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The American University in Cairo

School of Global Affairs and Public Policy

INCREASING BLOOD DONATION IN EGYPT

A Thesis Submitted to the
Public Policy and Administration Department
in partial fulfillment of the requirements for the degree of
Master of Public Policy& Administration

By

Azza Shafei

May 2013

The American University in Cairo

School of Global Affairs and Public Policy

INCREASING BLOOD DONATION IN EGYPT

A Thesis submitted by

Azza Akram Saleh Shafei

to the Department of Public Policy and Administration

May 2013

in partial fulfillment of the requirements for the degree of
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INCREASING BLOOD DONATION IN EGYPT

Azza Shafei

Supervised by Professor Jennifer Bremer

ABSTRACT

Blood donation is becoming a critical national demand of emergency especially after Egypt's revolution on the 25th of January 2011, and should be a high priority for the Ministry of Health (MOH) officials in order to save patients in need. This thesis investigated current barriers and possible incentives that would motivate more citizens to donate their blood. It explored factors that influence educated Egyptians' decisions to donate blood, such as guidelines set before donating, efficiency of donation centers' personnel, awareness regarding health gains, and the opportunity to rescue others. As a result of a qualitative and quantitative research, recommendations were formulated that could guide the MOH such as adjusting policies, equipping blood donation centers more appropriately, and promoting campaigns to increase willingness to donate blood in Egypt. Results in brief showed that face-to-face communication proved to be the most successful publicity measure. In addition, when doing campaigns, the government and the ministry have to be transparent regarding the phases of blood donation process and should take care to approach people coming from different social and educational backgrounds through proper methods. The most common barriers were fear of: pain, lack of hygiene and fear of getting infected, but lack of donations is also because of recent governmental policies: forbidding paid blood donation and monopolizing blood donation. The survey findings to an extent supported a conclusion that confidence in personal physical capabilities as well as trust in the blood donation staff efficiency and the process as a whole would lead to a rise in the willingness to donate blood.

Keywords: Blood donation, barriers, incentives, shortage, diseases, awareness, policies.

TABLE OF CONTENTS

TABLE OF ABBREVIATIONS

Abbreviation	Full Name
AUC	The American University in Cairo
DAIR	Data Analytics and Institutional Research office (AUC)
DBB	District Blood Bank
GOE	Government of Egypt
GR	Graduate student at AUC
HBB	Hospital Blood Bank
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
IFRC	International Federation of Red Cross and Red Crescent Societies
ISBT	International Society of Blood Transfusion
LEAD	Leadership for Education and Development Program (AUC)
MOH	Ministry of Health
NBRA	National Blood Regulatory Authority
NBS	National Blood System
NBTC	National Blood Transfusion Center (in Cairo)
NBTS	National Blood Transfusion Service
NGO	Non-Governmental Organization
RBC	Regional Blood Center
RBTC	Regional Blood Transfusion Centre
TTI	Transfusion Transmitted Infection(s)
UACT	University Academic Computing Technologies (AUC)
UG	Undergraduate student at AUC
UTI	University Technology Infrastructure (AUC)
VACSERA	Vaccine & Sera Institute (in Dokki)
VNRBD	Voluntary Non-remunerated Blood Donor
WHO	World Health Organization

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I. Introduction

Blood donation is the act of accepting that one's blood gets withdrawn with the intention of preserving it to be transfused to a patient in need. The ultimate recipient is usually in an emergency and critical health situation either undergoing a surgery or is suffering from serious wounds in pressing need for blood, which "in traditional Chinese medical theories,… is the vital life source that carries the Qi (life energy) throughout the body" (Zaller et al., 2005, p. 281). The blood donated could also be utilized for other medical purposes (e.g. extracting blood components like platelets for treatments requiring them) or be banked; recognizing that the "blood supply must be replaced regularly to keep a current inventory of fresh blood and blood products" (Canadian Blood Services, December 2011). The donor must be a healthy person and is expected to remain so after donation. This is determined by conducting a confidential interview before approving volunteer donation to investigate the donor's health history and countries traveled to so as to assure the non-existence of any transmitted diseases to the recipient. Also required is to check the donor's temperature, level of hemoglobin, blood pressure and pulse for his/her health safety. Sound donation practice requires the staff to consider various precautions among which are: to "insert a brand new sterile needle for the blood draw" (American Red Cross, December 2011) to assure that the donor will not get infected or harmed while donating in addition to "hand cleaning is an essential preventative measure to avoid contamination of blood donated" (Armstrong, 2008b, p.135)

This study is important, because it discovered current barriers and incentives to donate own blood especially in light of January 25th Revolution in Egypt, which has revived Egyptians' patriotic identity as well as feelings of civic solidarity and community engagement of helping others maintain a better health and life. The benefit, as elaborated

below, is having investigated practical solutions to a calamity that Egypt suffers from and consequently leads to the death of many at all ages. Below literature review revealed individual characteristics and traits that formed barriers in previous studies conducted before the Egyptian Revolution. This thesis also tried to analyze in the interviews experience whether there is a link between a donor's willingness to donate and the level of education. The author means by level of education both the level of awareness about blood donation and its importance to self and rescue of others' lives, a fact that implies the government's duty to increase awareness, since as stated by Kliman "to correct the shortage of blood, we need younger healthy people to learn about blood donation and increase public awareness so these people will come forward" (as cited in Collier, 2000, p.1). Also meant is the individual's level of education, in other words, the government should know which approach to undertake to target potential donors of different educational backgrounds. As a result of a qualitative and quantitative research, recommendations were formulated. As will be elaborated later, reading through the literature missing were further investigations regarding the effect of potential donor's trust (attitudinal variable) and confidence (personality trait) characteristics on one's decision to donate. The core issue of this thesis is personal motivation and what enhancess it. In an effort to increase willingness to donate one's blood, the Ministry of Health in Egypt would hence learn about the missing items. Consequently, it was directed how to further equip blood donation centers accordingly, promote campaigns to raise awareness about health gains and rescue of others' lives as well as adjust policies, since "from a public policy standpoint, it is important to know what motivates individuals to donate blood if a pro-blood donation change policy is to be successfully implemented" (Mostafa, 2009, p.5031). The methodology used to collect data was the conduct of individual interviews to learn from the views of experts in the field of blood donation, hence having listened to the insiders' qualitative perspective. Moreover, a questionnaire was distributed to

a random sample of staff and students from the AUC community. Current work experiences at AUC facilitated my quantitative field work and personal connections to academic professors as well as having parental medical doctors assisted in obtaining access to resources easier than otherwise.

II.Background

Global review shows that not only in Egypt, but worldwide shortage in blood supply has become a calamity, since as declared by the IFRC "there are chronic shortages of safe blood and blood products in many countries, so blood transfusion is not available for a substantial proportion of the world's population" (IFRC, 2012). The WHO reveals vital facts and statistics in its fact sheet No.279 dated June 2012, the most recent on its website:

> About 92 million blood donations are collected every year. Approximately half of these blood donations are collected in high-income countries, home to 15 percent of the world's population. Annual blood donations on average per blood centre in high-income countries is 30 000 versus 3700 in low-income countries. National blood supplies are based almost entirely on voluntary unpaid blood donations in 62 countries: the WHO goal is for all countries to obtain all blood supplies from voluntary unpaid donors by 2020. 39 countries were not able to screen all blood donations for one or more of the following TTIs: HIV, hepatitis B, hepatitis C and syphilis. (WHO, 2012).

Despite the fact that awreness on the importance of blood donation is higer in the developed countries than in the less develeoped nations, the U.S.A. too suffers from a blood shortage, since "although 40,000 Americans donate blood each day, that is barely enough to keep the health care system running" (Mostafa, 2009, p. 5031).

A. Historical Background: Blood Transfusion Centers Restructure in Egypt: The Egyptian Blood Transfusion Services was launched in 1938 as an NGO for blood donation services. In 1960 the Higher Council of Blood was established in an effort to regulate blood services in Egypt. However, before 1977 blood centers in Egypt were scattered everywhere with no clear record neither of blood availability nor of who they report or refer to. In 1997 the MOH

signed an agreement of cooperation with the Swiss government putting by that the restructuring of the blood transfusion service as a priority in the To-Do-List of the Egyptian government. This signed contract worked on regionalizing a network of blood centers to cover all of Egypt, since "Egypt is a widespread country, heavily populated and has different cultures….The good infrastructure and facilities, the limited resources and unavailability of enough staff encouraged the concept of regionalization" (Moftah, 2002, p. 197). As stated in the Egyptian Naional Blood Transfusion Standards document, NBTC is the headcourter of the NBTS, which "shall develop a policy that defines the strategy, processes, and procedured required to ensure that documents are appropriately controlled throughout the BTS" (NBTS, 2007a, p. 34). Inaugurated in 2000 the NBTC supervises "10 large and 7 small RBTCs and 6 DBBs, located in remote areas and they are overviewed and technically supervised by the nearest RBTC" (*NBTS*, 2007b, p. 20). This whole process was planned to take three years to replace the old MOH system and former HBB, "many of these should be converted to storage blood banks" (Moftah, 2002, p. 197).

There are various constituencies who work either directly or indirectly with the MOH in holding the responsibility of assembling, testing, stockpiling, processing and issuing blood bags for patients as well as storing blood into its components as follows:

"1. Direct MOH institutions

* National Blood Transfusion Service (NBTS)
* General Hospitals Blood Banks (more than 250 operating banks)
* Specialized Medical Centers Blood Banks
* Teaching Hospitals Blood Banks
* Curative Care Hospitals Blood Banks

2. Indirect MOH institutions

* Health Insurance Organization Hospitals Blood Banks

* Vaccine & Sera Institute (VACSERA)

3. Non-MOH organizations that collect, test and issue blood:

* Military Services

* Police Services

* Syndicates Hospitals

* Private Hospitals

* University Hospitals

* Private universities

* ERC

* Private companies" (*NBTS*, 2007b, p. 23)

Other private efforts like NGOs and community service organizations like Resala are not authorized to take blood from donors. However, they supply the location and inaugurate blood donation campaigns, which encompass professional nurses and medical doctors from the MOH, who supervise and take the blood samples from volunteer donors.

B. Shortage in the Blood Stock: As illustrated above, developed countries as well suffer from a shortage in the blood donation supplies, but not as severe as in the developing nations such as Egypt where as announced by medical doctor Fahmy "every three seconds, there is a patient who requires blood, thus there is an urgent need ranging between 2.5 to 3 million bags annually. Tragically, only 60 per cent of the country's needs are met" (as cited in AbulSalam, May 2012). Searching Egypt NBTS's official governmental website, latest published Annual Reports are those of 2005 and 2006. Consequently, in the methodology section of this thesis targeted will be data collection of the most recent statistics on the blood donors' count in Egypt's governorates in an effort to track the blood supply and availability trying to figure out how severe the blood bags' shortage is.

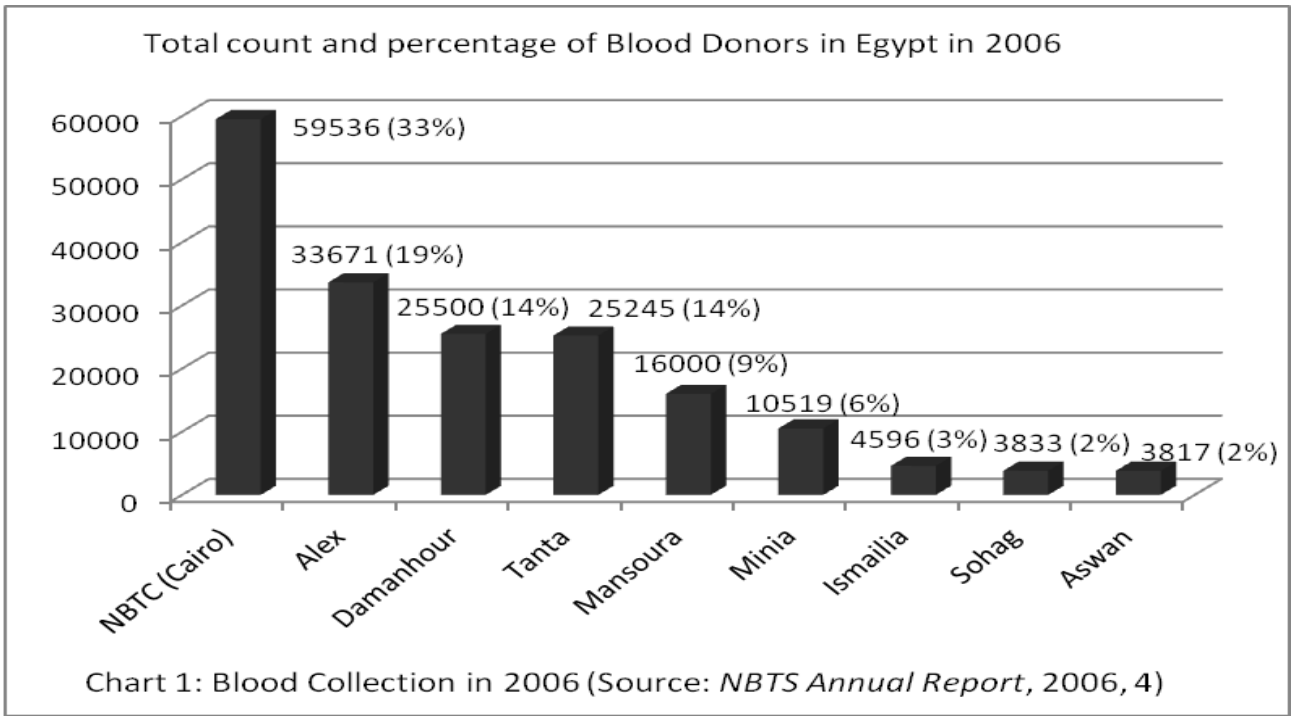


Chart 1: Blood Collection in 2006 (Source: *NBTS Annual Report*, 2006, 4)

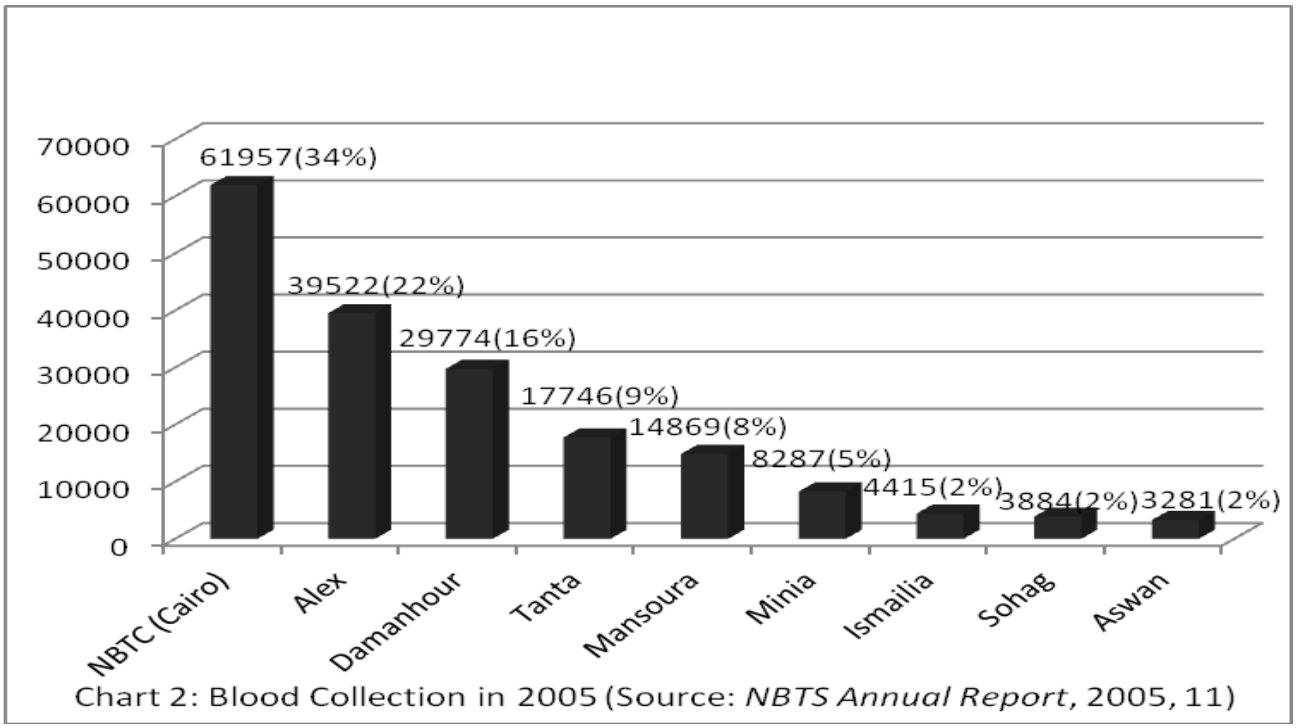


Chart 2: Blood Collection in 2005 (Source: *NBTS Annual Report*, 2005, 11)

The most recent statistics found on blood donation numbers in Egypt were for years 2006 and 2005 (see charts 1 and 2). Despite repeated efforts, more recent figures could not be obtained online, but would be searched for and were compiled in the data collection

process. As could be viewed in both graphs above illustrating the total number of blood collections all over Egypt for the years 2005 and 2006, the total amount of donated blood has decreased in Cairo -represented by the NBTC- by around 4 percent from year 2005 (61,957 blood donors) to 2006 (59,536 blood donors), more recently "in Egypt the National Blood Transfusion Center (NBTC) receives an average of just 60 donors per day" (Mostafa, 2010, p.158). Alexandria comes at the second place providing the highest rates of blood donations after Cairo. However, the same scenario goes for Alexandria, since collected blood has decreased by 15 percent from year 2005 (39,522 blood donors) to 2006 (33,671 blood donors) and for Damanhour (a decline by 15 percent from 29,774 in 2005 to 25,500 in 2006). However, the remaining governorates experienced an increase in the amount of donated blood like in: Tanta (an increase by 30 percent), Ismailia (an increase by 4 percent), Minya (an increase by 4 percent), Sohag (same) and Aswan (an increase by 15 percent). Despite the latter good phenomenon of the increase in the number of blood donors in the last governorates, however, the shortage taking place in NBTC, Alexandria and Damanhour is critical, since these regions constitute around 64 percent of Egypt's entire blood reserve as illustrated in the NBTS Annual Reports.

C. Facts about the Blood Donation Activity Worldwide and in Egypt:

1. Blood Donors' Types and the Government's Recruitment Efforts:

It is important to know the different classification of donors for the government to consequently decide which approach to use in order to attract and recruit those different blood donors. There are various kinds of donors, however, the most common four types in Egypt by order in addition to the best approach to recruit and attract each type as illustrated in Table 1 below.

Table 1 – Blood Donor Types and Recruitment Approaches:

Blood-Donor Type	Definition	Approach to attract donors
1- Family Replacement donors	Family members of a patient in need for blood are in this case the blood donors, who are "asked to replace the number of units of blood likely to be needed" (Armstrong, 2008a, p. 111)	Healthy family members, who donate for the first time may be approached to repeat that experience and maybe become regular Voluntary Non-remunerated Blood Donor (VNRBD).
2- Captive Voluntary Donors	Subordinates like soldiers in the armed forces, who are expected or required to donate in regular blood donation campaigns. They may choose not to donate, but will encounter shame from peers and disapproval by supervisors.	Those donors could be approached to become VNRBD. The main benefit is the fact of having collected a large number of blood bags/units at the end of campaigns or donation booths.
3-VNRBD	This voluntary donor gives own blood due to inner beliefs in community engagement and the importance to help others to survive. This donor is not paid, donates blood out of free will and constitute the source of the safest blood supply, because of having "as the prevalence of bloodborne infections is lowest among this group." (WHO, 2012).	Targeted should be this type of voluntary donor, who should be granted "due recognition and appreciation… for their humanitarian act" (*NBTS*, 2007b, p. 12)
4-Paid donor	It is also referred to as a commercial donor, who is motivated to give own blood in return for cash payment or gifts. Taken blood is usually "the least suitable, as far as the safety of the blood is concerned". (Armstrong, 2008a, p. 111)	"In 1999 MOH Decree No. 25 prohibited the collection of blood from paid donors in all government and private blood banks." (*NBTS*, 2007b, p. 5)

III. Statement of the Problem and its Importance

The health of many patients and wounded protestors as a result of the Egyptian Revolution is put at risk by shortages in the blood supply, especially that "the central blood bank in Cairo has stated that donations have dropped by half after the revolution" (The Egyptian Gazette , 2011, p.1). The MOH recently declared that "donations have dropped by 50 percent since February…[while the] needs have jumped from 1.1 million units last year to an estimated 1.4 million this year" (IRIN Humanitarian News and analysis, July 2011). Consequently, it is important to tackle Egyptians' willingness or reluctance to voluntarily donate their blood, while "[i]n 1997, the Egyptian government decided that the blood service is a priority…" (Moftah, 2002, p.197). Shortage of blood is nowadays a phenomena in Egypt and is due to various barriers; a donor could refuse to donate either because the person is unaware of the emergency need for blood in some hospitals to save lives, is afraid of needles, the act of donating in itself or is simply unwilling. It is a crisis that blood donation in Egypt is considered low by "30 percent less than what the nation's hospitals require" (Poverty News, May 2011). There are various reasons why "the number of blood donors has fallen sharply in recent years" (Poverty News, May 2011); among those reasons is malnutrition, fear from being affected by transmitted diseases or harmed through post-donation side effects and lack of awareness that "blood is needed not only for emergency situations, but also for routine operations" (Mostafa, 2010, p.157). Lack of willing donors is not the only problem. Recent regulations issued by the Egyptian government also added to the shortage of blood bags and consequently a rise in its price as well as the creation of a black market, which abuses those patients in need. Some of these regulations are: the ban of blood importation, prohibiting blood donations by paid donors (MOH decree No.25 in 1999) and monopolizing blood donation "under public scrutiny in 2007 when a local company was accused of providing the Health Ministry of defective Blood" (Poverty News, May 2011).

IV. Thesis Topic

Enhancing blood donation in Egypt through promoting incentives and diminishing possible barriers is essential to eliminate the shortage in the country's blood stock for patients in need.

A. Sub-Questions

1- What are incentives to donate?

2- What are barriers to donate?

3- How could the Egyptian government address those barriers?

4- What factors determine the blood donation in Egypt?

B. Hypothesis

H1- Willingness to donate is higher if potential donors have confidence in their own capabilities.

H2- Willingness to donate is higher if potential donors have trust in the blood donation process and personnel.

V. Literature Review

This literature review discusses the writings about the calamity of shortage in blood donations as explored by foreign as well as domestic researchers, experts and officials in the field. The findings and recommendations will focus on Egypt. Since the aim of this study is to find out about additional barriers to work on diminishing them as well as discover new incentives to be enhanced, the author will focus more on understanding the following human aspects: demographic-, personality characteristics and attitudinal behaviors. This thesis builds on former findings and intends to investigate the association between risk-taking and donation as well as between trust and willingness to donate that previous studies did not closely observe in order to further understand what differentiates between a donor and a non-donor.

A. Addressing Barriers and Incentives to Donate in Egypt:

Literature and secondary sources about the shortage of blood donation in Egypt are not sufficient, however, all research prove that Egypt suffers from acute lack of blood donation. As expressed by journalist and interviewer El-Kanawati (2012), Egypt needs annually 1 million and a half blood units or donated blood-bags to cover patients' demands. Unfortunately, total donations declined by 40 percent and from 2010 to 2011 reserves have decreased by 20 percent, moreover, "according to the Ministry of Health, only 35 percent of actual needs are met" (The Egyptian Gazette, 2011, p. 1).

This dramatic shortage constitute a "major challenge facing health care institutions today… to increase their pool of blood donors" (Andaleeb & Basu, 1995, p. 42). To do so, researchers have to dig further into current hindrances discouraging first time donation in order to eliminate them as well as what could be possible and feasible incentives that need to be enhanced to encourage repeat donation. This discussion will be elaborated into the next section.

In a recent research paper compiled by a group of seven graduate students in Egypt – including the author of this study-, the following barriers and drivers to donate were represented in Table 2. As a result of conducting two focus groups and four interviews with Egyptians residing in Egypt. The age average of the respondents ranged from18-45 years old, interviewed were only females of the social C-class, the first focus group encompassed eight male participants and the second was a mix of nine females and males. Both focus groups included participants from the A and B classes.

Table 2.: Barriers and Incentives to Donate Blood:

" Barriers to Donation: Participants may not donate blood because of:	**Drivers for Donating: Factors that may encourage blood donation include:**
1- Lack of trust • In the people related with the process (nurse and doctor). • In the whole governmental system because of the corruption in the health sector in Egypt.	1- Give incentives • To be tailored according to the target. • Some people would prefer gift cards and soccer tickets while others would prefer meals. Another example is in the army they would give an extra day off if you donate blood.
2- Passiveness and laziness: • People may be triggered to donate blood when there is a crisis. Even in a crisis, some people may prefer to give money as it is safer and easier.	2- Civic target and religious duty campaigns:(churches and mosques). • Marketing the idea that the blood you donated can save someone, in return in case you needed blood later on you will be saved (religious benefit). • Reward hereafter (altruism).

3- Mistaken beliefs about health dangers: • If you donate blood, you will lose it and will not be healthy.	3- Market the blood donation as a 4- healthy act to be done on regular basis.
5- Fear of bad outcomes from the process itself: • People think of all the bad things that can happen to them (faint, is the needle 100% clean…) these thoughts might hold them back from donating.	4- Sympathy: • Give people real live cases for them to be triggered to donate (cases of people in need)
5- Lack of awareness: of the need.	5- Create awareness: • Not only at work and universities but also starting from schools.
6- Phobia from needles; fear of pain	6- Religious Duty: • Encourage the idea that people who cannot do good deed by money can do so through donating blood.
7- Poor hygiene and cleanness: • Of the place and the presentation of the people in the process. • Good Image must be conveyed to give comfort.	7-Organized campaigns building on successful examples such as the orphans and tax payment campaigns.
8- Lack of convenient places to donate	8-Good Quality: • Communicate good quality through campaigning international standards. "

(Source: Fatfat, et al., 2010, p.17).

B. Formulation of Hypothesis:

Secondary sources descriptions of barriers and incentives clarify the influences on an individual's blood donation decision. The factors could be classified under either health or behavior. Any of the following categories could be enforced resulting either in building a barrier, which needs to be eliminated or a driver for donation, which needs to be empowered in order in the end to positively affect a person's willingness to donate. It is important to distinguish between two groups, past donors and non-donors, which should be approached differently by blood donation campaigns, as literature reveals the fact that "donors and non-donors are indeed different, and must be treated accordingly" (Burnett, 1981, p. 66). Measures undertaken should catch the attention of non-donors to accept being recruited, be vigilant to eliminate drop-outs and preserve donors to increase their donation frequency through, for instance, a pat-on-the-back motivator, as suggested by Oborne and Bradely in 1975 (as cited in Burnett, 1981, p. 66).

1. Demographic Characteristics:

Demographic characteristics such as: marital status, education, age, gender, income and position might be thought to indicate potential donors and therefore to be of help in identifying potential donors, but do this is not borne out by research. Many studies have tried to find out a definite relation either positive or negative between blood donation and each of the demographic characteristics, however consistent results have not been obtained, because "studies are difficult to compare because they have been conducted with different methods, different populations and sample techniques" (Barkworth, Hibbert, Horne, & Tag, 2002, p. 908). The same concept is stressed through a recent study in 2008 proving that "there are no differences in the socio-demographic characteristics of gender, age, education and social class of the potential donors… hence, no socio-demographic profile of the potential donor could be established" (Beerli-Palacio & Martin-Santana, 2008, p. 139).

2. Personality Characteristics:

Personality qualities of an individual should also be considered when trying to predict potential donors. Such traits may include confidence, self-satisfaction, self-esteem, risk taking and love for charity work (altruism), since "there is evidence that support of blood donation is motivated by altruism" (Mostafa, 2009, p. 5032). Simmons (1992) refers in her review to a prominent study that was conducted in 1991 by Piliavin and Callero titled "Giving Blood: The Development of an Altruistic Identity", which examined how behavioral blood-donation is affected by social structure and social norms (p. 519). Their study revealed that while first-time donation is mainly motivated through social pressure, on the contrary, repeat-donation is stimulated not by external motives, but due to internalized motives (good quality of donating, altruism and willingness to help others) and consequently conclude that "after about the third or fourth donation (1) the role of blood donor altruist merges with the person's identity, (2) an intention to continue donating is formed, and (3) regular donation becomes habit" (Simmons, 1992, p. 520). Barkworth found however that previous "results failed to reveal a statistical significance between blood donation and altruism, which was partly explained by difficulties in achieving valid measures of altruism" (Barkworth et al., 2002, p. 909).

Also, it was thought that persons who are high risk takers, as opposed to personalities who take minimal risk, would not mind donating their blood especially after having acquired information about blood-donation, since the former love challenges and adventures and hence might more easily convert from being non-donors to actual donors, especially that "the more donors know about the blood donation process, the more risk they perceive" (Allen & Butler, 1993, p. 31). This is not only true in the entry stage –where potential donors principally learn about their eligibility status-, but also in the repetition stage of the blood donation 'adventure' would be enhanced the more risks are perceived. However,

various studies found the opposite to be true of a typical donor's typical trait related to risk, hence "donors are low risk takers…, it is rational for low risk takers to avoid perceived risks associated with donation" (Andaleeb & Basu, 1995, p. 43), moreover, "the donor tends to be a family man… and consequently is unwilling to take risks" (Burnett, 1981, p. 65). In order to motivate and favorably affect the intentions of potential blood donors, blood banks' personnel should be honest about pointing out two facts that might take place while donating, but in a smooth way to avoid feelings of fear: first, the possibility of seeing only little quantities of spilled blood -with the aim of reducing the potential donor's psychological risk- and second, the supply of information that the donation process is painless –aiming at reducing associated physical risk- (Allen & Butler, 1993, p. 32) in addition to declaring Burnett's results stating that to benefit one's own health "the individual donates in order to reduce medical risks" (Burnett, 1981, p. 65) .

Previous studies have verified that potential donors are those persons with low self-esteem or self-efficacy, who are easily affected by peer pressure and pressure to conform and hence "people who have low self-esteem donate blood to improve their self-esteem" (Andaleeb & Basu, 1995, p. 43). Consequently it is important for blood bank personnel to be aware that "self esteem might be the motivating factor, as donating blood is one way of improving self-esteem" (Burnett, 1981, p. 65). Another study by Wallace & Pegels (1974) in addition to Burnett's reached a conclusion that it might be a waste of time trying to convince a typical non-donor to donate, given their resistance-to-change, and consequently it may be more fruitful to target only previous donors and consequently transform them into repetitive-donors (as cited in Burnett, 1981, p. 66). These findings suggest the following hypothesis 1:

H1- Willingness to donate is higher if potential donors have confidence in their own capabilities.

3. Attitudinal Behaviors:

This includes a person's trust in for instance the location, medical doctor, and nurse in a blood bank. Studying a person's attitude is vital in trying to predict future behavior. Various studies have focused on the relationship between one's decision to donate and behavioral attitudes. Mostafa (2009) refers in his article to Charng et al. who have demonstrated in an intensive research in 1988 and 1991 that intending to donate blood gives a solid positive expectation about future donation behavior, provided that as the "results of the study suggest that the effect of knowledge on individuals' intentions to give blood is mediated by their perception of risk" (Allen & Butler, 1993, p. 31). Moreover, as illustrated in the above 'Personality characteristics' section there is a negative relationship between donation intentions and perceived physical- as well as psychological risks, while "previous research -by Bagozzi in 1981, 1982 and 1986- suggests that, although behavioral intentions are not equivalent to actual donor behavior, they are fair indicators of expected behavior" (Allen & Butler, 1993, p. 32). This was also supported in 2003 in another research study, which referred to a cognitive model of behavior by Ajzen called the 'Theory of Planned Behavior' (an attitude-based model) which "rely on the assumption that behavioral intentions are highly correlated with actual behavior", while stressing on previous results that while "attitudes are not good predictors of behavior", however, "attitudes predict intentions better than environment, knowledge and behavior" (Holdershaw, Gendall & Wright, 2003, p. 94). However, another study conducted in the UK in 2002 denied any relationship between perceived risk and donation related intentions by stating that "perceived risk was only significantly related to frequency of donation over the last year- it was not associated with lifetime donations or donation intentions" (Barkworth et al., 2002, p. 919). This latter outcome might not require full attention, as the author stated having faced the following limitation where "the sample was limited and not representative of the population of the

United Kingdom as a whole" (Barkworth et al., 2002, p. 919). A negative relationship exists besides between donation intentions and waiting time as well as inconveniences.

Also, fear comes under this category such as fear from possible pain, the needle, the act of donating in itself, unskilled nurses in case something goes wrong while in the donation process, acquiring anemia, getting sick or infected from lack of hygiene, as unfortunately "Egypt is among the countries with intermediate endemicity of Hepatitis B surface antigen….And the highest prevalence of hepatitis C virus" (Khattab, Eslam, Sharwae, & Hamdy, 2010, p. 640). Allen and Butler have referred in their study to the importance that the blood service personnel mentions the counter-balancing information to the potential donors not only the possible risks, otherwise fear would constitute a barrier to donation, since "if the ignored or poorly processed information contains truly new and important facts, suboptimal decisions may obtain" (Alba & Hutchinson, 1987, p. 439). This discussion was proved to be true in a modern study conducted in 2005 in a western Chinese city, where researchers' results have shown that the more correct information on the donation process is given, the more likely qualified potential donors are influenced to donate voluntarily (Zaller et al., 2005, p. 281). If trust is missing between a potential donor and the blood bank staff, this would constitute a barrier to gain a new donor or lose an existing one, a fact which necessitates maintaining a positive attitude and explains why, as reported by Mostafa, a study by Breckler and Wiggins (1989) on cognitive and behavioral attitudes discovered that "blood donors find more favorable attitudes [to blood donation] than non donors" (as cited in Mostafa, 2009, p. 5032). However, if the other partner, that is, the blood bank personnel, nurses and doctors, act in a transparent, professional, clean and polite manner as well as demonstrate experience this would consequently result into trust and reduce barriers to participation. The number of new as well as returning donors may therefore increase. The same goes for fear, which is also the result of rational thinking like trust, but the former is out

of pure instinct and hence could decrease as a result of logical thinking, while the latter is acquired through personal relationships in life and hence could be maximized through guarantees. Also, fear is more psychological related and personal depending on each individual's historical experiences of physical pain, traumas and feelings of discomfort. For instance, a person may fear possible infections and hence refuse to donate just due to a personal experience in the past, where he/she was directly infected or indirectly, while witnessing a friend or relative getting infected might be due to an erroneous act by a nurse or doctor. Since fear is an innate instinct, having experienced a bad incident whether directly or indirectly could affect the psychology of some potential donors negatively, a fact that might stay forever and hence decrease the number of donors.

In a recent study in 2008, an important segmentation was established to further understand how people behave into "four categories that differ in their behaviors: (1) the 'inhibited', which is greatly affected by all the inhibitors, (2) the afraid, which displays a strong aversion of blood and its extraction process; (3) the uninhibited, which is the segment with the lowest scores in all the factors that inhibit donation behavior and (4) the uninformed which is characterized by the lack of information" (Beerli-Palacio & Martin-Santana, 2008, p. 139). This study is vital, because unlike previous studies it concludes that each category requires certain types of incentives and differential programmers to stimulate donation, yet the uninformed and before those the uninhibited, who have an innate elevated predisposition, are "most motivated intrinsically and extrinsically while the afraid group is the least motivated" (Beerli-Palacio & Martin-Santana, 2008, p. 139). Therefore, typical non-donors such as the inhibited and the afraid could be motivated through medical- and social incentives as well as "design[ed] social communication strategies that consider information focusing on (1) the extraction process in order to eliminate the barriers related to fear and the perception of risk… and (2) how to donate, the problems of blood shortages, and the centers

where donation takes place" (Beerli-Palacio & Martin-Santana, 2008, p. 140). The uninformed are stimulated mainly through any external-facility incentive that informs them about the donation process itself and the location of the blood center. Finally, social incentives -such as free tickets to cultural and sport events- are considered the least adequate and "advertising campaigns must focus more on rational messages and avoid the emotional messages traditionally transmitted in social causes" (Beerli-Palacio & Martin-Santana, 2008, p. 140). The above arguments raise the following hypothesis 2:

H2- Willingness to donate is higher if potential donors have trust in the blood donation process and personnel.

C. Lack of Knowledge (Blood Donation is Healthy for Self and Necessary for Others to Survive):

Awareness that blood donation can contribute to well being is unfortunately missing among Egyptians. There is lack of knowledge regarding the mutual benefits received by the blood donor and the receiver and sometimes unfortunately even erroneous information, due to historical experiences or ignorance such as those revealed in China like "the perception that donating blood is harmful to one's health [, which] was held by many non-donors as well as some donors", "the loss of even a small amount of blood is believed… to result in a significant weakening in one's health and vitality" and another principal inhibitory aspect which is the "fear of contracting an infection by donating blood" (Zaller et al., 2005, p. 281) and so on; similar misconceptions and negative perceptions may also contribute in Egypt to blood donation shortages. The result is the immediate need for "younger, healthy people to learn about blood donations, and increase public awareness so these people will come forward" (Collier, 2000, p. 1). Nevertheless, it is vital to notice that

> the complexity of consumer expertise also means that even when knowledge is considered in a more precise manner, predictions about its effects on behavior are

> not simple… we argue that the effects of knowledge on consumer behavior cannot be regarded only as main effects and must be studied along with a wide range of moderating variables (Alba & Hutchinson, 1987, p. 438).

As will be illustrated later, this paper's variables are: the confidence and trust characteristics. It takes the donor around 3-6 months to compensate for the lost blood, however, this act normally has no side effects and it benefits the donor immensely, consequently "recruitment of voluntary non-remunerated blood donors starts with donor education. Ideally this should begin at school, with the donors of the future, and in the community" (Armstrong, 2008a, p. 110). As per the head of the NBTC under the MOH, as a result of frequent blood donation new blood cells will be created to compensate for the lost blood, a fact that activates the body's blood cycle and makes cells fresh and capable of absorbing more oxygen units This biological change makes the donor in a better physical shape than before the donating process, because of gaining a higher degree of concentration, becoming less lazy and feels athletic and active (Mohamed & Rihan, 2012). Furthermore, a professor of medical analysis in Kasr Al-Aini Medical school, mentions the same physical benefits that the provider gains from donating own blood and adds that continuous blood donation prevents from heart strokes (Kamel, 2012). Consequently since both the donor and receiver do benefit from donation "the WHO and IFRC have developed a framework for global action to achieve 100 per cent voluntary blood donation in every country. To date 54 countries have achieved a national blood supply based on 100 percent voluntary donation" (IFRC, 2012).

D. Gap in the Literature:

Since the aim of this thesis is to enhance blood donation -at the entry, repetition and habitual level- by targeting non-donors in an effort through conviction to convert them into active donors, it was important to figure out what is missing in the literature to be this

thesis's focus. Reading through the literature on blood donation, missing are further investigations regarding the effect of potential donor's trust (attitudinal variable) and confidence (personality trait) characteristics on one's decision to donate, given that

> to build understanding of impediments to donation behavior further inquiry is required into the antecedents of perceived risk. In particular, the issue of trust, identified by Andaleeb and Basu (1995) as an influence on blood donation behavior… with attention to interrelationship between the different types of risk, trust and confidence (Barkworth et al., 2002, p. 920).

There was enough research on the demographic factors and their effect on willingness to donate, since "so much past research has dealt with demographic variables only" (Burnett, 1981, 64). However, in order to reach the aim of not only capture new donors but also retain the pool of existing ones through barriers elimination and incentives enhancement, secondary sources by international research studies revealed the gap to lie in the trust and confidence variables, while national studies are few, since Lee and Green (1991) declare that "while most of the major consumer behavior theories have been developed and tested in the West relatively little attention has been devoted to investigating the validity of these theories under other cultural settings"(Mostafa, 2009, p.5036).

In conclusion, as illustrated above, the hypotheses in this thesis are built on findings from previous research to test and investigate whether Egyptians' perspective as well as behavior towards voluntary blood donation has changed or not. Put into consideration was Egyptians' common social behavior of suspecting anything that is new and unfamiliar among the majority or the surrounding community such as the act of donating one's blood voluntarily. Egyptians by nature express a clear resistance to change, especially when it comes to social rehabilitation, however, social psychologist Lewin "saw individual behavior as a function both of the person and of the environment in which it occurred" (as cited in

Ramage & Shipp, 2009, p. 260). Egypt's Revolution last 2011 was an opportunity to re-discover the personality of Egyptians, who -unlike their passive character- shifted on January the 25th to a proactive personality that outraged, overcame fear and removed a 30 year old regime with a peaceful attitude and determination. This fact questions whether Egyptians could re-consider blood donation "just as [they] show their charitable spirit when it comes to food and money" (The Egyptian Gazette, 2011; AbdulSalam, 2012, p.1).

VI. Methodology

This thesis collected primary source data through the use of two instruments: individual interviews with experts and an online survey. The findings from analysis of the data were used to identify the impact on each hypothesis.

A. Interviews: The author went first through six interviews with senior officials of several organizations in Egypt that are directly involved with blood donation, including a governmental Blood-Bank and Vaccine unit, the Blood Donation Service in a well known charity organization, the Serology department in the government's Blood-Bank in Egypt, researchers and experts in the Blood-Bank of the Ministry of Health, and a company engaged in blood-donation as a societal contribution. These interviews clarified governmental set policies for donation and guidelines. The interviews were conducted using a mixture of: face-to-face, phone and/or by e-mail as best suited the interviewee. Appendix I provide the details of the pilot and first explanatory interview.

B. Surveys: Second, a questionnaire was distributed to a random sample of staff and students from the AUC community, as further discussed below. As advised by Suskie, questions were designed to: be readable hence clearly written, asking about only one subject and short, since a researcher would not want "respondents…answer what they think is the 'spirit' of the question rather than the actual question itself" (Suskie, 1996, p. 44). There were two limitation biases: first a selection bias, since selected was a random sample from the AUC community only, being more accessible than elsewhere in Egypt, moreover going into additional interviews with the remaining staff of workers, security and cleaning personnel would have been difficult to achieve in the time available. The second was a participation bias, which relates to the greater likelihood that people who donated blood would actually fill out a questionnaire on blood donation.

Regarding the survey, a sample was randomly chosen of 2010 Egyptian AUC students and another 833 Egyptian AUC employees of different types (education background, income, class level and gender). The target group was undergraduate and graduate students at the age range of 18 to 30 years old and the other group of various staff with an age range varying from 20 to 60 years old. Questionnaires were sent by e-mail both to AUC's students and employees using Survey Monkey software. Everyone received the survey in English and Arabic (see Appendix III and IV). Qualitative data results from that survey were intended to be divided into two kinds of respondents, students versus staff and voluntary blood donors versus non-donors, to then further investigate both hypotheses. Survey responses were analyzed using the SPSS statistical package into descriptive and inferential interpretations.

Appendix III illustrates the survey questions. The author modified a questionnaire developed for a graduate marketing research course taken earlier, because it also tackled the shortage of blood donation in Egypt. However, this thesis as illustrated earlier focused on exploring barriers and incentives to volunteer donation. The advantage of utilizing such a previously conducted questionnaire –rather than a new one designed from scratch- is that it largely tackles the same core topic as this thesis, but from a different perspective, so "why reinvent the wheel when [one] can take advantage of what others have done before..."(Suskie, 1996, p. 5). Several questions were modified or added (questions 16 through 20) to the original questionnaire to fit with the different focus of this thesis.

VII. Analysis of Results, Limitations and Recommendations

A. Description of the Data Collected or Used including Limitations:

Survey: Collected data exceeded the originally anticipated target groups of 50-100 Egyptian AUC students, who constitute a mix of undergraduate and graduate students at the age range of 18 to 30 years old with a total of 112 responses received. Although, the target of 25-50 staff questionnaires was also achieved, with 31 responses received, the low staff response rate of three percent, even with a repeat distribution, resulted in incomplete analysis of AUC staff's population and it was determined that the questionnaires represented only some elements of the staff, making it impossible to draw inferences for the total staff population. Therefore only the students' sample was used in the analysis, although its response rate was also low, at six percent. Four questionnaires failed to define their status whether staff or student and did not complete the survey, hence were excluded in the analysis. Since all questions, except Q14 on student-staff identity, were not mandatory so some responses were missing (around 5 percent), however, this did not hinder the analysis as those missing were excluded.

Survey responses were cleaned and coded for data analysis using the SPSS statistical software then analyzed into descriptive and inferential interpretations. Raw SPSS output was compiled, rearranged and tabulated into the charts and graphs shown below, which was time consuming. The data was split into two groups, the students versus the staff, to identify differences and similarities between the two samples, however, both samples and especially the staff sample came out to be too small to run regression analysis as was shown by fairly random results from a logit analysis trial. So no definite conclusions about AUC's staff was possible. Selected and focused on were the students' data that would address both hypotheses of this thesis namely H1 and H2. It is important to address the biased nature of the response namely many more females responded to the survey, undergraduate respondents exceeded

the graduate response rate and much higher percentage donated than in the actual population (see Table 4).

B. Summary, Analysis and Findings from the six Interviews:

Initial monthly blood-donation campaigns were performed in one of the interviewed organizations since 1970, in another since 1999, in the third interview since 2007 twice a year, where the last interviewed official revealed having daily campaigns in public places or in companies, banks, clubs, mosques, churches, factories and universities. Blood-donation campaigns follow the same rules as the NBTC. Most successful advertising methods in attracting the largest number of blood donors came out to be: cooperation with factories, ministries (like in the Ministry of Interior blood is received from young people fulfilling their military service duty (mogannadin)), advertising on TV, e-mail reminders especially in universities as well as mosques during religious occasions such as the holy month of Ramadan, through banners, brochures and donors bringing their friends. Common observations by the interviewed experts were the following. Egyptians tend to donate promptly in case of emergencies. During crises (1992 earthquake and 25th January Revolution) and calamities (repeated train accidents and collapse of buildings) emotions of cooperation are triggered and hence people donate more than in usual days; voluntary blood donations are so abundant to the extent that excessive blood gets thrown away. Also, regarding gender in universities female students donate more than males, while among illiterate and poor people only males tend to donate. Regular donors increased around 3-4 percent, those who go to donate voluntarily in the centers i.e. the "In-house donors" and 90 percent of donations are first time donors. The blood donation campaigns' vans exist in all governorates where there are governmental blood banks. These vans relocate on a daily basis according to a preplanned

schedule seeking potential donors in various institutions such as universities, factories and companies.

In regards to enhancing blood donation, interviewees reported that the idea of having simultaneous offices ready for the blood donation activity in the same or different governorates raises the number of blood-donors significantly. They recommended conducting blood collection in well-travelled locations, especially inside metro stations, which are not exposed to the sun and if the team is friendly and patient in answering all inquiries by potential donors. Furthermore, working with popular figures in the society enhances the idea of blood donation as fans get encouraged to imitate and hence donate.

From the interviews common barriers/hindrances for first time donors –at the entry level- could be summarized into: fear of infection, lack of enough publicity in TV, shortage of information about the importance of donating one's blood, fear of contamination, fear of blood selling or pain during the process and bad reputation about the practice of blood transfusion in Egypt. Also, people are not aware of the safety procedures, as well as the health benefits gained while donating blood. Target age is 18-58 in Egypt, while abroad the target age is 16-60. Gender is indifferent. The standardized "Egyptian National Donor Selection Criteria" upon which inappropriate donors are identified through a medical check-up and hence get rejected comprise: 1- blood pressure more than 140/90. 2- Hemoglobin level less than 13g/dl for males and less than 12g/dl for females. 3- AIDS (permanent deferral). 4- Alcoholism (Permanent deferral). 5- Bronchitis (deferred for one month) and 6- Dental intervention (Accepted to donate after 6months).

Prior- donation guidelines or regulations affect the willingness to donate, as communicating with potential donors and clarifying guidelines and regulations could motivate them to donate. However, other interviewed officials believed that those who come to donate have a prior will and intention to donate so that the role of the physician is

primarily to clarify the guidelines and donation process. The safety procedures should be explained in a clear and comprehensive way so that people can see whether these are observed and feel more comfortable.

Interviews prove the necessity of providing guidelines and written instructions to donors after they have donated their blood in order to enhance their willingness to become repeat donors. Moreover, first time donors are reported to be willing to donate again if the blood donation experience was pleasant, good safety procedures were showcased, there was transparency on where the blood goes, and a clean location in which to perform the blood donation with welcoming personnel and proper donor-care (pre- during and post transfusion).

Regarding donors' count, the largest number of donors tend to be holders of a: bachelor, diploma, masters, doctoral degrees and especially medical students, who are much more acquainted with the use of blood, processing and importance of donation and are easier to deal with. Donors from dissimilar levels of education should be approached differently but still in a clear and objective manner. If the level of education is low then by experience the talk proved to be more convincing if it is about religious rewards and good deeds (Thawab) and the mention of free medical analysis as an incentive. On the other hand, most interviewed officials agreed that the higher the level of education, the more potential new donors are encouraged to donate by mentioning the benefits to self - healthy regenerated blood- and to others out of civic sense -humanitarian act, community outreach and social responsibility. Intellectuals tend to cooperate much easier. The more the level of education the easier it is to deal with and convince potential donors.

C. **Analysis of interviews' responses supported by Ministry of Health's Statistics:**

It is vital to investigate how to transform non-donors into donors and donors into repeat- and advocate donors. The research confirms the view expressed by one of the

program management interviewees: agreeable blood donation experience, safe procedures while donating own blood and transparency regarding where the blood goes. Also, safety measures should be clearly explained so that donors feel comfortable and see that personnel are being supervised. I consider that clear prior-donation instructions and guidelines are essential for motivating donors to donate. One interviewee stressed the importance of 'proper donor care' in other words, care given before, during and after transfusion; also efficient knowledge about the blood donation and transfusion process is essential. Table 3 encompassed four selected governorates, those with the highest and lowest donors' counts, from the Ministry of Health's official statistics. So it is obvious from the figures in italics under mobile donations as well as from chart 3 that main cities (NBTS in Cairo and Alexandria for instance), where solid infrastructure as well as both access to education with quality exist more than in rural areas, have high number of donors. Whereas the opposite is true in smaller and more rural cities (Sohag and Aswan for example), whose citizens constitute a lower number of donors, a fact that might be due to various reasons among which is the fact that there is just no opportunity or custom of frequent blood-donation campaigns.

Concentrating on the incentives to accept donating one's blood is necessary to discover and plan to implement those incentives in the short and long run. The interviewed blood-donation organization undergoes unique campaigns, which have a similar name to "One company-one goal" that proved to be a successful incentive. Employees became enthusiastic to donate once they realized that they are part of a national or global initiative; this passion by the workers could be explained through Lewin's –the godfather of social psychology- declaration that public preferences are dominant over individual preferences. Another interviewed senior official pointed out an interesting suggestion, which could increase donation, however, is not yet in practice. It

states that those who donate should take a 25 percent deduction in medical treatment. Another interviewee confirmed that having distributed amusing flyers in universities among youth such as at AUC had a positive impact in raising donations. All interviewed officials agreed that Egyptians are ready to donate their blood without hesitation in case of emergencies more than at any other times, like to the wounded at the time of the Revolution. This was addressed in the literature and is due to the emotional nature of Egyptians, who promptly respond to emergencies, crisis, humanitarian and religious causes. Looking further at the Ministry of Health's statistics –underlined figures in Table 3 and chart 4 one could add another incentive. Observing all years 2006-2011, the same phenomena is repeated, the total number of mobile-donors (campaigns going to potential donors to collect blood) is much higher than that of in-house donors; human beings are generally lazy to opt doing the effort of going all the way to a blood-donation center (in-house donations). When a non-donor finds a blood-donation campaign (mobile-drive) coming to where he/she works, studies or lives, this raises potential donor's curiosity to investigate what is going on, hence learn about blood donation and consequently most likely opt to donate. This proves that mobile-drive campaigns eliminate barriers such as: 'do not have time', 'distant blood-donation center location' and 'do not know that there is need for donors'. This proves that 'raising awareness' and 'easier access to blood-centers' are necessary incentives that do encourage and raise willingness to donate as well as donations.

Most common barriers to be eliminated are: lack of hygiene, fear of blood selling, pain during the process and getting infected. Moreover, fear of contamination, not being aware of the safety procedures and health benefits for donating one's blood makes people unwilling to donate. As stressed on by the program manager, barriers that are encountered by first-time donors and hence discourage them of repeating this experience are: bad

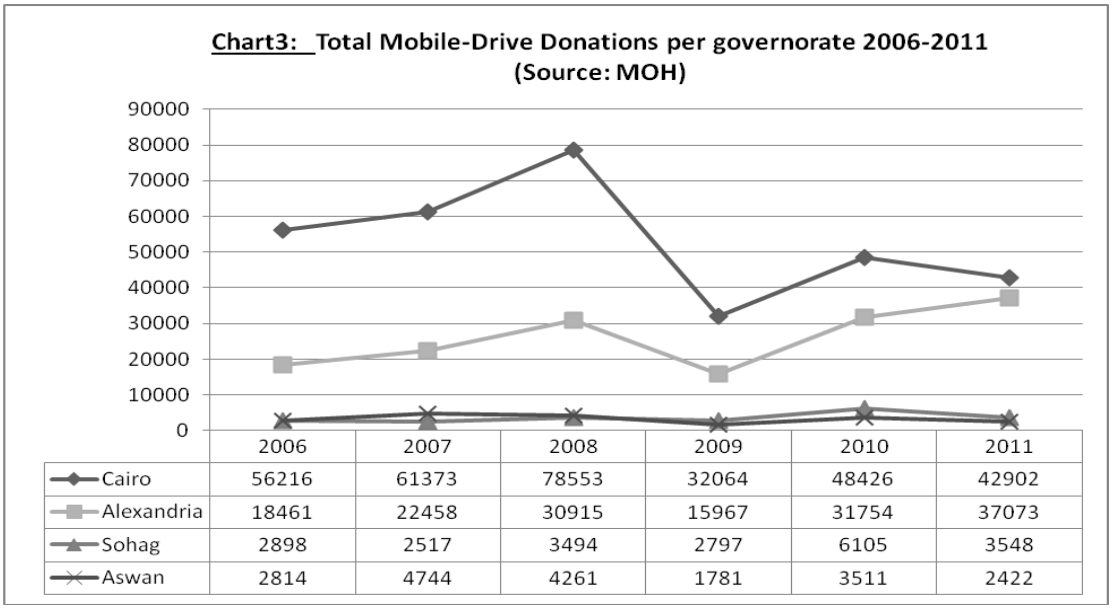
experience with a blood donation practice, negative reputation about the blood transfusion process in Egypt, not unified standards among stakeholders and the 'family-replacement donation' phenomena in governmental hospital, where a relative is required to donate own blood in order to be allowed to receive blood for a patient. Ministry of Health's blood bank researcher adds the following hindrances: the instruments used are not sterile, getting dizzy and listening to negative rumors are the main reasons, why people do not opt the donation experience.

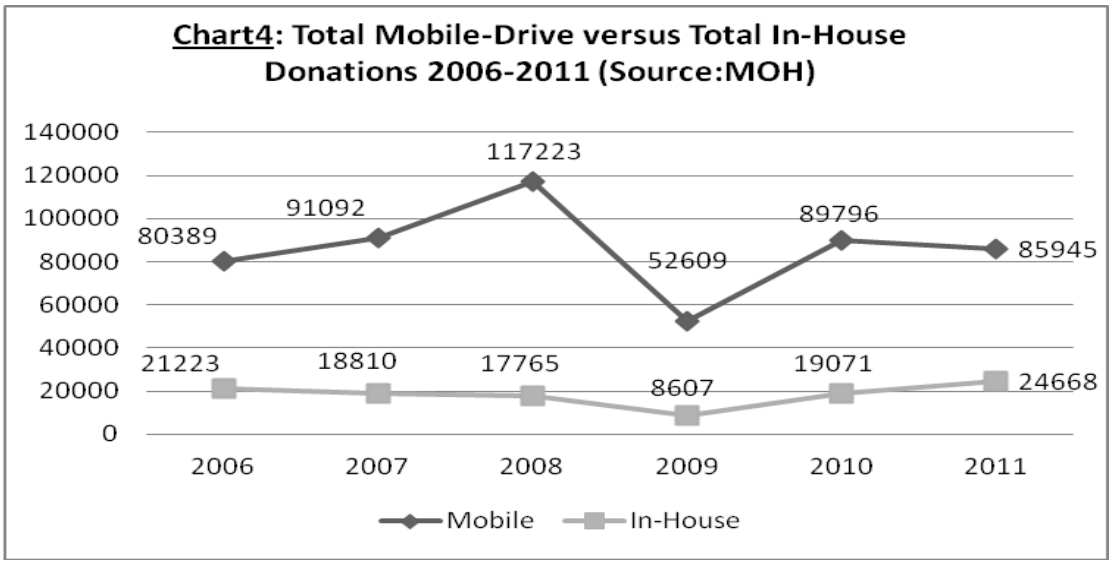
Examining Table 3 further, the effect of the famous scandal in 2007 by the private organization, which provided the government with polluted blood was obvious by chronologically looking at the grand total numbers of donated blood, which went down. Number of voluntary donors kept increasing from 2006 (around 100,000) until reaching the highest figure in 2008 (around 130,000). In 2009 there was a tremendous drop (decreasing to only 61,000 donors), which is assumed to be almost only due to this scandal referred to above. This not only resulted in the government's proactive reaction announcing the future ban of non-governmental blood-organizations, but unfortunately many donors ceased donating their blood due to distrust in where their blood goes in the end. However, because the government was transparent in spreading right away the previous news, people started trusting again publicity and calls for donations by the government and hence since 2010 blood supply started increasing again, yet not enough to cover the demand for it.

Table 3: Total blood-donations in Egypt per governorate

Year	Total Mobile Drive donations				TOTAL	Total In-House donations				TOTAL	Grand
	Cairo	Alexandria	Sohag	Aswan	Mobile	Cairo	Alexandria	Sohag	Aswan	In-House	TOTAL
2011	*42902*	*37073*	*3548*	*2422*	**85945**	3382	4405	9476	7405	**24668**	**110613**
2010	*48426*	*31754*	*6105*	*3511*	**89796**	3389	2640	8078	4964	**19071**	**108867**
2009	*32064*	*15967*	*2797*	*1781*	**52609**	1203	1412	4064	1928	**8607**	**61216**
2008	*78553*	*30915*	*3494*	*4261*	**117223**	3886	5967	5424	2488	**17765**	**134988**
2007	*61373*	*22458*	*2517*	*4744*	**91092**	3325	11480	2918	1087	**18810**	**109902**
2006	*56216*	*18461*	*2898*	*2814*	**80389**	3320	15965	935	1003	**21223**	**101612**

Source: Ministry of Health statistics





D. Analysis of Survey Results:

1. Descriptive Analysis: Demographic information:

The following Table 4 was compiled on Excel using selected demographic data from SPSS's output after having split the original file into staff and students to differentiate between the two groups. Staff (respondents count is 31) constitute approximately one quarter of the whole respondents'-population of 143. The aim is to further understand the data, how responses were distributed and what they mean as in AUC's students versus staff. The latter sample was included only in this descriptive analysis section for comparison purposes to the students' sample.

Table 4: Descriptive Observations	**Students**	**Staff**
Total count	112	31
	UG =65 (58%) GR =46 (41%) No reply =1(1%)	
Gender		
Male	32.1%	38.7%
Female	67.9%	61.3%
Age		
Mean	23.56	34.37
Median	21	32.5
Mode	19	25
Donated blood before (Q1)		
No	53.6%	51.6%
Yes	46.4%	48.4%
Residence		
Alexandria	0.9%	3.2%
Cairo	94.6%	93.5%
Delta	3.6%	3.2%
Upper Egypt	0.9%	0%
Education level		
Professional student	0%	3.2%
Diploma student	0%	25.8%
Undergraduate student	58%	19.4%
Master student	41.1%	32.3%
Did not respond	0.9%	19.4%
Monthly average household income		
Less than 1000	5.4%	3.2%
1000 – 2999	14.3%	9.7%
3000 – 4999	15.2%	35.5%
5000+	57.2	48.4%
Did not respond	8%	3.2%

Observing Table 4 data, one could infer that the main difference between the two groups lies in the age, educational background and salary composition. The data shows that the average age of AUC's student respondents is 24, while that of the staff respondents is 10 years older at 34. The most frequent age for students is 19 years old and that of the staff is 25. Concerning level of education, most student respondents are undergraduates (58 percent), while the rest are master students. On the contrary, the staff sample is widely distributed, as 26 percent have only a diploma degree and 32 percent are master students, while the rest is composed of 19 percent with bachelors in addition to few professional degree holders of 3 percent and 19 percent of the staff preferred not to mention their level. With reference to salary composition for both groups the highest percentage goes to those earning on average 5000LE+/per month, 57 percent student respondents –probably referring to their parents' income- and 48 percent staff respondents. The next income level of 3000-4999LE/month encompasses 36 percent staff earners as opposed to only 15 percent student respondents. It could be concluded that in this sample, staff are more well off than the students (or clearer said their parents), however, not to neglect are the number of respondents, who declared earning less than 1000LE/month (six percent students' parents and three percent staff) in addition to, those who did not mention (nine students, probably they do not know this information and one staff refused)

However, no significant difference is identified regarding where the two groups live, as almost all reside in Cairo around 94 percent followed by the Delta then Alexandria, which encompasses three percent of the staff and one percent of the students, probably the LEAD students, while only one percent of the students originally inhabit Upper Egypt, probably the LEAD students. Regarding the gender composition, whether in the students or staff samples around one third of the respondents are males, while two thirds are females; furthermore, in the two groups half of the respondents around 48 percent donated before, versus a percentage

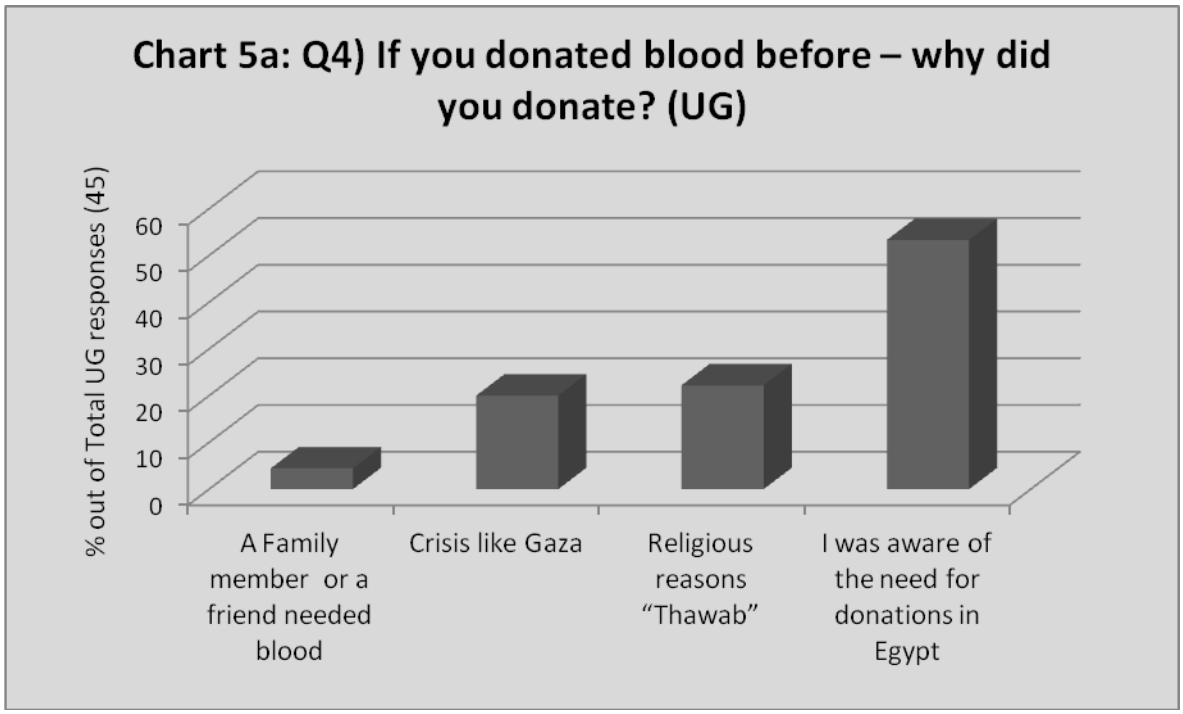
of non-donors of around 52. Those factors were found unexpectedly similar among the two groups.

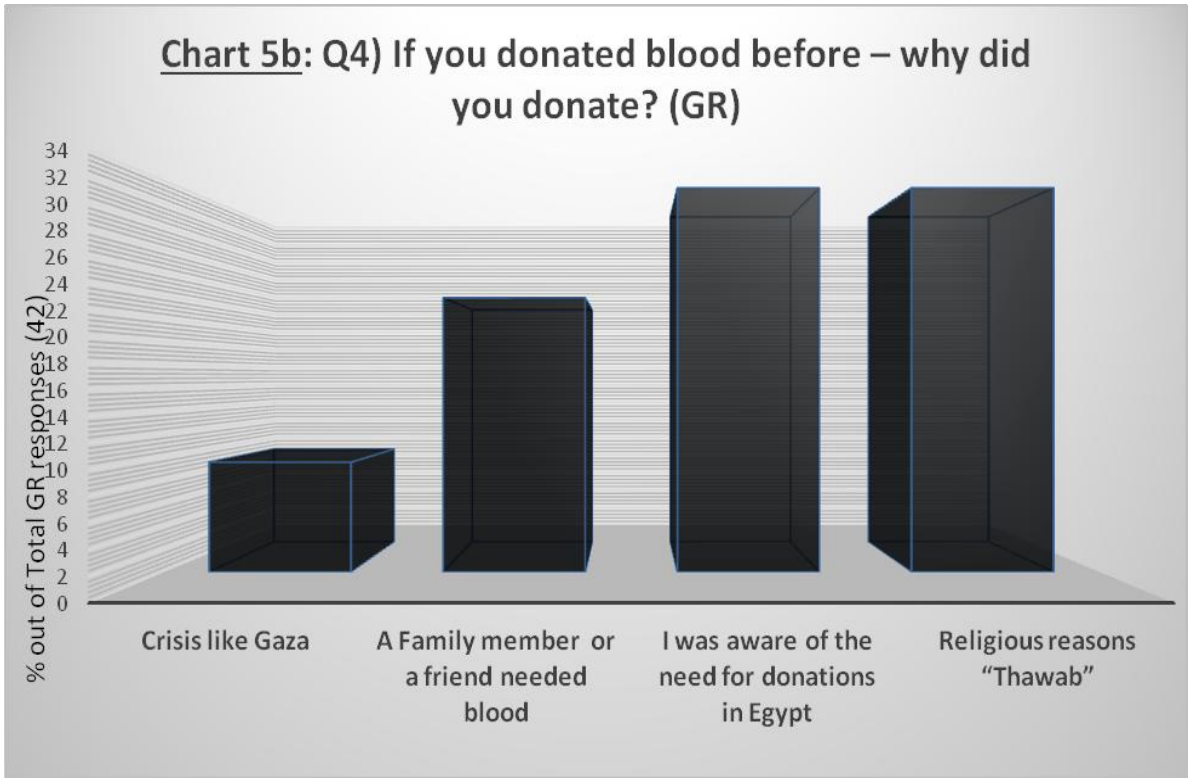
It is important to address the biased nature of the response namely many more females responded to the survey (68 percent) and much higher percentage donated than in the actual population (47 percent).

2. Inferential Analysis:

The following bar-charts (Figures #5 through 7) illustrate interesting observations supporting what was mentioned by the interviewed experts. Having studied Table 4 it is important to address the biased nature of the response namely -in this section in specific- undergraduate respondents exceeded the graduate response rate. As a result of this constraint a definite comparison between the undergraduate student body and the other group of graduates was not possible due to unequal samples. However, in this section general trends were differentiated between the undergraduate and the graduate students.

Charts 5a and b representing Q4) on the reasons for donation reinforce what was said by the experts interviewed in the field of blood donation. These bars could reveal that maybe age plays an important role regarding one's willingness and thus decision either to donate or not. So it could be noticed that older graduate students have a tendency to donate, more out of religious rewards (Thawab) and a sense of family obligation, while younger undergraduate students are enthusiastic to donate due to other incentives, hence as soon as being aware of the need for blood or in the case of crisis. It might be inferred that graduate students seem to be more religious and responsible as in family obligations, while younger undergraduates seem to be more spontaneous and maybe less religious.





The following bar-charts represent those who responded with a 'No' to Q5) asking: *If you have donated for family or friend would you donate again for general cause*? . So Q6) charts 6a and b reveal the most common barriers among Egyptians to

donate their blood, again confirming what was mentioned in the interviews. Generally, these charts support both hypotheses. So when analysing those bars it is important to differentiate between two groups, the undergraduate students against those with higher levels of education, hence the master students and the second group would be the young undergraduates versus the older graduates, hence looking into the effect of age. It is interesting to notice that both undergraduate and graduate students, who usually are considered in any society as highly educated people, do consider the same barriers, first 'bad image, lack of cleanliness and hygiene of the donation-center' as well as second 'personal negative or painful experience' as the most common hindrances to donation. Taking these barriers into consideration, it could be expected that the elimination of the first might maybe lead to 'higher willingness to donate as potential donors would build trust in the process (H2)', while removing the second barrier might lead to further 'trust in the personnel (H2)'. Looking at the second group and hence the effect of age on a potential donor's decision to donate, it could be inferred that while students in general considered barriers to be those related to unsafe measures and inefficient process or personnel, older graduate students in specific considered personal hindrances like 'giving money away is easier' or ' the donation center is not near work or university' and taking a stand by 'refusing to donate blood, which is said to be sold, while it should be distributed for free'. Eliminating those barriers provides some support to the first hypothesis that 'willingness to donate will rise, provided that potential donors have confidence in their own physical and psychological capabilities (H1)'.

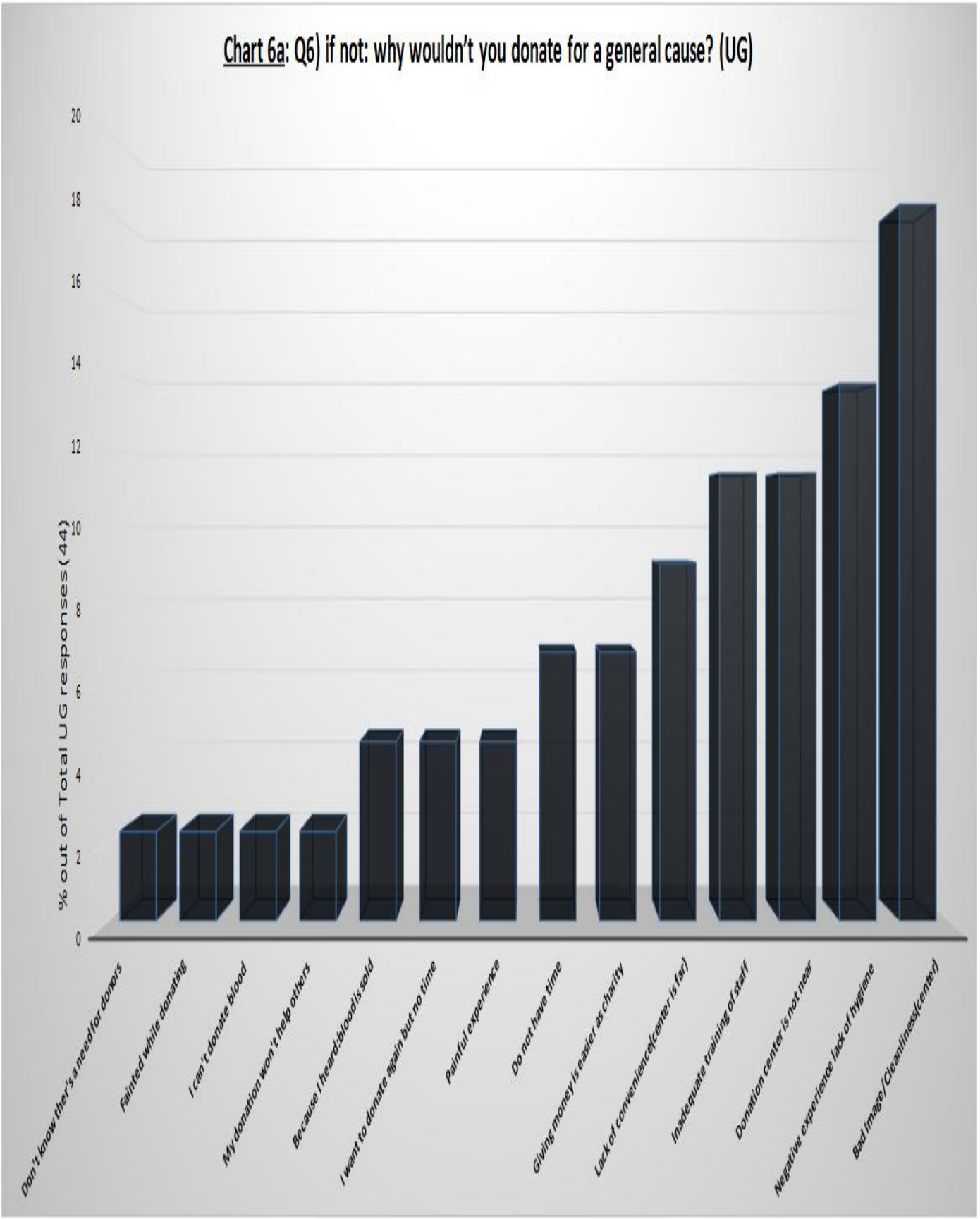


Chart 6a: Q6) if not: why wouldn't you donate for a general cause? (UG)
% out of Total UG responses (44)
0
2
4
6
8
10
12
14
16
18
20
Don't know ther's a need for donors
Fainted while donating
I can't donate blood
My donation won't help others
Because I heard:blood is sold
I want to donate again but no time
Painful experience
Do not have time
Giving money is easier as charity
Lack of convenience(center is far)
Inadequate training of staff
Donation center is not near
Negative experience lack of hygiene
Bad Image/ Cleanliness(center)

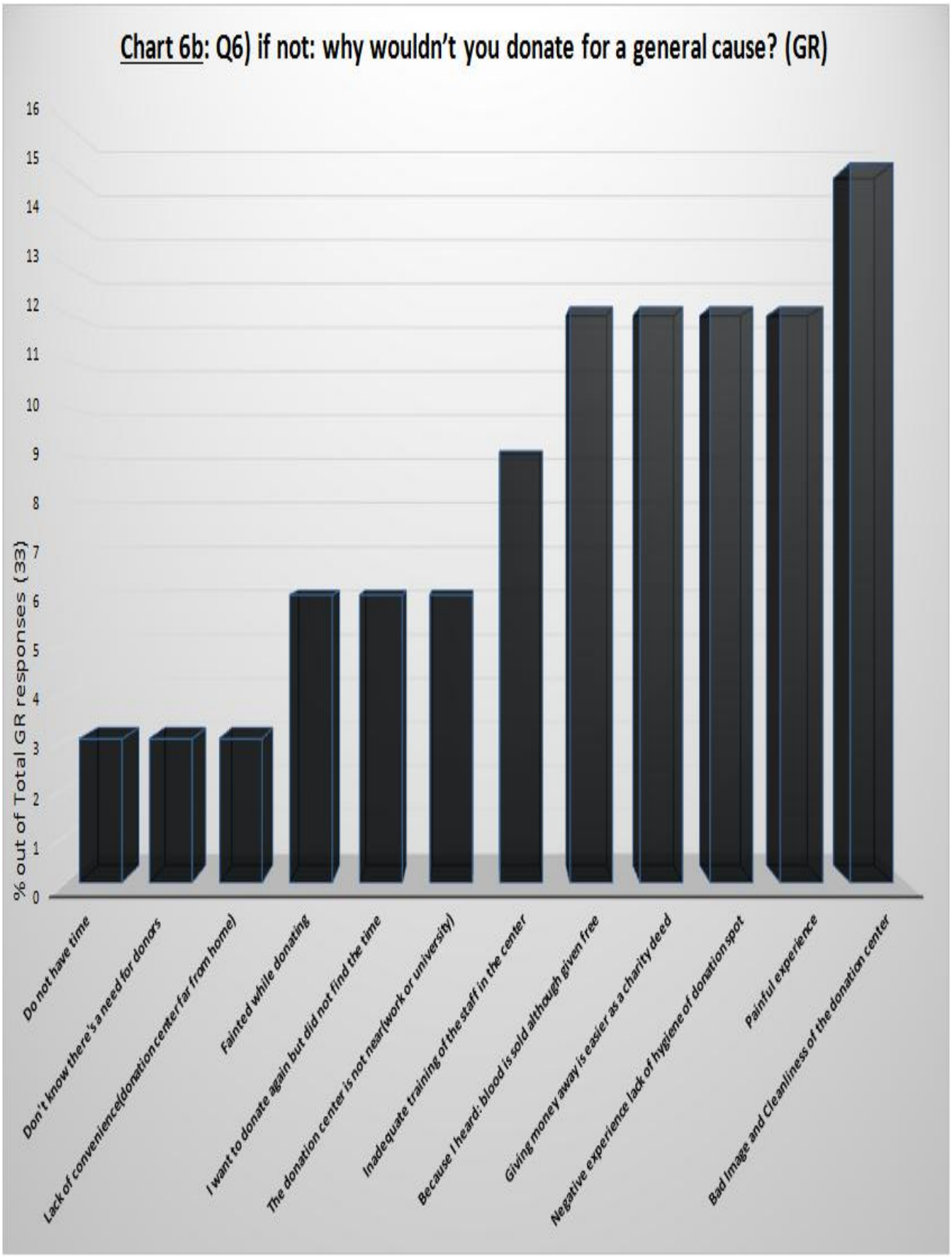
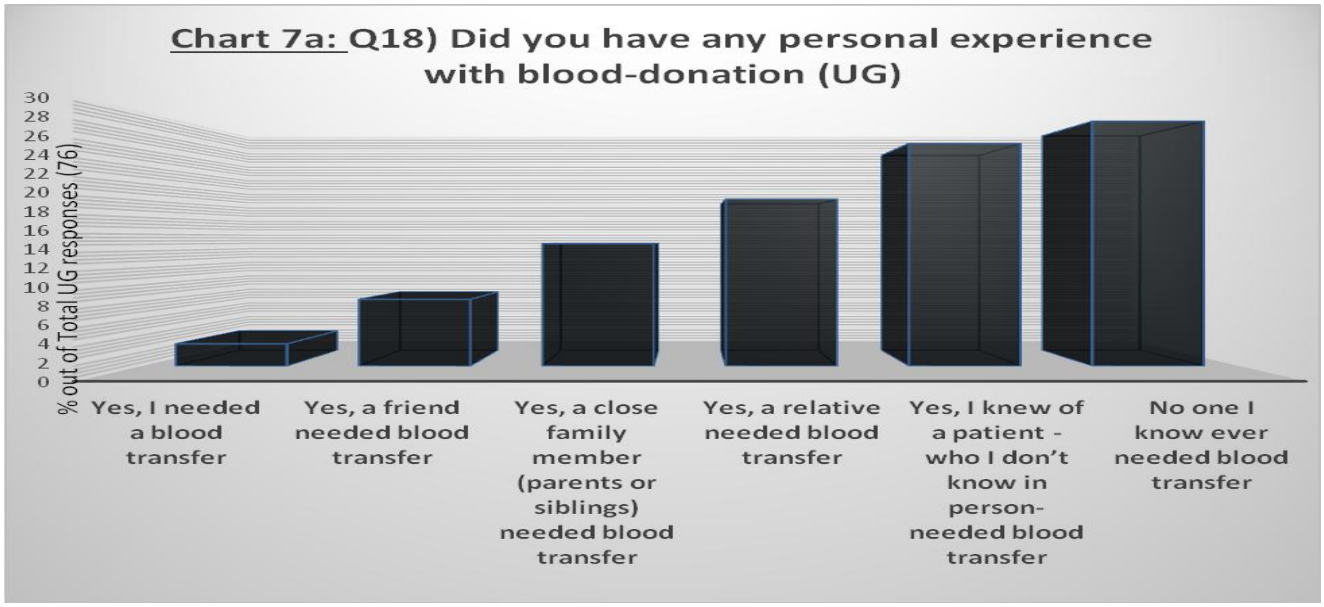
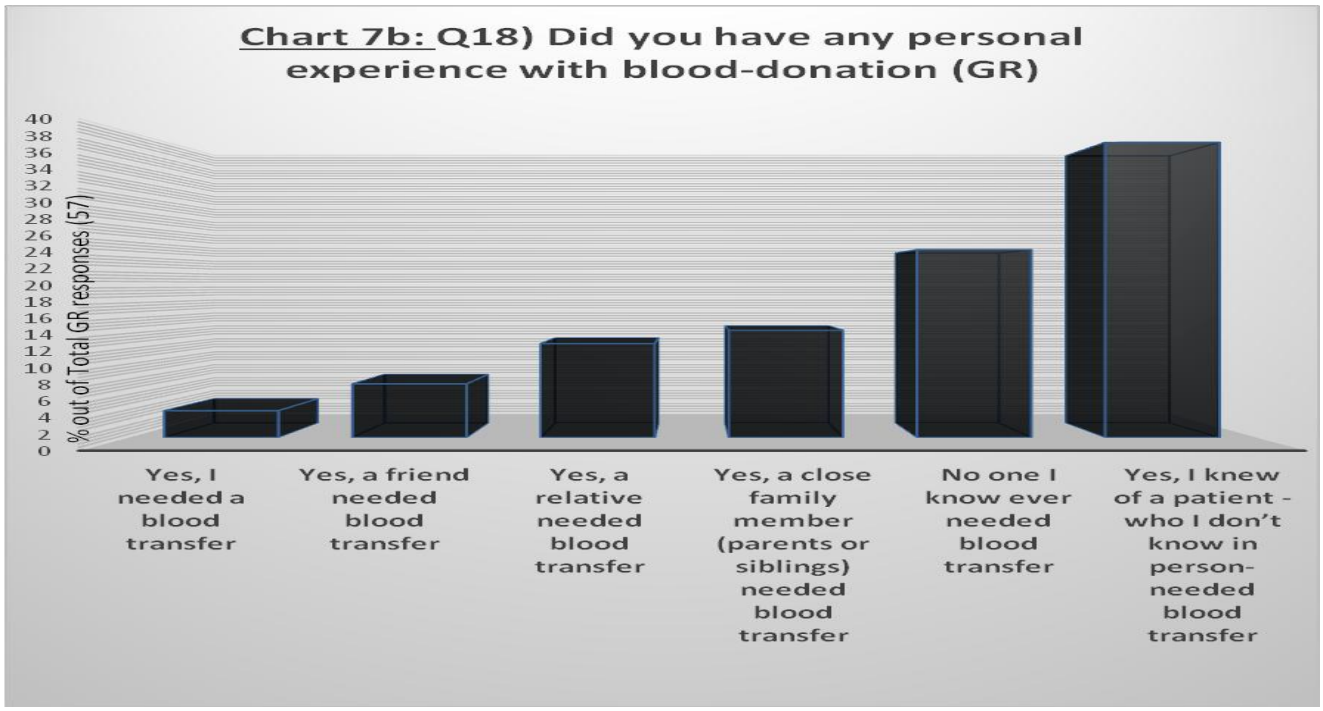


Chart 6b: Q6) if not: why wouldn't you donate for a general cause? (GR)
% out of Total GR responses (33)
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Do not have time
Don't know there's a need for donors
Lack of convenience(donation center far from home)
Fainted while donating
I want to donate again but did not find the time
The donation center is not near(work or university)
Inadequate training of the staff in the center
Because I heard: blood is sold although given free
Giving money away is easier as a charity deed
Negative experience lack of hygiene of donation spot
Painful experience
Bad Image and Cleanliness of the donation center

The following bar charts 7a and b address personal experience with blood donation. It is clear that the older one gets the more likely it is that one would know or hear of a person, friend or relative in need for blood transfer. So with age, potential donors tend to donate more due to family obligations, social solidarity and humanitarian reasons. This supports what was mentioned in the interviews regarding the nature of Egyptians, so because they are emotional hence –in emergency situations and crisis- one expects to find various voluntary donors ready to donate right away without thinking much.





3. Hypothesis Testing: Two hypotheses were tested:

H1- *Willingness to donate is higher, if potential donors have confidence in their own capabilities.*

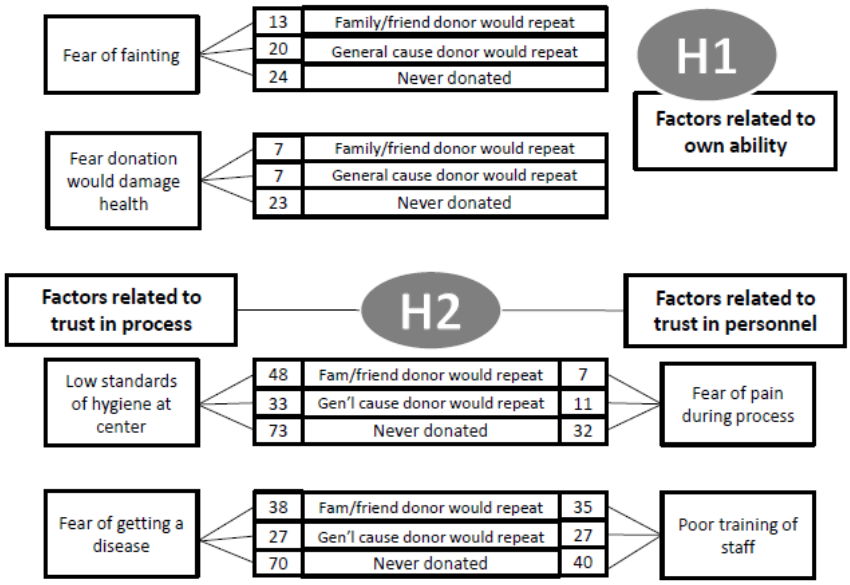
H2- *Willingness to donate is higher, if potential donors have trust in the blood donation process and personnel*.

H1 and H2's willingness to donate (dependent variable) is reflected by the negative or positive response to the following three survey questions: Q1) *Have you donated blood before*?, Q5) asking: *If you have donated for family or friend – would you donate again for General cause?* and Q7) inquiring about: *If you have donated blood for general cause before (not family or friend need) would you donate again for general cause?* Those who answered 'yes' to Q1 (52 respondents comprise 46 percent of the student sample) were expected to have answered Q5 and Q7, but in fact only 32 respondents (29 percent of the student sample) and 48 respondents (covering 43 percent of the student sample) answered these questions respectively. While positive responses to Q1 represent first-time or repeat donors, positive answers to Qs 5 and 7 reflect repeat donors. In light of this thesis' research questions, this section deals with the three types of donors: non-donor (never donated before), first-time donor (entry stage) and frequent donor (repetition or advocacy levels). This thesis' interest is a rise in the willingeness to donate own blood, hence seeking 'yes' responses to those three survey questions (Q1, 5 and 7), which are this study's dependent variables as clarified in chart 8.

Consequently, for this section Tables 5, 6 and 7 (Appendix V) cross-tabulated the just discussed dependent variables with the responses of the independent variables in: Q 2 reflecting barriers to blood donation, which corresponded to both hypotheses' independent variables (capabilities, process and personnel). Cross tabulations' function is to reveal relationships between two variables. Raw SPSS output was rearranged, calculated and

tabulated respectively into the following chart 8 and excel tables (Appendix V Tables 5, 6 and 7). Since survey questions were not mandatory,except for Q14 on the respondent's status, some responses were missing (around 5-20 percent). The latter was denoted as 'No response'. Not definite answers such as: 'Not sure' or 'Maybe' were reflected in the tables in Appendix V. As elaborated above analyzed were just the 'Yes' and 'No' responses. In the following figure chart 8 percentages ranged from 7 up to 73 percent. It was hard to say if these differences were significant without further calculations, however it was evident that the high percentages were too close to be significant at this samply size. It was interesting to notice in Tables 5, 6 and 7 (Appendix V) that repeat donors are willing to donate again, as was reflected by the zero percent on the 'No' responses to Qs5 and 7.

Figure chart 8. Factors affecting decision to donate
(Percent in each category stating factor had an impact on decision)



H1- *Willingness to donate is higher if potential donors have confidence in their own capabilities*. Chart 8 reflects results from Table 5 (Appendix V); cross tabulated were dependent variable questions: 1, 5 and 7 with those relevant statements reflecting barriers to

donation in survey question #2 in an effort to analyze respondents' choices as an indicator of potential donor's confidence in personal capabilities. Looking at the 'Yes' (underlined) and the 'No' (in bold) responses in Appendix V Table 5, it was obvious from chart 8 that H1 was somehow supported. Ranging from 7 – 20 percent was the amount of repeat donors willing to donate again and hence responded with a 'Yes' to Q5 and 7 despite the fact that the above mentioned barriers did have an impact on their decision to donate. This might be due to personal confidence in own capabilities; these are usually people, who are aware and knowledgeable about their physical as well as psychological abilities and limits. On the other hand, those who were not willing and refused to donate responded with a 'No' to represent being non-donors in Q1 (around 24 percent never donated). For this group, 'fear of fainting' and the prejudice that 'donating blood will affect my health negatively' did not only have an impact on their decision to donate, but moreover a decisive effect (see Table 5, Appendix V). Both factors constituted a barrier to donation. One of the reasons might be that those not willing to donate or re-donate are hesitant about their physical and psychological capabilities, because by logical inference if they were confident, hence aware of their physical and psychological limits, they would not have feared presumptions such as 'fainting' or 'deteriorating health' due to blood donation. So finally, one's decision to donate 'Yes' or not donate 'No' depends on one's confidence in personal physical and psychological capabilities, which was reflected by whether a potential donor got affected/impaired by the 'fear of fainting' and the preconception that 'donating blood will affect my health negatively' or not.

H2- *Willingness to donate is higher if potential donors have trust in the blood donation process.* Chart 8 reflects results from Table 6 (Appendix V); cross tabulated were dependent variable questions: 1, 5 and 7 with those relevant statements in survey question #2 in an effort to analyze respondents' choices as an indicator of potential donor's trust in the blood donation process. From chart 8 it was obvious that H2 was somehow supported as in regards

to the process. Previous chart 8 results showed that whether the focus is on first-time and/or repeat donors in Q1 or repeat and/or advocate donors in Qs5 and 7, all donors willing to donate and hence responded with a 'Yes' indicated neither being afraid of infections while donating (ranging from 27-38 percent), getting sick due to low standards of hygiene at the donation centers (ranging from 33-48 percent) nor harmed in any way by the centers' poor image. Most probably those donors do not see such possible occurrences as barriers; they must be having trust in the blood donation process, especially in case of repeat- and in-house voluntary donors, who got used to the system as well as could follow up on the proper steps and procedures to be undertaken during the blood donation process. On the other hand, those who were not willing and refused to donate responded with a 'No' to represent being non-donors in Q1 (around 72 percent). This group who refused to donate consider those incidents: **'**getting a disease (infection potential)', 'low standards of hygiene at the donation centers' and 'poor Image and cleanliness problems at the donation center' as real barriers to donation that did not only have an impact on their donation decision, but moreover a decisive effect not to donate. Probably these people do lack trust in the blood donation process as a whole, which might be due to ignorance, lack of awareness or a personal experience that had resulted in unpleasant memories. So finally, one's decision to donate 'Yes' or not donate 'No' depends on one's trust in the efficiency of the system, which was reflected by whether a potential donor got affected/impaired by the following possible incidents: **'**getting a disease (infection potential)', 'low standards of hygiene at the donation centers' and 'poor image and cleanliness problems at the donation center' or not.

H2- *Willingness to donate is higher if potential donors have trust in the blood donation personnel.* Chart 8 reflects results from Table 7 (Appendix V); cross tabulated were dependent variable questions: 1, 5 and 7 with those relevant statements in survey questions #2 in an effort to analyze respondents' choices as an indicator of potential donor's trsut in the

blood donation staff. Looking at chart 8, it was obvious that H2 was supported concerning the blood donation centers' personnel. Looking at the 'Yes' (underlined) and the 'No' (in bold) responses in Appendix V Table 7, it was obvious from chart 8 that H2 was supported. Ranging from 7 – 35 percent was the number of repeat donors willing to donate again and hence responded with a 'Yes' to Q5 and 7 despite the fact that barriers did have an impact on their decision to donate, but obviously a slight impact. All donors willing to donate and hence responded with a 'Yes' indicated neither being afraid of accompanying pain during needle injection (7-11 percent) nor being negatively impacted by lack of training of the blood donation centers' nurses and doctors (27-35 percent). Most probably those donors do not see such possible events as barriers; they must be having trust in the personnel, especially in case of repeat voluntary donors, who got used to those nurses as well as could follow up on the proper donation steps and procedures to be undertaken. On the other hand, those who were not willing and refused to donate responded with a 'No' to represent being non-donors in Q1 (around 36 percent). For this group, 'fear of the pain during injection experience' and 'inadequate training of the staff in the center' constituted a barrier to donation that did not only have an impact on their decision to donate, but moreover a decisive effect not to donate (see Table 7, Appendix V). Most probably these people do lack trust in the personnel, especially if not well trained and which might also very well be due to a negative historical experience that had resulted in huge pain while injecting a needle by a nurse.

Finally, one's decision to donate 'Yes' or not donate 'No' depends on one's trust in whether medical personnel are professional and efficient or not, which was reflected by whether a potential donor got affected/impaired by 'fear of the pain during injection experience' and 'inadequate training of the staff in the center' or not.

VIII. Findings, Recommendations and Conclusions

From the conducted interviews with senior officials in the field of blood-donation, findings could be summarized into the following points:

1- The most successful advertizing method has been face-to-face communication. Also, people are enthusiastic to donate when they know they are part of a national/global cause (as per the blood-donation company interviewee).

2- Proper-donor-care during and after transfusion is vital and should preferably be provided by professional doctors and nurses to enhance blood donation. On the other hand, others believe that whether a potential donor will donate or not solely depends on his/her internal, initial willingness and intention to donate.

3- Potential donors coming from different educational backgrounds got motivated using different approaches, but still in a clear and objective manner. Most of those who are highly educated donate voluntarily. Educated persons tend to sympathize more with others. However, most of those whose education level stopped at the primary or secondary school levels donate when there is a campaign in their work place or when they accompany a patient to el Kasr el Ainy, the 'family-replacement donation' policy.

4- In universities the number of donations is four times bigger than in other places, because youth seem to be more enthusiastic, as adults are preoccupied with other personal duties and obligations.

5- A policy that was discovered not to be yet implemented through the interviews is the following: those who donate should take a 25 percent deduction in medical treatment.

From the conducted survey of AUC's students, findings could be summarized into the following points:

6- Donation is more likely for female undergraduate students, whether these were first-time-, repeat- or confirmed/advocacy donors.

7- It was observed that both undergraduate and graduate students, who are considered in any society as highly educated people, do consider the same barriers, being first *bad image, lack of cleanliness and hygiene of the donation-center* as well as second *personal negative or painful experience* as the most common hindrances to donation.

8- Looking at the effect of age on a potential donor's decision to donate, it could be inferred that while students in general considered barriers to be those related to unsafe measures and inefficient process or personnel, older graduate students in specific considered personal hindrances like *giving money away is easier* or *the donation center is not near work or university* and taking a stand by *refusing to donate blood, which is said to be sold, while it should be distributed for free*.

Based on the above findings, I suggest the following corresponding recommendations:

1- From previous official MOH statistics it was obvious that mobile-drives collected the largest amounts of blood donations. Such campaigns should go to places with large gatherings such as mosques and churches, accompanied by medical doctors to speak to people about the health benefits gained from donating.

2- Blood-donation centers' personnel should be transparent in: conveying the blood-donation process steps clearly, following safety-guidelines before and during donation as well as conducting proper health-tests to assure not harming neither the donor nor the recipient.

3- Differences in the audience should be considered, such as different educational backgrounds. If education level is low then the talk should be about religious rewards (Thawab) and the mention of free medical analysis as an incentive. On the other hand, the higher the level of education, the more the talk should be about community outreach and social responsibility as motives. Intellectuals tend to cooperate much easier, hence the less time spent by the team members in convincing them.

4- More campaigns should be held in universities, clubs, gyms and cultural centers where large amounts of youth are gathered.

5- The 25 percent reductions policy should be put into effect, a fact that is expected to attract more donors.

6- Blood donation campaigns should focus on instituions where young females are present, hence vans should not only target clubs and universities, but also places such as beauty centers.

7- Eliminating the first barrier would be expected to result in *higher willingness to donate as potential donors would build trust in the process* (H2). Regular supervision should be planned to assure the cleanliness of the centers. It is also recommended to work on reducing the second barrier, a fact that might lead to further *trust in the personnel* (H2). Only professional nurses should be assigned who could handle inserting the needle with minimal pain as well as manage the whole blood donation experience with efficiency.

8- Since constructing more centers might take time and is expensive, a cheaper solution is to allocate more equipped vans, which could rotate according to a scheduled campaign all over the city and by that remove the complain of distant centers.

9- Finally, transparency of where the blood goes is mandatory, so that potential donors identify themselves with the blood donation process like they do easily with giving money away for charity. Both corrective actions are expected to provide some support to the first hypothesis that *willingness to donate will rise, provided that potential donors have confidence in their own physical and psychological capabilities* (H1).

The most common barriers/hindrances for first time donors –at the entry level- could be summarized into: fear of infection, lack of enough publicity in TV, shortage of information about the importance of donating one's blood, fear of contamination, fear of blood selling or pain during the process and bad reputation about the practice of blood transfusion in Egypt. Also, people are not aware of the safety procedures, as well as the health benefits gained while donating blood. Concerning incentives, in brief monetary as well as material rewards were highlighted as the motivators for donating one's blood. However, more effective is the word of mouth, hence spreading out awareness regarding health gains to self and patients, which should be performed by professionals in order to fulfill Lewin's 3 step model, which aims to ameliorate group behavior. First step, the unfreeze, would be communicating with the targeted group through logic, so it becomes ready to accept the second step, the move, which indicate the existence of flexible and receptive minds to the idea of donating one's blood. Finally, comes the refreeze stage, where that targeted group of people is expected to remain convinced of the humanitarian mission of blood donation (Ramage and Shipp, 2009, p.262).

Referring back to the gap in the literature review, secondary sources by international research studies revealed the gap to lie into the trust and confidence variables. While national studies are few in any case, totally missing were further investigations regarding the effect of potential donor's trust (attitudinal variable) and confidence (personality trait) characteristics

on one's decision to donate. The aim of this thesis was to identify ways to increase willingness to donate blood at the entry, repetition and confirmed donor levels. Both hypotheses were supported, but a larger sample would be needed to fully test the hypotheses, especially among citizens from outside Cairo or from lower strata.

The government and the Ministry of Health should address this calamity of insufficient blood donation in Egypt. The phenomenon of the lack of blood donation can be traced to the common perceptions/stereotypes in Egyptians' minds (most common barriers came out to be fear of: pain, lack of hygiene and getting infected), but also because of the recent governmental policies mentioned earlier: forbidding paid blood donation and limiting blood collection to the state agency. These issues should be taken more seriously as it determines Egyptians' lives. Spreading out awareness about the benefit of donating one's blood to others in need and self, constitutes in my view the most important incentive, especially that Egypt suffers from a very high illiteracy rate –around 40 percent- and it was supported that an increase in awareness and/or level of education leads to a rise in the willingness to donate own blood.

So recommendations in brief to guide the MOH in adjusting its policies are: to equip blood donation centers more appropriately with the target of eliminating negative effects of the discussed barriers, promoting campaigns to increase awareness and hence willingness to donate blood in Egypt through effective communication through selective methods as elaborated above and finally provide material and monetary incentives, as per the field work results. Although, financial incentives should not be introduced, as donation should be a pure humanitarian act done out of personal conviction of community outreach and altruism to benefit others in need, but it would be desirable to implement the policy discovered through the interviews of giving donors a 25 percent deduction in medical treatment. Egyptians generally suffer from various and severe health problems that are widely spread especially among the poor, so such incentive

would boost the number of blood donors, who would frequently volunteer to donate to obtain that medical discount to benefit oneself or a close-family member.

In the future, it will be interesting to do further research on the effect of consistent and prolonged awareness efforts on the lack of blood donation in Egypt. New organizations like corporations organizing blood drives and other NGOs have recently joined the blood-donation field. As obvious, they carry out tremendous long-range efforts such as various campaigns, flyers and announcements to introduce to the public the benefits to others and to oneself of donating blood, clarify procedures and point out the vast need for blood supplies. During Egypt's revolution many donated their blood for the first time to the wounded, but whether this incident turned those primary donors into repetitive- or advocate donors should be investigated.

Finally, as illustrated above, the hypotheses in this paper are built on findings from previous research to test and investigate Egyptians' perspective as well as behavior towards voluntary blood donation. The revolution was an opportunity to re-discover the personality of Egyptians, who -unlike their passive character- shifted on January the 25th to a proactive personality that overcame fear and removed a 30 year old regime with a peaceful attitude and determination. Blood donation offers citizens an opportunity to build on this new attitude in a way that benefits fellow Egyptians in need.

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A. Appendix I

Interview questions with a Blood-Donation service Expert

*You are being asked to participate in a research study prepared for a Thesis submitted to the Public Policy and Administration department at AUC in partial fulfillment of the MPPA requirements. The purpose of the research is to study 'why do Egyptians choose to donate or not donate their blood', and the findings may be presented and/or published. The expected duration of your participation is **10 minutes**. The procedures of the research will be as follows; the interview questions will be divided into two sections as follows: 1-The first one identifies the hindrances and motives that motivated/de-motivated the respondent to donate/not donate and 2- The second section consist of the demographic characteristics.

*There will not be any risks or discomforts associated with this research.

*There will be benefits to you from this research. You might be learning new health related benefits.

*The information you provide for purposes of this research is anonymous. In other words, your name cannot be identified and consequently will not be written in this research work.

*Questions about the research, my rights, or research-related injuries should be directed to Azza Shafei at 0122-4434453.

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Pilot-Interview with a Blood-Donation service Expert

This pilot interview was conducted by phone with a "PR representative in the Blood Donation unit" in a well known Charity organization located all over Egypt. She asked that her name be kept confidential and that only the first letter of her name “A” to be written in the research about blood donation.

1- When did your organization kick off its initial monthly blood-donation campaigns?

A.: The campaign was originally initiated in Cairo University (Engineering section). I am not certain when this activity was created in our charity organization. However, our charity organization was established in 2000.

2- How does your institution promote and declare for that monthly activity of blood donation? In your opinion is there a certain advertizing method that your charity organization did and was successful in attracting the largest number of blood donors?

A.: 1) We established a group on face book called “Life saving Team” for each of the following districts: Mohandessin, Maadi, Heliopolis and Nasr City.

2) In addition, we have “In-door campaigns” in regular exhibitions like currently we have one in “Inter Built”.

3) Moreover, we have”out-door campaigns” like propagating the word in clubs, universities, factories…etc.

4) Not often in the Nile FM 100.6 radio station, but recently with Ahmed Youness.

5) We encourage our donors to spread the word to family and friends.

6) Usual advertisements on TV (El Hayah- and Mehwar channels).

3- Could you declare an approximation on the growth in number of donors (i.e. first year only 200 - second year 300 ...etc).

A.: It is never standard, so one month the number of valid donors is 68, the next month their number rises to 85 the month after it sometimes decreases to 55…etc.

4- Do the same donors repeat this experience?

A.: Yes, most of them are repeat-donors, especially due to the fact that our charity organization phones regularly to remind them or, because they self conscientious and aware of the benefits so they come back due to innate willingness to donate.

5- I know that you implement your donation campaigns in many of your offices at the same day, does this idea of having simultaneously units for donation raises the number of donors significantly or not?

A.: Blood donation campaigns take place the first Thursday of every month in all our charity organization branches. In some offices we receive a very high rate of donors, while in others we could receive less or more valid donors. There's no clear correlation between the amount of donors on that day.

6- Do you perform your blood donation campaigns in collaboration with the National Blood Transfusion Center?

A.: Our charity organization duty is to just provides the place and the campaigns, while, the equipments (like special beds and certain machines to test blood pressure, anemia level…etc.) and personnel (such as the doctors and nurses) are provided by the NBTC.

7- In your opinion, what are the barriers/hindrances for people to donate blood for the first time?

A.: Panic from the action of blood donation –i.e. seeing one's blood going out of the body-, fright that the blood does not go to a needy person as well as gets

misused and fear of getting infected or sick after donating, either because of lack of hygiene or because of the side effects as a result of losing one's blood.

8- Kindly share the profile of your target group and principal donors (age -gender - education)?

A.: Our charity organization follows the WHO standards, so donors could be from both sexes, but should be at the age range of 18-55.

Those who in reality come to donate their blood are in the age range of 20-30. In fact, more girls donate than men and donors are not from a precise class level. Workers, students and well-off as well as ordinary people come to donate their blood.

9- Does your charity organization furnish any guidelines or assistance to donors after they have donated?

A.: Yes, we give donors a card, which includes the subsequent date indicating when they will be eligible to donate. This card also includes safety guidelines: like pointing out that they should not play sports right away, neither smoke cigarettes nor be exposed to the sun. Also, prohibited is eating heavily or doing any stressful activity for an hour immediately after the action of blood donation.

10- What are the criteria upon which a donor is considered not valid and hence refused?

A.: Having certain diseases like: Virus A, high or too low blood pressure, just out of an operation, Anemia, having recently gone through any dental operations, chronic diseases, diabetes…etc.

11- From your point of view, what would encourage a donor to repeat this donation experience?

A.: Blood donors repeat this experience for the subsequent reasons: remuneration from God (El Thawab), doing good to fellow humans (feeling good about oneself-being human), healthy blood cleaning and renewal of dead cells, helps avoid getting infected by some diseases like heart failure, high cholesterol, brain stroke and heart attacks.

Questions (12-15) were added in the conducted interviews as a result of the pilot/test interview in order to serve the focus of this thesis:

12- When it comes to the level of education, from which level is the largest number of donors

(if available/applicable)?

- Blood donors with Ibteda2eya only (primary education)
- Blood donors with I3dadeya only (secondary education)
- Blood donors with Thanaweya only (High school)
- Blood donors with Ma3had only (professional degree)
- Blood donors with bachelor degree only
- Blood donors with diploma degree only
- Blood donors with masters degree only
- Blood donors with doctoral degree
- Blood donors with all above and considered intellectual
- Other _____

13- Do you think that donors from dissimilar levels of education should be approached differently? If 'Yes' how? (In other words, in order to encourage blood donation in campaigns would, for example, the mentioning of the healthy regenerated blood, 'thawab' gained and importance of engagement in humanitarian acts in your view help).

14- In your view, do you think that prior- donation guidelines or regulations affect willingness to donate?

15- In case the answer is 'Yes' in question#14, how then do you suggest prior-donation guidelines/regulations should be stated, so that more donors are encouraged to donate their blood?

B. Appendix II

مقابلة مع خبير في مجال التبرع بالدم

هدف الدراسة هو: يطلب منك أن تشارك في دراسة بحثية أعدت من ضمن متطلبات رسالة ماجستير قدمت إلى السياسة العامة والإدارة في الجامعة الأمريكية بالقاهرة .والغرض من هذا البحث هو دراسة " لماذا يختار المصريين القيام بالتبرع بدمائهم أو لا؟" ، ويمكن عرض نتائج و/أو نشرها .والمدة المتوقعة لمشاركتكم 10دقائق .والإجراءات للبحث على النحو التالي، تم تقسيم الاسئلة إلى قسمين على النحو التالي : -1أول واحد يحدد العوائق والدوافع التي حفزت على التبرع او عدم التبرع و2 - القسم الثاني يتكون من الخصائص الديموغرافية.

نتائج البحث ستنشر فى دوريه متخصصه أو مؤتمر علمي أو ربما كليهما.

المدة المتوقعة للمشاركة فى هذا البحث **10دقائق**

* لن يكون هناك أي مخاطر أو مضايقات مصاحبة لهذا البحث.

الاستفادة المتوقعة من المشاركة في البحث**:**هى الالمام بعلومات قيمة عن فوائد التبرع بالدمز

السرية واحترام الخصوصية: المعلومات التى ستدلى بها فى هذا البحث سوف تكون لمجهول أى الاسم لن يكون مذكوراز

*ينبغي أن توجه أى أسئلة عن البحث أوالحقوق أو فى حالة أى إصابات ذات صلة لهذا البحث إلى عزة شافعى.0122-4434453

*المشاركة في هذه الدراسة تطوعى. ورفض المشاركة لا تنص على أي عقوبة أو خسارة من الفوائدز يمكنك التوقف عن المشاركة في أي وقت من دون عقوبة أو خسارة الفوائد التي يحق لك خلاف ذلك.

مقابلة مع خبير في مجال التبرع بالدم

1- متي بدأ التبرع بالدم في منظمتكم ؟

2- كيف يتم الاعلان والدعاية للحملة الشهرية للتبرع بالدم التابعة لكم ؟ هل في اعتقادك توجد دعاية معينة قامت بها جمعيتكم وساعدت في اجتذاب أعداد أكبر من المتبرعين بالدم ؟

3- هل من الممكن تحديد نسبة زيادة عدد المتبرعين من عام إلي عام (مثلا: العام الأول 200، العام الثاني 300 وهكذا) ؟

4- هل يواظب نفس المتبرعين علي المجيئ ثانية ؟

5- إنني أعلم انكم تقومون بأكثر من حملة في اليوم الواحد في أماكن عديدة ، هل هذه الفكرة تؤدي إلي زيادة عدد المتبرعين زيادة ملحوظة ام لا ؟

6- هل تخضع حملتكم بالتبرع بالدم للإشراف من المركز القومي للتبرع بالدم؟

7- من وجهة نظركم ما هي أسباب عزوف الناس عن التبرع بالدم للمرة الأولي ؟

8- ما هي مواصفات الشريحة التي تسعون إليها للتبرع بالدم (السن – الجنس - التعليم) ؟

9- هل توفر جمعيتكم أي ارشادات أو توجيهات للمتبرعين بالدم بعد تبرعهم ؟

10-ما هو المعيار أو المواصفات التي تجعلكم ترفضون فيه متبرع بالدم ؟

11- ما هي الأشياء التي تشجع المتبرع بالدم للتبرع ثانية ؟

12- عند الحديث عن التعليم ما هو مستوي التعليم الذي يكون عنده أكبر عدد من المتبرعين بالدم (إذا كانت هذه المعلومة متوافرة في استمارة التبرع) ؟

متبرع حاصل علي شهادة الابتدائية – متبرع حاصل علي شهادة الاعدادية – متبرع حاصل علي شهادة الثانوية العامة - متبرع حاصل علي شهادة التعليم الفني- متبرع حاصل علي البكالوريوس – متبرع حاصل علي دبلوم - متبرع حاصل علي الدكتوراه –حاصل علي أي من هذه الشهادات + ثقافة واسعة .

13- هل تعتقد من وجهة نظرك أن المتبرعين الحاصلين علي تعليم متفاوت يحتاجون إلي توجه مختلف للتبرع بالدم (مثلا : الكلام عن الثواب ، الكلام عن مزايا التبرع للصحة أو الكلام عن أهمية المشاركة في الجهود الانسانية)؟

14 – هل تعتقد أن التعليمات والارشادات المسبقة للتبرع بالدم تؤثر علي الرغبة في التبرع ؟

15 – في حالة الاجابة بنعم علي سؤال 14 ماذا تقترح من تعديلات علي التعليمات والارشادات كي يزداد عدد المتبرعين ؟

C. Appendix III

Blood Donation Survey questionnaire

*You are being asked to participate in a research study prepared for a Thesis submitted to the Public Policy and Administration department at AUC in partial fulfillment of the MPPA requirements. The purpose of the research is to study 'why do Egyptians choose to donate or not donate their blood', and the findings may be presented and/or published. The expected duration of your participation is **10 minutes**. The procedures of the research will be as follows; the survey questionnaire is divided into two sections as follows: 1-The first one identifies the hindrances and motives that motivated/de-motivated the respondent to donate/not donate and 2- The second section consist of the demographic characteristics.

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Blood Donation Survey questionnaire

Source (Fatfat, et al., 2010)

1. Have you donated blood before?

O yes O No

(if yes go to 3 if no go to 2)

2. Which of the following factors do you think had an impact on your decision not to donate:

(1 is Had no impact, 2 is Had an impact, 3 is Not sure, – 4 is Had a decisive factor)

	1	2	3	4
Fear of Fainting	○	○	○	○
Fear of the pain during the injection experience.	○	○	○	○
Fear of getting disease (infection potential)	○	○	○	○
Low standards of hygiene at the donation centers	○	○	○	○
Poor Image and Cleanliness problems at the donation center	○	○	○	○
Inadequate training of the staff in the center	○	○	○	○
Did not know that there is a need for donors	○	○	○	○
Lack of convenience (donation center far from home)	○	○	○	○

- ☐ Do not have time to go through the process
  ○ ○ ○ ○
- ☐ Because of the corruption of the medical system in Egypt – as I believe that blood is sold later although given for free.
  ○ ○ ○ ○
- ☐ Because of the poor quality of the medical system in Egypt – as blood might get spoiled anyways and not benefit others.
  ○ ○ ○ ○
- ☐ Giving money away is an easier means of giving charity.
  ○ ○ ○ ○
- ☐ Donating blood will affect my health negatively
  ○ ○ ○ ○
- ☐ My family, parents, does not recommend I do that.
  ○ ○ ○ ○
- ☐ Wanted to donate but my contribution was rejected at the center.
  ○ ○ ○ ○
- ☐ Other _____
  ○ ○ ○ ○

3. **If you donated before - how do you rate your experience?**

(1 extremely poor to 5 extremely good)

	1	2	3	4	5
a. Cleanliness	O	O	O	O	O
b. Hygiene	O	O	O	O	O
c. Staff training	O	O	O	O	O
d. No pain during donation	O	O	O	O	O
e. Overall satisfaction	O	O	O	O	O

4. If you donated blood before – why did you donate?

(Check all that apply)

- ☐ Religious reasons "Thawab" (go to question 7)
- ☐ Crisis like Gaza (go to question 7)
- ☐ I was aware of the need for donations in Egypt. (go to question 7)

- ☐ A Family member or a friend needed blood (go to question 5)

5. If you have donated for family or friend – would you donate again for General cause?

O yes O No O Not sure O Maybe

6. If no: why wouldn't you donate for a general cause?

(Check all that apply)

- ☐ Negative experience (lack of hygiene of donation spot)
- ☐ Painful experience
- ☐ Fainted while donating
- ☐ I want to save my blood in case I am needed for donation for a family member.
- ☐ I want to donate again but did not find the time
- ☐ The donation center is not near to my work or university
- ☐ Because I heard that blood is sold to patients although I give it for free.
- ☐ My donation will not help others anyways.
- ☐ Bad Image and Cleanliness of the donation center
- ☐ Inadequate training of the staff in the center
- ☐ Do not know that there is a need for donors for general cause.
- ☐ Lack of convenience (e.g. donation center far from home)
- ☐ Do not have time
- ☐ Giving money away is easier as a charity deed.
- ☐ I want to save my blood in case I am needed for donation for a family member.
- ☐ Other_____

7. **If you have donated blood for general cause before (not family or friend need) would you donate again for general cause**?

O yes O No

8. If no - why wouldn't you donate again?

(Check all that apply)

- ☐ Negative experience (lack of hygiene of donation spot)

- Painful experience
- Fainted while donating
- I want to save my blood in case I am needed for donation for a family member.
- I want to donate again but did not find the time
- The donation center is not near to my work or university
- Because I heard that blood is sold to patients although I give it for free.
- Because I heard of blood bags going spoiled, so my donation will not help others anyways.
- Other_____

9. Do you know that there is a need for blood donations in Egypt?

O yes O No

10. **To what extent each of the following would encourage you to donate for a General cause?**

(1 not at all 5 extremely encouraging)

	1	2	3	4	5
Having a nearby donation center	O	O	O	O	O
The donation campaign comes to my university or work	O	O	O	O	O
The donation can be done at home as the home delivery	O	O	O	O	O
If there is more advertising that reminds/Educates me of the donation	O	O	O	O	O
Media support of the issue	O	O	O	O	O
If International hygiene / medical standards are applied in the donation system of Egypt.	O	O	O	O	O
If I get a donor credit card – where I get a guarantee of getting blood in case I or my family will need in the future.	O	O	O	O	O
If I get points for each donation – which will give me discount on medical service.	O	O	O	O	O
If I get Discount card at retailers like Carrefour	O	O	O	O	O
If I get Mobile line credit points (Vodafone – Mobinil – Itisalat)	O	O	O	O	O
Financial incentive	O	O	O	O	O

11. What is your age?

_____ Years

12. Specify your gender

- Male
- Female

13. Where do you live?

- Cairo
- Alex
- Delta
- Upper Egypt

14. Determine your status

- Student
- AUC staff

15. What is your average household income range(monthly)?

- Less than 1000
- 1000 – 2999
- 3000 – 4999
- 5000+

Questions (16-20) were added to the original published/conducted survey, in order to address the focus of this thesis:

16. What is your level of education ?

- School student
- Undergraduate student
- Professional (ma3had) student
- Diploma level student
- Masters student
- Doctoral student
- Primary or less
- Other _____

17.Do any of your friends, parents or family members donate their blood for humanitarian causes?

18. Did you have any personal experience with blood-donation?

- Yes, I needed a blood transfer
- Yes, a friend needed blood transfer
- Yes, a close family member (parents or siblings) needed blood transfer
- Yes, a relative needed blood transfer
- Yes, I knew of a patient - who I don't know in person- needed blood transfer
- No one I know ever needed blood transfer

19.Did you ever plan to be donating your blood one day?

O yes O No, why not _____ O Not sure

20.Do you think an Egyptian citizen should donate his/her blood to patients in need, but who he/she does not know? And why?

O Yes, because _____ O No, because _____

O Not sure

D. Appendix IV

بحث عن التبرع بالدم

هدف الدراسة هو: يطلب منك أن تشارك في دراسة بحثية أعدت من ضمن متطلبات رسالة ماجستير قدمت إلى السياسة العامة والإدارة في الجامعة الأمريكية بالقاهرة .والغرض من هذا البحث هو دراسة " لماذا يختار المصريين القيام بالتبرع بدمائهم أو لا؟" ، ويمكن عرض نتائج و/أو نشرها .والمدة المتوقعة لمشاركتكم 10دقائق .والإجراءات للبحث على النحو التالي، تم تقسيم الاستبيان إلى قسمين على النحو التالي-1 :أول واحد يحدد العوائق والدوافع التي حفزت على التبرع او عدم التبرع و2 - القسم الثاني يتكون من الخصائص الديموغرافية.

نتائج البحث ستنشر فى دوريه متخصصه أو مؤتمر علمي أو ربما كليهما.

المدة المتوقعة للمشاركة فى هذا البحث **10دقائق**

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الاستفادة المتوقعة من المشاركة في البحث**:**هى الالمام بعلومات قيمة عن فوائد التبرع بالدم

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*ينبغي أن توجه أى أسئلة عن البحث أوالحقوق أو فى حالة أى إصابات ذات صلة لهذا البحث إلى عزة شافعى.0122-4434453

*المشاركة في هذه الدراسة تطوعى. ورفض المشاركة لا تنص على أي عقوبة أو خسارة من الفوائدز يمكنك التوقف عن المشاركة في أي وقت من دون عقوبة أو خسارة الفوائد التي يحق لك خلاف ذلك.

بحث عن التبرع بالدم

1- هل قمت بالتبرع بالدم قبل ذلك ؟

○ نعم ○ لا (لو نعم اذهب إلي سؤال 3 ولو لا اذهب إلي سؤال 2)

2- ما هي العوامل المذكورة اسفله التي أثرت فيك وقررت عدم التبرع بالدم ؟

(1 لا يوجد تأثير ، 2 يوجد تأثير ، 3 غير متاكد ، 4 له تأثير قاطع)

4 3 2 1

1- الخوف من الإغماء .

4 3 2 1

2- الخوف من الألم أثناء عملية التبرع .

4 3 2 1

3 – الخوف من الإصابة بالمرض (عدوى) .

4 3 2 1

4- عدم نظافة مركز التبرع بالدم .

4 3 2 1

5- المستوي الضعيف للصحة العامة في مركز التبرع بالدم .

4 3 2 1

6- افتقار العاملين بالمركز للتدريب .

4 3 2 1

7- هل كنت تعلم بوجود حاجة للتبرع بالدم ؟

4 3 2 1

8- عدم وجود حماسة كافية للتبرع بالدم (مثلا بعد المركز عن المنزل) .

4 3 2 1

9- لا يوجد وقت كافي لديك .

4 3 2 1

10- وجود فساد في مراكز التبرع بالدم في مصر (واعتقد أن الدم يباع بالرغم من قيامي بالتبرع به دون مقابل) .

4 3 2 1

11- بوجود مستوي متواضع من النظافة في المركز مما يؤدي إلي فساد الدم وعدم الاستفادة منه .

4 3 2 1

12- التبرع بالمال أسهل في أعمال الخير .

4 3 2 1

13- التبرع بالدم يؤثر علي صحتي سلبا .

4 3 2 1

14- الأهل والاصدقاء لا يحبذون ولا يشجعون علي التبرع بالدم .

4 3 2 1

15- اردت التبرع لكن مركز التبرع بالدم رفض .

4 3 2 1

16 – اخري .( )

4 3 2 1

3- أذا كنت قد قمت بالتبرع قبل ذلك كيف تقيم التجربة ؟

(1 غير مرضية علي الإطلاق ..... 5 رائعة ومميزة)

	1 2 3 4 5
النظافة	○ ○ ○ ○ ○
الصحة العامة	○ ○ ○ ○ ○
تدريب العاملين	○ ○ ○ ○ ○
لا يوجد ألم أثناء التبرع	○ ○ ○ ○ ○
الرضا عن التجربة عموماً	○ ○ ○ ○ ○

4- إذا كنت قد تبرعت قبل ذلك بالدم ، لماذا قمت بالتبرع ؟

(علم علي المناسب لك)

1- لأسباب دينية " الثواب" (أذهب إلي سؤال 7) .

2- ازمات مثل أزمة غزة (أذهب إلي سؤال 7) .

3- كنت اعلم بوجود نقص في الدم في مصر .

4- عضو من الأهل أو الأصدقاء كان في حاجة إلي الدم .

5- إذا كنت قد تبرعت للاهل أو الأصدقاء ، فهل أنت علي الاستعداد للتبرع عموماً (لغير الأهل والاصدقاء) .

○ نعم ○ لا ○ غير متاكد ○ ممكن

6- إذا كانت الإجابة لا ، لماذا لا تتبرع لسبب عام (لغير الأهل والاصدقاء) (علم علي المناسب) .

1-تجربة غير ناجحة مثلا (ضعف مستوي النظافة وضعف مستوي الصحة العامة .)

2-تألمت أثناء التبرع .

3-اغماء أثناء التبرع .

4- اريد الحافظ علي دمي في حالة احتياج شخص من الأسرة أو الأهل له .

5-كنت اريد التبرع ثانيا ولكن لا يوجد وقت كافي .

6-مركز التبرع بالدم بعيد عن الجامعة أو مكان العمل .

7-لانني سمعت انه يباع بالرغم من إعطائي الدم بدون مقابل .

8-دمي لا يفيد في جميع الأحوال .

9-الانطباع سئ وعدم نظافة المركز .

10- التدريب غير الكافي للعاملين بالمركز .

11- لم أكن اعلم بوجود حاجة للتبرع .

12- مركز التبرع بالدم بعيد عن البيت.

13- لا يوجد وقت.

14- التبرع بالمال أسهل بالنسبة لأعمال الخير.

15- اريد الحفاظ علي دمي لاغطائه عند الحاجة للاهل ولااصدقاء .

16- اخري .

7- إذا كنت قد تبرع لسبب عام (لغير الأهل والاصدقاء) هل أنت علي استهداد للتبرع مرة اخري لسبب عام ايضاً .

0 نعم 0 لا

8- في حالة لا لماذا لا تتبرع ثانيا (علم علي المناسب)

1- تجربة غير ناجحة مثلا (ضعف مستوي النظافة وضعف مستوي الصحة العامة .)

2- تألمت أثناء التبرع .

3- اغماء أثناء التبرع .

4- اريد الحافظ علي دمي في حالة احتياج شخص من الأسرة أو الأهل له .

5- كنت اريد التبرع ثانيا ولكن لا يوجد وقت كافي .

6- مركز التبرع بالدم بعيد عن البيت أو مكان العمل .

7- لانني سمعت انه يباع بالرغم من إعطائي الدم بدون مقابل .

8- دمي لا يفيد في جميع الأحوال .

9- اخري .

9- هل كنت تعلم بوجود حاجة إلي التبرع بالدم في مصر ؟

O نعم O لا

10- إلي أي مدي تساعد العوامل التالية علي التبرع بالدم للعامة وليس لشخص بعينه :

(1 لا تساعد إطلاقا ..... 5 تشجع إلي أقصي درجة)

وجود مركز التبرع بالدم قريب من المنزل	1	2	3	4	5
قافلة التبرع بالدم تأتي إلي مكان العمل أو الدراسة	○	○	○	○	○
إمكانية التبرع بالدم في المنزل ثم ينقل بعد ذلك	○	○	○	○	○
لو كان يوجد وسائل اعلامية	○	○	○	○	○

للتذكرة والتثقيف عن التبرع بالدم	
الدعم الإعلامي لهذا الموضوع	○ ○ ○ ○ ○
توافر المقاييس العالمية للصحة العامة والنظافة في مركزالتبرع بالدم	○ ○ ○ ○ ○
في حالة حصولي علي كارت يفيد أنني قمت بالتبرع ماذا يضمن لي أن استفيد منه في حالة احتياج أفراد الأسرة أو الأصدقاء لدم	○ ○ ○ ○ ○
إذا حصلت علي عدد من النقط لكل مرة تبرع يتيح لي ذلك خصم في العلاج	○ ○ ○ ○ ○
إذا حصلت علي نقط في كل مرة تبرع يتيح لي خصم عند الشراء مثلا من كارفور	○ ○ ○ ○ ○
إذا حصلت علي نقط في كل مرة تبرع تتيح لي الحصول علي دقائق مجانية في موبينيل وفودافون واتصالات	○ ○ ○ ○ ○
أي نوع من التشجيع المادي	○ ○ ○ ○ ○

11- السن ؟ عام

12- ما هو جنسك .

○ ذكر ○اثني

13 – مكان الإقامة :

○ القاهرة ○ الإسكندرية ○ الدلتا ○ الصعيد

14 – ما هي حالتك الاجتماعية :

○طالب ○ موظف

15 – ما هو متوسط دخلك الشهري ؟

○ أقل من 1000 ○1000 – 2999 ○3000 – 4999 ○أكثر من 5000

الأسئلة من 16 – 22 تضاف إلي البحث المنشور أصلا :

16 – ما هو مستوي التعليم ؟

○ ابتدائية او أقل○ طالب مدرسة ○ طالب معهد متخصص ○ طالب جامعة

○ طالب دبلوم ○طالب ماجستير ○طالب دكتوراه ○ اخري .

17 – هل يوجد أحد من اصدقائك أو اهلك يقوم بالتبرع بالدم لأسباب انسانية ؟

18 – هل عندك تجربة شخصية في التبرع بالدم ؟

○ نعم احتجت إلي الدم .

○ نعم احتاج صديق لي الى نقل دم .

○ نعم احتاج أهل أو اخوات الى نقل دم.

○ نعم احتاج قريب الى نقل دم.

○ نعم سمعت عن مريض لا اعرفه شخصيا احتاج الى نقل دم.

○ لم أسمع عن التبرع بالدم أبدا .

19 – هل خططت يوما للتبرع بالدم ؟

○نعم ○لا (لماذا لا) ○غير متاكد

20- هل تعتقد أن المصري يجب عليه التبرع بالدم لمريض محتاج لذلك ولكنه لا يعرفه معرفة شخصية؟ ولماذا ؟ .

○نعم (لماذا نعم) ○لا (لماذا لا) ○غير متاكد

Appendix V

Table 5: Dependent Variable			Independent Variables: Q2) Which of the following factors do you think had an impact on your decision not to donate? — Fear of Fainting: Had no impact	Had an impact & Had a decisive factor	Not sure	No response	Total	Used in the Analysis
Q1) Have you donated blood before?	**No**	Count	34	**14**	10	0	58	14*100/58 = 24%
		%	42%	**17%**	12%	0%	72%	
	Yes	Count	18	4	1	0	23	
		%	22%	5%	1%	0%	28%	
Total		Count	52	18	11	0	81	
		%	64%	22%	14%	0%	100%	
Q5) If you have donated for family or friend – would you donate again for General cause	Yes	Count	14	2	0	0	16	2*100/16 = 13%
		%	61%	9%	0%	0%	70%	
	Maybe	Count	2	0	0	0	2	
		%	9%	0%	0%	0%	9%	
	No response	Count	2	2	1	0	5	
		%	9%	9%	4%	0%	22%	
Total		Count	18	4	1	0	23	
		%	78%	17%	4%	0%	100%	
Q7) If you have donated blood for general cause before (not family or friend need) would you donate again for general cause	Yes	Count	15	4	1	0	20	4*100/20 = 20%
		%	65%	17%	4%	0%	87%	
	No response	Count	3	**0**	0	0	3	
		%	13%	**0%**	0%	0%	13%	
Total		Count	18	4	1	0	23	
		%	78%	17%	4%	0%	100%	
			Donating Blood will affect my health negatively				**Total**	
Q1) Have you donated blood before?	**No**	Count	37	**14**	7	2	60	
		%	33%	**13%**	6%	2%	54%	14*100/60 = 23%
	Yes	Count	18	3	2	29	52	
		%	16%	3%	2%	26%	46%	
Total		Count	55	17	9	31	112	
		%	49%	15%	8%	28%	100%	
Q5) If you have donated for family or friend – would you donate again for General cause	**No**	Count	0	**0**	0	1	1	
		%	0%	**0%**	0%	2%	2%	
	Yes	Count	13	2	1	13	29	2*100/29 = 7%
		%	25%	4%	2%	25%	56%	
	No response	Count	3	1	1	15	20	
		%	6%	2%	2%	29%	38%	
	Maybe	Count	2	0	0	0	2	
		%	4%	0%	0%	0%	4%	
Total		Count	18	3	2	29	52	
		%	35%	6%	4%	56%	100%	
Q7) If you have donated blood for general cause before (not family or friend need) would you donate again for general cause	**No**	Count	0	**0**	0	3	3	
		%	0%	**0%**	0%	6%	6%	
	Yes	Count	15	3	2	25	45	3*100/45 = 7%
		%	29%	6%	4%	48%	87%	
	No response	Count	3	0	0	1	4	
		%	6%	0%	0%	2%	8%	
Total		Count	18	3	2	29	52	
		%	35%	6%	4%	56%	100%	

Table 6: Dependent Variable			Independent Variables: Q2) Which of the following factors do you think had an impact on your decision not to donate? — Fear of getting a disease (infection potential): Had an impact & Had a decisive factor	Had no impact	Not sure	No response	Total	Used in the Analysis
Q1) Have you donated blood before?	**No**	Count	**42**	10	6	2	60	
		%	**38%**	9%	5%	2%	54%	42*100/60 = 70%
	Yes	Count	14	6	2	30	52	
		%	13%	5%	2%	27%	46%	
Total		Count	56	16	8	32	112	
		%	50%	14%	7%	29%	100%	
Q5) If you have donated for family or friend – would you donate again for General cause	**No**	Count	**0**	0	0	1	1	
		%	**0%**	0%	0%	2%	2%	
	Yes	Count	11	4	1	13	29	
		%	21%	8%	2%	25%	56%	11*100/29 = 38%
	Maybe	Count	1	1	0	0	2	
		%	2%	2%	0%	0%	4%	
	No response	Count	2	1	1	16	20	
		%	4%	2%	2%	31%	38%	
Total		Count	14	6	2	30	52	
		%	27%	12%	4%	58%	100%	
Q7) If you have donated blood for general cause before (not family or friend need) would you donate again for general cause	**No**	Count	**0**	0	0	3	3	
		%	**0%**	0%	0%	6%	6%	
	Yes	Count	12	5	2	26	45	
		%	23%	10%	4%	50%	87%	12*100/45 = 27%
	No response	Count	2	1	0	1	4	
		%	4%	2%	0%	2%	8%	
Total		Count	14	6	2	30	52	
		%	27%	12%	4%	58%	100%	
			Low standards of hygiene at the donation centers				**Total**	
Q1) Have you donated blood before?	**No**	Count	**44**	7	7	2	60	
		%	**39%**	6%	6%	2%	54%	44*100/60 = 73%
	Yes	Count	17	5	0	30	52	
		%	15%	4%	0%	27%	46%	
Total		Count	61	12	7	32	112	
		%	54%	11%	6%	29%	100%	
Q5) If you have donated for family or friend – would you donate again for General cause	**No**	Count	**0**	0	0	1	1	
		%	**0%**	0%	.0%	2%	2%	
	Yes	Count	14	2	0	13	29	
		%	27%	4%	.0%	25%	56%	14*100/29 = 48%
	Maybe	Count	1	1	0	0	2	
		%	2%	2%	.0%	0%	4%	
	No response	Count	2	2	0	16	20	
		%	4%	4%	.0%	31%	38%	
Total		Count	17	5	0	30	52	
		%	33%	10%	.0%	58%	100%	
Q7) If you have donated blood for general cause before (not family or friend need) would you donate again for general cause	**No**	Count	**0**	0	0	3	3	
		%	**0%**	0%	.0%	6%	6%	
	Yes	Count	15	4	0	26	45	
		%	29%	8%	.0%	50%	87%	15*100/45 = 33%
	No response	Count	2	1	0	1	4	
		%	4%	2%	.0%	2%	8%	
Total		Count	17	5	0	30	52	
		%	33%	10%	.0%	58%	100%	

		Poor Image and Cleanliness problems at the donation center					**Total**	
Q1) Have you donated blood before?	**No**	Count	**37**	11	9	3	60	
		%	**33%**	10%	8%	3%	54%	37*100/60 = 62%
	Yes	Count	16	5	2	29	52	
		%	14%	4%	2%	26%	46%	
Total		Count	53	16	11	32	112	
		%	47%	14%	10%	29%	100%	
Q5) If you have donated for family or friend – would you donate again for General cause	**No**	Count	**0**	0	0	1	1	
		%	**0%**	0%	0%	2%	2%	
	Yes	Count	13	2	1	13	29	13*100/29 = 45%
		%	25%	4%	2%	25%	56%	
	Maybe	Count	1	1	0	0	2	
		%	2%	2%	0%	0%	4%	
	No response	Count	2	2	1	15	20	
		%	4%	4%	2%	29%	38%	
Total		Count	16	5	2	29	52	
		%	31%	10%	4%	56%	100%	
Q7) If you have donated blood for general cause before (not family or friend need) would you donate again for general cause	**No**	Count	**0**	0	0	3	3	
		%	**0%**	0%	0%	6%	6%	
	Yes	Count	15	4	1	25	45	
		%	29%	8%	2%	48%	87%	15*100/45 = 33%
	No response	Count	1	1	1	1	4	
		%	2%	2%	2%	2%	8%	
Total		Count	16	5	2	29	52	
		%	31%	10%	4%	56%	100%	

Table 7: Dependent Variable			Independent Variables Q2) Which of the following factors do you think had an impact on your decision not to donate? Fear of the pain during injection experience Had an impact & Had a decisive factor	Had no impact	Not sure	No response	Total	Used in Analysis
Q1) Have you donated blood before?	**No**	Count	**19**	30	9	2	60	19*100/60 = 32%
		%	**17%**	27%	8%	2%	54%	
	Yes	Count	5	16	2	29	52	
		%	4%	14%	2%	26%	46%	
Total		Count	24	46	11	31	112	
		%	21%	41%	10%	28%	100%	
Q5) If you have donated for family or friend – would you donate again for General cause	**No**	Count	**0**	0	0	1	1	
		%	**0%**	0%	0%	2%	2%	
	Yes	Count	2	13	1	13	29	2*100/29 = 7%
		%	4%	25%	2%	25%	56%	
	Maybe	Count	0	2	0	0	2	
		%	0%	4%	%	0%	4%	
	No response	Count	3	1	1	15	20	
		%	6%	2%	2%	29%	38%	
Total		Count	5	16	2	29	52	
		%	10%	31%	4%	56%	100%	
Q7) If you have donated blood for general cause before (not family or friend need) would you donate again for general cause	**No**	Count	**0**	0	0	3	3	
		%	**0%**	0%	0%	6%	6%	
	Yes	Count	5	13	2	25	45	5*100/45 = 11%
		%	10%	25%	4%	48%	87%	
	No response	Count	0	3	0	1	4	
		%	0%	6%	0%	2%	8%	
Total		Count	5	16	2	29	52	
		%	10%	31%	4%	56%	100%	
			Inadequate training of the staff in the center				Total	
Q1) Have you donated blood before?	**No**	Count	**24**	19	14	3	60	
		%	**21%**	17%	13%	3%	54%	24*100/60 = 40%
	Yes	Count	14	8	1	29	52	
		%	13%	7%	1%	26%	46%	
Total		Count	38	27	15	32	112	
		%	34%	24%	13%	29%	100%	
Q5) If you have donated for family or friend – would you donate again for General cause	**No**	Count	**0**	0	0	1	1	
		%	**0%**	%	%	2%	2%	
	Yes	Count	10	5	1	13	29	10*100/29 = 35%
		5	19%	10%	2%	25%	56%	
	Maybe	Count	1	1	0	0	2	
		%	2%	2%	%	%	4%	
	No response	Count	3	2	0	15	20	
		%	6%	4%	%	29%	38%	
Total		Count	14	8	1	29	52	
		%	27%	15%	2%	56%	100%	
Q7) If you have donated blood for general cause before (not family or friend need) would you donate again for general cause	**No**	Count	**0**	0	0	3	3	
		%	**0%**	.0%	.0%	5.8%	5.8%	
	Yes	Count	12	7	1	25	45	12*100/45 = 27%
		%	23%	13.5%	1.9%	48.1%	86.5 %	
	No response	Count	2	1	0	1	4	
		%	4%	1.9%	.0%	1.9%	7.7%	

Total	Count %	14 27%	8 15.4%	1 1.9%	29 55.8%	52 100.0 %	

2011-2012, case #169

THE AMERICAN UNIVERSITY IN CAIRO
OFFICE OF THE ASSOCIATE PROVOST FOR RESEARCH ADMINISTRATION

To: Azza Shafei (PPAD student)

cc: Jennifer Bremer (PPAD)

From: Graham Harman, Associate Provost for Research Administration, Chair of the IRB

Date: June 23, 2012

graham harman

Re: approval of study

This is to inform you that I reviewed your research proposal entitled "Why Egyptians Do or Do Not Choose to Donate Their Blood?," and determined that it used appropriate procedures to minimize risks to human subjects and that adequate provision was made for confidentiality and data anonymity of participants in any published record. I believe you will also make adequate provision for obtaining informed consent of the subjects. Thus, the proposal qualifies for exempt review, meaning that I have approved it without convening the full Institutional Review Board.

Thank you and good luck.

عناية / مكتب مستشار الجامعة الامريكية

قرار رئيس الجهاز المركزى للتعبئة العامة والإحصاء

بالتفويض

رقم (٧٤٢) لسنة ٢٠١٢

في شأن قيام الباحثة / عزة اكرم صالح شافعى – المسجلة لدرجة الماجستير بقسم السياسة العامة والادارة بالجامعة الامريكية بالقاهرة - بأجراء دراسة ميدانية بعنوان (التبرع بالدم عند المصريين وكيفية تشجيع هذه العادة) ٠

رئيس الجهاز

- بعد الإطلاع على القرار الجمهوري رقم (٢٩١٥) لسنة ١٩٦٤ بشأن إنشاء وتنظيم الجهاز.
- وعلى قرار رئيس الجهاز رقم (٢٣١) لسنة ١٩٦٨ في شأن إجراء الإحصاءات والتعدادات والاستفتاءات والاستقصاءات.
- وعلي قرار رئيس الجهاز رقم (١٣١٤) لسنه ٢٠٠٧ بشأن التفويض في بعض الاختصاصات ٠
- وبعد الإطلاع علي مذكرة العرض علي رئيس الجهاز وموافقة سيادته علي ما ورد بها ٠
- وعلى كتاب الجامعة الامريكية بالقاهرة الوارد للجهاز في ٢٠١٢/٦/٢١ ٠

قـــــــرر

مادة ١ : تقوم الباحثة / عزة اكرم صالح شافعى – المسجلة لدرجة الماجستير بقسم السياسة العامة والادارة بالجامعة الامريكية بالقاهرة بأجراء الدراسة الميدانية المشار إليها عالية ٠

مادة ٢ : تجري الدراسة علي السادة / المسؤلين بمنظمات التبرع بالدم ٠

مادة ٣ : تجمع البيانات اللازمة لهذه الدراسة طبقا للاستمارة المعدة لهذا الغرض والمعتمدة من الجهاز المركزي للتعبئة العامة والإحصاء وعدد صفحاتها ٢ صفحة (صفحتان) ٠

مادة ٤ : تقوم منظمات التبرع بالدم وتحت اشراف وحدة الامن بها بتيسير إجراء الدراسة الميدانية – مع مراعاة الضوابط الخاصة بتقييم درجة سرية البيانات والمعلومات المتداولة مسبقا بمعرفة كل جهة طبقا لما جاء بخطة الأمن بها ٠

مادة ٥ : يراعى موافقة مفردات العينة ومراعاة سرية البيانات الفردية وعدم استخدام البيانات التي يتم جمعها لأغراض أخري غير أغراض هذه الدراسة ٠

مادة ٦ : يجري العمل الميداني خلال خمسة اشهر من تاريخ صدور هذا القرار ٠

مادة ٧ : يوافي الجهاز المركزي للتعبئة العامة والإحصاء بنسخة من النتائج النهائية لهذه الدراسة ٠

مادة ٨ : ينفذ هذا القرار من تاريخ صدوره ٠

صدر في ٢٥ / ٦ / ٢٠١٢ ٠

احمد عطية محمد

مدير عام الإدارة العامة للأمن بالانابة