

qualitative interviews with individuals who completed the exam. The schools provided

me with most of the data on school characteristics and individual characteristics. Other

data regarding quality of schools and neighborhood characteristics were gathered based

on observation. Data on neighborhood characteristics were retrieved from local

organizations within those neighborhoods and from neighborhood representatives, since,

because of the political circumstances of the country, those statistics were not available

for public use. Additional information was retrieved from reports written by human rights

organizations such as B'Tselem[12] and Badil[13]. Additionally, in-depth interviews were

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[12] An Israeli human rights center in the occupied territories (http://www.btselem.org/)

conducted with four students in order to include the students' voice in the study. This was

done to enrich the findings of this research as well as add to the knowledge that cannot be

gained from existing and observational data. These interviews were tape recorded with

the consent of the students. Students signed a consent form explaining the purpose of the

research, any potential risks, and their right to stop participating at any time.

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Sampling

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The approval of the University of Louisville Institutional Review Board (IRB)

was obtained before starting the sampling process. At a later point in the study, an

amendment to conduct in-depth interviews with four students was submitted to the IRB

and was approved prior to interviewing students.

The sample consisted of twenty schools selected from different neighborhoods in

East Jerusalem. The selection was based on certain characteristics, chosen to make sure

the sample was comprehensive. Schools were selected based on some characteristics

including political influence that might affect schools nested in those neighborhoods, a

school's willingness to participate in the study, and the history of the school in the

context of the Palestinian Israeli conflict (some schools were directly affected by the

Israeli occupation and were, at some point, the cornerstone of the education system in

Jerusalem). Unfortunately, some schools refused to participate claiming they wanted to

protect their students' privacy, even though students' privacy was guaranteed. Other

schools felt uncomfortable because they did not want to discuss funding issues. The

attempt to incorporate all types of schools in the study was faced with some

complications particularly since Sakhnin schools refused to participate and hardly

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[13] Is a non-profit organization and resource center for defending the rights of Palestinian refugees and internally displaced persons (www.badil.org)

communicated any reasons for their decision. The sample included different schools on the second level and all students who were matriculating in the year 2011-2012 nested in the selected schools. The sample of neighborhoods included in the study was determined by the neighborhoods in which the students of the selected schools lived.

Table 2 presents the distribution of schools along the different school types in East Jerusalem. The study included more girls' schools than boys' schools, due to the girls' schools being more willing to participate in the study.

Table 2 *A Summary of School Types by School Gender*

School Type	School Gender			Total
	Boys	Girls	Co-ed	
Private Christian	2	3	1	6
Private Muslim	1	1	0	2
Private For Profit	0	1	1	2
Waqf (Islamic)	2	3	0	5
Public	1	2	1	4
Private Not For Profit	0	1	0	1
Total	6	11	3	20

Table 3 illustrates the distribution of students in the different school types based on gender. The sample included a total of 522 students; 171 male students and 351 female students.

Table 3 *A Summary of Students' Gender by School Type*

Student's Gender	School Type													Total	
	Private Christian		Private Muslim		Private For-Profit		Waqf (Islamic)		Public Schools		Private Not-For-Profit				
	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Female	60	11.5	17	3.3	35	6.7	113	21.6	96	18.4	30	5.7	351	67.2
Male	28	5.4	21	4.0	27	5.2	61	11.7	34	6.5	0.0	0.0	171	32.8
Total	88	16.8	38	7.3	62	11.9	174	33.3	130	24.9	30	5.7	522	100.0

Though the study included East Jerusalem schools, a number of students did not live in East Jerusalem Neighborhoods. Students came from 19 neighborhoods. Some of these neighborhoods were under Israeli authority, others were under the Palestinian authority, and some were divided between both authorities. Table 4 presents the distribution of neighborhoods based on the ruling authority.

Table 4 *A Summary of Neighborhoods by the Ruling Authority*

Ruling Authority	Frequency
Area C (Israel)	11
Area B (PA Civil, joint PA Israel Security)	8
Area A (PA)	0
Total	19

The four students who were interviewed were selected by school principals based on the students' willingness to participate. There were a total of four interviews from two schools. The first was a public boys' school and the second was a Waqf girls' school. Each school provided two students, one who passed the Tawjihi exams and one who got an incomplete.

Due to the ever changing nature of the political circumstances of Israel, it is worth mentioning that some of the data collected for this study are only true for the time of its collection.

Power

Power depended on sample size and other design aspects—effect size or parameter values and the level of significance. With multilevel modeling, statistical power must be addressed on all levels. Power for level 1 (students) depended on the number of students in the study, which was 512, while power for level 2 depended on the number of schools and neighborhoods in the study, which was 20 and 19 respectively

(Snijders, 2005). Statistical power issues in multilevel modeling were complicated as the power differed for fixed effects versus random effects as a function of effect size, intraclass correlation, and the number of groups and cases per group (Cohen, Cohen, West, & Aiken, 2003).

Sample size in multilevel models refers to the number of units at each level (Kreft & De Leeuw, 1998; Snijders, 2005). Simulation studies (Kreft & De Leeuw, 1998) have suggested that large samples are needed for adequate power in multilevel models, and the number of schools and neighborhoods are more important than the number of individuals. According to Snijders (2005), it is desirable to have as many units as possible at the top level of the multilevel hierarchy. Kreft and De Leeuw (1998) suggested that at least 20 units are needed on the highest level to detect cross-level interactions. In this study, 20 schools on the second level were included along with 19 neighborhoods on the second level as well. On the first level, this study included 522 students.

Operationalization of Variables

Table 5 *Main Predictor Variables (Level 1 & 2)*

Variables	Description	Data Source
Individual Variables		
Individual Characteristics		
Gender		
	This was measured by whether the student is male or female (0= Female, 1= Male)	Retrieved from school records.
Transfer student		
	This was measured by whether the student is a transfer student or not (1=Yes, 2=No)	Retrieved from school records.
Tawjihi stream		

	This was measured by the stream in which the student is enrolled (1=Literary, 2=Scientific, 3=Trade).	Retrieved from school records.
Family Characteristics		
Family structure		
Marital status	This was measured by whether the parents are (1=Married, 2= Other (Divorced, Separated, Widowed & No Response)	Retrieved from school records.
Number of people per household	This was measured by the count of individuals living in the same house for each student.	Retrieved from school records.
Fathers' age	This was measured by the actual age of students' fathers.	Retrieved from school records.
Mothers' age	This was measured by the actual age of students' mothers.	Retrieved from school records.
Parents' level of education		
Fathers' level of education	This was measured by the count of years of education.	Retrieved from school records.
Mothers' level of education	This was measured by the count of years of education	Retrieved from school records
Parents' Employment		
Fathers' employment & employment status	This was measured by whether the father is (0= unemployed, 1=Academic Job, 2=Non-academic Job, 3=No Response)	Retrieved from school records.
Mothers' employment & employment status	This was measured by whether the mother is (0= unemployed, 1=Academic Job, 2=Non-academic Job, 3= No Response)	Retrieved from school records.
Income		

	This was measured on a five-point likert scale ranging from 1=poor to 5= excellent.	Retrieved from school records.
Neighborhood & School in the same area		
	This was measured by whether students attended schools in the same neighborhoods they resided in or not (1= Yes, school & neighborhood in the same area; 2= No, School & Neighborhood not in the same area).	Retrieved from school records.
Environmental Variables		
Neighborhood Characteristics		
Political pressure		
Checkpoints per thousand capita	This was measured by the count of checkpoints in and surrounding each neighborhood. The number was then calculated per thousand capita	Retrieved from community centers/councils and through observation
Home demolitions per thousand capita	This was measured by the count of houses that were demolished in each neighborhood. Then, this number was calculated per thousand capita	Retrieved from a report by Al-Maqdese for Society Development, which provides a breakdown of home demolitions from 1968-2010 (http://home.al-maqdese.org/attachment/000000388.pdf).
Separation wall	This was measured by whether there is a Separation Wall surrounding or cutting through the neighborhoods (0= Yes, 1= No)	Retrieved through observation
Army patrols	This was measured by how often does the Army patrol the neighborhood ; measured on a scale from	Retrieved from community centers/councils

Police patrols	1=Never to 5=Almost Always This was measured by how often does the police patrol the neighborhood ; measured on a scale from 1=Never to 5=Almost Always	Retrieved from community centers/councils

Religious support per thousand capita

	This was measured by the count of mosques, churches, and convents in each neighborhood. Then, the count was calculated per thousand capita.	Retrieved from community centers/councils and through observation.

Neighborhood assets

Neighborhood condition	This was measured on the mean of the condition of the available services. A scale from 1=poor to 5-excellent was used to measure the condition of the paved streets, traffic signs, refuse removal, condition of buildings, public transportation.	Retrieved from community centers/councils, and through observation
Density of neighborhood	A scale from 1=Not at all to 5=Extremely was used to measure the density of buildings.	
Neighborhood vitality per thousand capita	This was measured by the count of the services available (such as stores, offices, bookstores, factories, hotels, car dealers, coffee-shops, restaurants, local or international organizations … etc.), Institutional & recreational resources (count of sport centers,	Retrieved from the Palestinian Academic Society for the Study of International Affairs (PASSIA; passia.org), Chamber of Commerce, Community centers/councils, and through observation

	cultural centers, community center, public playgrounds, and public parks), public libraries, vocational training centers, and Health resources (the count of pharmacies, health and dental clinics, laboratories, & hospitals) per capita in each neighborhood. This number was then calculated per thousand capita.	
Educational facilities		
Schools in each neighborhood per thousand capita	This was measured by the count of schools in each neighborhood. Then, calculated per thousand capita	Retrieved from both the Palestinian and Israeli Ministries of education and community centers.
School Characteristics		
School type		
	This was measured by whether schools are ((1= Private Christian, 2= Private Muslim, 3= Private for-profit, 4= Waqf (Islamic), 5= Public schools, and 6= private not-for-profit schools)	Retrieved from school records.
School Gender		
	This was measured by whether the school is for boys, girls, or Coed	Retrieved from school records.
Classroom shortage		
	This was measured by a yes, no response on a questionnaire provided to each school based on the principals evaluation.	Retrieved from school records
Ratio of students to	This was measured by the	Retrieved from school

teachers	ratio of students to teachers at a school to reflect on overcrowding	records
Teachers' qualifications		
Years of education	This was measured by the mean years of education of teachers per school	Retrieved from school records.
Percentage of teachers with education degree	This was measured by the percentage of teachers with a degree in education out of the total number of teachers per school	Retrieved from school records.
Years of Experience	This was measured by the mean years of experience of the total number of teachers per school	Retrieved from school records.
Quality of buildings		
	This was measured by a safety checklist. A five-point likert scale ranging from 1=poor to 5=excellent was used for all items on the checklist. The mean score of all the items was then used to reflect on the quality of building for each school.	Retrieved from Wenatchee School District website http://home.wsd.wednet.edu/online_forms/hr_pdf/Facility%20Inspection%20Checklist.pdf
Resources per school per hundred student		
Manpower resources per hundred student	This was measured by the available manpower resources (Social worker, psychologist, nurse, doctor) per hundred students	Retrieved from school records.
Academic enhancement resources per hundred student	This was measured by the available academic enhancement resources (library, computer lab, science lab, playground, art	

	room) per hundred students	
Building resources per hundred student	This was measured by the available building resources (chairs, restrooms, multipurpose hall, emergency shelter, drinkable water, cafeteria) per hundred student	
School effectiveness		
Percentage of absence per school	This was be measured by the percentage of absence by school.	Retrieved from school records.
Percentage of students matriculating per school	This was measured by the percentage of students sitting for the ministry of education matriculation exam in each school by the end of the 2011-2012 school year.	Retrieved from the Palestinian Ministry of Education.
Percentage of Success in Matriculation exam per school	This was measured by the percentage of students who passed the ministry of education exams in each school in the 2011-2012 school year.	Retrieved from the Palestinian Ministry of Education.
Outcome Variable		
Matriculation Score		
	This was measured by the matriculation score for each student.	Retrieved from the Palestinian Ministry of education based on students' exam numbers.

Analysis Plan

Multilevel Model

Data were analyzed with the software package MLWin. A generalized hierarchical linear analysis was performed. There was one outcome or dependent variable in this study, matriculation exam scores for each student. This was a continuous variable.

Multilevel modeling was suitable for answering questions of effect: specifically, the effect of a certain environment on students (Kreft & de Leeuw, 1998). This study was aimed at understanding the effect of certain neighborhoods and school types on the academic attainment of Palestinian students in the East Jerusalem. Multilevel modeling allowed for the analysis of the between-group variability, and the effect of group characteristics on individual outcome (Steele, n.d). In this study, three kinds of correlations can be explored: intra-neighborhood, intra-aschool, and intra-cell correlations. Intra-class correlation according to Kreft and de Leeuw (1998) "measures the degree of dependence of individuals" (p.9). In other words, it was expected that students who were close in space and time -- for example, students who attended the same school and live in the same neighborhoods—would have more in common and share more similar experiences than students who attended different schools and lived in different neighborhoods.

The correlation between outcomes of students who lived in the same neighborhood but attended different schools was explored. This was referred to as intra-neighborhood correlation. The correlation between outcomes of students who lived in different neighborhoods but attended the same school was explored. This was discussed as the intra-school correlation. Finally, the correlation between the outcomes of students

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who lived in the same neighborhood and attended the same school was explored. It was identified as the intra-cell correlation (Raudenbush & Bryk, 2002). These correlations were estimated using the unconditional model, which did not involve any explanatory variables. This required analyzing data on an aggregate level—taking the mean scores of students who lived in neighborhood j and attend school k, or who lived in the same neighborhood and attended the same school, also referred to as the mean cell. These correlations helped understand the variance explained by the grouping structure, within-cell variance.

In this study there were different neighborhoods with different characteristics that affected students' outcome. Also, the different school types along with the characteristics of each school were expected to affect students' outcomes. It was deemed likely that students living in one neighborhood attended a school in a different neighborhood for various reasons, including parents' preference or lack of schools in a specific neighborhood. For example, two students who attended the same school but came from different neighborhoods might not have similar outcomes on the matriculation exam due to the effect of neighborhood explanatory variables. Thus, exploring the three correlations would allow for an understanding of the effect of the explanatory variables of the neighborhoods and schools on students' outcome, the degree of dependence of individuals, and the variance explained by the grouping structure.

On an individual level, using multilevel modeling was expected to allow for an understanding of the effect of the explanatory (predictor) variables on the response (outcome) variable; matriculation exam score. The explanatory variables for students in this study were gender, family structure, age, religion, parents' education, parents'

employment, family income. This meant that a student's outcome was conditional on the

predictors or the explanatory variables on the individual level.

Unconditional Model. The unconditional model is:

$$\text{Tawjihi Score}_i \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_i = \beta_{0i}\text{Constant}_i$$

$$\beta_{0i} = \beta_0 + u^{(2)}{}_{0,\text{Neighborhood}(i)} + u^{(3)}{}_{0,\text{School}(i)} + e_{0i}$$

$$[u^{(2)}{}_{0,\text{Neighborhood}(i)}] \sim N(0, \Omega^{(2)}{}_u) : \Omega^{(2)}{}_u = [\Omega^{(2)}u_{0,0}]$$

$$[u^{(3)}{}_{0,\text{School}(i)}] \sim N(0, \Omega^{(3)}{}_u) : \Omega^{(3)}{}_u = [\Omega^{(3)}u_{0,0}]$$

In the lowest level in this model (Level 1), student, is represented by (i) and the higher

levels in the model (Level 2), neighborhoods and schools, are represented by (2) and (3)

respectively. Neighborhoods and schools are both conceptually at level 2. The criterion

variable is a continuous one represented by the Tawjihi score of students.

The intra-neighborhood correlation is:

$$\text{VPC}_u = \sigma^2{}_{u(2)} / \sigma^2{}_{u(2)} + \sigma^2{}_{u(3)} + \sigma^2{}_e$$

The intra-school correlation is:

$$\text{VPC}_u = \sigma^2{}_{u(3)} / \sigma^2{}_{u(2)} + \sigma^2{}_{u(3)} + \sigma^2{}_e$$

The intra-cell correlation is:

$$\text{VPC}_u = \sigma^2{}_e / \sigma^2{}_{u(2)} + \sigma^2{}_{u(3)} + \sigma^2{}_e$$

Conditional Model. Conditional model, with individual variables is:

$$\text{Tawjihi Score}_i = \beta_{0i}\text{Constant}_i + \beta_1\text{Predictor}_i + u^{(2)}{}_{\text{Neighborhood}(i)} + u^{(3)}{}_{\text{School}(i)} + e_i$$

$$u^{(2)}{}_{\text{Neighborhood}(i)} \sim N(0, \sigma^2 u_{(2)})$$

$$u^{(3)}{}_{\text{School}(i)} \sim N(0, \sigma^2 u_{(3)})$$

$$e_i \sim N(0, \sigma^2{}_e)$$

All continuous predictors were grand-mean centered and the reference group for categorical predictors was set as the privilege group. For instance, the reference group for gender was female, for transfer student was No – meaning that students did not transfer to a different school throughout their school years, and Tawjihi stream was scientific.

Neighborhood predictor model is:

$$\text{Tawjihi Score}_i = \beta_{0i}\text{Constant}_i + \beta_1\text{neighpredict}_i + u^{(2)}_{\text{Neighborhood}(i)} + u^{(3)}_{\text{School}(i)} + e_i$$

$$u^{(2)}_{\text{Neighborhood}(i)} \sim N(0,\ \sigma^2 u_{(2)})$$

$$u^{(3)}_{\text{School}(i)} \sim N(0,\ \sigma^2 u_{(3)})$$

$$e_i \sim N(0,\ \sigma^2_e)$$

School predictor model is:

$$\text{Tawjihi Score}_i = \beta_{0i}\text{Constant}_i + \beta_1\text{neighpredict}_i + \beta_2\text{schoolpredict}_i\ u^{(2)}_{\text{Neighborhood}(i)} +$$

$$u^{(3)}_{\text{School}(i)} + e_i$$

$$u^{(2)}_{\text{Neighborhood}(i)} \sim N(0,\ \sigma^2 u_{(2)})$$

$$u^{(3)}_{\text{School}(i)} \sim N(0,\ \sigma^2 u_{(3)})$$

$$e_i \sim N(0,\ \sigma^2_e)$$

Qualitative Interview Analysis

Content analysis was used to analyze the qualitative data gathered from in-depth interviews with four students. Krippendorff (1980) defined content analysis as "a research technique for making replicable and valid inferences from data to their context" (p. 21). The transcribed interviews were summarized using coding and categorizing in order to identify themes. All four students were asked the same questions, and content analysis was used to provide an insight into the students' personal experiences during the Tawjihi school year. Since the interviews were limited to four students only, it is not

possible to generalize the findings. However, valuable information was provided that

helped both with the interpretation of the multilevel model and in gaining greater

understanding of the experiences of students in the East Jerusalem school system.

Summary

This chapter explained the methodology and analysis process of the data in order

to better understand the elements that affected the academic achievement of Palestinian

Tawjihi students in East Jerusalem schools. The results of the data analysis will lead to

the identification of the predictors of success of those students. The content analysis

technique was used to analyze the qualitative data obtained from interviews. These

interviews were intended to present the voice of those who were directly exposed to and

affected by the educational problems in East Jerusalem, information that could not be

retrieved from the quantitative data. The next chapter explains all the steps provided in

this chapter in a detailed manner. The findings will either support or refute this

hypothesis: that students with different individual characteristics, in different schools, and

different neighborhoods, within East Jerusalem will have different matriculation scores,

with some individuals, schools, and neighborhoods having better matriculation scores

than others.

CHAPTER IV: RESULTS

"Among those factors to be considered there will usually be the vital few and the trivial many." – *J. M. Juran*

The purpose of this study was to develop an understanding of the elements that influenced the academic achievement of Palestinian students in East Jerusalem schools. The goal was to identify the predictors of success for these students taking into account several different characteristics, both environmental and individual, which play a role in their academic achievement.

This chapter includes a presentation of the findings related to the following three hypotheses; 1) It was hypothesized that on the individual level, girls, students who did not transfer, those who were in the scientific Tawjihi stream, those whose neighborhood and school were in the same area, those with supportive family characteristics, those with married parents, those with older parents, those who had fewer people per household, those with parents with higher levels of education, those whose parents were employed, those whose parents had academic jobs, and those from families with better income, would perform better than students who did not have these characteristics; 2) It was hypothesized that on the school level, Christian private girls' schools that had less classroom shortage, better qualified teachers, better buildings, more resources, and better school effectiveness would have better matriculation results and higher success

percentages than other schools that did not have these characteristics; 3) It was

hypothesized that on the neighborhood level, students who lived in neighborhoods with

less political pressure, with more religious support, more neighborhood assets, and more

educational facilities would achieve better academically than students who lived in

neighborhoods that did not have these characteristics. In addition to presenting the

findings related to the three hypotheses, this chapter is also dedicated to presenting the

data collection process, description of the sample, and analysis of the data.

Data Preparation and Preliminary Analyses

Retrieving Data

The study was approved by the University of Louisville Institutional Review

Board (IRB) prior to collecting data for the research study. In order to conduct the

research and retrieve data on Tawjihi students who took the Tawjihi examinations in the

school year 2011-2012, an approval had to be granted by the minister of Education and

Higher Education in the Palestinian Ministry of Education, the Director of the East

Jerusalem Education Bureau, and the Director of Arab Education at the Israeli

Municipality of Jerusalem. This process was met with some challenges. After two months

of unfruitful attempts to talk to the Minister of Education, who had already received the

research proposal and letter requesting approval to conduct the research, I contacted the

head of Media Department at the Ministry of Education. She was very supportive and

granted the approval to move forward with my study in East Jerusalem schools. Once that

approval was granted, obtaining the approval of the Director of the East Jerusalem

Education Bureau was easy. The consent of the Director of Arab Education at the Israeli

Municipality of Jerusalem was granted after numerous phone calls and emails over a two-

month period. All this time spent in pursuit of approval delayed the actual process of conducting the research. As for the Tawjihi scores, only the scores for those who passed were provided. The rest of the scores were not saved electronically and there was no average score for those who failed, got incomplete, or were absent. To address the lack of needed data, after several months, I contacted the Palestinian Ministry of Education. Fortunately, they were willing to calculate the average score of those who failed, got incomplete, or were absent and emailed them to me to conduct the data analysis section.

To ensure confidentiality, the scores of the Tawjihi students were retrieved from the Palestinian Ministry of Education database based on students' Tawjihi ID numbers and not their names. This data included students' Tawjihi scores, Tawjihi stream, name of school attended, students' gender, and students' religion. Any additional students data had to be retrieved from schools. A letter of approval from the Palestinian Ministry of Education, a research proposal, and a survey questionnaire sample had to be presented to school principals to obtain their approval to participate in the study. The selection of the schools was based first and foremost on school principals' willingness to take part in the research, having schools from different neighborhoods, different school types, and different school gender. Some data pertaining to school and neighborhood characteristics were retrieved through observation. Statistics on neighborhood characteristics were not available for public use due to the political circumstances of the country. Therefore, it was necessary to request the assistance of neighborhood councils and representatives as well as local organizations, in completing neighborhood survey questionnaires. Additional information was retrieved from reports written by human rights organizations

as well as local organizations such as Badil[14] and Al-Maqdese. Additionally, to better understand the personal experience of students, in-depth interviews were conducted with four students (two girls and two boys) selected from two school types, Waqf and public, who were willing to cooperate. These interviews were tape-recorded with the consent of the students. Students signed a consent form explaining the purpose of the research, any potential risks, and their right to stop participating at any time.

Data screening

Individual Variables

The sample size originally consisted of 547 students. Twenty five students were initially excluded from the sample because data were missing on the neighborhood in which they lived. These data were required in order to perform multilevel analysis. In addition to the 25 students, another 10 students who were in the trade stream were removed from the sample. Due to the small group size, they could not be included in further analysis. The trade stream showed outlier performance and thus was excluded. As a result of power problems within the sample, with some groups having a small sample size compared to other groups, some variables had to be recoded, as will be explained in each section.

Parents' marital status variable included (1=married, 2= divorced, 3= separated, 4= widowed). This variable was recoded to include (1=married, 2= other). There were few cases of divorcees, separated or widowed, so it was decided to combine these cases in one category, "other." Furthermore, there were 14 cases with missing data on parents' marital status variable. To resolve that problem, the missing cases were given the value

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[14] Is a non-profit organization and resource center for defending the rights of Palestinian refugees and internally displaced persons (www.badil.org)

"other" and as a result, the category "other" came to include "no response" option as well (1= married, 2= others). **Parents' age** was also initially included but the percentage of missing data for mothers' age variable was 28.1% (N=147) and for fathers' age variable was 26.4% (N= 138), which exceeded the statistically acceptable missing data to be able to use the variable. Consequently, both fathers' and mothers' age variables were excluded. **Number of people per household** had 79 missing values (15%), which were substituted by the mean value of that variable. It was recognized that some bias could occur due to replacing so many missing values, but due to the importance of this variable in the analysis, it was kept. **Parents' employment** variable was also recoded into (0=unemployed, 1= employed in academic job, 2= employed in non-academic job). Initially, **parents' employment** included a variable about whether or not parents were employed and another variable about the type of job be it academic or non-academic. There were 47 missing cases on fathers' employment and 36 cases missing on mothers' employment. To address the problem of missing data, another value was added; (3= no response). **Parents' education** variable was also changed from levels of education into total years of education per level. Each level of education was instead assigned a number of years of education. Thus, elementary education was assigned 6 years, secondary education equaled 9 years, high school equaled 12 years, vocational education equaled 13 years, diploma equaled 14, and university education equaled 17 years. There were 54 cases of missing data on fathers' years of education and 46 cases on mothers' education. These missing values were replaced by the mean of each variable. Then this variable was recoded into 3 categories where 1= less than high school, including 6 through 11 years of school education; 2= high school, which equaled 12 years of education; and 3= some

college, which equaled any additional years of education beyond the 12 years of high school education. Finally, the **income** variable was missing data on 25 cases, which was resolved by replacing them with the median. This variable was initially measured on a five point likert scale (1= poor, 2= fair, 3= good, 4= very good, 5= excellent), which was then recoded into three groups (1= poor and fair, 2= good, 3= very good and excellent).

Neighborhood Characteristics

Initially, the study included 25 neighborhoods. However, in official resources such as the Palestinian Central Bureau of Statistics (PCBS) and the official Israeli website of the Jerusalem Municipality some of the neighborhoods were considered as extensions of each other, therefore, making it logical to combine these neighborhoods in the data analysis. Thus, instead of being presented separately, the following neighborhoods were combined:

1. Al-Ram and Dahiyet Al-Bareet.

2. Shu'fat Refugee Camp and Anata.

3. Sur Baher and Um Tubah.

4. Kufor Aqab and Sameramese.

5. Ras Al-Amoud and Silwan.

6. Sheikh Jarrah and Wad Al-Joz

Consequently, only 19 neighborhoods were listed in the study.

The variables **checkpoints** and **home demolitions** were only a count of each of these variables in each neighborhood. This was changed to per thousand capita to better understand the circumstances that people live under in each neighborhood. The **neighborhood assets** variable initially included five groupings: business, institutional

and recreational resources, number of public libraries, number of vocational training centers, and health resources, each presented separately. It was decided to have one variable only, neighborhood assets. Consequently, neighborhood assets came to include five main variables, comprised of a count of a number of variables. This included (a) the count of the services available, such as stores, offices, bookstores, factories, hotels, car dealers, coffee-shops, restaurants, local or international organizations, etc. . . .; (b) institutional and recreational resources, including a count of sport centers, cultural centers, community centers, public playgrounds, and public parks; (c) the count of public libraries; (d) the count of vocational training centers; and (e) a count of health resources, including a count of pharmacies, health and dental clinics, laboratories, and hospitals. Then, to make more sense of this data, the mean neighborhood assets was calculated per thousand capita. As for the **educational facilities** variable, it was decided to only include the count of the total number of schools per neighborhood per thousand capita without categorizing the schools by level or gender, as was initially intended.

School Characteristics

School type variable initially included 7 types of schools. However, private (Sakhnin) schools refused to be part of the study and were therefore excluded. As a result, the study included only 6 types of schools; (1= Private Christian, 2= Private Muslim, 3= Private for-profit, 4= Waqf (Islamic), 5= Public schools, and 6= private not-for-profit schools. Because Private Christian and Private Muslim schools were very similar in terms of funding and independence, they were combined into one category. The **ratio of students to teachers** variable was included to have a better understanding of school conditions including overcrowding. The **years of education** variable was initially

a count of the number of teachers with a certain educational level but the different levels of education were then converted into total number of education years for each level. It was then decided to use the mean years of education per teacher per school. This was calculated by multiplying the number of years of education assigned for each education level by the amount of teachers with that specific educational level. The overall total was then divided by the amount of teachers per school.

The variable **percentage of teachers with education degree** was initially a count of teachers with a degree in education in each school. This variable was presented as a percentage of teachers with education degrees out of total number of teachers per school. The **years of experience** variable was initially divided into groups based on years of experience and was based on the count of teachers in each group. It was then decided to use the mean years of experience of the total number of teachers per school.

The **quality of buildings** variable was based on a Likert Scale ranging from 1=poor to 5=excellent for a number of items. The mean of all the items was eventually used to reflect on the quality of school buildings. The **percentage of resources per student** variable was originally manifested in the count of three types of resources separately presented: manpower resources (e.g. social worker, psychologist, nurse, doctor), academic enhancement resources (e.g. library, computer lab, science lab, playground, art room), and building resources (e.g. chairs, restrooms, multipurpose hall, emergency shelter, drinkable water, cafeteria) calculated per hundred students. It was decided to combine the three groups into one variable, total number of resources. This was done to reduce the number of variables in the model and because it was clear that if a school was low on one type of resources, it was low on the other types as well. Finally,

the **school effectiveness** variable was included and was reflected in the percentages of absence of Tawjihi students per year per school, the percentage of students matriculating per school, and the percentage of students who passed the Tawjihi exam per school. The variable percentage of students matriculating was recoded into 3 groups (1= Less than 85% matriculating, 2= between 85% and 99% matriculating, 3= 100% matriculating) because the sample distribution warranted it be changed to a categorical variable.

The **building ownership** variable initially included three categories: 1= Rented, 2= Owned, 3= Part Owned part Rented; however, there was only one school that fell in the third category. Since the main school building was owned, this school was listed in the owned group. Thus, this variable was recoded to (0= Rented, 1= Owned) and that school was listed as "owned."

Missing data were found on a few variables. The **years of teachers experience** variable was missing information on 4 cases and the **teachers' qualification** variable was missing data on one case only. The missing data were replaced by the mean value of those variables. In order to calculate the percentage of teachers with a degree in education, there was a need to replace one case of missing data on the **number of teachers with education degree** variable with the mean and recalculate to get the percentage of teachers with a degree in education. The **percentage of absence** variable had missing cases that were replaced by the mean.

Variable Form Corrections

Some variables had moderate to severe positive/negative skewness and slight to strong kurtosis that exceeded the acceptable (+/-1) as is stated in Meyers, Gamst, and Guarino (2006). The highly skewed variables indicated that the distribution of the sample

was not normal and the mean was not at the center of the distribution. This implied that the number of outliers was large. As for kurtosis, it described the sample in terms of peakedness (Tabachnick & Fidell, 2007). A transformation was performed on these variables to allow for a normal sample distribution. The **percentage of success** variable was negatively skewed; therefore it was reflected before the transformation was done by computing the square root (SQRT). **Number of checkpoints**, and **neighborhood assets** were transformed by computing the logarithm (LG10). The **religious support** variable was transformed by computing the inverse. Some variables were normalized by trimming the mean to address the outlier issue, which could not be corrected using transformation. This included **teachers' education**, and **total school resources**.

<div align="center">**Description of Sample**</div>

Demographics

     Individual variables.

     Individual characteristics.

On the first level, the sample included both girls and boys who came from different neighborhoods and attended different schools. Some schools were single sex while others were co-ed schools. Due to the nature of the sampling process, the number of girls outweighed the number of boys, with girls constituting 67.38% (N=345) of the sample as presented in Table 6. A high percentage of these students (68.75%, N=352) had to transfer to a different school at some point because the schools they attended did not offer high school level education. Other students who lived in the West Bank area had to relocate to East Jerusalem to preserve their Jerusalem identity card and thus had to transfer schools. Once in high school, students were divided among different Tawjihi

streams. The schools included in the sample offered three streams: literary, scientific, and trade. However, literary and scientific streams were the most common ones in the school sample. This distribution was dependent on the students' scores. Those who scored higher in scientific subjects were assigned to the scientific stream, leaving the rest of the students in the literary or trade streams. Students in the literary stream composed 68.55% (N=351) of the sample. Half of the sample (52%, N=266) resided in the same neighborhoods as their schools.

Table 6 *A Summary of the Demographics of the Sample on the First Level (Individual Characteristics)*

Variable		Frequency	Percent
Level 1: Individual Variables			
Individual characteristics			
Students' Gender: N=512			
	Female	345	67.38
	Male	167	32.62
Student Transfer: N=512			
	Yes	352	68.75
	No	160	31.25
Tawjihi Stream: N=512			
	Literary	351	68.55
	Scientific	161	31.45
Neighborhood & School in the Same Area			
	Yes	266	52
	No	246	48

Family characteristics.

To better understand students' backgrounds, some information was collected on their families and neighborhoods, which is presented in Table 7 and Table 8. Table 7 shows that the majority of the students (91.80%, N=470) came from a two-parent household with a mean of 7.33 (SD=1.84) people per household (Table 8). While the majority of fathers (44.34%, N= 227) had some college education, only 24.61% (N=126)

of the mothers had some college education. The majority of the mothers (53.13%, N-272)

had high school education only. It was interesting to notice that 76.56% (N=392) of the

mothers were unemployed compared to only 7.62% (N=39) of the fathers. Only 16.41%

(N=84) of the mothers were employed with 13.28% (N=68) having academic jobs and

3.13% (N=16) having non-academic jobs. As for fathers, 83.39% (N=427) were

employed with 18.16% (N=93) having an academic job and 65.23% (N=334) having a

non-academic job. These percentages show that a large number of mothers were stay-at-

home moms and a large number of fathers had non-academic jobs. More than half of the

students (57.4%, N=294) came from families with good income.

Table 7 *A Summary of the Demographics of the Sample on the First Level (Family*

Characteristics)

Variable	Frequency	Percent
Level 1: Individual Variables		
Family characteristics		
Parents' Marital Status: N=512		
Married	470	91.80
Other	42	8.20
Fathers' Education: N=512		
Less than high school	97	18.95
High school	188	36.72
Some college	227	44.34
Mothers' Education: N=512		
Less than high school	114	22.27
High school	272	53.13
Some college	126	24.61
Fathers' Employment: N=512		
Unemployed	39	7.62
Academic	93	18.16
Non-Academic	334	65.23
No Response	46	9.98
Mothers' Employment: N=512		
Unemployed	392	76.56
Academic	68	13.28
Non-Academic	16	3.13
No Response	36	7.03
Income: N=512		
Poor and fair	91	17.8
Good	294	57.4
Very good and excellent	127	24.8

Table 8 *A Summary of the Descriptive Statistics of Level 1 Variables (Family*

Characteristics)

Variable	N	Mean	Median	SD	Range
Number of People Per Household	512	7.32		1.84	2.00-20.00

Environmental variables.

Neighborhood characteristics.

Table 9 shows that students came from 19 different neighborhoods with the

majority living in Beit Hanina (22.66%, N=116) followed by Jabal Al-Mukaber (11.52%,

N=59).

Table 9 *A Summary of the Distribution of Students by Neighborhoods*

Neighborhood	Frequency	Percent
Al-Isawiyah	7	1.37
Al-Ram & Dahiyet Al-Bareed	10	1.95
Al-Sheikh Jarrah & Wad Al-Joz	27	5.27
Al-Thory	14	2.73
Al-Tour	23	4.49
Beit Hanina	116	22.66
Beit Safafa	21	4.10
Shu'fat	25	4.88
Hizmah	5	0.98
Izzariyeh	7	1.37
Jaba	2	.39
Jabal Al-Mukaber	59	11.52
Kufor Aqab & Sameramese	30	5.86
Mikhmas	1	.20
Old City	46	8.98
Qalandia Refugee Camp	11	2.15
Sur Baher & Um Tubah	55	10.74
Silwan & Ras Al-Amoud	41	8.01
Shu'fat Refugee Camp & Anata	12	2.34
Total	512	100.0

Most of these neighborhoods were affected by the political situation one way or

another. Table 10 indicates that both army and police presence was noticeable in

neighborhoods with patrols happening often (Army = 3.84, (SD=1.07) and Police = 2.95,

SD=1.47) respectively. In addition, there was the imposition of checkpoints on residents

in most of the neighborhoods where the mean ratio of checkpoints per thousand resident

was 0.09 (SD=0.17). Home demolitions are another form of political pressure people

living in occupied East Jerusalem have had to endure since 1968, and data on the mean

ratio of home demolitions per a thousand person were 3.17 (SD=2.62). This meant that

for every thousand people there were around 3 home demolitions experienced in any

given neighborhood. Aside from the political pressures these neighborhoods were

exposed to, the neighborhoods are also not in their best conditions at the time of the

research. As presented in Table 10, neighborhood conditions had a mean of 2.46

(SD=0.65) out of a possible score of 5. This indicated that neighborhoods were mostly in

fair condition regarding streets, traffic signs, refuse removal, and public transportation.

Many neighborhoods were dense.

There was also a scarcity of resources available for the community. For example,

religious support per thousand persons had a mean ratio of 0.47 (SD=0.47), which meant

that there was less than half a religious resource for every thousand people. The mean

ratio of neighborhood assets per thousand people was 10.85 (SD=9.94) and the mean

ratio of schools per a thousand people was 0.58 (SD=0.28). Having around half a school

for every thousand people indicated a deficiency in the educational resources in some of

these neighborhoods. These numbers were reflective of neighborhoods that suffered from

lack of resources in almost every aspect.

Table 10 *A Summary of the Descriptive Statistics of Continuous Level 2 (Neighborhood Demographics)*

Variable	N	Mean	Median	SD	Range
Environmental Variables					
Neighborhood characteristics					
Checkpoints per 1000 people	19	.09		.17	.00-0.66
Home Demolitions per 1000 people	19	3.17		2.62	0.00-9.93
Religious Support per 1000 people	19	.47		0.47	0.09-1.97
Neighborhood Conditions	19	2.46		0.65	1.40-3.60
Neighborhood assets per 1000 people	19	10.85		9.94	3.05-40.14
Education Resources per 1000 people	19	0.58		0.28	0.2-1.32
Army Patrols	19	3.84	4.00	1.07	2.00-5.00
Police Patrols	19	2.95	4.00	1.47	1.00-5.00
Density of Buildings	19	3.74	4.00	1.10	1.00-5.00

The data indicated that the Separation Wall was a constant political pressure that people in those neighborhoods faced day in, day out. Table 11 showed that fifteen of the neighborhoods were either surrounded by the Separation Wall or had the Wall cut through them. The majority of the neighborhoods (N=11) were under the full Israeli civil and security control (Area C).

Table 11 *A Summary of Level 2 (Neighborhood Characteristics) Categorical Variables*

Variable		Frequency
Level 2: Environmental Variables		
Neighborhood characteristics		
Separation Wall: N=19		
	Yes	15
	No	4
Ruling Authority		
	Area C (Israel)	11
Area B (PA Civil, joint PA Israel Security)		8

School characteristics.

Students in the sample were distributed among 20 schools. Table 12 shows that the majority of the students attended Banat Jabal Al-Mukaber (10.9%, N=56) and Banat Abu Bakr Al-Sidiq (10.7%, N=55). Both are girls' schools and the first one is a Public school while the other is a Waqf (Islmaic) school.

Table 12 *A Summary of the Distribution of Students by Neighborhoods*

School Name	Frequency	Percent
Pilar Spanish School	7	1.4
Dar Al-Tifel	30	5.9
Therasanta	14	2.7
Rosary School	27	5.3
Al-Nithamiyeh	36	7.0
Al-Umeh High school	31	6.1
Schmidt's Girls College	12	2.3
Mar Mitri	10	2.0
Al-Fatah Al-Laji'a	18	3.5
Al-Fursan	20	3.9
Al-Iman Girls	17	3.3
Al-Iman Boys	21	4.1
St.George	18	3.5
Dar Al-Aytam	30	5.9
Banat Abu Bakr Al-Sidiq	55	10.7
Dar Alma'arifah	38	7.4
Al-Ma'mouniyeh	26	5.1
Beit Safafa	19	3.7
Iben Khaldun	27	5.3
Banat Jabal Al-Mukaber	56	10.9
Total	512	100.0

To allow for an understanding of the schools the students attended, the following section provides a description of the various schools based on a selection of variables that were deemed important for understanding the school environment (Table 13). Eight schools in the sample were private Christian and private Muslim schools. Following that were 5 Waqf (Islamic) schools. To further highlight the high number of female students, more than half of the schools (N=11) were girls' schools. Almost two thirds of the

principals (N=13) stated that schools suffer from classroom shortage. Out of the 20

schools in the study, 15 were owned. As for percentage matriculating, 14 schools out of

the 20 had a 100% matriculation rate.

Table 13 *A Summary of Level 2 (School Characteristics) Categorical Variables*

Variable	Frequency
Level 2: Environmental Variables	
School characteristics	
School Type: N=20	
Private Christian & Muslim	8
Private for-Profit	2
Waqf (Islamic)	5
Public	4
Private not-for-Profit	1
School Gender: N=20	
Boys' School	6
Girls' School	11
Co-ed	3
Classroom Shortage: N=20	
Yes	13
No	7
Building Ownership: N=20	
Rented	5
Owned	15
Percentage Matriculating: N=20	
Less than 85% matriculating	1
Between 85% and 99% matriculating	5
100% matriculating	14

Table 14 shows that the average ratio of students per teacher among the twenty

schools was 18.37 (SD=8.56), which indicates that classrooms in most schools in the

study are not very overcrowded. Teachers in the sample had a mean of 16.59 (SD=0.54)

years of education and a mean of 10.59 (SD=2.58) years of experience. The mean of

years of education indicates that most of the teachers had a Bachelor's degree. The mean

percentage of teachers who had a degree in education in the twenty schools was 31.32

(SD=29.57). The standard deviation is reflective of the distribution of the sample around

the mean, which in this case indicated that some schools had a small percentage of teachers with a degree in education. This variable is important because it affects the funding the school receives from the Israeli Ministry of education as will be further elaborated in the qualitative section.

Most school buildings were in good condition, with a mean quality of buildings of 3.35 (SD=0.65). For a hundred students there were 1.82 total resources in the form of manpower resources, academic resources, and building resources. On average, students had an absence rate of 3.85 (SD= 4.52) of all school days during the Tawjihi school year. As for percentage of success, schools had a mean success of 77.95 (SD= 21.16).

Table 14 *A Summary of the Descriptive Statistics of Continuous Level 2 School*

Demographics

Variable	N	Mean	Median	SD	Range
School characteristics					
Ratio of Students to Teachers	20	18.37		8.56	6.76-42.86
Years of Education	20	16.58		0.54	15.56-18.29
Percentage of Teachers with Education Degree	20	31.33		29.57	.00-88.46
Years of Experience	20	10.59		2.58	5.68-15.26
Quality of Buildings	20	3.35		0.65	2.05-4.67
Total resources per 100 students	20	1.82		1.35	0.16-4.84
Percentage of Absence	20	3.85		4.52	.00-15.00
Percentage of Success per School	20	77.95		21.16	26.37-100.00

Criterion Variable

Students' Tawjihi score was the only criterion variable used in the study as presented in Table 15. Tawjihi scores are a reflection of the academic achievement of students who matriculate. This study included students who matriculated in the school year 2011-2012. All the scores were retrieved from the database of the Palestinian Ministry of Education.

Table 15 *A Summary of the Descriptive Statistics of the Criterion Variable*

Variable	N	Mean	SD	Range
Tawjihi Score	512	70.73	19.09	0.00-98.80

To present a better understanding of the variations between students' scores and to reflect on their academic achievement, the continuous criterion variable was recoded into a categorical one as presented in Table 16. Based on a decision made by the Ministry of Higher Education, students who score less than 65 are not allowed to be enrolled in Palestinian Universities and are not to have their degrees accredited (S., personal communication, August 26, 2012). Therefore, in order to have a better understanding of the meaning and effect of the Tawjihi scores on students' academic future, this categorization was introduced. The table shows that the majority of the students (63.5%, N=325) passed with a score of 65 or above. However, this leaves 36.5% (N=187) of the students in the category of failed or passed with a score lower than 65. This percentage is very high and reflective of a problem in the academic achievement of students.

Table 16 *A Summary of Students' Tawjihi Status*

Tawjihi Status	Frequency	Percent
Failed	63	12.3
Passed but not accredited degree	124	24.2
Passed	325	63.5
Total	522	100.0

The chi-square test association was performed to examine whether there was a statistically significant association between the categorical individual variables and the categorical criterion variable shown in Table 17. Results show that there was a statistically significant association between gender, student transfer, Tawjihi stream, parents' employment status, parents' education and the Tawjihi exam results. There was

an academic achievement gap on the Tawjihi exams between boys and girls with 71.6% of the girls passing with a score of 65 or above compared to only 46.7% of the male students. More than half of the students who transferred to a different school (58.2%) scored 65 or above as opposed to 75% of those who did not transfer. It was interesting to see the results of the Tawjihi stream indicating that, while 88.8% of the students in the scientific streams scored 65 or above on the Tawjihi exam, only 51.9% of those in the literary stream scored 65 or above. Around 85% of students' fathers' and mothers' who had an academic job scored 65 or above. This compared to only 50% of those whose parents were unemployed. Students whose fathers' had some college education and scored 65 or above on the Tawjihi exams comprised 74% of the sample compared to 82.5% of students whose mother had some college education. There was no statistically significant association between religion, parents' marital status, income, neighborhood, school in the same area variables and the Tawjihi exam results.

The Cramer's V coefficients indicated a moderate relationship between gender and Tawjihi stream variables and the criterion variable and a weak relationship between student transfer, fathers' employment, mothers' employment, fathers' education, and mothers' education variables and the criterion variable. Six percent (Cramer's V= $0.253)^2$ of the variance in the academic performance of students on the Tawjihi exams was accounted for by gender. Less than 3% (2.62%) (Cramer's V= $0.162)^2$ of the variance in academic performance of students in Tawjihi exams was accounted for by Student transfer. Tawjihi stream accounted for 12.67% of the variance (Cramer's V= $0.356)^2$ in academic achievement of students on Tawjihi exams. Less than 3% (2.28%) of the variance (Cramer's V= $0.151)^2$ in academic achievement of students on Tawjihi exams

was accounted for by Fathers' employment status. Mothers' employment accounted for 2.69% (Cramer's V= 0.164)[2] of the variance in academic achievement of students on Tawjihi exams. While fathers' education explained 1.93% (Cramer's V= 0.139)[2] of the variance in the academic achievement of students on Tawjihi exams, mothers' education explained 2.28% (Cramer's V= 0.181)[2] of the variance.

Table 17 *Description of Individual Categorical Variables by Criterion Variable*

Individual Variable	Total Sample f (%)	<50%: Failed f (%)	< 65%: Passed but not accredited degree f (%)	≥ 65%: Passed f (%)	X^2 (df)
Gender					332.80**
Female	345 (67.4)	28 (8.1)	70 (20.3)	247 (71.6)	(2)
Male	167 (32.6)	35 (21.0)	54 (32.3)	78 (46.7)	
Student Transfer					13.36**
Yes	352 (68.8)	50 (14.2)	97 (27.6)	205 (58.2)	(2)
No	160 (31.3)	13 (8.1)	27 (16.9)	120 (75.0)	
Tawjihi Stream					65.06**
Literary	351 (68.6)	57 (16.2)	112 (31.9)	182 (51.9)	(2)
Scientific	161 (31.4)	6 (3.7)	12 (7.5)	143 (88.8)	
Parents' Marital Status					1.22
Married	470 (91.8)	60 (12.8)	114 (24.3)	396 (63.0)	(2)
Other	42 (8.2)	3 (7.1)	10 (23.8)	29 (69.0)	
Fathers' Employment Status					23.25**
Unemployed					(6)
Employed in Academic Job	39 (7.6)	6 (15.4)	11 (28.2)	22 (56.4)	
Employed in Non-Academic Job	93 (18.2)	5 (5.4)	9 (9.7)	79 (84.9)	
No Response	334 (65.2)	47 (14.1)	92 (27.5)	195 (58.4)	
	46 (9.0)	5 (10.9)	12 (26.1)	29 (63.0)	
Mothers' Employment Status					27.56**
Unemployed					(6)
Employed in Academic Job	392 (76.6)	61 (15.6)	104 (26.5)	227 (57.9)	
Employed in Non-Academic Job	68 (13.3)	2 (2.9)	9 (13.2)	57 (83.8)	
No Response	16 (3.1)	0 (0.0)	4 (25.0)	12 (75.0)	
	36 (7.0)	0 (0.0)	7 (19.4)	29 (80.6)	

Predictors	Total	<50%: Failed	<65%: Passed but not accredited degree	≥65%: Passed	
Fathers' Education					19.66** (4)
Less than high school	97 (18.9)	14 (14.4)	29 (29.9)	54 (55.7)	
High school	188 (36.7)	28 (14.9)	57 (30.3)	103 (54.8)	
Some College	227 (44.3)	21 (9.3)	38 (16.7)	168 (74.0)	
Mothers' Education					33.63** (4)
Less than high school	114 (22.3)	18 (15.8)	41 (36.0)	55 (48.2)	
High school	272 (53.1)	40 (14.7)	66 (24.3)	166 (61.0)	
Some College	126 (24.6)	5 (4.0)	17 (13.5)	104 (82.5)	
Income					0.15 (4)
Poor & fair	91 (17.8)	12 (13.2)	22 (24.2)	57 (62.6)	
Good	294 (57.4)	36 (12.2)	72 (24.5)	186 (63.3)	
Very good & excellent	127 (24.8)	15 (11.8)	30 (23.6)	82 (64.6)	
Neighborhood & School in the Same Area					1.32 (2)
Yes	266 (52.0)	37 (13.9)	63 (23.7)	166 (62.4)	
No	246 (480)	26 (10.6)	61 (24.8)	159 (64.6)	

Note. **The mean difference is significant at the .05 level.

Following a description of the sample, an ANOVA was performed to examine

whether there was a statistically significant difference between individual (Level 1)

predictor variable, number of people per household, and students' academic achievement

illustrated in the Tawjihi examination results. Results presented in Table 18 show that

students who scored 65 or above on the Tawjihi exam lived in a house with fewer people

per household than those who passed with a score less than 65 and those who scored less

than 50.

Table 18 *Description of Continuous Individual Predictors by Criterion Variable*

Predictors	Total Sample M (SD)	<50%: Failed M (SD)	< 65%: Passed but not accredited degree M (SD)	≥ 65%: Passed M (SD)	F Value (df)
Number of People per Household	7.32 (1.85)	7.57 (1.75)	7.64 (1.96)	7.15 (1.81)	3.837** (2)

Note. **The mean difference is significant at the .05 level.

A Chi-square test association presented in Table 19 was performed to examine

whether there was a statistically significant association between the categorical

neighborhood variables and the categorical criterion variable. Results indicated that there

was no significant association between the predictor and criterion variables.

Table 19 *Description of Neighborhood Categorical Variables by Criterion Variable*

Neighborhood Variable	Total Sample f (%)	<50%: Failed f (%)	< 65%: Passed but not accredited degree f (%)	≥ 65%: Passed f (%)	X^2 (df)
Ruling Authority					0.813
Area C (Israel)	434 (84.8)	52 (12.0)	103 (23.7)	279 (64.3)	(2)
Area B(Joint)	78 (15.2)	11 (14.1)	21(26.9)	46 (59.0)	
Separation Wall					
Yes	393 (76.8)	43 (10.9)	98 (24.9)	252 (64.1)	3.024
No	119 (23.2)	20 (16.8)	26 (21.8)	73 (61.3)	(2)

Note. **The mean difference is significant at the .05 level.

Following a description of the sample, a number of ANOVAs were performed to

examine whether there was a statistically significant difference between neighborhood

(Level 2) predictor variables and students' academic achievement, illustrated in the

Tawjihi examination results (the categorical variable). Table 20 presents the results on

neighborhood predictor variables. Results indicate that none of the neighborhood

variables were significant.

Table 20 *Description of Continuous Neighborhood Predictors by Criterion Variable*

Predictors	Total Sample M (SD)	<50%: Failed M (SD)	< 65%: Passed but not accredited degree M (SD)	≥ 65%: Passed M (SD)	F Value (df)
Checkpoints	0.73 (2.17)	0.69 (2.36)	0.71 (2.18)	0.75 (2.14)	0.372 (2)
Home Demolitions	4.22 (2.74)	3.55 (2.77)	4.16 (2.53)	4.37 (2.79)	2.36 (2)
Religious Support	0.23 (0.42)	0.27 (0.47)	0.23 (0.39)	0.23 (0.42)	2.043 (2)
Neighborhood Conditions	2.61 (0.65)	2.71 (0.63)	2.54 (0.66)	2.62 (0.64)	1.588 (2)
Neighborhood assets	7.58 (2.04)	7.47 (2.21)	7.70 (2.04)	7.58 (2.00)	0.240 (2)
Education Resources	0.54 (0.21)	0.49 (0.21)	0.54 (0.22)	0.55 (0.21)	2.64 (2)

Note. **The mean difference is significant at the .05 level.

Table 21 presents the findings of the Spearman rho correlation. This was performed to examine the relationship between police patrols, army patrols, density of buildings variables, and the categorical criterion variable. Results indicated that there was no statistically significant relationship between the criterion variable and any of these variables.

Table 21 *Description of Individual and Environmental Ordinal Variables by Criterion Variable*

	Army Patrols	Police Patrols	Density of Buildings
Tawjihi Score (Categorical)	-.009	.020	-.033

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

As for the association between the criterion variable and the school variables, results indicated a statistically significant relationship between type of school, school gender, and percentage matriculating variables and the Tawjihi exam results. However, there was no statistically significant association between classroom shortage, building ownership variables, and the criterion variable. Table 22 shows that Private Christian and Muslim schools were the highest performing schools with a percentage of 83.3% (N=105) students scoring 65 or above on the Tawjihi exams. Public schools had the highest percentage of failure (17.2%, N=22) in the Tawjihi exams. Girls' schools performed better than boys' or co-ed schools with 73.7% (N=224) of the girls scoring 65 or above on the Tawjihi exams compared to boys' schools (50.4%, N=71) and co-ed schools (44.8%, N=30).

School type accounted for 4.71% of the variance (Cramer's V= 0.217)^2 in academic achievement of students on Tawjihi exams. As for school gender, it accounted

for 3.69% of the variance (Cramer's V= 0.192)[2] in academic achievement of students.

Percentage matriculating variable accounted for 0.90% of the variance (Cramer's V=

0.095)[2] in academic achievement of students on Tawjihi exams. Cramer's V coefficient

indicated a moderate relationship between school type variable and the criterion variable

and a small relationship between school gender and percentage matriculating variables

and the criterion variable.

Table 22 *Description of School Categorical Variables by Criterion Variable*

School Variable	Total Sample f (%)	<50%: Failed f (%)	< 65%: Passed but not accredited degree f (%)	≥ 65%: Passed f (%)	X^2 (df)
School Type					48.297**
Private Christian & Muslim	126 (24.6)	5 (4.0)	16 (12.7)	105 (83.3)	(8)
Private for-Profit	58 (11.3)	9 (15.5)	17 (29.3)	32 (55.2)	
Waqf (Islamic)	170 (33.2)	27 (15.9)	44 (25.9)	99 (58.2)	
Public	128 (25.0)	22 (17.2)	44 (34.4)	62 (48.4)	
Private Not-for-Profit	30 (5.9)	0 (0.0)	3 (10.0)	27 (8.3)	
School Gender					37.860**
Boys' School	141 (27.5)	27 (19.1)	43 (30.5)	71 (50.4)	(4)
Girls' School	304 (59.4)	21 (6.9)	59 (19.4)	224 (73.7)	
Co-ed	67 (13.1)	15 (22.4)	22 (32.8)	30 (44.8)	
Classroom Shortage					
Yes	305 (59.6)	32 (10.5)	78 (25.6)	195 (63.9)	2.612
No	207 (40.4)	31 (15.0)	46 (22.2)	130 (62.8)	(2)
Building Ownership					
Rented	124 (24.2)	10 (8.1)	28 (22.6)	86 (69.4)	3.463
Owned	388 (75.8)	53 (13.7)	96 (24.7)	239 (61.6)	(2)
Percentage Matriculating					9.298~
Less than 85% matriculating	38 (7.4)	4 (10.5)	13 (34.2)	21 (55.3)	(4)
85% to 99% matriculating	149 (29.1)	19 (12.8)	46 (56.4)	84 (56.4)	
100% matriculating	325 (63.5)	40 (12.3)	65 (20)	220 (67.7)	

Note. **The mean difference is significant at the .05 level.

Table 23 examines the relationship between school (Level 2) predictor variables

and the categorical criterion variable. The table shows that students who scored 65 or

above had a higher student to teacher ratio, but better building quality than those who

passed with a score of less than 65 or failed scoring less than 50. Teachers' education and

teachers' years of experience had a very similar mean across the three categories of

Tawjihi scores. However, while students scoring 65 or above attended schools where teachers had a slightly higher mean of years of experience, students who failed with a score less than 50 attended schools where teachers had a slightly higher mean of years of education. It was observed that those who failed the Tawjihi examination had slightly higher mean of total resources although the mean of total resources was almost the same for all the three groups. Students who passed with a score less than 65 attended schools with the highest percentage of absence. As for those who passed with a score of 65 or above, they attended schools with the highest percentage of success.

Table 23 *Description of Continuous School Predictors by Criterion Variable*

Predictors	Total Sample M (SD)	<50%: Failed M (SD)	< 65%: Passed but not accredited degree M (SD)	≥ 65%: Passed M (SD)	F Value (df)
Ratio of Students to Teachers	20.47 (9.69)	18.44 (8.83)	19.36 (10.12)	21.29 (9.61)	3.381** (2)
Teachers' Years of Education	16.56 (0.36)	16.65 (0.34)	16.61 (0.27)	16.52 (0.38)	5.574** (2)
Percentage of Teachers with Education Degree	32.52 (31.12)	26.02 (31.76)	38.85 (35.21)	31.37 (28.96)	4.212** (2)
Mean Years of Teachers' Experience	10.69 (2.36)	10.29 (2.73)	10.65 (2.36)	10.79 (2.29)	1.229 (2)
Quality of Buildings	3.19 (0.63)	2.97 (0.61)	3.03 (0.47)	3.30 (0.66)	13.497** (2)
Total Resources	1.37 (0.99)	1.38 (0.82)	1.37 (1.02)	1.37 (1.00)	0.001 (2)
Percentage of Absence	4.58 (4.97)	4.56 (4.02)	5.85 (5.27)	4.10 (4.95)	5.635** (2)
Percentage Success	82.94 (3.97)	59.90 (3.78)	76.37 (2.70)	88.33 (2.94)	85.860** (2)

Note. **The mean difference is significant at the .05 level.

Model Building

To start the model building process, a cross-tabulation analysis was performed. The result indicated that there was at least one student in each of the 19 neighborhoods who attended one of the 20 high schools. Additionally, one student in each of the high schools resided in one of the 19 neighborhoods. Thus, students were nested in schools

and in neighborhoods. This was not a hierarchical model, yet, it was not evident if it was a cross-classified one either. In order to determine if this was a cross-classified model, I needed to check for the effect of both the neighborhood and school predictors. If the combination of both neighborhood and school predictors improved the model then it would have been a cross-classified model, otherwise it would have not. Table 24 presents the distribution of students by schools and neighborhoods.

Table 24 *Cross-tabulation of Neighborhoods by Schools*

Neighborhoods	School Name																				Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Al-Isawiyah	0	2	0	0	0	0	0	1	0	2	0	0	1	0	0	0	1	0	0	0	7
Al-Ram & Dahiyet Al-Bareed	0	0	0	0	1	6	0	2	0	0	0	1	0	0	0	0	0	0	0	0	10
Al-Sheikh Jarrah & Wad Al-Joz	0	8	0	4	0	1	3	2	1	0	1	1	2	2	0	2	0	0	0	0	27
Al-Thory	0	0	0	0	0	0	0	0	2	0	0	1	2	4	1	0	4	0	0	0	14
Al-Tour	0	4	0	1	0	0	0	0	3	0	0	2	1	5	0	1	5	1	0	0	23
Beit Hanina	1	0	7	12	27	4	4	1	3	16	9	12	4	1	0	1	1	0	13	0	116
Beit Safafa	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	18	0	0	21
Shu'fat	0	2	0	3	4	0	1	1	0	0	4	1	2	2	0	0	2	0	4	0	25
Hizmah	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Izzariyeh	2	2	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	7
Jaba	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Jabal Al-Mukaber	0	4	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	53	59
Kufor Aqab & Sameramese	0	2	0	2	0	3	0	0	0	1	0	0	0	0	0	22	0	0	0	0	30
Mikhmas	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Old City	1	3	5	4	0	0	2	3	3	0	1	1	3	8	0	8	2	0	3	0	46
Qalandia Refugee Camp	0	0	0	0	0	8	0	0	1	0	0	0	0	0	0	2	0	0	0	0	11
Sur Baher & Um Tubah	0	0	1	0	0	0	0	0	1	0	0	0	0	0	52	0	0	0	0	1	55
Silwan & Ras Al-Amoud	3	2	0	1	3	1	0	0	3	0	2	2	2	5	1	2	12	0	0	2	41
Shu'fat Refugee Camp & Anata	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	1	0	7	0	12
Total	7	30	14	27	36	31	12	10	18	20	17	21	18	30	55	38	28	19	27	56	512

Note. School code: 1=Pilar Spanish School, 2=Dar Al-Tifel, 3=Therasanta, 4=Rosary School, 5=Al-Nithamiyeh, 6=Al-Umeh High school, 7=Schmidt's Girls College, 8=Mar Mitri, 9=Al-Fatah Al-Laji'a, 10=Al-Fursan, 11=Al-Iman Girls, 12= Al-Iman Boys, 13=St. George, 14=Dar Al-Aytam, 15=Banat Abu Bakr Alsidiq, 16=Dar Alma'arifah, 17=Al-Ma'mouniyeh School, 18=Beit Safafa School, 19=Iben Khaldun, 20=Banat Jabal Al-Mukaber

Model A is a single-level model for students' Tawjihi Scores prior to including any predictors. The model estimated the overall mean, 70.73 (S.E.= 0.83) and overall variance, 365.69 (S.E.=23.14) of students' Tawjihi scores. The model equation is written as:

$$\text{Tawjihi Score}_i \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_{i\,=\,}\beta_{0i}\text{Constant}_i$$

$$\beta_{0i} = \beta 0 + e_{0i}$$

$$[e_{\,0i}] \sim N(O, \Omega_e) : \Omega_e = [\sigma^2_{e0}]$$

Model B is a two-way cross-classified variance components model with students at level-1 and schools and neighborhoods at level 2. This model differed from Model A in that it disintegrated the total variance in students' academic achievement into separate neighborhood, school, and student variance components. The model expressed, using classification notation, is written as:

$$\text{Tawjihi Score}_i \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_i = \beta_{0i}\text{Constant}_i$$

$$\beta_{0i} = \beta_0 + u^{(2)}_{0,\text{Neighborhood}(i)} + u^{(3)}_{0,\text{School}(i)} + e_{\,0i}$$

$$[u^{(2)}_{0,\text{Neighborhood}(i)}] \sim N(0, \Omega^{(2)}_u) : \Omega^{(2)}_u = [\Omega^{(2)}u_{0,0}]$$

$$[u^{(3)}_{0,\text{School}(i)}] \sim N(0, \Omega^{(3)}_u) : \Omega^{(3)}_u = [\Omega^{(3)}u_{0,0}]$$

$$[e_{\,0i}] \sim N(0, \Omega_e) : \Omega_e = [\Omega_{e0,0}]$$

In order to determine which model best fit, comparative analyses were performed comparing the Deviance Information Criterion (DIC) of each model. DIC is based on fit and complexity and in order for a model to be a better fit, it has to be less complex. A

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smaller DIC value is representative of a better model. As highlighted in Table 25, Model

B reduces (improves) the DIC by a substantial 196.775 points.

Table 25 *Model Comparison (A and B)*

		Model A		Model B	
Parameter		Estimate	Std. Err.	Estimate	Std. Err.
β_0	Intercept	70.732	0.831	71.164	2.910
$\sigma^2_{u(3)}$	School variance	-	-	163.414	63.827
$\sigma^2_{u(2)}$	Neighborhood variance	-	-	1.436	3.988
σ^2_e	Student variance	365.691	23.135	240.274	15.136
	Bayesian DIC	4,476.113		4, 279.338	
	Pd	1.981		19	

Note. DIC: Deviance Information Criterion

  pD: estimated degrees of freedom

Model C is a two-level students-within-neighborhoods model, without accounting

for the clustering of students within schools. The model equation is written as:

$$\text{Tawjihi Score}_i \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_i = \beta_{0i}\text{Constant}_i$$

$$\beta_{0i} = \beta_0 + u^{(2)}_{0,\text{Neighborhood}(i)} + e_{0i}$$

$$[u^{(2)}_{0,\text{Neighborhood}(i)}] \sim N(0, \Omega^{(2)}_u) : \Omega^{(2)}_u = [\Omega^{(2)}u_{0,0}]$$

$$[e_{0i}] \sim N(0, \Omega_e) : \Omega_e = [\Omega_{e0,0}]$$

Figure 3 presents the rank order of the mean performance scores of students on the

Tawjihi examination by neighborhood. While Mikhmas neighborhood had the highest

mean of 91.9, Beit Safafa neighborhood had the lowest mean of 51.66. Figure 4 shows

the residuals and 95% confidence intervals for Tawjihi scores by neighborhoods after the

model was fitted. The lowest ranked neighborhood, Beit Safafa, had a low residual.

Looking at the confidence intervals around them, those neighborhoods below the zero (0)

line were low performing neighborhoods. Those touching the line were neighborhoods

hovering around the mean, and those above the line being high achieving neighborhoods

as measured by the Tawjihi exam. That said, all of the neighborhoods touched the line, indicating that there was no difference between the neighborhoods in terms of academic achievement on the Tawjihi examinations.
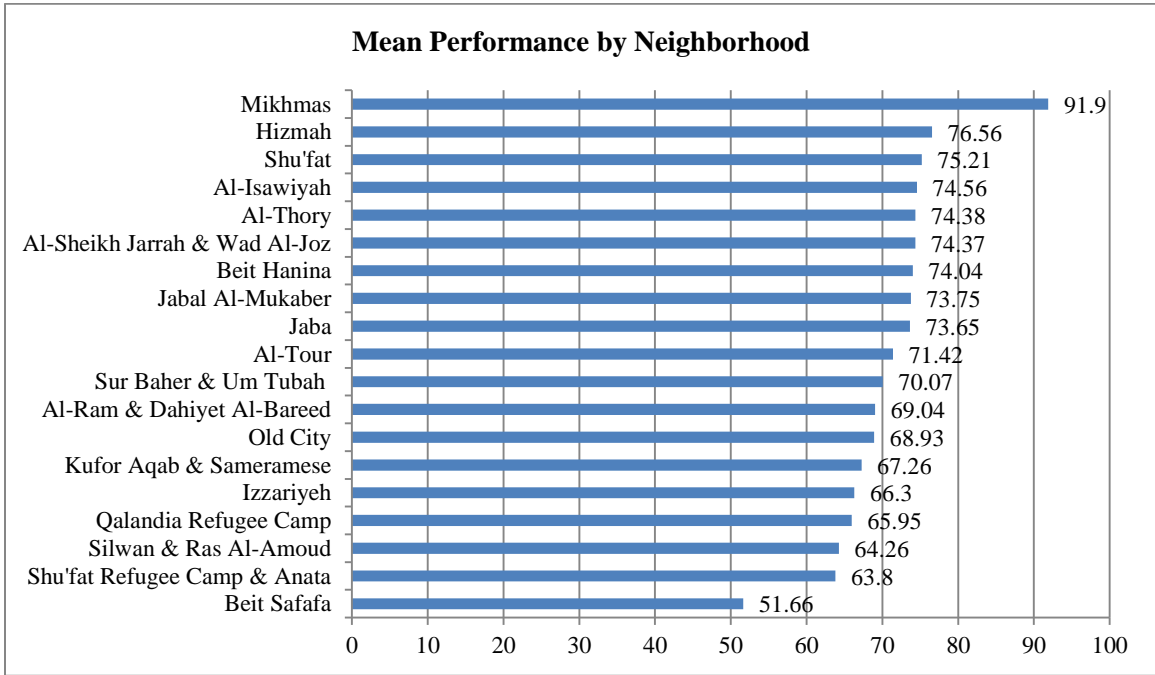
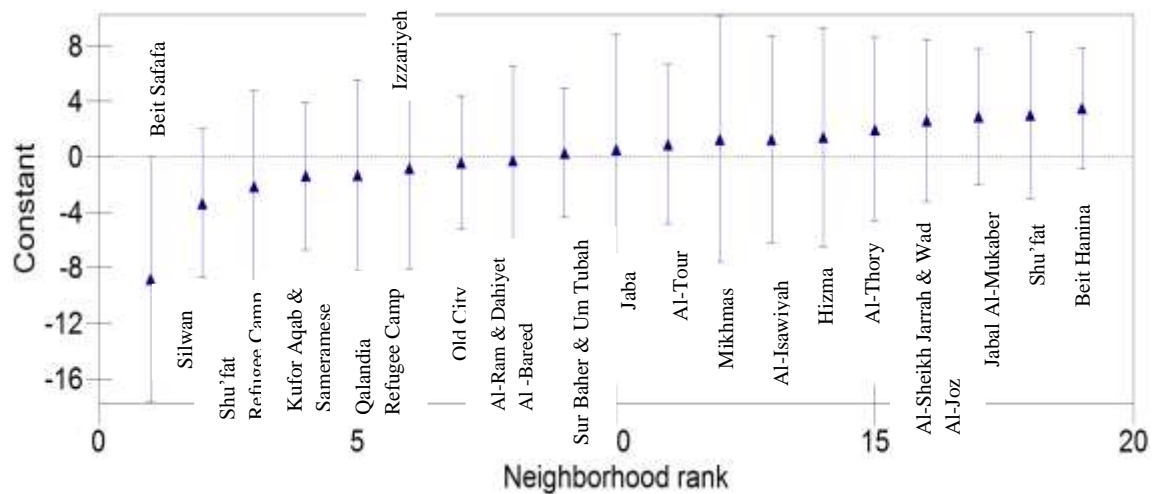*Figure 3.* Mean Performance by Neighborhood

Figure 4. Neighborhood Rank

Model C resulted in a larger DIC value. When compared with Model B as presented in

Table 26, Model C increased the DIC value by 184.225 points. This indicated that

ignoring the nesting of students within schools would negatively affect the model

resulting in a worse Model fit. Thus, school predictors should not be ignored or excluded.

Table 26 *Model Comparison (B and C)*

		Model B		Model C	
Parameter		Estimate	Std. Err.	Estimate	Std. Err.
β_0	Intercept	71.164	2.910	70.240	1.471
$\sigma^2_{u(3)}$	School variance	163.414	63.827	-	-
$\sigma^2_{u(2)}$	Neighborhood variance	1.436	3.988	21.950	16.321
σ^2_e	Student variance	240.274	15.136	351.112	22.916
	Bayesian DIC	4, 279.338		4463.563	
	Pd	19		19	

Note. DIC: Deviance Information Criterion

pD: estimated degrees of freedom

Model D is a two-level students-within-schools model, without accounting for the

clustering of students within neighborhoods. The model equation is written as:

$$\text{Tawjihi Score}_i \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_i = \beta_{0i}\text{Constant}_i$$

$$\beta_{0i} = \beta_0 + u^{(3)}_{0,School(i)} + e_{0i}$$

$$[u^{(3)}_{0,School(i)}] \sim N(0, \Omega^{(3)}_u) : \Omega^{(3)}_u = [\Omega^{(3)}u_{0,0}]$$

$$[e_{0i}] \sim N(0, \Omega_e) : \Omega_e = [\Omega_{e0,0}]$$

Figure 5 presents the rank order of the mean performance scores of students on the

Tawjihi examinations by school. The Rosary School had the highest mean performance

score of 90.74, and the Dar Al-Aytam School had the lowest mean of 44.9. Figure 6

shows the residuals and 95% confidence intervals for Tawjihi scores by schools after the

model was fitted. The lowest ranked school, Dar Al-Aytam had a low residual. Looking

at the confidence intervals around them, those schools below the zero (0) line were low

performing schools. Those touching the line are schools hovering around the mean and those above the line were high achieving schools as measured by the Tawjihi exam.
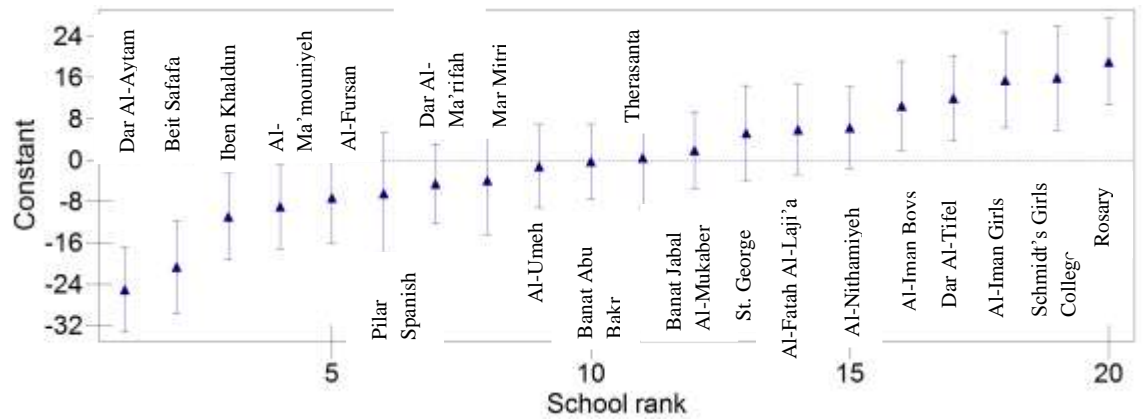

Mean Performance by School

School	Value
Schmidt's Girls College	90.74
	88.68
	87.61
Dar Al-Tifel	83.16
	81.83
Al-Nithamiyeh	77.14
	76.98
St. George	76.2
	75.44
Therasanta	71.09
	70.21
Al-Umeh High School	69.25
	65.88
Dar Alma'arifah	65.72
	62.65
Pilar Spanish School	62.63
	61
Iben Khaldun	59
	47.95
Dar Al-Aytam	44.09
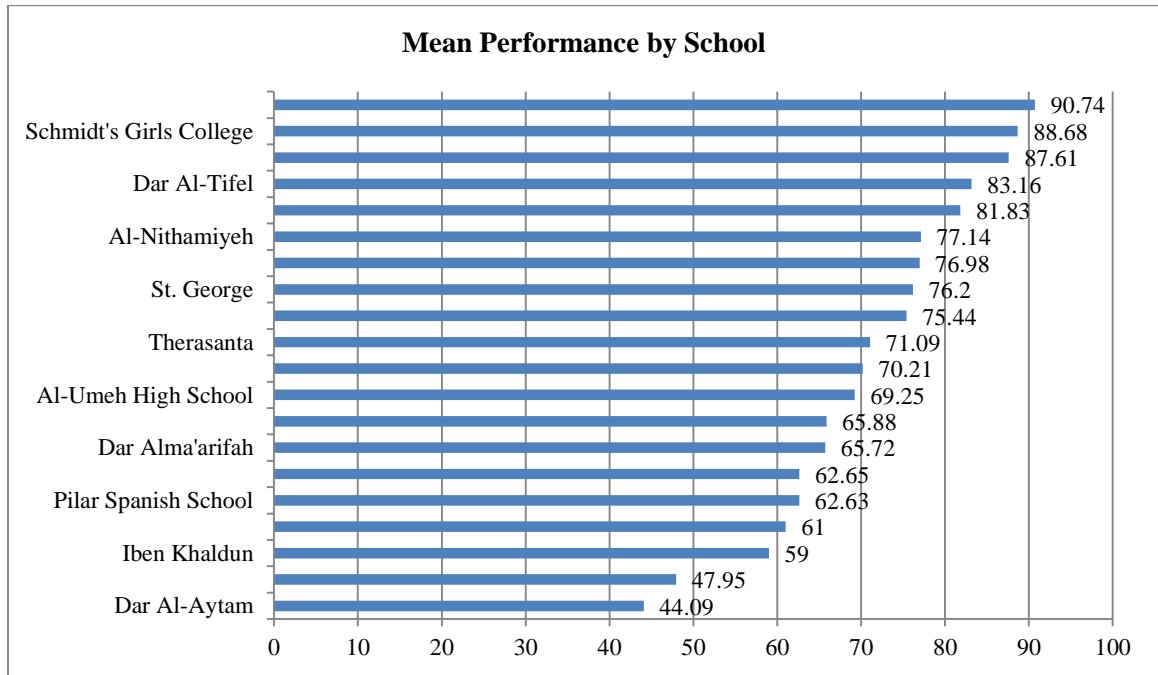
Figure 5. Mean Performance by School

Figure 6. School Rank

Table 27 presents a comparison between the DIC scores of Model B and Model D. These two models had very similar results with a very slight difference. Model D slightly decreased the DIC value by only 0.586 points. This clearly indicated that

ignoring the neighborhood nesting of students would not affect the model in any way.

Therefore, a two-way cross-classified model was not justified, and a two level model was

preferred.

Table 27 *Model Comparison (B and D)*

		Model B		Model D	
Parameter		Estimate	Std. Err.	Estimate	Std. Err.
β_0	Intercept	71.164	2.910	70.679	3.156
$\sigma^2_{u(3)}$	School variance	163.414	63.827	164.039	64.641
$\sigma^2_{u(2)}$	Neighborhood variance	1.436	3.988	-	-
σ^2_e	Student variance	240.274	15.136	240.792	15.223
	Bayesian DIC	4, 279.338		4278.752	
	Pd	19		19.458	

Note. DIC: Deviance Information Criterion

　　　　pD: estimated degrees of freedom

Unconditional Model

It was expected that the unconditional or null model would be presented in Model

B, which was the two-way crossed classified variance component model. Model B

presented the effect of both neighborhood and school predictors on students' academic

achievement scores. However, in order to decide whether Model B is the unconditional

model, it was necessary to compare between the DIC value of Model B, which is a two-

way cross-classified model, Model C, which included neighborhood characteristics only,

and Model D, which included school characteristics only to confirm which model yielded

the best fit. According to the DIC values presented in Table 28, it was decided that Model

D was the best fit and would be the unconditional model. This indicated that the

individuals in this model overall showed significant variations from the mean within and

between individuals when only accounting for school characteristics and ignoring

neighborhood characteristics. Thus, a two-way cross-classified model was not the best fit

for this analysis, rather a two-level model with students nested only in schools and not

neighborhoods. Also, based on the findings in Models B, C, and D, it was evident that

there were more disparities across schools than across neighborhoods. The three models

suggested that while schools explained 163.414/(163.414 +1.436 + 240.274) X 100=

40.34 %, neighborhoods explained only 1.436 /(163.414 + 1.436 + 240.274) X 100 =

0.35 %, and individual predictors explained 240.274/(163.414 + 1.436 + 240.274) X 100

= 59.31 %.

Table 28 *DIC Comparison (Models A, B, C and D)*

		Model A		Model B		Model C		Model D	
Parameter		Est.	Std. Err.	Est.	Std. Err.	Est.	Std. Err.	Est.	Std. Err.
β_0	Intercept	70.732	0.831	71.164	2.910	70.240	1.471	70.679	3.156
$\sigma^2_{u(3)}$	Neighborhood variance	-	-	1.436	3.988	21.950	16.321	-	-
$\sigma^2_{u(2)}$	School variance	-	-	163.414	63.827	-	-	164.039	64.641
σ^2_e	Student variance	365.691	23.135	240.274	15.136	351.112	22.916	240.792	15.223
	Bayesian DIC	4,476.113		4,279.338		4,463.563		4,278.752	
	Pd	1.983		20.842		11.264		19.458	

Note.   Est: Estimate
         Std. Err: Standard error
         DIC: Diagnostic Information Criterion
         pD: estimated degrees of freedom

Unconditional Model

It is a two-level students-within-schools model without accounting for any

predicting variables. The model equation is written as:

$$\text{Tawjihi Score}_{ij} \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_{ij} = \beta_{0ij}\text{Constant}$$

$$\beta_{0ij} = \beta_0 + u_{0j} + e_{0ij}$$

$$[u_{0i}] \sim N(0, \Omega_u) : \Omega_u = [\sigma^2_{u0}]$$

$$[e_{0ij}] \sim N(0, \Omega_e) : \Omega_e = [\sigma^2_{e0}]$$

The results of the unconditional model presented in Table 29 show that schools

explained 164.04/(164.04+240.79) X 100= 40.52% of the variance in the Tawjihi scores

and student variables explained 240.79/(164.04+240.79) X 100= 59.48% of the variance

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in the Tawjihi scores. As for the DIC value, the unconditional model had a value of

4278.75.

Table 29 *Unconditional Model*

	Unconditional Model	
Parameter	Estimate	Std. Err.
β_0 Intercept	70.68***	3.16
σ^2_u School variance	164.04**	64.64
σ^2_e Student variance	240.79***	15.22
Bayesian DIC	4278.75	
Pd	19.46	

Conditional Model

The next step in multilevel analysis was to add explanatory or predictor variables

to the unconditional model. Model E built on Model D by adding Individual (Level1)

predictor variables. For categorical variables the reference category for each is the

privilege group. Continuous predictors were grand-mean centered. The model was

written as:

$$\text{Tawjihi Score}_{ij} \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_{ij} = \beta_{0ij}\text{Constant} + \beta_1\text{Male}_{ij} + \beta_2\text{Yes (transfer)}_{ij} + \beta_3\text{Literary}_{ij} +$$

β_4Marital Status: Other$_{ij}$ + β_5(Number of people per household_gm) $_{ij}$ + β_6Fathers'

education: Less than High school$_{ij}$ + β_7Fathers' education: High school$_{ij}$ + β_8Mothers'

education: Less than High school$_{ij}$ + β_9Mothers' education: High school$_{ij}$ + β_{10}Fathers'

employment Status: Unemployed$_{ij}$ + β_{11}Fathers' employment Status: employed in non-

academic job$_{ij}$ + β_{12}Fathers' employment Status: No Response$_{ij}$ + β_{13}Mothers'

employment Status: Unemployed$_{ij}$ + β_{14}Mothers' employment Status: employed in non-

academic job$_{ij}$ + β_{15}Fathers' employment Status: No Response$_{ij}$ + β_{16}Income: poor & fair$_{ij}$

$_+ \beta_{17}$Income: good$_{ij}$ + β_{18}No neighborhood and school not same$_{ij}$

$$\beta_{0ij} = \beta_0 + u_{0j} + e_{0ij}$$

$$[u_{0i}] \sim N(0, \Omega_u) : \Omega_u = [\sigma^2_{u0}]$$

$$[e_{0ij}] \sim N(0, \Omega_e) : \Omega_e = [\sigma^2_{e0}]$$

The results revealed that the following Level 1 explanatory variables were significant: gender, Tawjihi stream, mothers' education, neighborhood and school in the same area. Table 30 only presents the trimmed version of conditional model with Level 1 explanatory variables that were significant. Non-significant variables were excluded. As a result of adding the individual explanatory variables, the school variance in the Tawjihi was left to explain 93.83/(93.83+205.87) X 100 = 31.31% and the student level variance in Tawjihi scores left to explain was 205.87/(93.83+205.87) X 100 = 68.69%. As for the DIC value, the Conditional Model with Level 1 predictors resulted in a smaller DIC value, decreasing 75.03 points from the DIC value of the Unconditional Model. This was a significant decrease considering that a decrease of 8 points is considered significant.

Table 30 *Level 1 Individual Predictor Variables*

		Model D		Model E	
Parameter		Est.	Std. Err.	Est.	Std. Err.
β_0	Intercept	70.68***	3.16	83.28***	3.03
	Individual: (Level 1)				
β_1	Male	-	-	-8.43**	2.76
β_2	Literary	-	-	-12.28***	1.44
β_3	MotherEdGroup: Less than High school	-	-	-5.76**	2.22
β_4	MotherEdGroup: High school	-	-	-3.94*	1.80
β_5	No neighborhood and school not same	-	-	3.27*	1.61
σ^2_u	School variance	164.04**	64.64	93.83**	438.29
σ^2_e	Student variance	240.79***	15.22	205.87***	13.26
	Bayesian DIC	4278.75		4203.72	
	pD	19.46		23.66	

Note.   Est: Estimate
Std. Err: Standard Error
DIC: Diagnostic Information Criterion
pD: estimated degrees of freedom
***p<0.001

The next step in multilevel analysis was to build Model F by adding School (Level2) predictor variables to Model E. Some of the neighborhood predictor variables were included as school variables to examine whether they had any effect on the neighborhoods in which the schools were located. For categorical variables the reference category for each was the privilege group. Continuous predictors were grand-mean centered. The model is written as:

$$\text{Tawjihi Score}_{ij} \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_{ij} = \beta_{0ij}\text{Constant} + \beta_1\text{Male}_{ij} + \beta_2\text{Literary}_{ij} + \beta_3\text{Mothers' education:}$$
$$\text{Less than High school}_{ij} + \beta_4\text{Mothers' education: High school}_{ij} + \beta_5\text{No neighborhood and}$$
$$\text{school not same}_{ij} + \beta_6\text{Private Christian \& Private Muslim}_j + \beta_7\text{Private For-Profit}_j +$$
$$\beta_8\text{Waqf (Islamic)}_j + \beta_9\text{Public}_j + \beta_{10}\text{Private Not-For-Profit}_j + \beta_{11}\text{Boys'School}_j + \beta_{12}\text{Co-ed}_j +$$
$$\beta_{13}\text{Classroom Shortage:Yes}_j + \beta_{14}\text{Ratio of Students to Teachers-gm}_j + \beta_{15}\text{Years of}$$
$$\text{Education-gm}_j + \beta_{16}\text{Percentage of Teachers with Education Degree-gm}_j + \beta_{17}\text{Years of}$$
$$\text{Experience-gm}_j + \beta_{18}\text{Rented}_j + \beta_{19}\text{Building Quality-gm}_j + \beta_{20}\text{Total Resources Per}$$
$$100\text{Trim-gm}_j + \beta_{21}\text{Percentage of Absence per school-gm}_j + \beta_{22}\text{Less than 85\%}$$
$$\text{matriculating per school-gm}_j + \beta_{23}\text{Between 85 and 99\% matriculating per school-gm}_j +$$
$$\beta_{24}\text{Percentage of success per school-gm}_j$$

$$\beta_{0ij} = \beta_0 + u_{0j} + e_{0ij}$$

$$[u_{0i}] \sim N(0, \Omega_u) : \Omega_u = [\sigma^2_{u0}]$$

$$[e_{0ij}] \sim N(0, \Omega_e) : \Omega_e = [\sigma^2_{e0}]$$

The results revealed that on Level 1, gender, Tawjihi stream, and mothers' education were significant. As for neighborhood and school in the same area, it was a trend. On Level 2, results showed that school type, ratio of students to teachers,

percentage of teachers with education degree, quality of building, percentage

matriculating, percentage success, and army patrols within the school neighborhood were

all significant.

Table 31 only presents the trimmed version of conditional model with Level 1 and

2 significant explanatory variables. Non-significant variables were excluded. As a result

of adding the individual and school explanatory variables, Model F shows that schools

explained $0.81/(0.81+204.56) \times 100 = 0.39\%$ of the variance in the Tawjihi scores and

student variables explained $204.56/(0.81+204.56) \times 100 = 99.61\%$ of the variance in the

Tawjihi scores. As for the DIC value, the Conditional Model with Level 1 and 2

predictors resulted in a smaller DIC value with a decrease of 8.64 points from the DIC

value of the Conditional Model with Level 1 predictors.

Table 31 *Level 1 Individual Predictor Variables*

		Model D		Model E		Model F	
Parameter		Est.	Std. Err.	Est.	Std. Err.	Est.	Std. Err.
β_0	Intercept Individual: (Level 1)	70.68***	3.16	83.28***	3.03	86.08***	3.61
β_1	Male	-	-	-8.43**	2.76	-4.52*	3.61
β_2	Literary	-	-	-12.28***	1.44	-12.03***	1.45
β_3	MotherEdGroup: Less than High school	-	-	-5.76**	2.22	-5.00*	2.22
β_4	MotherEdGroup: High school	-	-	-3.94*	1.80	-3.14~	1.73
β_5	No neighborhood and school not same	-	-	3.27*	1.61	2.84~	1.64
B_6	School: (Level 2)						
B_7	Private for Profit	-	-	-	-	-1.73	5.32
B_8	Waqf (Islamic)	-	-	-	-	-12.43*	5.66
B_9	Public	-	-	-	-	-6.28	4.63
B_{10}	Private not-for-profit	-	-	-	-	-10.88*	5.29
B_{11}	Classroom Shortage: Yes	-	-	-	-	10.91*	5.34
B_{12}	Ratio of Students to Teachers	-	-	-	-	0.57*	0.22
B_{13}	Percentage of Teachers with Ed. Degree	-	-	-	-	0.13*	0.06
B_{14}	Building Quality	-	-	-	-	-15.00**	5.71
B_{15}	Less than 85% matriculating	-	-	-	-	-16.93*	6.75
B_{16}	Between 85 & 99% matriculating	-	-	-	-	-10.14*	4.22
B_{17}	Percentage of Success	-	-	-	-	-4.65***	0.64
B_{18}	Army Patrols School	-	-	-	-	2.79*	1.11
σ^2_u	School variance	164.04**	64.64	93.83**	438.29	0.81	2.31
σ^2_e	Student variance	240.79***	15.22	205.87***	13.26	204.56***	13.04
	Bayesian DIC	4278.75		4203.72		4195.08	
	Pd	19.46		23.66		19.33	

Note. Est: Estimate
Std. Err: Standard Error
DIC: Diagnostic Information Criterion
pD: estimated degrees of freedom
***$p<0.001$

The final step in multilevel model building analysis was to test interaction effects.

Model G built on Model F by including interactions between individual predictors and

school predictors to build a final model: Conditional Model with Interactions.

Conditional Model with Interactions (Model G) is written as:

$$\text{Tawjihi Score}_{ij} \sim N(XB, \Omega)$$

$$\text{Tawjihi Score}_{ij} = \beta_{0ij}\text{Constant} + \beta_1\text{Male}_{ij} + \beta_2\text{Literary}_{ij} + \beta_3\text{Mothers' education:}$$

Less than High school$_{ij}$ + β_4Mothers' education: High school$_{ij}$ + β_5No neighborhood and

school not same$_{ij}$ + β_6Private For-Profit$_j$ + β_7Waqf (Islamic)$_j$ + β_8Public$_j$ + β_9Private Not-

For-Profit$_j$ + β_{10}Classroom Shortage: Yes$_j$ + β_{11}Ratio of Students to Teachers-gm$_j$ +

β_{12}Percentage of Teachers with Education Degree-gm$_j$ + β_{13}Building Quality-gm$_j$ +

β_{14}Less than 85% matriculating per school-gm$_j$ + β_{15}Between 85 and 99% matriculating

per school-gm$_j$ + β_{16}Percentage of success per school-gm$_j$ + β_{17}Army Patrols School-gm$_j$

+ β_{18}Scientific.Private For-Profit$_{ij}$ + β_{19}Scientific.Waqf(Islamic)$_{ij}$ + β_{20}Scientific.Public$_{ij}$ +

$$\beta_{21}\text{Scientific.Private Not-For-Profit}_{ij}$$

$$\beta_{0ij} = \beta_0 + u_{0j} + e_{0ij}$$

$$[u_{0i}] \sim N(0, \Omega_u) : \Omega_u = [\sigma^2_{u0}]$$

$$[e_{0ij}] \sim N(0, \Omega_e) : \Omega_e = [\sigma^2_{e0}]$$

Results are presented in Table 32. By adding the interaction effects, there was a

7.14 reduction in the DIC. The DIC value decreased throughout the model building

process. This suggested an overall improvement in model fit. Although the decrease that

resulted from adding the interaction did not improve the model much, it was a significant

interaction providing more insight into the interaction between type of school and

Tawhiji stream. There was a decrease from the Unconditional Model (4,278.75) to

Conditional Model with Level 1 predictors (4,203.72); from Conditional Model with

Level 1 predictors to Conditional Model with Level 1 & Level 2 predictors (4,195.08);

from Conditional Model with Level 1 & Level 2 predictors to Conditional Model with

Level 1 & Level 2 predictors with interactions (4,187.94). Conditional Model with Level

1 & Level 2 predictors with interactions proved to be the best fit, indicating it was the

most parsimonious model. As a result of including interaction effects, school explained

0.47% of the variation in Tawjihi Score and 99.53% was explained by students.

Table 32 *Model G: Final Model with Individual Predictors, School Predictors, and*

Interaction Effects

	Parameter	Estimate	Std. Err.
β_0	Intercept	80.27***	4.00
	Individual: (Level 1)		
β_1	Male	-3.97*	1.98
β_2	Literary	-4.95~	2.65
β_3	MotherEdGroup: Less than High school	-5.04*	2.18
β_4	MotherEdGroup: High school	-3.19~	1.72
β_5	No neighborhood and school not same	2.68~	1.64
	School: (Level 2)		
B_6	Private for Profit	-3.90	5.30
B_7	Waqf (Islamic)	-14.33*	5.62
B_8	Public	-8.41~	4.58
B_9	Private not-for-profit	-11.28~	5.98
B_{10}	Classroom Shortage: Yes	11.41*	5.24
B_{11}	Ratio of Students to Teachers	0.48*	0.22
B_{12}	Percentage of Teachers with Ed. Degree	0.09~	0.05
B_{13}	Building Quality	-14.51*	5.64
B_{14}	Less than 85% matriculating	-17.73*	7.08
B_{15}	Between 85 & 99% matriculating	-9.79*	4.23
B_{16}	Percentage of Success	-5.01***	0.64
B_{17}	Army Patrols School	2.57*	1.09
	Interaction Effect		
B_{18}	Scientific.Private For-Profit	9.75~	5.50
B_{19}	Scientific.Waqf(Islamic)	8.12*	3.53
B_{20}	Scientific.Public	15.39***	4.17
B_{21}	Scientific.Private Not-For-Profit	4.74	5.85
σ^2_u	School variance	-0.95	3.29
σ^2_e	Student variance	199.89***	12.80
	Bayesian DIC	4187.94	
	pD	23.35	

Note. DIC: Diagnostic Information Criterion
pD: estimated degrees of freedom
***p<0.001, **p<0.01, *p<0.05, ~p<0.10

Figure 7 shows that the variance between schools was explained after dealing with all the variables and identifying the significant ones and the significant interaction.
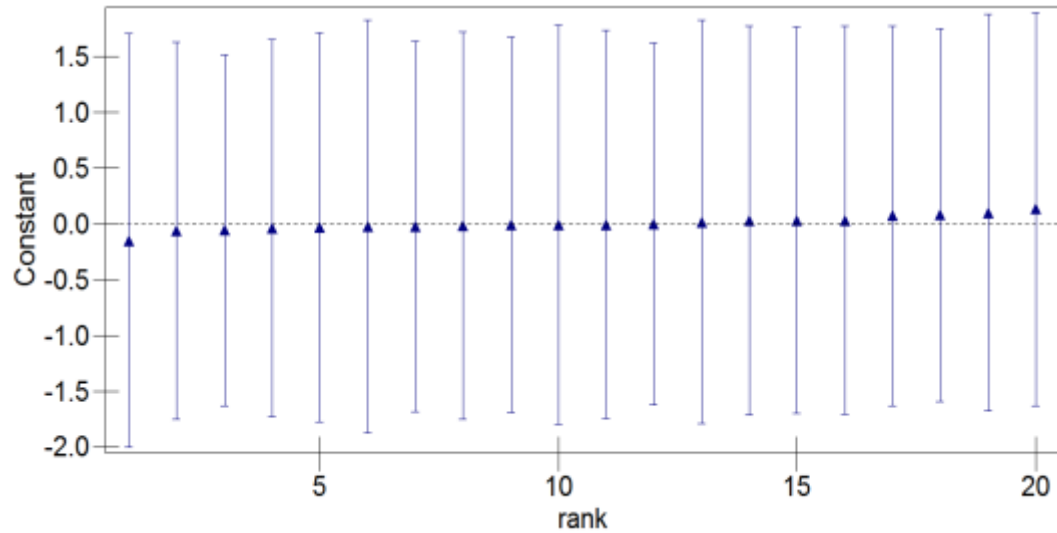
Figure 7. Ranked Residuals for Schools, Final Model G

The following section is intended to provide a better description of the statistically significant predictors on Level 1 and Level 2 and the effects of the interaction. This detailed description is based on the results of model G presented in Table 32. The discussion below assumes that all predictors are held constant at the grand mean or at the reference category. Information is presented in three subsections: Individual (Level 1) predictors, school (Level 2) predictors, and interaction effects.

Individual Predictors. The following Individual predictors were statistically significant or showed a trend: **gender**, **mothers' education, Tawjihi stream, neighborhood and school in same area**.

Gender. Male students demonstrated statistically significantly lower Tawjihi scores (β_1=-3.97, p <0.05) than those of their female counterparts (reference category). Figure 8 below shows the predicted gender main effect on Tawjihi scores holding everything else constant at the grand mean or reference category. Between female and

male students, male students had lower Tawjihi scores. This was consistent with the findings of studies previously presented and was also consistent with the information retrieved from the in-depth interviews.
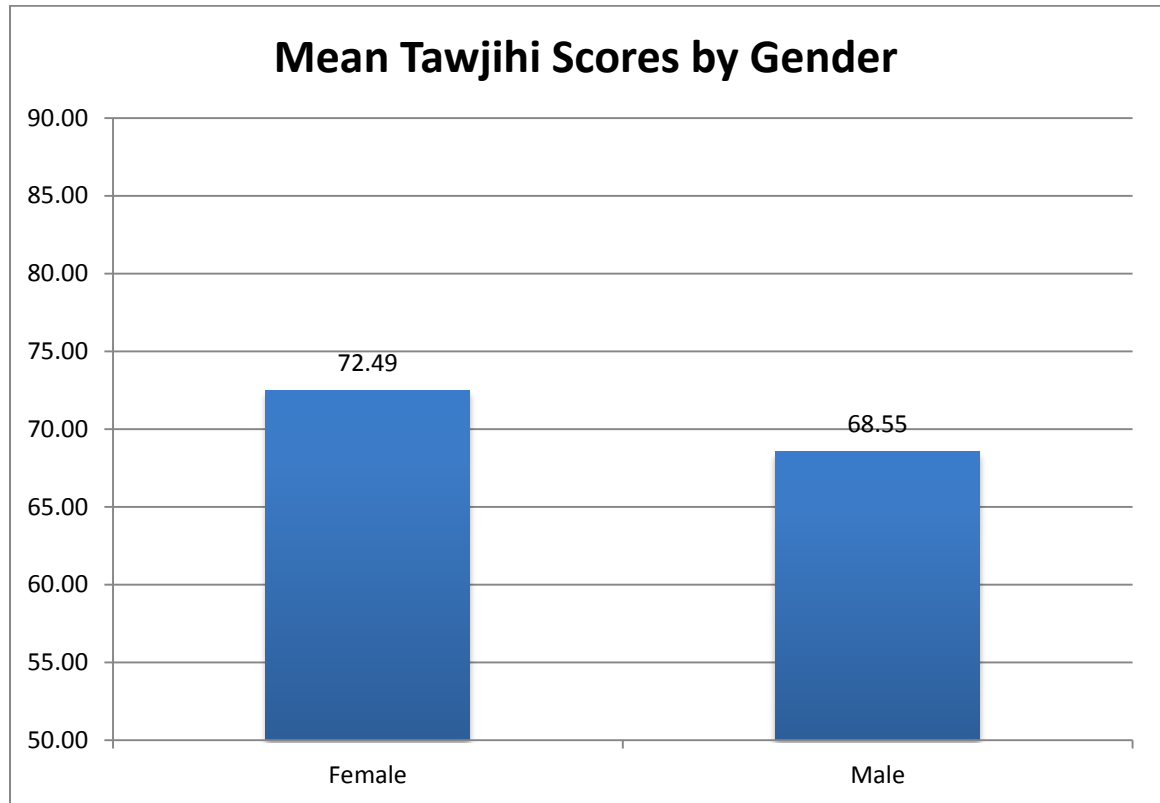
Figure 8. Mean Tawjihi Scores by Gender

Tawjihi stream. Figure 9 below shows the predicted Tawjihi stream main effect on Tawjihi scores holding everything else constant at the grand mean or reference category. Although Tawjihi stream was not a significant predictor of academic performance, it showed a trend toward being a predictor (β_2=-4.95, p <0.10) after the interaction effect between Tawjihi stream and type of school was accounted for. The findings were consistent with reports such as the one conducted by the World Bank (2006), indicating that the scientific stream tends to perform better than the literary.
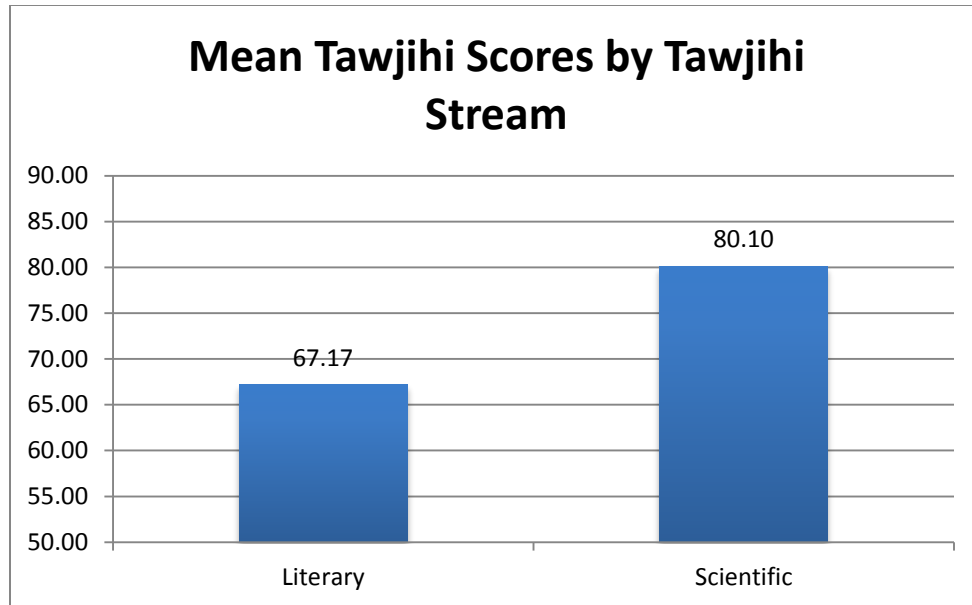
Figure 9. Mean Tawjihi Scores by Tawjihi Stream

Mothers' education. Figure 10 below shows the predicted Mothers' education group main effect on Tawjihi scores holding everything else constant at the grand mean or reference category. Students whose mothers had less than a high school education demonstrated statistically significantly lower Tawjihi scores (β_3=-5.04, p <0.05) than students whose mothers had some college education (reference category). As for students whose mothers had high school education, results showed a trend towards being a predictor (β_4=-3.19, p <0.10).
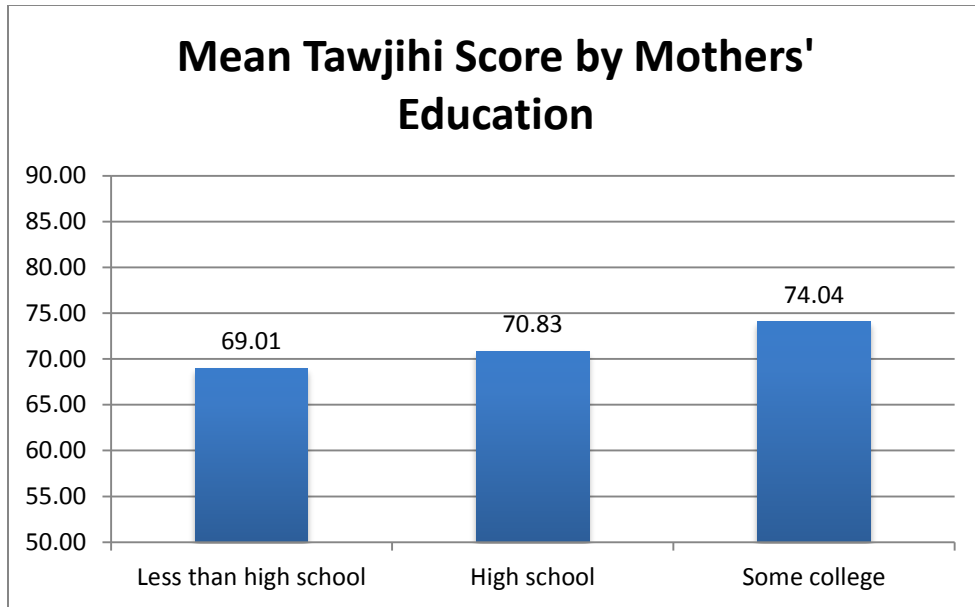
Figure 10. Mean Tawjihi scores by Mothers' Education

Neighborhood and school in the same area. Figure 11 below shows the predicted Neighborhood and School the same main effect on Tawjihi scores holding everything else constant at the grand mean or reference category. This variable showed a trend ($\beta_5=2.68$, p <0.10).
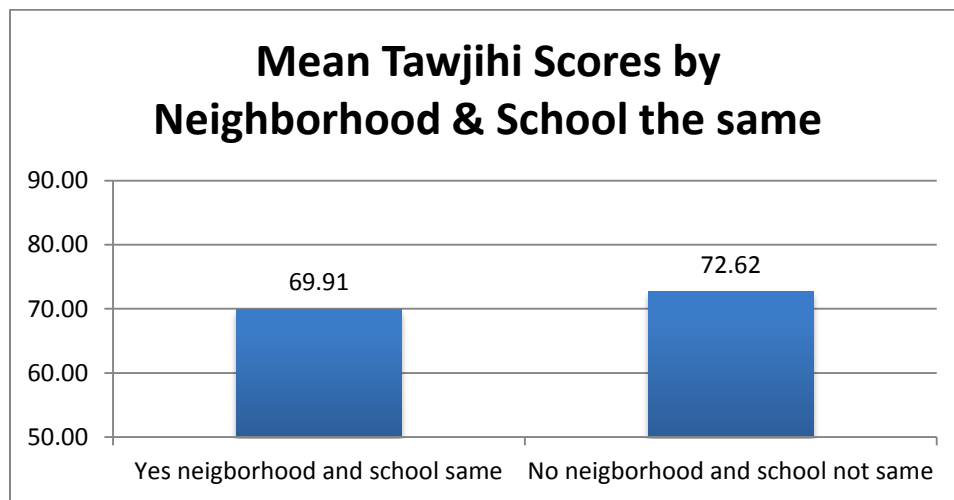
Figure 11. Mean Tawjihi Scores by Neighborhood and School in the Same Area

School Predictors. The following School predictors were statistically significant or showing a trend: **school type, classroom shortage, ratio of students to teachers, percentage of teachers with education degree, building quality, percentage matriculating, percentage success, and army patrols within the school neighbohrood**.

School type. Figure 12 below shows the predicted School Type main effect on Tawjihi scores holding everything else constant at the grand mean or reference category. Students who attended Waqf (Islamic) schools demonstrated statistically significantly lower Tawjihi scores (β_7=-2.55, p <0.05) than students who attended Private Christian and Private Muslim schools (reference category). Public schools (β_8=-8.41, p <0.15) and Private not-for-profit schools (β_9=-11.28, p <0.10) showed a trend toward significance. Private for-profit schools were not different than private Christian and private Muslim schools (β_6=-3.90, p >0.05).
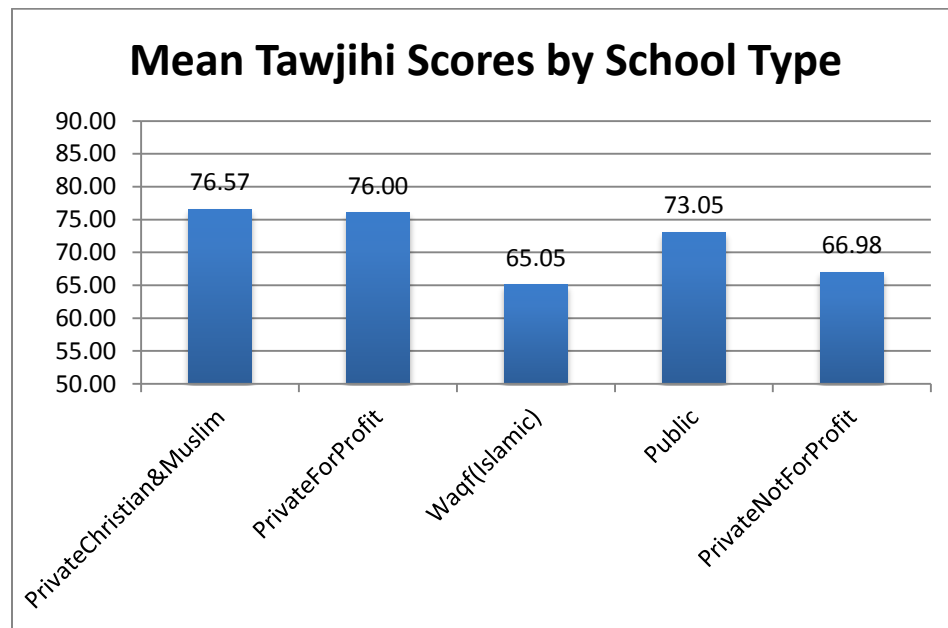
Figure 12. Mean Tawjihi Scores by School Type

Classroom shortage. Figure 13 below shows the predicted classroom shortage main effect on Tawjihi scores holding everything else constant at the grand mean or reference category. Surprisingly, students who attended schools with classroom shortage demonstrated statistically significantly better Tawjihi scores ($\beta_{10}=2.18$, p <0.05) than students who attended schools with no classroom shortage.
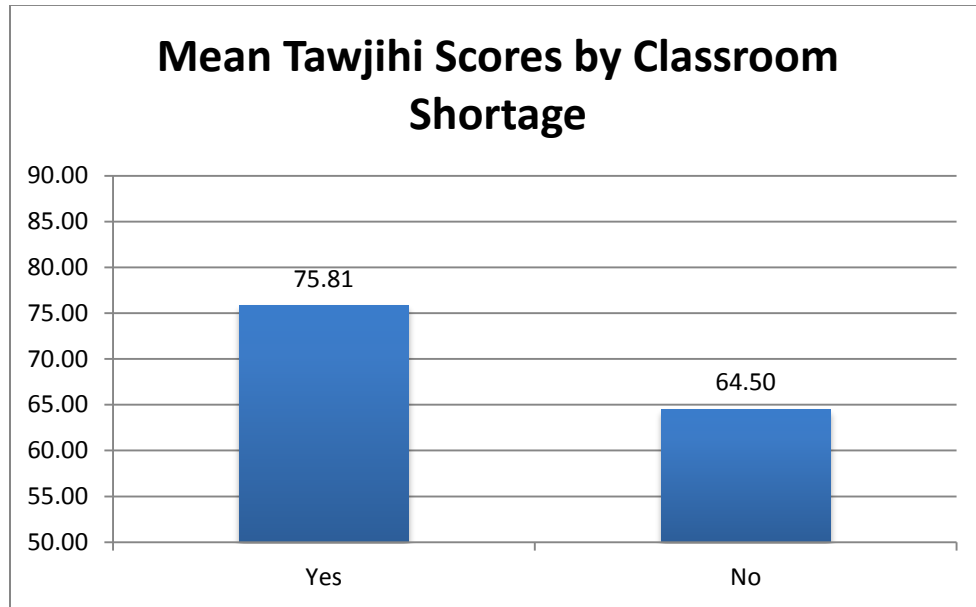
Figure 13. Mean Tawjihi Scores by Classroom Shortage

Ratio of students to teachers. Figure 14 shows the predicted ratio of students to teachers' main effect on Tawjihi scores, holding everything else constant at the grand mean or reference category. Interestingly, students who attended schools in the top 10 percentile with the highest student to teacher ratio demonstrated statistically significantly higher Tawjihi scores ($\beta_{11}=2.13$, p <0.05) than students who attended schools in the bottom 10th percentile with the smaller student to teacher ratio (bottom 10%).
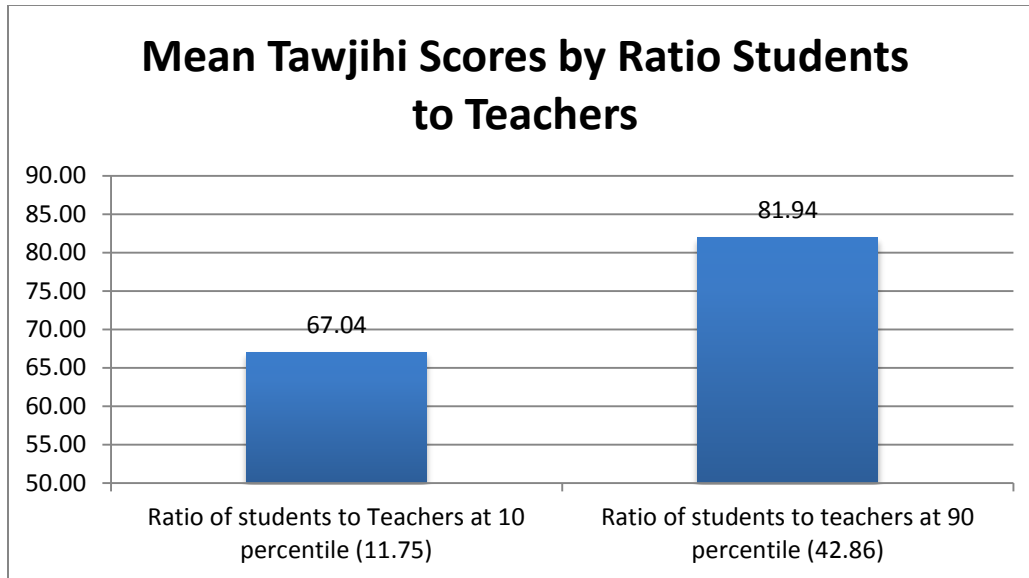
Figure 14. Mean Tawjihi Scores by Ratio of Students to Teachers

Percentage of teachers with education degree. Figure 15 shows the predicted percentage of teachers with education degree main effect on Tawjihi scores, holding everything else constant at the grand mean or reference category. The percentage of teachers with education degree showed a trend toward significance (β_{12}=2.13, p <0.10). Percentage of teachers with education degree was centered on the grand mean.
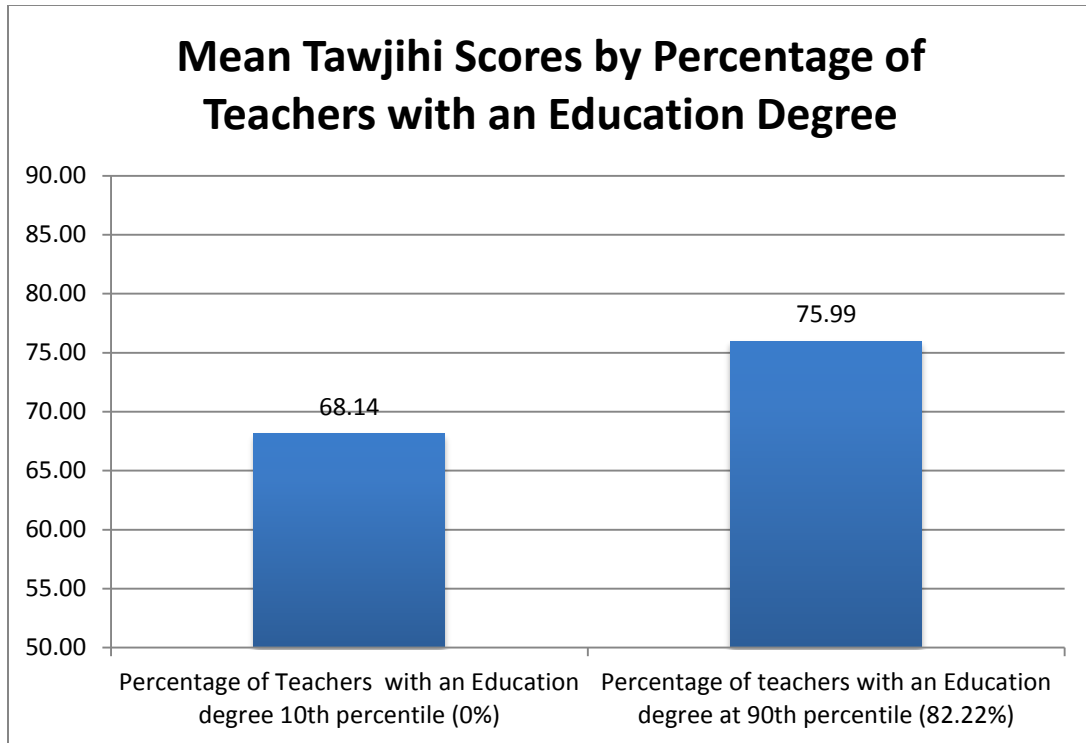
Figure 15. Mean Tawjihi Scores by Percentage of Teachers with Education Degree

Building quality. Figure 16 shows the predicted building quality main effect on Tawjihi scores, holding everything else constant at the grand mean or reference category. Students who attended schools with the quality of building in the 90th percentile demonstrated statistically significantly lower Tawjihi scores ($\beta_{13}=-2.57$, p <0.05) than those who attended schools with the quality of building in the lower 10th percentile. Building quality was centered on the grand mean.
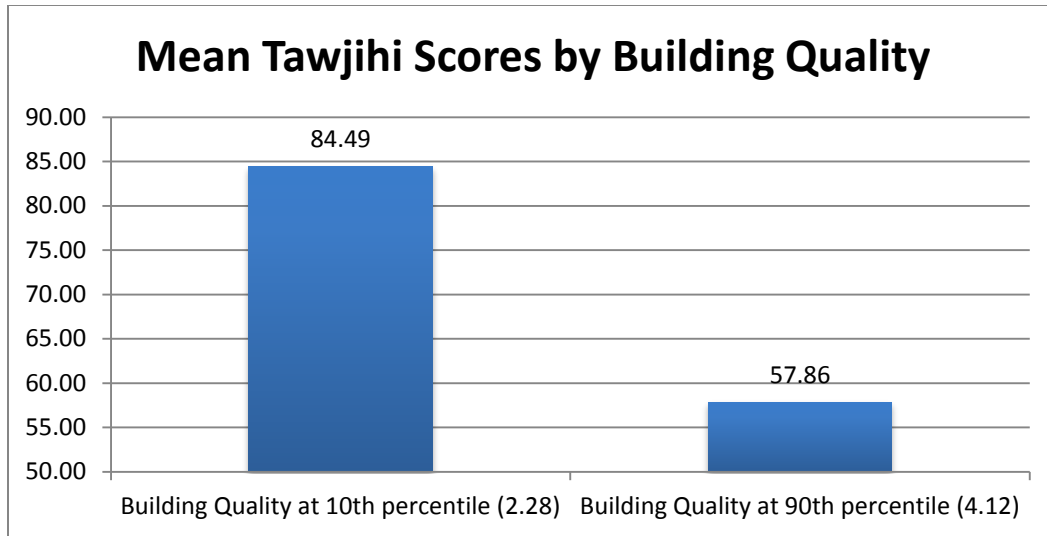
Figure 16. Mean Tawjihi Scores by Building Quality

Percentage matriculating. Figure 17 below shows the predicted percentage matriculating main effect on Tawjihi scores holding everything else constant at the grand mean or reference category. Students who attended schools where less than 85% of the students matriculating demonstrated statistically significantly lower Tawjihi scores (β_{14}=-2.50, p <0.05) than students who attended schools with 100% matriculation rate (reference category). Also, students who attended schools where the percentage of students matriculating ranged between 85% and 99% demonstrated statistically significantly lower Tawjihi scores (β_{15}=-2.32, p <0.05) than those who attended schools where the percentage of students matriculating was 100%.
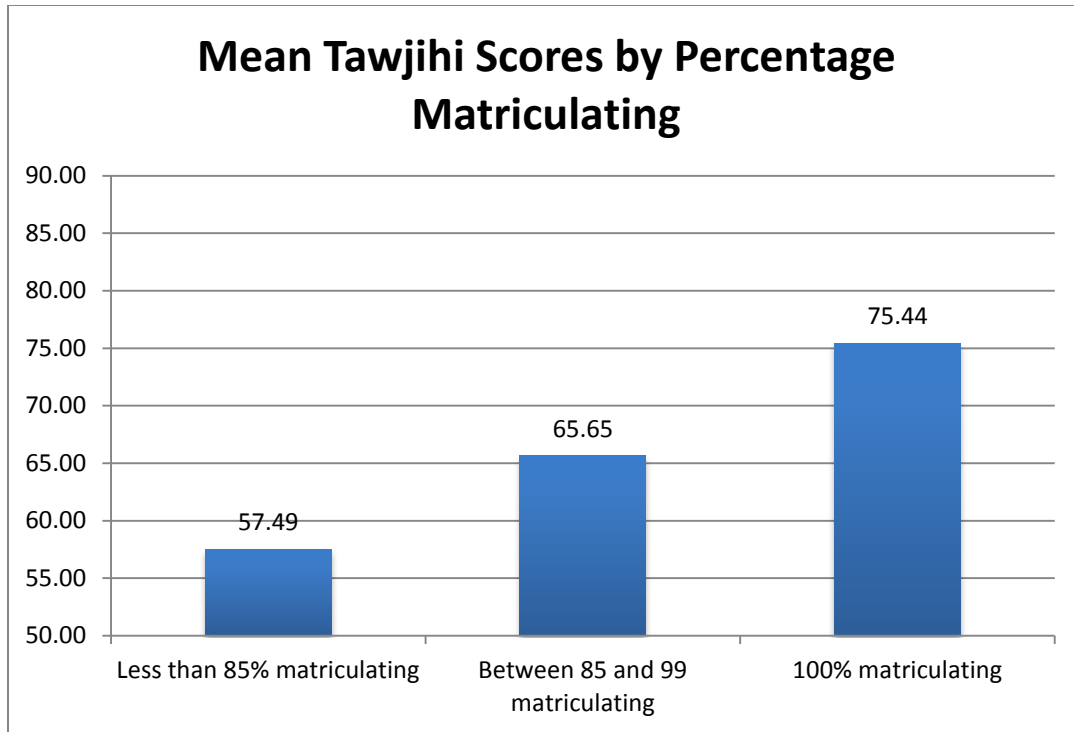
Figure 17. Mean Tawjihi Scores by Percentage Matriculating

Percentage success at school level. Figure 18 shows the predicted percentage

success main effect on Tawjihi scores, holding everything else constant at the grand mean

or reference category. Students who attended schools with success rates in the 90th

percentile with higher percentage of success in matriculation exam demonstrated

statistically significantly higher Tawjihi scores (β_{16}=-7.82, p <0.001) than those who

attended schools with lower percentages of success. Percentage success at school level

was centered on the grand mean.

Mean Tawjihi Scores by Percentage Success at School Level
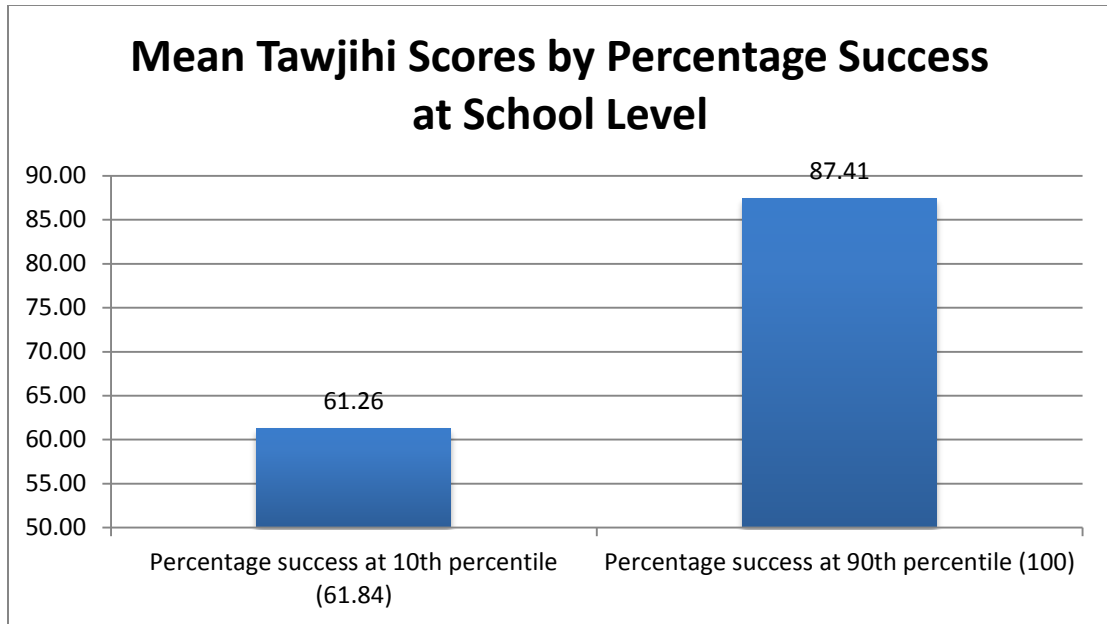
Figure 18. Mean Tawjihi Scores by Percentage Success at School Level

Army patrols in school neighborhoods. Figure 19 shows the predicted percentage success main effect on Tawjihi scores, holding everything else constant at the grand mean or reference category. Students who attended schools in the top 10th percentile where army patrols took place more often demonstrated statistically significantly higher Tawjihi scores (β_{17}=-2.36, p <0.05) than those who attended schools in the bottom 10th percentile where the Army did not patrol the neighborhoods as often. Army patrols at school level was centered on the grand mean.
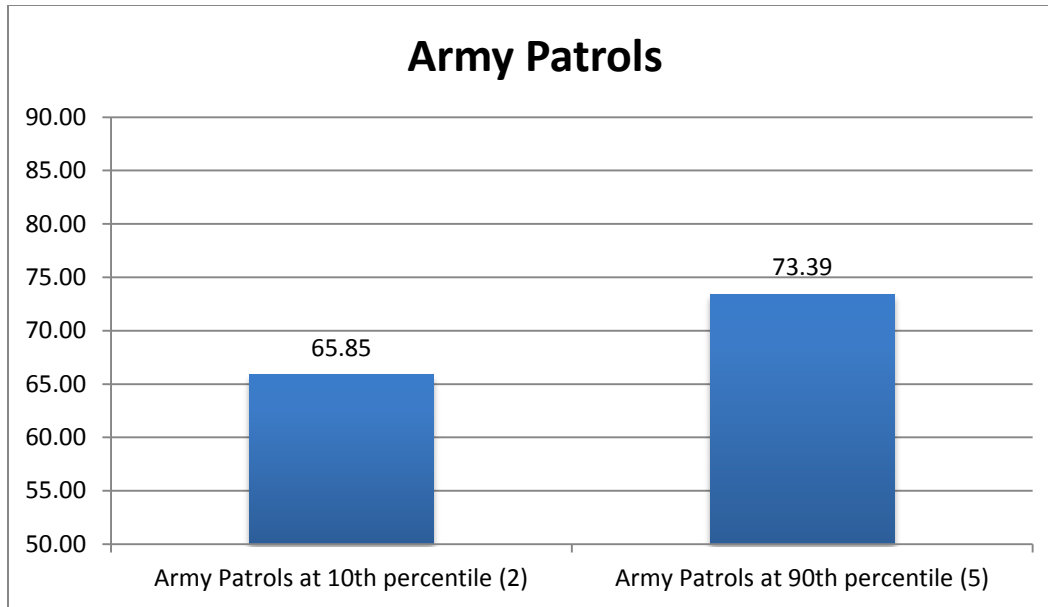
Figure 19. Mean Tawjihi Scores by Army Patrols at School Level

Interaction Effects. Figure 20 displays a graph of the interaction effect of Tawjihi

Stream and School Type on the Tawjhi scores. That was the only interaction effect that

showed a significant result. Results showed that the best performing students were those

in the scientific stream in Public schools (β_{20}=15.39, p < 0.001) and the worst performing

students were those in the literary stream in Waqf (Islamic) schools (β_{19}=8.12, p < 0.05).

The private Christian and Muslim schools and the private not-for-profit schools were not

significantly different from one another in terms of this interaction effect (4.74, p>0.10),

indicating that the two types of schools did not show differential results for the two

Tawjihi streams. However, public schools showed the biggest difference with students in

the scientific streams performing significantly better than the students in the literary

stream (4.17, p<0.001). The difference was also significant for the Waqf schools (3.53,

p<0.05) and showed a trend for the private for-profit schools (5.5, p<0.10).

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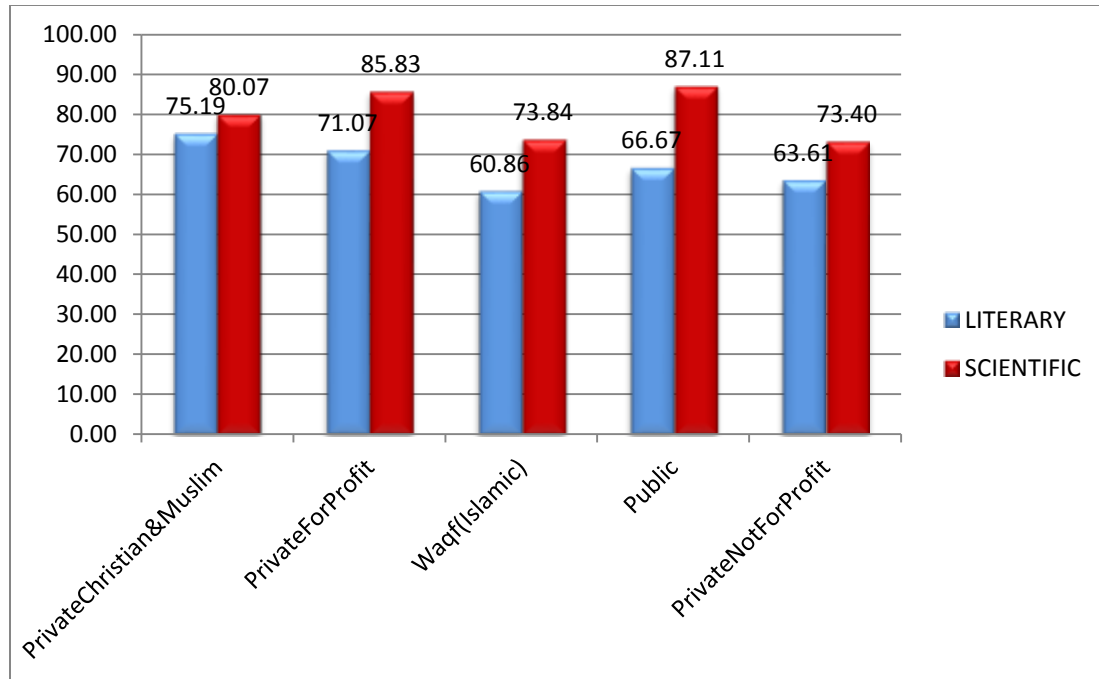
Figure 20. Interaction effect between Tawjihi Stream and School Type

The findings of the quantitative analysis revealed some interesting results. The following section is an analysis of the in-depth interviews with four students, which aimed at helping further explain and understand the results of the quantitative data analysis.

In-Depth Interviews: Qualitative Data Analysis

The following qualitative data were generated from in-depth interviews with four students. The purpose of conducting these interviews was to use the qualitative data to support the findings derived from the quantitative data analysis. Also, it was important to capture the voice of those students who were part of the system under study. The qualitative analysis is divided into sections that align with the quantitative data: individual, family, neighborhood, and school characteristics. Another section will be dedicated to explaining how the findings derived from the qualitative data contributed to

the understanding of the findings. Furthermore, this section will explain how findings

resulting from the qualitative data correspond with the three theories.

Sample

Four in-depth interviews were conducted with four students who were eighteen

years of age; two girls and two boys who matriculated in the school year 2011-2012. All

four students resided in different neighborhoods and attended schools outside their

neighborhoods. Both female students attended a Waqf (Islamic) school and both male

students attended a Public school. One student from each school was in the scientific

stream and the other in the literary. One student passed the first round of examinations

and the other after retaking the exams due to an incomplete status. All four had

transferred to their current schools in the seventh or eighth grade. Transferring was either

to preserve their residency status in Jerusalem, because some schools did not offer high

school education, or was simply a personal choice. Three students were enrolled in one of

the Palestinian Universities in the West Bank at the time of the interviews. The fourth

student was accepted at a Palestinian University but chose to pursue a degree at one of

the colleges in West Jerusalem instead. That decision was because that college offered

the specialization he wanted.

Individual Characteristics

Boys were more articulate than girls, and the interviews with the boys lasted longer

than planned. They had more to share and were less reserved. Though the quantitative

analysis showed that female students performed academically better than male students,

male students seemed to have a better understanding of certain concepts that female

students were unfamiliar with, such as "critical thinking." Two questions female students struggled with that male students related to with more ease were:

1) How did Tawjihi help you develop your critical thinking abilities and creativity?

2) How did Tawjihi prepare you for university/life in general? What did you learn from the Tawjihi experience?

Replies from male students were direct and clear, stating that there was no critical thinking involved and the content was unrelated to their lives. Female students were confused, evident in their response stating that Tawjihi was a good system, but yet, it did not prepare them for anything. Another answer was Tawjihi is a creative system that allowed them to be innovative. Then they would say it was more comprehensive than creative. Eventually while one student said "I don't know … I felt ignorant during Tawjihi" the other one said "it taught me how to look at things from different angles…. It did not prepare me for anything."

All four approached the Tawjihi with the attitude that they would pass. They all stated that there was competition in the classroom to excel in the exams. Though that did not affect them at times, it made them work harder to get better scores. The fear of failing the exam made them study harder. Anxiety prior to taking the exams was so high that one student stated it almost "paralyzed me during the exam."

Although students perceived Tawjihi as having no significance in terms of content and preparing them for life and university, it was still the ticket to higher education. Therefore, Tawjihi was a transitional point in the students' lives. Being a transitional point, it would be expected that they would invest more time in their studies. Students shared that on a normal day they would study 1 to 3 hours a day, but during the exam

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period, that would increase to four to eight hours a day. While literary stream students expressed that they worked hard during the exams period, the scientific stream students acknowledged being a bit negligent. It was worth noting that those who had incomplete status were in the scientific stream.

Female students never worked during school years but male students did. For male students, working was an outlet and a form of distraction from school work. In addition to work, Facebook and football were the other channels of distraction for male students. Both students stated that working did not affect their academic achievement; to the contrary, it was a healthy distraction. As for being involved in extracurricular activities, male students were not involved. Only one student mentioned playing football with neighborhood peers. As for female students, one was actively involved in community organizations but her participation was limited to one organization during the Tawjihi school year. The other was not involved in any extracurricular activity during Tawjihi school year.

With regard to gender, female students stated that being girls did not impact their performance. If anything, they received more attention from family members. All four students stated that girls focus more on their school work and are more dedicated because they have less distraction. Additionally, male students shared that others expect more of female students than male students and that it is known that girls perform better.

As for attending a school in their own neighborhood, students stated that it might have had a detrimental effect on their achievement. A female student said "it's not wow to say I attend a public school in my neighborhood even if it is a good school. The Waqf school I attended was not wow either. I used to attend a Christian private school before

transferring to the Waqf one. Private Christian schools are known to be prestigious and higher performing schools unlike Waqf and public schools." She had a sense of shame associated with attending a public neighborhood school. Another male student stated, "who knows maybe the school in my neighborhood has bad teachers. At least here I know teachers are experienced and are good." The other male student said, of the hypothetical proposition that he would attend a school in his neighborhood, "that would be worse because I will be closer to home and that would put more pressure on me to study and I don't like that. I like my freedom." One female student stated, "it won't make a difference."

Family Characteristics

Family structure.

All students came from two-parent households and had five to seven people living in the house during the Tawjihi school year. Parents did not have higher education; only one father had a university degree and was a retired school principal. All four of the fathers worked but only one had an academic job. Two of the mothers had some university education -- one was pursuing a degree in Islamic studies, and one did not finish secondary school. Two of the mothers worked as teachers while the others were housewives. All three students had siblings who were either at school or pursuing higher education. One male student had sisters who pursued higher education but, he was the first male in the family to graduate from high school.

Home environment.

All students described their home environment to be comfortable, quiet, and emotionally and psychologically supportive. They reported that they were never

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pressured into studying. Male students shared that when pressured by their parents, they would have an adverse reaction and refuse to study. While mothers provided a quiet environment for them to study, fathers tended to provide any resources involving fiscal investment, such as private tutoring. One student shared that his home environment was disruptive at times due to some family conflict. To avoid any distraction, he would study in a room on the roof.

Mothers were the main source of comfort. All of the students sought their mothers for comforting conversations when they felt overwhelmed. The important role mothers played for all four students confirmed the results that mothers' education level had a great influence on their children's academic achievement. One thing that was surprising was that these students did not seek their friends to comfort them when stressed or overwhelmed. Aside from talking to their mothers, male students would go out and do things that were unrelated to school in order to deal with their stress. As for girls, one of them mentioned crying and writing as a way to get some relief. Sleeping was another technique used by both males and female students.

All students received some help with their studies from a family member at some point during the Tawjihi examinations. Three students also used private tutoring during the Tawjihi school year or when they had to retake the exams due to the incomplete status. One student decided against private tutoring.

All students came from a male-dominant culture. This was evident in the interviews. Female students always had a family member taking them to and from school, while their male counterparts were not accompanied by anyone. Female students were more sheltered and reserved while male students were more articulate and open. It was

apparent that female students lacked experience and world view, attributes that the male students had acquired at that age. Regarding to parents' involvement in their children's schools, only parents of female students attended school meetings. This was not the case for male students; none reported having parents attend school meetings on their behalf. These could be contributing factors to the difference between males and females on the academic performance. Parents were more involved in their daughters' education. Being more sheltered limited the amount of distractions that might be more available for male students. This lack of distraction seems to render female students more dedicated to their school work than their male counterparts. This was reiterated by a number of principals. One in particular stated that girls were more focused and more studious. Aside from parents being more involved in their daughters lives, a successful female student would have more options to further her education as opposed to getting married at a young age (M., personal communication, September, 2012)

It was evident from the interviews that parents were the main source of support, even at the end of the day when the results came out and some got incomplete. Students were comforted and reassured by their parents. There was no sense of blaming the students if they performed worse than expected. Those who passed shared that their parents were very happy for their success.

Neighborhood Characteristics

All students expressed a major lack of resources and involvement in their neighborhoods. Thus, their neighborhoods had no effect on their academic achievement. One student shared that he started school with friends from his neighborhood and when he transferred to the school where he would graduate, those friends transferred with him.

However, some of his friends either transferred to different schools or dropped out in tenth grade. He stated that it did not affect him and that he is still in contact with neighborhood friends. His words were: "I am convinced that education is the path I want to pursue and nothing will affect me."

Political pressure.

Only one student lived in a neighborhood that was affected by one of the main checkpoints, the Qalandia checkpoint. All four lived in neighborhoods that were affected by the Separation Wall. Despite this, all of them stated they had no difficulty accessing school. The Qalandia checkpoint is similar to airport security checks. For the Qalandia student, having to go through the checkpoint to attend school was an obstacle, nonetheless. The Qalandia checkpoint is usually very crowded especially early in the morning when students go to schools and laborers leave for work. Depending on the soldier's state of mind, the wait to cross the checkpoint could take anywhere between half an hour to several hours. The only alternative for this student was to take an alternative way that was longer and involved a different checkpoint. This required the student to take two buses each way to school. That daily struggle was a source of stress especially since that student was in the scientific stream and depended a lot on teachers' input. Being late or missing an entire school day affected his understanding of the material. Despite the presence of these political pressures, all four students stated that the political situation did not affect their academic achievement during the Tawjihi school year. An interesting observation was shared by the male students, who stated that they felt the impact of the political pressures after graduating. These two students were aware of the limited options available for them. Israel does not warrant much importance to Tawjihi and does not

accredit degrees from a number of Palestinian Universities. One of them stated that the

Israeli Authority does not give too much importance to Tawjihi. Students could be

accepted to Israeli Universities as long as they have a passing score in Tawjihi and a good

psychometric entrance exam score. Though this student had a high Tawjihi score of 86.9,

he decided to spend a year learning Hebrew and taking the Psychometric exam to enroll

in an Israeli college. To clarify, students in East Jerusalem have the option to attend an

Israeli college or university as long as they have a passing Tawjihi score and an

acceptable psychometric entrance exam score. The other student chose a different path.

At the time of this research he was attending a Palestinian University and stated he would

either find a job in the West Bank or have a job that was unrelated to his field of study as

many people end up doing.

School Characteristics

The students' assessments of their school environments were mainly positive.

They emphasized their relationship with their teachers. Students felt heard, helped, and

supported. They all had a high sense of belonging. They complained about resources not

being available. Female students stated that academic resources were available but

classroom conditions were not favorable, citing examples of having no heating or air

conditioning systems. Some of the classrooms lacked windows and hence, were poorly

ventilated. In short, the physical premise (classrooms) where students gathered for classes

were in dire conditions needing urgent repair and maintenance. Also, male students said

that, besides books, there were no academic resources.

Students were asked if attending a different school would have had an effect on

their academic achievement. There was a consensus among students that for those in the

literary stream it would not have made a difference because achievement depends on students' "ability to memorize." This was due to the fact that most of the subjects taught in the literary stream such as history and geography, depended on memorizing. Thus, if the student had the will and energy to memorize the material, success would be guaranteed. However, it could have made a difference for students in the scientific stream especially if the other school had more academic resources available.

Tawjhi System

I felt the need to understand the students' opinions about the Tawjihi system. The answers were interesting because they allowed me to understand what was important to these students. Two of them said that Tawjihi taught them how to be patient and how to study for long hours. An interesting word that came up repeatedly during these interviews, as well as during interviews with some community representatives and the Director of the Arab sector at the municipality of Jerusalem, was "sterile." They characterized the Tawjihi system as sterile, meaning useless or having no impact on the students' educational development. Additional words that were used by the students included "failure", "horrible", "frustrating", and "useless". One female student stated that it was "good" and "inclusive". Except for this student—whose parents are both educated and have academic jobs, all stated that Tawjihi is emotionally crushing and pressuring, and that it makes students hate studying. All students stated that Tawjihi did not prepare them for university or for life. One student in the scientific stream stated that maybe Mathematics was a bit helpful at the beginning. Another student shared that even learning methods at university differ tremendously from Tawjihi. She stated that it was enough to understand the material to be able to do well at university. The students in this study felt

the content of the material studied in the Tawjihi was unrelated to their lives and useless for them. The same student who referred to the Tawjihi as "good and inclusive" gave some contradicting answers. She stated that Tawjihi provided her with information relating particularly to history and religion that allowed her to be involved in conversation, yet, she stated that during the Tawjihi year the focus was on the score and one would study for the grade only. She also reported that once she started attending university, she felt that during Tawjihi, she was ignorant and it was only when she attended university that she started to understand things better. She also said "Tawjihi did not help me prepare for university or for life in general." This contradiction reflects the lack of understanding I referred to earlier.

It was interesting that despite the negative opinions to Tawjihi as a system, one student stated that, as a system, it is not bad in terms of the duration of exams; one month of examinations and one would be done, unlike in other educational systems where the pressure lasts longer. He felt, however, that in terms of content, the system was absolutely bad. That said, all three students stated that if given the choice between Tawjihi and another system such as the Bagrut (Israeli matriculation exam) or General Certificate Education (GCE), they would chose Tawjihi because it is what they know and what was familiar to them. They stated that they could not choose what they did not know. Only one student stated that he would choose a different system because "Tawjhi is torture."

The findings of this section need to be addressed on a policy level where the entire Tawjihi system needs to be re-evaluated. The Director of the East Jerusalem Bureau, stated in an interview that the Palestinian Ministry of Education was reassessing

the Tawjihi system and would be introducing a modified system in the next year or two (S., personal communication, September 24, 2012).

Qualitative Data Informing Quantitative Results

Results from the quantitative analysis showed that gender and Tawjihi stream were significant with female students. Students in the scientific streams performed better overall. All students acknowledged that girls were more focused and dedicated to their school work and that girls tended to perform better than boys. It was also shared that it was expected by others, whether family members or teachers, that girls would perform better than boys. As for the Tawjihi stream, there was no explicit opinion regarding performance, but it was implied that students in the literary stream had the ability to get higher scores if they studied hard. The perception was that getting higher scores was more guaranteed in the literary stream. Though these findings were not in line with the findings of the quantitative data, it would not be accurate to generalize solely based on the opinion of 4 students. All four students transferred schools, but they stated that it had no significant effect on their academic achievement. This variable was not significant in the quantitative data either. Three students concurred that attending a school inside their neighborhoods would be detrimental for their academic performance, and the other student stated it would not matter. This aligned with the findings of the quantitative data where the neighborhood and school in the same area showed a trend towards significance. This indicated that there was a difference, with those attending schools outside their neighborhoods performing slightly better.

The quantitative analysis showed that on the family characteristics level, mothers' education was the only significant variable. This was reflected in the qualitative data

where mothers were more educated than fathers and mothers sometimes offered some academic help. But above all, mothers were the main source of comfort, were the ones who provided their children with a healthy studious environment, and were there to offer encouragement and reassurance through continuous communication with their children.

None of the neighborhood variables were significant in the quantitative data analysis and neither were they in the qualitative data analysis. All four students insisted that neighborhood characteristics, including political pressure, did not affect their academic performance in any way. Although one of them expressed some frustrations due to crossing the checkpoint and being late at times, he further elaborated that his success or failure was more related to the effort he put into studying and to his determination to succeed.

The quantitative data revealed school type to be a significant variable. This was reiterated by students who emphasized that school type could make a difference only for students in the scientific stream. That was due to the nature of the topics taught with a need for more resources, such as science laboratories, to enhance students' education. According to the students, these resources were more likely available in private Christian and private Muslim schools than in Waqf (Islamic) and Public schools. Ratio of students to teachers, classroom shortage, and building quality were all significant but in the opposite direction of the hypothesis, indicating that students who attended schools with a higher ratio of students to teachers, who suffered from classroom shortage and lower quality of buildings, performed better than those who attended schools with more favorable characteristics. Though not directly supported by students, they all eliminated the effect of those variables on their academic achievement. They stated that despite the

lack of a favorable environment for learning, students themselves determine their own success or failure. Students did not address the variables: percentage of teachers with an education degree, army patrols at school level, percentage success and percentage matriculating.

To summarize, overall, qualitative data helped explain the findings of the quantitative data. The findings of both methodologies were consistent to a large extent. Some issues were not tackled in the in-depth interviews, but the overall findings allowed for a better understanding of the results of the quantitative data analysis.

Theories and Results

Social disorganization theory.

The social disorganization theory was mainly illustrated in neighborhood characteristics. Political pressures as well as lack of resources were manifestations of disorganization. Elliott and Merrill (1941) emphasized the role of resources in determining the failure or success of an individual. It is true that students mentioned lack of resources in their neighborhoods; however, they stated that this did not affect their academic achievement in any way. Even lack of resources at their schools was not a major concern for them. It was something they complained about but was not an obstacle in their way of pursuing their education. Mobility and social disorganization was introduced in one of the students' experiences as he had to go through a checkpoint on a daily basis causing him emotional pressure. This was also presented by one of the students who moved into East Jerusalem to preserve her Jerusalem residency status. Yet, both stated that these issues did not disrupt their academic performance. As for family disorganization, only one student mentioned some family conflict that slightly affected

him. He dealt with it by distracting himself from the home environment until things calmed down. That said, all four students stated that overall, they had stable families and healthy environments that were motivating and comforting. They were all appreciative of the support they received from their families.

Ecological theory.

The ecological theory explains the interactions between the individual and the micro, mezzo, exo, and macro levels. The academic achievement of the individual was influenced by their surroundings and interactions. Bronfenbrenner accentuated the importance of other people, mainly those in the immediate microsystem, in influencing the development of the individual, including their academic success (Bronfenbrenner, 1979). On the school level, this was reflected in interaction between students and teachers and between students and peers. This played a significant role in students' attitude towards school. The support they received from their teachers motivated them to perform better. Teachers opened the way for a trusting relationship with the students, which allowed the school to be a safe place for students. There was some disconnect on the mezzo level between schools and parents of male students who were not involved in the school system. Parents' of female students were more engaged, reflected in the girls' dedication to school work. There was also no interaction between students and their neighborhoods. That affected the sense of affiliation or lack thereof as a matter of fact. None of the students expressed any sense of belonging in their neighborhoods. On the familial level, families were there to offer support and help when needed. Interactions were constructive and motivating which positively affected students' academic performance.

Achievement motivation theory.

Achievement motivation theory was the main theory reflected in the interviews. Atkinson and Feathers (1966) emphasized an important point in the achievement motivation theory: whatever the outcome is, whether success or failure, it is the responsibility of the individual (Atkinson & Feathers, 1966). This was a common theme expressed among the four students. They all placed the reward of success or the responsibility of receiving a failing or incomplete grade on themselves. They all stated that success was dependent on their will and desire to succeed. That was what determined their level of motivation and amount of effort they invested in their studies.

Atkinson (1957) further added that there are three variables at the heart of the motivation theory: motive, which includes the motive to succeed and the motive to avoid failure; expectancy, which is some kind of punishment or reward; and incentive, which is something that provides satisfaction. Students' experience in the Tawjihi addressed all these three variables. They all had the motivation to succeed and they approached Tawjihi with some fear, yet, with a positive attitude. The expectation included passing, as the reward, or failing as the punishment. Finally, the incentive was illustrated in the sense of pride in accomplishing such a major milestone in their lives and being able to move to something bigger. Though at some point they were all appreciative of the support they received from their families and teachers, initially they took pride in owning their success as a form of pure personal accomplishment.

Atkinson (1957) explained that the theory of motivation should capture two problems, selection of path of action and consideration of the difficulty level or vigor of the action. This was reflected in the path one of the students chose. He was in the

scientific stream and had the option to transfer to the literary stream. This student did not necessarily choose the easier path because he stated "literary might be more difficult" but he chose the path that would guarantee him to achieve a better score. The socialization process was highlighted in the Achievement motivation theory as the process through which children adopt a sense of or lack of motivation. All students were raised in homes where education was valued and encouraged. Parents expected their children to succeed. These expectations, along with the encouragement, generated a sense of motivation in students to want to succeed.

To further expand on the understanding of success and failure, students defined success as happiness and contentedness, realizing one's own identity, and achieving a target. None of them related success to an examination score. One student stated that success was not related to being educated, it was more related to choices in life.

Failure was defined as negligence, misery, not being able to achieve oneself, not attaining what one wants, and as bad choices in life that were unrelated to education. As for considering themselves successful, three students stated that they were while one said "still unknown, it depends on my choices and if I achieve what I want which is to pursue my education."

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Summary

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A two-way cross classified model was tested to perform data analysis. Results of the model building process indicated that a two-way cross-classified model was not justifiable. Therefore, a two-level model was performed instead with Students on Level 1 and schools on Level 2. Seven models were built in order to determine the best fit with the smallest DIC value. The seventh and final model, Model G, presented the significant

predictor variables on the individual and the school levels, as well as the interaction effect between Tawjihi stream and school type. The final model, with only the significant predictor variables being accounted for, explained all the variance among schools as presented in figure 7 above.

Though it was surprising that the neighborhood characteristics were not significant, what was more surprising was the opposite direction of a number of significant school explanatory variables as was previously explained. The in-depth interviews with students managed to explain some of these unexpected results. All four students stated that, for the most part, their academic achievement was dependent on their own effort. They believed that neighborhood characteristics did not interfere with their performance. As for school characteristics, students in the literary stream stated that schools also did not affect their performance, however, students in the scientific stream stated that schools might have influenced their achievement because they relied more on teachers and school resources than students in the literary stream did. The following chapter will further explain the implications of the findings of both the quantitative and qualitative data analysis. Also, any limitations or challenges will be discussed in chapter 5.

CHAPTER V: DISCUSSION

"Those who educate children well are more to be honored than they who produce them;

for these only gave them life, those the art of living well." ~ Aristotle

Chapter five is designed to further explain the findings that resulted from both the quantitative and qualitative data analysis. More than just explaining the findings, this chapter will discuss the implications of those findings as well as the limitations of the study and any recommendations for future research. This study aimed at exploring the effects of environmental and individual variables on the academic achievement of students. Environmental variables included neighborhood and school characteristics while individual variables included individual and family characteristics.

Research Question

Hypothesis 1: It was hypothesized that on the individual level, female students, those who did not transfer, those who were in the scientific Tawjihi stream, those who had supportive family characteristics, those whose parents were married, those who lived with fewer people per household, those whose parents had higher levels of education, those whose parents were employed, those whose parents had academic jobs, those whose parents had better incomes, and who attended schools in the same neighborhoods in which they resided would perform better than students who did not have these characteristics.

Based on the findings in chapter 4, hypothesis 1 was partially supported. As was hypothesized, the findings revealed that girls performed better than boys as was hypothesized. Students in the scientific stream performed better than those in the literary streams. Also, students whose mothers were more educated performed better on the Tawjihi examinations. The variable neighborhood and school in the same area showed a trend towards becoming a significant predictor. This variable was emphasized by all four students during the interviews. One male student said that he might have even performed worse if he were to attend a school in his neighborhood because he would have been more distracted. Another female student stated that it would not be "wow" to say I attended a school in my neighborhood. For her, that would have not been prestigious enough and implied a lower social status, even if that school was better. These variables were consistent with the findings of the research studies presented in chapter 2. The number of people per household, student transfer, parents' marital status, fathers' level of education, parents' employment status, and income variables were all not significant and did not contribute to the prediction model.

Hypothesis 2: It was hypothesized that on the school level, Christian and Muslim private girls' schools that had less classroom shortage, better qualified teachers, better buildings, more resources, better school effectiveness, and less army patrols would have better matriculation results and higher success percentages than other schools that did not have these characteristics.

After realizing that none of the neighborhood predictors were significant, school neighborhood variables that could play a role in students' academic achievement were examined. Army patrols, police patrols, and density of buildings were examined. Only

army patrols affected the academic achievement of students. As a result, the army patrols variable was added to the second hypothesis on school characteristics. Private Christian and Muslim schools were combined previously and this change was made to hypothesis 2 as shown above. The findings of the analysis in chapter 4 indicated that hypothesis 2 could be partially supported. Overall private Christian and private Muslim schools did better than Waqf (Islamic) schools, public and private not-for-profit schools. The private for-profit school was not significantly different from private Christian and private Muslim schools. Students who attended schools where 100% of students matriculated and where percentage success was higher performed better than students who attended schools where percentage matriculating was lower than 100% and where percentage success was low. This was reflective of a school's effectiveness. Percentage of teachers with education degree showed a trend toward significance; students performed somewhat better at schools with a higher percentage of teachers with education degree.

There were a number of unexpected results: First, students who attended schools suffering from classroom shortage performed better than students who attended schools that did not suffer from classroom shortage. Second, students who attended schools with better building quality, surprisingly, performed worse than those who attended schools with poorer building quality. Third, students who attended schools with a higher ratio of students to teachers performed better than those who attended schools with a lower student to teacher ratio. All of these findings supported the hypothesis in that there was a difference in the performance level between students, but the direction of the difference was the opposite of what was hypothesized.

Though the quantitative results were unexpected, some of the data derived from the qualitative interviews could shed some light on these findings. Students, aware of the deficiencies in their schools such as lower building quality and classroom shortage, emphasized that those factors did not affect their achievement. They believed that, more than building assets or teachers' qualifications, academic achievement was dependent on the student's will and desire to succeed. It was a choice to succeed or fail that determined the measures a student took to reach that goal. Some chose to study hard while others were negligent, as was mentioned in the qualitative data. A number of school principals stated that when they were in school a long time ago, resources were limited and they did not have as many opportunities as students nowadays have. However, that did not deter their education because it was a goal they were determined to achieve (S., & I., personal communication, September, 2012). More than resources, students were mainly concerned and affected by their relationships with teachers and peers. These relationships compensated for any school disadvantages. They stated that having a sense of belonging to their school was essential.

Fourth, students who attended schools where the Army patrolled the school neighborhood more often performed better than students who attended schools located in neighborhoods where army patrols did not as happen often. Though this was somewhat surprising as it was expected that having army patrols would cause uneasiness or even conflict with the Israeli soldiers, the results could be related to the soldiers' presence keeping order in neighborhoods.

Hypothesis 3: It was hypothesized that on the neighborhood level, students who lived in neighborhoods with less political pressure, with more religious support, more

neighborhood assets, and more educational facilities would achieve academically better than students who lived in neighborhoods that did not have these characteristics.

Findings in chapter 4 revealed that neighborhood characteristics were not significant and did not influence the academic performance of students. This was due to lack of difference or variance among the neighborhoods in the study. Therefore, this hypothesis was not supported. As a result, neighborhood characteristics were excluded from the model and the final model was not a two-way cross-classified one but a two-level model instead with students being in Level 1 and schools in Level 2.

Significant Interaction Effects

The interaction between Tawjihi stream and school type yielded significant results. This interaction indicated that the best performing students were those in the scientific stream in public schools and the worst performing students were those in the literary stream in Waqf (Islamic) schools. The private Christian and Muslim schools and the private not-for-profit schools were not significantly different from one another in terms of this interaction effect, indicating that the two types of schools did not show differential results for the two Tawjihi streams. However, public schools showed the biggest difference with students in the scientific streams performing significantly better than the students in the literary stream. The difference was also significant for the Waqf schools and showed a trend for the private for-profit schools.

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Implications

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Implications from the results of this study indicated that more attention needs to be paid specifically to the academic achievement of male students as well as to students in the eleventh and twelfth grades, who are most likely to drop out of school. Based on a

report by Ir Amim and The Association for Civil Rights in Israel, the dropout rate is 30% in the eleventh grade and 40% in the twelfth grade (2012). This implies that those students who pursue their education are high achievers, resilient, and the least vulnerable. This is also a social justice issue because students who lack the resources and are more vulnerable end up dropping out of school either to enroll in the work force, as is the case with male students, or to get married, as is the case with female students. Both reasons for dropping out of school are related to the lack of resources, particularly economic resources that would allow the students the opportunity to pursue their education. Taking into consideration the high poverty rate among Palestinians in East Jerusalem further highlights the social justice problem that forces children to give up their education and go to work to support their families or to get married in order to relieve the financial burden on their families.

The quantitative data revealed that female students performed better than their male counterparts. This was supported by the qualitative data derived from interviews with the Director of the East Jerusalem Bureau, a number of school principals along with the four students. All of them affirmed that, unlike girls, boys were more distracted and less focused on school work. Since this was already known to be an issue and was also borne out in the research, certain measures need to be taken by schools, parents, and the Ministries of Education to encourage male students to invest more in their education. As was presented in a number of reports such as the one by Hijazi and Masarwa (2012), the leading cause for boys' dropout was joining the labor force. It was not surprising then that mothers' education was a significant variable while fathers' education was not. These findings indicated that policies need to be more clear and strict about child labor,

which is diverting students from the educational path. Rigorous measures need to be in place for preventing dropout, which is already against the law. In addition, parents and schools need to work in collaboration with each other. The qualitative data analysis highlighted an important problem manifested in the lack of involvement of parents of male students. Shumow, Vandell, and Kang (1996) found that having parents who were more involved in school can positively affect students' academic achievement. This could be one reason to explain the better performance of female students.

It was critical to address the findings of a report conducted by the Tertiary Education Project (2005), which stated that students in the literary stream graduate with no life or work skills. This further affirmed the perception that was shared by school principals that the best performing students were usually assigned to the scientific stream, leaving those who lagged behind in the literary stream. This could shed light on why the level of performance of those in the literary stream was being compromised. One reason was because of the negative perceptions associated with being in the literary stream. In other words, being in the literary stream comes with the implication of being a low performing student. Second, concentrating all the students who were assumed to be low performing in one classroom might hinder the achievement of those students. Third, the perception of the literary stream graduating with no skills was highlighted by students who stated that Tawjihi did not prepare them for life or university. All stated that aside from some subjects in the scientific stream, content was irrelevant and learning it was a waste of time. Moreover, all four students stated that the literary stream depended on how diligent and how capable students were of memorizing the material. That alone was a serious problem that requires immediate attention. Students acknowledged the gap in the

Tawjihi system and the inability of the system to provide them with the skills needed to pursue their education. They have already learned how to maneuver the system and pass the exams, mainly by memorizing and not learning to understand and gain knowledge. Education is associated with a grade rather than with knowledge. Therefore, serious changes in the policy of assigning students to different Tawjhi streams need to be considered. The quantitative results showed that students in the scientific stream performed better than those in the literary stream. That was evident also in the interaction effect, which showed that the worst performing students were those in the literary stream in Waqf (Islamic) schools.

There needs to be a reassessment of the factors contributing to higher performance among students with regard to school characteristics. The question that needs to be asked is the extent to which resources affect students' education. A number of reports highlighted the discrepancy between East and West Jerusalem schools regarding funding and availability of resources, with schools in East Jerusalem being most disadvantaged. This applied mostly to public schools. Waqf (Islamic) schools also suffered from a lack of resources and appropriate school buildings. However, and not to disregard the importance of resources in the education process, results from the interaction effect of Tawjihi stream and school time revealed that the best performing students were the ones in the scientific stream in public schools, while the lowest performing students were in the literary stream in Waqf (Islamic) schools. Having both extremes presented with both lacking resources and budgets calls for a re-evaluation of what truly affects education. Is it resources or does it go beyond resources, whether physical or fiscal?

On a school policy level, schools should provide all students with an equal opportunity to learn. Some schools have entrance exams to determine whether they will enroll a child, and in some cases, schools get rid of low performing students before the Tawjihi school year to preserve their reputation as high performing schools. This issue was raised by a number of Waqf (Islamic) schools and public schools who complained about having to take those students in because other schools wanted to maintain a good reputation. Parents need to take a more active stance in their children's education so as not to allow such discriminatory act to be implemented. The result of this policy by some schools could help explain the results of the quantitative analysis showing that schools with high matriculation and success rate perform better than the other school types.

As for the findings that students who attended schools in neighborhoods with more frequent army patrols performed better, more research should be done to explore the implications of this. One explanation would be that the presence of the soldiers keeps order in the neighborhood, which allows students maintain focus. However, that finding might also have additional, unforeseen implications. Additionally, more research needs to examine the neighborhood and school in the same area variable, which showed a trend in this study. Students stated that they would rather attend schools outside their neighborhoods and some shared that attending schools in their neighborhoods might be detrimental to their performance. Some reasons given were distraction by neighborhood peers, being too close to home, and not feeling pressured. Other reasons included schools in the neighborhoods not being prestigious. This indicated that students wanted to disconnect from their neighborhood environment and be exposed to a new atmosphere

where there might be less distractions and pressure. However, the implications of this finding need to be further explored.

Finally, regarding the implications of the study to social work, this study reveals critical problems that are directly related to social work on both policy and practice levels. Social workers need to be aware of global issues that directly affect vulnerable populations. Schools of social work should dedicate more attention to international matters and advocacy to raise awareness of issues that, otherwise, would not be known to the public. Moreover, school social work needs to be utilized and emphasized, especially in East Jerusalem schools, and social workers should be more involved not only in school settings but also with parents, with both the Israeli and Palestinian Ministries of Education, and also with the available resources in the community. Social workers' responsibilities go beyond the school gates and include advocating on behalf of the students to ensure that each student has an equal right to education as well as access to academic resources that would enhance his or her academic achievement.

Some of the findings in this study were unexpected, as previously mentioned. It is pivotal to be aware of the fact that the schools included in this study are representative of a deprived population with some schools having more resources than others. However, this study compares a deprived school to another deprived school as well as a deprived neighborhood to another deprived neighborhood. Having such results is only indicative of the resilience of the students in East Jerusalem schools and their determination to succeed and pursue their education. In order to reveal the true nature of the lives of Palestinian students in East Jerusalem and the social injustice and deprivation they live in, it would be important to conduct a comparative study between East and West Jerusalem schools.

This would then be a comparison between deprived and privileged school settings, which would be reflective of the actual injustice inflicted on the Arab educational system in East Jerusalem.

Limitations and Challenges of the Study

The data collection process revealed several limitations. One of the major limitations was the lack of documented information at schools, which led to excluding some variables from the study or having to replace missing data. Some schools were left out from the study as a result of not being able to provide any documented information about their students, their background, or even about school characteristics. That consequently placed some limitations on the selection of the school sample. Because of the political circumstances of the country, there was a lack of documented information about neighborhoods. There was some discrepancy in the information available for public use as a result of this. Some information was retrieved from Palestinian resources, which lacked accuracy because Palestinian bodies were not allowed to do any work in Jerusalem based on the Oslo Accord. This included performing any statistical surveys in Jerusalem. As for the Israeli official resources, they did not provide specific information about each neighborhood, but instead presented their statistics for the most part based on the Arab and Jewish populations in Jerusalem. As a result, information was based on different reports, community councils and representatives, and a combination of both Palestinian and Israeli official resources. None of the neighborhood characteristics were significant and were excluded from the model as a result. This might be due to the lack of accurate information on neighborhoods and schools. Moreover, changes are inevitable in

Jerusalem due to it being an occupied city. Thus, the findings of the study, along with the information presented in the study are true for the time the study was conducted.

One of the challenges faced was getting the cooperation of school principals and representatives from both the Israeli and Palestinian Ministries of Education. It was very challenging to contact any of the representatives in the Ministries of Education. It took over a month to reach any of the representatives for their approval. As for school principals, though they were cooperative, their collaboration was minimal. Some were very collaborative and willing to meet, reply to emails, and address whatever issues that arose; others were not. There were several complaints about the educational system and the struggles schools face in East Jerusalem, yet, they were not willing to invest time or provide information. Some even stopped communicating after our initial meeting and filling out of survey questionnaires. The last major obstacle was the reluctance of principals to provide information about funding, mainly from the Israeli Ministry of Education. Funding was addressed with extreme confidentiality and secrecy, which led to excluding the funding variable from the quantitative data analysis. One of the school principals refused to take part in the study because he did not want to address any questions relating to funding. This raised questions of why this element was so confidential and how that affects the different school types in East Jerusalem.

The study would have been richer if more students and teachers were interviewed or if focus groups were utilized. But since the study involved students who matriculated in 2011-2012, it was very complicated to reach them or to conduct focus groups. That said, the four interviews with the students provided some understanding of students' personal experiences as they related them.

Strengths of the Study

Though changes may have taken place since the data were collected, the study is still valuable because it presents some understanding of the environmental and individual variables that influence students' academic achievement. The study laid out a vivid description of the educational system in East Jerusalem. At the time of the research, this was one of the very few studies conducted to explore the predictors of success of students in East Jerusalem. It is therefore a stepping stone to further research on the educational system in East Jerusalem. This research was based on mixed methodology, which attempted to cover a wider range of information to better understand the educational system in East Jerusalem. Also, the use of multilevel modeling allowed for the exploration of the effects of school and neighborhood predictors simultaneously. Though neighborhood predictors were insignificant, the multilevel modeling was a strength of this study as it allowed for understanding the nesting of students in different schools.

Recommendations

More research is needed to explore the effects of environmental and individual characteristics on the students' academic achievement. More in-depth interviews and focus groups could be conducted to gather more information that directly relates to students' personal experiences. Though this study presented an initial understanding of the predictors of success of students in East Jerusalem schools, the voices of those who are directly involved and affected was missing. This not only includes students, but also parents and teachers. It would be beneficial to conduct a more focused study that involves two or three schools where more time is spent at the schools with students to better understand the dynamics and present suggestions on how to better the educational

experiences of students. The goal of this study was to identify the predictors of success, but further research needs to be conducted on how to utilize this information to develop an action plan that would be intended to improve the academic achievement of students.

Though this study covered a wide range of critical aspects, further research needs to be conducted to expand on the available knowledge regarding to education in East Jerusalem. The nature of the conditions in Jerusalem as an occupied city affects the findings of research across the board. The information gathered is only true for the time the research was conducted. Change is constant and though the findings would still be relevant, research needs to be up-to-date to reflect on the latest status of the educational system in East Jerusalem.

Summary

To conclude, this mixed-methods study aimed at identifying the predictors of success of Palestinian students in East Jerusalem schools. Three theories were used to build the model of this research study: social disorganization theory, ecological theory, and achievement motivation theory. A two-level multilevel modeling analysis was used to analyze quantitative data and content analysis was used to analyze qualitative data.

Students were on the lower level nested in schools on the higher level. There was an attempt to examine the effect of schools being nested in neighborhoods on the academic achievement of students. But, this was excluded because neighborhood characteristics were not significant. On the individual level, gender, Tawjihi stream, and mothers' education were all significant predictors. On the school level, school type, classroom shortage, ratio of students to teachers, building quality, percentage matriculating, percentage success, and army patrols at the school level were all

significant predictors of academic achievement. The percentage of teachers with education degrees showed a trend toward being significant. The interaction effect of Tawjihi stream and school type showed significant results; the best performing students were those in the scientific stream in Public schools and the worst performing students were the ones who were in the literary stream in Waqf (Islamic) schools. The private Christian and Muslim schools and the private not-for-profit schools were not significantly different from one another in terms of this interaction effect, indicating that the two types of schools did not show differential results for the two Tawjihi streams. However, public schools showed the biggest difference with students in the scientific streams performing significantly better than the students in the literary stream. The difference was also significant for the Waqf schools and showed a trend for the private for-profit schools. Data derived from the in-depth interviews helped to humanize the quantitative data analysis and shed light on some unexpected results, as was explained in the previous section. Though students varied by gender, school type, and neighborhood and background, their perspectives were similar on both the importance of education and their own role in their success or failure. This was directly relatable to the achievement motivation theory

Based on the findings of both quantitative and qualitative data, it was clear that there are some changes that could be addressed on the policy level, including deliberate implementation of rules relating to dropout and child labor. Also, the rules by which students are assigned to Tawjihi streams should be reconsidered. School policies of clearing out low performing students in order to preserve the school's reputation should be strongly challenged. Schools need to take responsibility for their own students and

should not be selective based on performance. Schools and parents should work together to encourage and provide students, particularly males, with the tools to succeed.

Though this research study addressed many factors that could influence the academic achievement of students, further research should be done where suggestions and solutions to advance students' education could be offered. Funding remains an issue that needs to be tackled to better understand its implications on the educational school system in East Jerusalem. As previously mentioned, with all the daily changes that take place in Jerusalem, research studies should be up-to-date to accurately reflect on the current conditions and issues that need to be addressed.

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CURRICULUM VITAE

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Education

ABD for PhD in Social Work	*2010-*
Kent School of Social Work	*Current*
University of Louisville, Louisville, Kentucky, U.S.A	
Anticipated graduation date: Summer 2013	
MSSW, Master's in Social Work	*2007*
Kent School of Social Work	
University of Louisville, Kentucky, U.S.A	
Diploma in accounting and accounting software "Hashavshevet"	*2003*
Administration School (Mekhlala Leminhal), Jerusalem	
Intensive Course, "Diagnosing Reading Difficulties and Ways to	*2002*
Help Disabled Readers" (56 hours).	
The Pedagogical Center, Jerusalem	
B.A. English literature, French literature	*2000*
Hebrew University, Jerusalem	
Major: English literature, French literature	
High School diploma	*1996*
Schmidt's Girls College, Jerusalem	

Employment History

Instructor in the MSSW program of Kent School For Social Work	*Aug. 2011-*
University of Louisville, Louisville, KY	*April 2012*
Research Assistant	*Jan.*
University of Louisville, Louisville, KY	*2010-Current*

Social Worker in the Oncology & Surgical Departments	*Dec.2007-*
Hadassah Medical Center, Ein Karem	*June 2009*
Program Coordinator	*Sept.*
Women's Studies Center, Jerusalem	*2007-Jan.*
	2008
Program Coordinator	*Sept.*
Sabeel Ecumenical Liberation Theology Center,	*2003–July*
Jerusalem	*2005*
Teacher	*Sept.*
Helen Keller's School for the Visually Impaired,	*2000–*
Jerusalem	*Aug. 2003*

Career Experience

Teaching   **University of Louisville, KY**

- Taught Human Behavior and the Social Environment courses in the master's program for one year.
- Developing a syllabus that would develop the students' knowledge and skills.

Helen Keller's School for the Visually Impaired, Jerusalem

- Taught English, Technology and Computers at elementary level to visually impaired and blind children, largely using the medium of Braille.
- Developed numerous teaching methods and tools, such as the use of tangible objects to make it easier for them to comprehend the lessons

Service – UofL   **University of Louisville, KY**

- Fulfill the following duties as a research assistant on a community grant from the Centers for Disease Control (secondary prevention of type 2 Diabetes in rural counties in Kentucky):
- Conduct a comprehensive literature review on coalition building and evaluation.
- Assisted in leading sessions during the coalition building process and data collection.
- Use concept mapping methodology to create coalition
- Data entry and analysis using concept mapping program.

- As a research assistant for a Hartford Faculty Scholar grant (resiliency and quality of life of older lesbian adults with alcoholism), transcribed 60 interviews conducted by the Faculty Scholar.

Hadassah Hospital, Ein Karem

Service
Social Work
Profession

Fulfill the following duties as a Social Worker in the Oncology & Surgical Departments as well as working with Arab speaking patients in various departments:

- Offer therapy sessions for patients in both the oncology and surgical departments.

- Help connect patients with resources such as the national insurance, rehabilitation centers, medical and therapeutic services and centers, Palestinian Authority for medical coverage and permits, in addition to many other resources.

Women Study Center, Jerusalem

Service
Women Study
Center

- In charge of coordinating programs for bereaved women in the West Bank. The programs focused on developing the bereaved to bereaved method where women gain more skills on how to support other bereaved women through groups and individual work.

Sabeel Ecumenical Liberation Theology Center, Jerusalem

Service
Sabeel

- In charge of coordinating interfaith, youth and women's programs.

- Represented Sabeel as speaker in conferences in Sweden and USA.

- Assisted in coordinating The 5th International Sabeel Conference in April, 2004 in Jerusalem for 500 delegates from 32 countries and afterwards, managed issues arising from the conference in the absence of the conference coordinator.

- Responsible for all follow-up issues, conference report, shipping and sales.

- In charge of all registration and records. Developed Access XP database. Extraction of data from this relational database by building Access SQL queries and production of reports.

- Assisted with editing and distribution of monthly newsletters and quarterly publications. In addition to designing brochures in both Arabic and English languages.

- Hosted visiting groups, both local and international, lecturing on the current political situation.

- Hosted visiting groups, both local and international, lecturing on the current political situation.

Training   **Home of the Innocents, Louisville, KY**

- Part of the University of Louisville Social Work program. I worked with pregnant and parenting teenagers and offered individual therapy and co-facilitated a support group and led a group in the Aftercare Program.

Ten Broeck Hospital, Louisville, KY

- Part of the University of Louisville Social Work program. I worked with patients with chemical dependency problems and personality disorders under the supervision of a clinical social worker.

Americana Community Center, Louisville, KY

- Part of the University of Louisville Social Work program. Helped in the after school program. In addition, I was responsible for leading a group and mentoring one of the children.

Peace and Justice Conference, Tacoma, Washington (Presbyterian Church, USA)

- Presenter at the invitation of the Presbyterian Church (USA): an intergenerational international event in which participants studied and began working towards environmental and economic justice, sustainable communities and lifestyles, and the vision and knowledge to begin the work of peacemaking around the world.

Young Men's Christian Association (YMCA), East Jerusalem

- Training in accounting

Hebrew University, Jerusalem

- Extensive Hebrew Courses

Scholarship

Peer Reviewed Articles

Miller, J, Rhema, S., Faul, A.C., D'Ambrosio, J., Yankeelov, P.A., Amer, R. & Clark, R. (In Press). Strength in process: Using concept mapping to inform community coalition development. *Journal of Community Practice*

Peer Reviewed Presentations

- Miller, J, Rhema, S., Faul, A.C., D'Ambrosio, J., Yankeelov, P.A., Amer, R. & Clark, R. (2012, January). *Strength in process: Using concept mapping to inform community coalition development.* Society for Social Work and Research Conference, Washington, DC, January 11-15, 2012.
- D'Ambrosio, J., Faul, A.C., Yankeelov, P.A., Amer, R., Miller, J, Rhema, S., & Clark, R. (2012, February). *Moving from theory to practice: A participatory action concept mapping exercise with a Community Diabetes Coalition serving Older Adults.* Association for Gerontology in Higher Education's 38th Annual Meeting and Educational Leadership Educational Leadership Conference, Arlington, Virginia, February 23-26, 2012.

Professional Skills

Computer Skills

- Microsoft Applications
- Database Design
- Access Database
- SPSS

Language Skills
- Arabic: Native language
- English: Fluent
- Hebrew: Intermediate
- Spanish: Beginning
- French: Beginning
- Braille: Proficient

References

- Dr. Annatjie Faul, Ph.D., Dissertation Committee Chair; Professor; Associate Dean Academic Affairs; Hartford Faculty Scholar; Kent School of Social Work, Oppenheimer Room 104, 502-852-1981 (O); acfaul01@exchange.louisville.edu
- Dr. Ruth Huber, Ph.D., Professor Emerita, 6535 Driftwood Lane, Missoula, MT 59803-3218; 502-693-8386; ruth.huber10@gmail.com
- Dr. Thomas Lawson, Ph.D., Professor of Social Work, Kent School of Social Work, Oppenheimer Hall, University of Louisville, KY, 40292; 502-852-6922; tom.lawson@louisville.edu
- Dr. Bibhuti K. Sar, Ph.D., Professor & Director; Doctoral Program in Social Work 112 Patterson Hall, Kent School of Social Work, University of Louisville, KY 40292; 502-852-3932; b.k.sar@louisville.edu
- Dr. Pamela Yankeelov, Ph.D., Associate Dean of Student Services, 106 Oppenheimer Hall, Kent School of Social Work, University of Louisville, Louisville, KY 40292; 502-852-0426; pam.yankeelov@louisville.edu
- Kristi Jo Jedlicki, MSSW, 2203 Ardsley Road, Louisville, KY 40207; 502-895-1075
- Casey Evans, MS, Clinical Care Coordinator; 707-318-7646