CORRELATES OF POST-TRAUMATIC STRESS DISORDER AND DISORDER OF EXTREME STRESS
NOT OTHERWISE SPECIFIED AMONG PALESTINIAN CHILD EX-DETAINEES

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The objective of this study is to investigate the variations in the type of trauma (post-traumatic stress disorder (PTSD) and disorder of extreme stress not otherwise specified (DESNOS) resulting first from group membership, and second from variations in socioeconomic status, and last, from exposure to physical and psychological methods of interrogation due to imprisonment. I use a diverse sample of 202 child ex-detainees who served sentences in Israeli prisons and were 17 years of age or less at the time of arrest. Various regression techniques were utilized to determine the most parsimonious way to distinguish between the three groups in their trauma responses. The key finding in this study is that child refugee ex-detainees living in refugee camps, in general, did not report PTSD or DESNOS reactions compared to their counterparts. Continuing PTSD and DESNOS symptoms were more prevalent among the group of refugees living outside the camps. However, there is at least one finding that supported what I hypothesized: refugees living in camps were more likely to experience elevated levels of alterations in attention or consciousness (DESNOS2). For refugees in camps, the DESNOS absence tells us that the volatile childhood these children experienced was not associated with severe pathological reactions or heightened sensitization to trauma. In contrast, refugees living outside camps suffer from alterations in self-perception DESNOS4 symptomology, in addition, to elevated levels of complex trauma DESNOS and they qualified for the DESNOS diagnosis more than the other two groups of children. Refugees living outside camps were the only group subjected to interpersonal stressors.
ACKNOWLEDGEMENTS

I would like to thank everyone who helped to make this study a reality. I am deeply grateful to my advisor, and personal friend, Professor David Williamson for his consistently superb and boundless support throughout the course of my academic endeavors. I cannot express how fortunate I was to have him as my advisor. I want to thank Professor Mahmud Sehwail from the Treatment and Rehabilitation Center of Victims of Torture for allowing me access to the data, assistance with various resources relevant to this study. I would like to thank Professor Philip Yang for his generosity in terms of his time, considerable advice. His guidance was of inestimable value. I am also grateful to Professors Erma Lawson, Dale Yeatts, Emile Sahliyeh and again Mahmud Sehwail for their firm and steadfast belief in me, their sincerity and faithfulness is beyond anything I could ever have expected of a professor. I also owe thanks to my dissertation committee member Professors Cynthia Cready for her support and direction.

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This work is dedicated to fighting the act of detaining children as adult criminals in various areas throughout the world. I regret that this work may not be able to fully assess the level of suffering and lack of understanding that a child, often as young as 9 or 10, has in coping with this type of detainment.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
</tr>
<tr>
<td>LIST OF ILLUSTRATIONS</td>
</tr>
<tr>
<td>CHAPTER I  INTRODUCTION AND REVIEW OF LITERATURE</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>CHAPTER II  CONCEPTUAL AND THEORETICAL ORIENTATION</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
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<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
CHAPTER III  DATA AND METHODS ............................................................................................... 34
  Sampling and the Questionnaire ...................................................................................... 34
  Development of TRC Questionnaire ................................................................................. 35
  Respondents ..................................................................................................................... 35
  Research Variables ............................................................................................................ 36
    Dependent Variables Definitions and Coding................................................................. 36
    Independent Variables .......................................................................................... 51
  Statistical Analyses ............................................................................................................ 53
  Strengths and Limitations of the Study ............................................................................ 54
  Study Limitations ............................................................................................................. 55

CHAPTER IV  FINDINGS AND ANALYSES ........................................................................................ 56
  Descriptive Statistics ......................................................................................................... 56
  Results from Ordinary Least Squares ................................................................................. 62
  Multiple Regression Results Predicting Respondents Re-experiencing Trauma (PTSD1) 64
  Multinomial Regression Results for PTSD2 ........................................................................ 69
  OLS Results of Hyperarousal (PTSD3) ............................................................................ 73
  OLS Results of Post-Traumatic Stress Disorder (Simple Trauma Index or PTSDSUM) .... 78
  Ordinary Least Squares Regression Results of Respondents’ Alteration in Regulation of Affect and Impulses (DESNOS1) ......................................................................................... 83
  Multinomial Regression Results for Alterations in Attention or Consciousness (DESNOS2) ................................................................................................................................. 87
  OLS Results of Alterations in Self-Perception (DESNOS4) ................................................ 96
  Logistic Regression Results for Alterations in Perception of the Perpetrator (DESNOS5) ................................................................................................................................. 100
  Multinomial Regression Results for Alterations in Systems of Meaning (DESNOS7) .... 105
  OLS Results of DESNOSSUM (or Complex Trauma) Index .............................................. 111

CHAPTER V  DISCUSSION AND CONCLUSIONS ............................................................................ 117
  Summary of the Findings ................................................................................................ 117
    Hypotheses 1 and 2 ........................................................................................................ 117
    Hypothesis 3 ........................................................................................................ 118
    Hypothesis 4 ........................................................................................................ 119
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>DESNOS Categories</td>
<td>10</td>
</tr>
<tr>
<td>Table 2</td>
<td>Life Events Scale</td>
<td>20</td>
</tr>
<tr>
<td>Table 3</td>
<td>PTSD Indices</td>
<td>45</td>
</tr>
<tr>
<td>Table 4</td>
<td>DESNOS Indices</td>
<td>46</td>
</tr>
<tr>
<td>Table 5</td>
<td>PTSD Indices: Levels and Regressions Performed</td>
<td>47</td>
</tr>
<tr>
<td>Table 6</td>
<td>DESNOS Indices: Levels and Regressions Performed</td>
<td>47</td>
</tr>
<tr>
<td>Table 7</td>
<td>Physical Methods of Interrogation</td>
<td>48</td>
</tr>
<tr>
<td>Table 8</td>
<td>Psychological Methods of Interrogation</td>
<td>49</td>
</tr>
<tr>
<td>Table 9</td>
<td>PTSD Categories' Correlations</td>
<td>50</td>
</tr>
<tr>
<td>Table 10</td>
<td>DESNOS Categories' Correlations</td>
<td>50</td>
</tr>
<tr>
<td>Table 11</td>
<td>Groups Distribution</td>
<td>57</td>
</tr>
<tr>
<td>Table 12</td>
<td>Descriptive Statistics for All of the Outcome Variables</td>
<td>58</td>
</tr>
<tr>
<td>Table 13</td>
<td>Descriptive Statistics of the Predictors Used in the Study</td>
<td>59</td>
</tr>
<tr>
<td>Table 14</td>
<td>Frequencies and Percentages for the Independent Variables</td>
<td>59</td>
</tr>
<tr>
<td>Table 15</td>
<td>DESNOSSUM Correlations: Pearson Correlation Sig. (1-Tailed)</td>
<td>60</td>
</tr>
<tr>
<td>Table 16</td>
<td>PTSDSUM Full Model Correlations: Pearson Correlation Sig. (1-Tailed)</td>
<td>61</td>
</tr>
<tr>
<td>Table 17</td>
<td>Estimates of OLS Regression Models Predicting Respondents’ Re-experiencing the Trauma Index (PTSD1), Palestinian Child Ex-Detainees, 2006</td>
<td>66</td>
</tr>
<tr>
<td>Table 18</td>
<td>Multinomial Logistic Regression Predicting Respondents’ Avoidance or Numbing (PTSD2), Palestinian Child Ex-Detainees, 2006</td>
<td>72</td>
</tr>
<tr>
<td>Table 19</td>
<td>Estimates of OLS Regression Models Predicting Respondents’ Hyperarousal (PTSD3), Palestinian Child Ex-Detainees, 2006</td>
<td>76</td>
</tr>
<tr>
<td>Table 20</td>
<td>Estimates of OLS Regression Models Predicting Respondents’ Post Traumatic Stress Disorder (PTSDSUM), Palestinian Child Ex-Detainees, 2006</td>
<td>81</td>
</tr>
</tbody>
</table>
Table 21 Estimates of OLS Regression Models Predicting Respondents’ Alteration in Regulation of Affect and Impulses (DESNOS1), Palestinian Child Ex-Detainees, 2006

Table 22 Multinomial Logistic Regression Predicting Respondents’ Alterations in Attention or Consciousness (DESNOS2), Palestinian Child Ex-Detainees, 2006

Table 23 Estimates of OLS Regression Models Predicting Respondents’ Alterations in Self-Perception (DESNOS4), Palestinian Child Ex-Detainees, 2006

Table 24 Logistic Regression Estimates Predicting Respondents’ Alterations in Perception of the Perpetrator (DESNOS5), among Palestinian Children Ex-Detainees, 2006

Table 25 Logistic Regression Estimates Predicting Respondents’ Alterations in Relations with Others (DESNOS6), among Palestinian Child Ex-Detainees, 2006

Table 26 Multinomial Logistic Regression Predicting Respondents’ Alterations in Systems of Meaning (DESNOS7), Palestinian Child Ex-Detainees, 2006

Table 27 Estimates of OLS Regression Models Predicting Respondents’ DESNOSSUM Symptomology, Palestinian Child Ex-Detainees, 2006
## LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>A paradigm of stress research. Solid arrows between boxes indicate presumed casual relationships among variables</td>
<td>22</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Histogram for re-experiencing the trauma (PTSD1)</td>
<td>68</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Scatterplot for re-experiencing the trauma (PTSD1)</td>
<td>69</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Histogram for hyperarousal (PTSD3)</td>
<td>77</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Scatterplot for hyperarousal (PTSD3)</td>
<td>77</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Histogram of post-traumatic stress disorder (PTSDSUM)</td>
<td>82</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Scatterplot of post-traumatic stress disorder (PTSDSUM)</td>
<td>83</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Histogram of alteration in regulation of affect and impulses (DESNOS1)</td>
<td>86</td>
</tr>
<tr>
<td>Figure 9</td>
<td>Scatterplot of alteration in regulation of affect and impulses (DESNOS1)</td>
<td>87</td>
</tr>
<tr>
<td>Figure 10</td>
<td>Histogram of alterations in self-perception (DESNOS4)</td>
<td>99</td>
</tr>
<tr>
<td>Figure 11</td>
<td>Scatterplot of alterations in self-perception (DESNOS4)</td>
<td>100</td>
</tr>
<tr>
<td>Figure 12</td>
<td>Histogram of complex trauma (DESNOSSUM)</td>
<td>114</td>
</tr>
<tr>
<td>Figure 13</td>
<td>Scatterplot of complex trauma (DESNOSSUM)</td>
<td>115</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION AND REVIEW OF LITERATURE

Background of the Study

This research explores the experience of various types of trauma — post-traumatic stress disorder (PTSD) and disorder of extreme stress not otherwise specified (DESNOS) — among three different groups of Palestinian child ex-detainees.

As a result of the war of 1948 and the subsequent creation of Israel, almost two thirds of Palestinians were forced out of their home communities (Chatty and Hundt, 2005). Since that year, the Palestinian refugee problem has evolved. Worldwide, “one in three refugees is a Palestinian” (Chatty and Hundt, 2005, p. 12). Despite this fact, “much less attention has been given to the fact that more than half of the Palestinian children are also refugees” (Badil Resource Center, 2006, p. 4). Palestinian refugees living in refugee camps obviously are a low-status social group.

Besides being refugees, if we add detention to Palestinian children’s traumatic stressful life events, we can imagine the severity of politically related traumas they are experiencing. As of October 2003, “around 350 Palestinian children were detained in Israeli prisons and detention centers” (Hanieh, Kay and Cook, 2003, p. 27). Specifically, increased rates of detained children from refugee camps highlight the need to study the physical and psychosocial consequences of detention on their childhood. It is important to understand how they react when the major factors of political terror (i.e., occupation, refuge, and detention) in their small world accumulate. In view of that, this research interweaves detention and refugee status into
an understanding of psychosocial well-being of Palestinian children who have been detained in Israeli jails.

A growing body of scholarly work in the field of mental health using different sociological perspectives confirms that major components of social structure including power, prestige, and economic resources directly lead to variations in the well-being of people (Berger and Luckmann, 1966; Pearlin, 1989; Mirowsky and Ross, 1989 and Aneshensel, 1992). Particularly, in some children, according to Wakefield, Pottick, and Kirk (2002) exposing oneself to a negative environment generally causes an internal dysfunction that leads to deviant or frequent antisocial behaviors. Worldwide, elevated rates of disorder among children attracted the attention of social scholars. For that reason, sociological inquiries became a necessity and sociological theories were developed and tested to explain the linkages between social placement and the variations in mental illness experience. For example, social causation theorists contend that “conditions of life associated with low socioeconomic status markedly increase the risk of mental disorders” (Miech, Caspi, Moffitt, Wright, and Silva, 1999, p. 1096).

In this dissertation, I investigate the variations in the type and severity of trauma (specifically PTSD and DESNOS) as resulting from: 1) exposure to harsh living conditions and disease-prone environments (i.e., refugee camps), and 2) detention. This work is a unique opportunity to discuss a sociological approach of trauma in relation to a disease-prone environment, imprisonment and “disorder-specific relations with socioeconomic status” (Miech, Caspi, Moffitt, Wright, and Silva, 1999, p. 1096).
The Research Problem

This study is an attempt to determine if there are variations in simple and complex trauma symptomology among three groups of Palestinian child ex-detainees, refugees living in camps, refugees living outside camps, and the non-refugees. My other emphases are on the factors that influence the level of simple and complex trauma (PTSD and DESNOS) among the three different groups. I use a number of explanatory variables to predict who is more likely to experience a higher level of trauma among these child ex-detainees. These explanatory variables include the socio-demographic variables, the socioeconomic status, and the physical and psychological methods of interrogation.

The primary goal of this study is to assess the prevalence of mental health problems among detained children by examining the psychosocial consequences of the violence of prison, ill-treatment on this group, and harsh living conditions they experience, specifically those living in refugee camps. An additional goal is to verify if child camp refugees exposed to detention suffer from a severe psychosocial trauma (complex trauma or DESNOS) in contrast to child refugee ex-detainees living outside camps and non-refugee child ex-detainees. This study’s final goal is to investigate the Israeli authorities' claim that torture was used less frequently against Palestinian political prisoners in compliance with the Landau Committee report and recommendations in 1999 (TRC).

An assessment of the causal structure of the detention-stress relationship through understanding the role of larger social structures and environmental conditions in triggering and aggravating the course of mental illness (PTSD or DESNOS) was applied. The key premise of this research, i.e. prior to imprisonment, rates and symptoms of PTSD or DESNOS are partly the
outcome of socioeconomic stresses resulted from atrocious and dire living conditions that child camp refugees experience in refugee camps before detention was tested. Further exploration into the linkages between social structures and an individual’s social location and the mental illness experience is needed. It is timely to propose a new look at how traumatic experience is conceptualized and studied.

Research Questions

The key questions in this study are:

1. Do the three groups of Palestinian child ex-detainees differ in PTSD-DESNOS symptoms?
2. Do differences still exist after controlling for socio-demographic factors, SES, as well as physical and psychological methods of interrogation?

Significance of the Study

In general, previous studies focused on examining imprisonment consequences on ex-detainees that were Palestinian refugee children, treating them as one homogenous group, and assuming that all child refugees react in like manner to detention experiences. This definitely is “lacking any potential for making a significant contribution to our knowledge” (Chatty and Hundt, 2005, p. 3). Therefore, this study is of great consequence because it is grounded on the assumption that, in Occupied Palestinian Territories (OPT) there are wide variations among children and their responses. First, there are child camp refugees (CCRs) who are still living inside the camps; second, there are child refugees living outside the camps; and lastly, there are non-refugee children who are residing in towns, villages, and cities.
How CCRs react to and cope with the detention experience is bound to be different from detained child refugees living outside camps and detained children who are not refugees, due to the variations in their social environments. This study contributes to many aspects of the existing literature regarding detaining children.

First, it deals with the most vulnerable victims of the Palestinian society (i.e., CCRs). The social world of this group, the emotional and physical harm they definitely face during detention leaves them vulnerable to complicated level of trauma. No study has been undertaken to link, compare, or contrast the detention experience of the three aforementioned categories of children in relation to their sociopolitical and economic environments.

Second, this study calls attention to the importance of using a holistic approach in understanding the life-threatening trauma that child camp refugees and ex-detainees experience. Since this group of children is exposed more than any Palestinian to accumulated stressing situations — continuous displacement due to the wars and conflict on one hand, and to house demolitions, killings, social discrimination, deteriorated socioeconomic and demographic situations on the other hand. The holistic approach of “social suffering” (Bauman, 2001; Davis, 1992; and Hastrup, 1993) sees the child camp refugees in the context of their families, the community, and the larger society as well.

Definition of Key Concepts

Socioeconomic Status

The relation between socioeconomic status, mental health, and the risk of disease has been widely observed (Adler et al., 1994; Morsy, 1996). Antonovsky (1967) published an
extensive review of the association between socioeconomic status and health. Arguably, he is responsible for stimulating the interest in this topic that has continued to preoccupy social and medical scientists ever since.

This research used the traditional measures of SES: education, occupational prestige, and total family income. This conventional measure is utilized here because each of the SES dimensions reflects different resources, for example “education confers knowledge, credentials, and social networks; income provides access to better housing, nutrition, and health care)” (Adler and Snibbe, 2003, p. 119).

Palestinian Children

According to the United Nations Convention on the Rights of the Child, a child is defined as a human being under the age of 18 years. Yet, according to the Israeli military court system a child is defined differently. Birgitta Elfstrom (the Swedish Section of the International Commission of Jurists) reports that:

The Israeli military court’s definition of a child is a person who hasn’t yet reached the age of 14. A child between 14 and 16 ‘is a big child’ and if more than 16, an adult. (2001, p. 27)

In this study, I adopt an arbitrary age limit of 17 to define a Palestinian child. This definition is based on the age at arrest (equal or below 17 years), referring to the variable used in the study’s questionnaire.

Palestinian Refugees

Worldwide, there is no consensus on the definition of a Palestinian refugee. United
Nations Relief and Works Agency (UNRWA) defines a Palestine refugee as “any person whose normal place of residence was Palestine during the period 1 June 1946 to 15 May 1948 and who lost both his home and means of livelihood as a result of the 1948 conflict” (UN document, Rev. 7/83, January 1984).

Elia Zureik (1996) defined Palestinian refugees by using the definition provided in the statement of the Palestinian delegation at the first meeting of the Refugee Working Group (RWG) held in Ottawa, Canada on 13 May 1992:

The Palestinian refugees are all the Palestinians (and their descendants) who were expelled or forced to leave their homes between November 1947 (Partition Plan) and January 1949 (Rhodes Armistice Agreements), from the territory controlled by Israel on that later date. This...coincides with the Israeli definition of absentees, a category of Palestinians meant to be stripped of its most elementary human and civil rights. (Zureik, 1996, p. 10)

In this study the definition below is used, as taken from Lapidoth (2002):

According to the United Nations definition, a "Palestinian refugee" is a person whose "normal place of residence was Palestine between June 1946 and May 1948, who lost both their homes and means of livelihood as a result of the 1948 Arab-Israeli conflict... The definition also includes the descendants of these people, regardless of whether they reside in areas designated as refugee camps or in established permanent communities.

Living conditions in Palestinian refugee camps are described as “a disease-prone environment, poor nutrition, and lack of adequate education, inadequate medical information, and stress” (Goldman, 1994, p. 1252), undoubtedly increasing the likelihood of mental and physical illness specifically among children. In order to craft effective intervention programs to improve child ex-detainees’ health, specifically those living in refugee camps, I need to investigate the relationship between the social structure and the consequences of detention on their psychosocial well-being. This approach leads to the use of social causation theory, as well as use of the structural strain theory.
Post-Traumatic Stress Disorder

Post-traumatic stress disorder is defined as a complex disorder in which the affected person's memory, emotional responses, intellectual processes, and nervous system have all been disrupted by one or more traumatic events; simply, it is a normal reaction to an abnormal event (Encyclopedia of Mental Disorders, 2007).

PTSD Symptoms

Diagnostic and Statistical Manual, fourth edition, text revision (DSM-IV-TR) specifies the following diagnostic criteria for PTSD:

1. Traumatic stressor: It is a catastrophic experience involving actual or threatened death or injury, or a threat to the physical integrity of the self or others. As a result, the person's emotional reaction was marked by intense fear, feelings of helplessness, or horror.

2. Intrusive symptoms: The patient experiences flashbacks, traumatic daydreams, or nightmares, in which the person relives the trauma as if it were recurring in the present. Intrusive symptoms result from an abnormal process of memory formation. Traumatic memories have two distinctive characteristics: 1) they can be triggered by stimuli that remind the patient of the traumatic event; 2) they have a "frozen" or wordless quality, consisting of images and sensations rather than verbal descriptions.

3. Avoidant symptoms: The person tries to reduce the possibility of exposure to anything that might trigger memories of the trauma, and to minimize his/her responses to these memories. The symptoms include: feeling disconnected from other people, psychic numbing, and avoidance of places, persons, or things associated with the trauma. Patients with PTSD are at increased risk of substance abuse as a form of self-medication to numb painful memories and therefore serve as avoidant symptoms.

4. Hyperarousal: It is defined as a condition in which the person's nervous system is always on "red alert" for the return of danger. This symptom includes hypervigilance, insomnia, difficulty concentrating, general irritability, and an extreme startle response.
In this study I use the main three diagnostic criteria of intrusive symptoms, avoidant symptoms, and hyperarousal. They are illustrated in the following chapters. The duration of symptoms must be at least one month. Significance of a symptom results if a person suffers from significant social, interpersonal, or work-related problems as a result of the symptom. A common social symptom of PTSD, for example, is a feeling of disconnection from other people, the larger society, and the spiritual or other significant sources of meaning (Encyclopedia of Mental Disorders, 2007).

DESNOS or Complex PTSD

Two teams of trauma specialists, Herman (1992a) and Van der Kolk (2005) plus Pelcovitz et al. (1997) worked independently and recommended a syndrome for further study in the DSM-IV. This syndrome was called “disorders of extreme stress” in the field trial for PTSD, and called “complex PTSD” by Herman (Luxenberg et al., 2001). The recommendation was to include a category of "complex PTSD" or "PTSD with personality change" in DSM-IV (Van der Kolk et al., 1992a). In this study, I have used DESNOS to encompass the characteristics of these complex trauma syndromes.

This diagnostic syndrome specifically describes the trauma among victims of political terror. DESNOS is labeled as a syndrome with “varied and divergent symptoms” by Jongedyk et al. (1996, p. 587). These symptoms were accurately defined by Herman (1992) as she argued that:

Simple PTSD may be inadequate to encompass the symptoms shown by victims of severe, prolonged traumatization, especially those of an interpersonal nature (as in concentration camps, work camps, or persistent sexual abuse). She drew a distinction between "simple PTSD" and "complex PTSD" (or "PTSD with DES NOS") and put forward
that the symptoms of complex PTSD are more complex, diffuse, and persistent, and include characteristic personality changes in the areas of object relations and identity and a susceptibility to repetitive traumatization or emotional injury. (p. 377-391)

In view of that, I am committed to explore the concept of disorder of extreme stress not otherwise specified (DESNOS), which has a symptom constellation delineated in the *DSM-IV* under a specific title and is associated with features of PTSD (Luxenberg et al., 2001). Although DESNOS is not currently a distinct diagnosis identified in the *DSM-IV*, its symptom constellation has been identified in numerous research studies and is currently being researched and considered for inclusion, as a free-standing diagnosis, in the *DSM-IV* (Luxenberg et al., 2001). This newly used diagnostic syndrome includes seven categories proposed by Herman (1992), and these categories are summarized in Table 1.

Table 1

*DESNOS Categories*

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<thead>
<tr>
<th>No.</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Alterations in Regulation of Affect and Impulses</td>
</tr>
<tr>
<td>2.</td>
<td>Alterations in Attention or Consciousness</td>
</tr>
<tr>
<td>3.</td>
<td>Somatization</td>
</tr>
<tr>
<td>4.</td>
<td>Alterations in Self-Perception</td>
</tr>
<tr>
<td>5.</td>
<td>Alterations in Perception of the Perpetrator</td>
</tr>
<tr>
<td>6.</td>
<td>Alterations in Relations with Others</td>
</tr>
<tr>
<td>7.</td>
<td>Alterations in Systems of Meaning</td>
</tr>
</tbody>
</table>

*Source*: Herman, 1992.
Numerous post-traumatic symptoms other than PTSD develop with prolonged trauma. PTSD captures only a limited number of trauma symptoms, specifically among child ex-detainees. Most importantly, this “chronic trauma starting at an early age gives rise to a greater prevalence of DESNOS symptomology” (Van der Kolk et al., 2005, p. 391). This study is an attempt to examine the type of Palestinian child ex-detainees psychopathology; is it PTSD or DESNOS reflecting a different constellation of symptoms?

In the following section, I discuss the knowledge base of this research.

Palestinian Refugees: Background

In this section, I present a historical background about how the Palestinian refugee crisis originated, then I provide an overview of research on trauma among Palestinian child ex-detainees, with emphasis on refugee camp dwellers.

Around the globe, refuge is a perennial phenomenon. Mostly, living in conflict settings and conflict-affected societies, refugees are considered a natural outcome.

Right after the 1967 war, thousands of Palestinian children were imprisoned by the Israeli military. According to Defense for Children International/Palestine Section (DCI/PS) 2002 estimations, children comprise 10 to 15 % of the total number of detainees in Israeli civic and military jails. The imprisonment process was accompanied by numerous violations of international law that have been well-documented by Palestinian, Israeli, and international human rights organizations, Human Rights Watch, and the World Organization Against Interrogation (Hanieh, Kay, and Cook, 2003).
Under the Israeli military occupation, Palestinian children are exposed to daily violent confrontations. For the most part, child camp refugees experience a severe protection gap because the UN Conciliation Commission for Palestine (UNCCP) that was created by the UN General Assembly to provide them with the protection did not act in accordance with the role assigned to it. In the General Assembly Resolution S-27/2 of 11 October 2002 (A World Fit for Children) the governments that participated in the peace negotiations pertaining to the Palestinian-Israeli conflict were committed “to ensure that issues pertaining to the rights and protection of children are fully reflected in the agendas of peace making processes and in ensuing peace agreements...; and involve children, where possible, in these processes” (Badil Resource Center, 2007, p. 8). Up to the present, the refugees’ dilemma is considered “the human core of the Palestinian-Israeli conflict and its non-resolution has constituted one of the main sources of instability in the region” (Arzt, 1997, p. 204). For more than 60 years, the fate of the displaced and dispossessed Palestinian refugees “was to be denied resettlement and be consigned to camps in dismal conditions of hopelessness and destitution” (Arzt, 1997, p. 210).

Globally, children “pay the price for the international community’s failure to live up to its human rights commitments” (Hanieh, Kay, and Cook, 2003, p. 31). Palestinian refugee children “face gaps in day-to-day protection of their basic human rights” (Badil Resource Center, 2007, p. 7). CCRs living in Occupied Palestinian Territories (OPTs) face permanent and ongoing depressing conditions. “Refugee camps usually have higher rates of poverty and unemployment and have been the sites of frequent violence including military invasions” (Badil Resource Center, 2007, p.7). Moreover, a number of studies confirmed the fact that refugee children living in Palestine “are more likely to experience higher rates of trauma, including bed
wetting, nightmares and aggressive behavior” (Badil Resource Center, 2007, p. 7). Berman (2001) affirmed that “the separation of children from their parents was often more distressing than bombs themselves” (p. 245). In addition, the American Psychiatric Association (1994) confirmed that “imprisonment and interrogation are beyond the range of normal experience and amongst the most frightening and psychologically damaging events that an individual can experience."

In Palestine, prison is a central feature of the social world of children, specifically child camp refugees. Moreover, detaining Palestinian children is:

...one facet in the comprehensive system of control exercised by the occupying power against Palestinian civilians. In direct contravention of the UN Convention on the Rights of the Child, Israeli authorities do not imprison Palestinian children only as a measure of last resort and for the shortest period of time (Art 37, paragraph b). Instead, prison is the first and only measure Israeli forces prescribe for the Palestinian children they arrest - there is no attempt at exploring alternative procedures which would take into account the best interests of the child. (National Plan of Action for Palestinian Children, Defense for Children International, 29 December 2004)

In addition, refugee camps have experienced a continuous state of deterioration due to the closed geographic area in which they are restricted and the fact that essential facilities are almost completely lacking.

Of the approximately 3.7 million refugees registered with UNRWA, a total of 517,412 refugees were living in the West Bank and 800,000 registered refugees in the Gaza Strip (Chatty and Hundt, 2005, p. 24-27). The Palestinian refugees become the hardest hit by political developments and also bear the brunt of changes that ferment within their extremely specific human community. In 1992, in efforts to assess the living conditions in Palestine, Norway’s Institute for Applied Social Science conducted a study on a sample of 2,500 families living in Gaza, West Bank, and Arab Jerusalem. According to the study:
Rural and West Bank refugee camps reported significantly higher rates of acute illness and injuries than other localities in the survey. More importantly, the study affirmed that “Camp residents in the West Bank showed the highest level of psychological distress, followed by Arab Jerusalem and West Bank villages and Towns. Gaza scored lower on the distress index than Arab Jerusalem and the West Bank. (Zureik, 1996, p. 46)

In the same regard, Chatty and Hundt (2005) noted that:

...living in overcrowded camps increases stress and anxiety. The idea of personal space hardly exists in the context of refugee camps. Lack of personal space might lead to tension between family members or even the whole community, which might lead to aggression. (p. 168)

Refugee children are deeply affected by the dispossession and displacement of their families and the prolonged conflict and violence over more than 60 years. More often than not, they “are exposed to continuing internecine struggles” and they are being exposed to the escalating brutality of war” (Leavitt and Fox, 1993, pp. xi-xii).

In Israeli jails, prison conditions for Palestinian children “are often as abusive as the arrest and interrogation process and have dramatically worsened since 2000” (Cook, 2004, p. 86). The abusive forms include “unhygienic, overcrowded facilities, inedible and inadequate food, lack of medical care, abuse by prison staff, little or no education and irregular family visits” (Cook, 2004, p. 102).

In addition to occupation and refuge, this group of children has encountered the most frightening and psychologically damaging experience in their lives: detention and imprisonment. According to DCI/PS estimations, “children comprise 10 to 15 percent of all detainees, which equals between 250 and 375 children” and these detainees “do not have access to juvenile courts or judges, probation officers or police officers who are specifically trained to deal with the interrogation and detention of children.” Furthermore, Defense for
Children International reports indicate that “Palestinian children prisoners are held with Israeli adult prisoners and they have suffered physical abuse and sexual violence, sleep deprivation, position abuse, deprivation of food and drink, threatening language, prohibition from using the toilet and placement in isolation.” (DCI/PS, 2002). Refugee child ex-detainees represent an excellent example of such situations.

The review of the literature shows a very limited number of studies that investigated how the imprisonment experience impacted the life of refugee children ex-detainees who are camp dwellers in comparison to refugee children ex-detainees living outside the camps or non-refugee children ex-detainees. Dybdahl (2001) confirms that studies on the psychological consequences of war for children are lacking, although recently the number of these studies has increased.

The Treatment and Rehabilitation Center for Victims of Torture (TRC)

The Treatment and Rehabilitation Center for Victims of Torture (TRC) is a non-governmental organization (NGO) founded in 1997 in the Palestinian Occupied Territories (OPTs) as an active professionalized body devoted to defending human rights. TRC’s major goal is to protect Palestinians against interrogation and violence and their consequences. The center employed different strategies to effectively solve the daily violations of human rights in that area. It launched various campaigns and utilized different programs to disseminate knowledge and enhance the local community’s awareness of human rights. Through a variety of therapeutic and rehabilitation services and intervention programs, the center provides
treatment, rehabilitation, medical visits, training, and awareness campaigns. The center’s main goals are:

- To develop a sociopolitical environment where the respect of human rights is the norm
- To promote the application of the International Humanitarian Law, the international laws on human rights, and international conventions against torture and organized violence
- To enhance the protection of the rights of victims of torture
- To provide psycho-social support and rehabilitation services for the victims of torture and organized violence in Palestine
- To participate in mutual capacity-building programs with similar institutions that are active in the area of human rights
- To deliver regularly sustainable services through advancing and implementing effective human rights strategies and policies

TRC’s Programs and Services

Treatment and Rehabilitation Department: This department provides access to various treatment options for victims of torture including and not limited to:

Psychological and primary medical treatment

1. Clinical therapy
2. Psycho-social counseling
3. Mobile treatment programs
4. Vocational rehabilitation to the victims
5. Internships and practical training to university students
6. Documentation of their work in order to present it to conferences and meetings held at the local, regional and international levels

TRC Donors and Major Funding Agencies

The center is funded by a number of international agencies, which include: the European Union (EU), International Rehabilitation Council for Interrogation Survivors (IRCT), Netherlands Representative Office (NRO), UN Voluntary Fund for Victims of Interrogation (UNVFVT), Swiss Agency for Development and Cooperation (SDC) and the Spanish Agency of International Cooperation for Development (AECID).

Chapter 2 provides the sociological basis and theoretical framework upon which this research was built. A number of sociological theories are illustrated. And explanations of why sociological theories are central to understanding psychological trauma are discussed.

The Organization of the Study

The research is reported in five major chapters. This first introductory chapter establishes the focus of this dissertation. It discusses the research problem that the study addresses, the main goals, and the significance of the study. This chapter grounds the key questions that guide this study and also underscores definitions of the key concepts. A brief introduction about the Treatment and Rehabilitation Center for Victims of Torture (TRC) that provided the data is presented. Most importantly, the related literature is reviewed and
discussed, with special emphasis given to studies that pertain to simple and complex trauma among child refugees. Gaps in the literature are presented so as to relate this study with the existing literature.

The second chapter discusses the sociological perspectives and theoretical framework of the research, including social causation and structural strain theories, followed by a discussion of the different sets of hypotheses which are postulated to measure simple and complex trauma.

The third chapter outlines the data and methodology. In this chapter, emphasis is on the hypotheses tested.

The fourth chapter presents the findings of my analysis. Basically, this chapter discusses the ordinary least squares (OLS), Logistic, and multinomial regression models developed, and present the results of these models. Finally, the fifth and last chapter discusses the results interpreted in the prior chapter. It also provides a summary of the findings along with discussion of the implications of the findings and presents recommendations for future research.
CHAPTER II
CONCEPTUAL AND THEORETICAL ORIENTATION

Introduction

Comparison is considered an essential procedure of any sociological research. Compared to the privileged groups in any society, low status social groups encounter harsh and distressing life conditions. Early social causation perspectives acknowledged the fact that “low-status social groups evidenced high rates of disorder” (Aneshensel et al., 1991, p. 166). Pearlin (1989) observed that the different structural arrangements in which individuals are embedded not only delineate the stressors they experience, but also specify the stress mediators they are able to mobilize, and their inner experiences of stress.

Pearlin’s observation did not evolve in a vacuum. It depended on the sociological theory that “explicates how normative social arrangements generate conditions that damage the emotional interior of people’s lives” (Pearlin and Lieberman, 1978. p. 38). This theory also confirms the fact that high rates of disorder among some social groups, specifically the less privileged, are seen as the inevitable by-product of ordinary facets of social life (Aneshensel et al., 1991).

Sociological Approaches to Mental Illness: Focus on Social Context

For sociologists, the main sources of mental disorder are external to the individual and are sought specifically in the basic arrangements that constitute any society. Selye (1956) found that “prolonged exposure to negative stress produces illness.” To delve deeper into the same topic, Holmes and Rahe (1967) abstracted a list of 43 major life events that have strong impact
on people’s quality of life and well-being (see Table 2).

Table 2

*Life Events Scale*

<table>
<thead>
<tr>
<th>Rank</th>
<th>Life event</th>
<th>Life change units</th>
<th>Rank</th>
<th>Life event</th>
<th>Life change units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Death of a spouse</td>
<td>100</td>
<td>23</td>
<td>Child leaving home</td>
<td>29</td>
</tr>
<tr>
<td>2</td>
<td>Divorce</td>
<td>73</td>
<td>24</td>
<td>Trouble with in-laws</td>
<td>29</td>
</tr>
<tr>
<td>3</td>
<td>Marital separation</td>
<td>65</td>
<td>25</td>
<td>Outstanding personal achievement</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>Imprisonment/ Jail term</td>
<td>63</td>
<td>26</td>
<td>Spouse starts or stops work</td>
<td>26</td>
</tr>
<tr>
<td>5</td>
<td>Death of a close family member</td>
<td>63</td>
<td>27</td>
<td>Begin or end school</td>
<td>26</td>
</tr>
<tr>
<td>6</td>
<td>Personal injury or illness</td>
<td>53</td>
<td>28</td>
<td>Change in living conditions</td>
<td>25</td>
</tr>
<tr>
<td>7</td>
<td>Marriage</td>
<td>50</td>
<td>29</td>
<td>Revision of personal habits</td>
<td>24</td>
</tr>
<tr>
<td>8</td>
<td>Dismissal from work</td>
<td>47</td>
<td>30</td>
<td>Trouble with boss</td>
<td>23</td>
</tr>
<tr>
<td>9</td>
<td>Marital reconciliation</td>
<td>45</td>
<td>31</td>
<td>Change in working hours or conditions</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>Retirement</td>
<td>45</td>
<td>32</td>
<td>Change in residence</td>
<td>20</td>
</tr>
<tr>
<td>11</td>
<td>Change in health of family member</td>
<td>44</td>
<td>33</td>
<td>Change in schools</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>Pregnancy</td>
<td>40</td>
<td>34</td>
<td>Change in recreation</td>
<td>19</td>
</tr>
<tr>
<td>13</td>
<td>Sexual difficulties</td>
<td>39</td>
<td>35</td>
<td>Change in church activities</td>
<td>19</td>
</tr>
<tr>
<td>14</td>
<td>Gain a new family member</td>
<td>39</td>
<td>36</td>
<td>Change in social activities</td>
<td>18</td>
</tr>
<tr>
<td>15</td>
<td>Business readjustment</td>
<td>39</td>
<td>37</td>
<td>Minor mortgage or loan</td>
<td>17</td>
</tr>
<tr>
<td>16</td>
<td>Change in financial state</td>
<td>38</td>
<td>38</td>
<td>Change in sleeping habits</td>
<td>16</td>
</tr>
<tr>
<td>17</td>
<td>Death of a close friend</td>
<td>37</td>
<td>39</td>
<td>Change in number of family reunions</td>
<td>15</td>
</tr>
<tr>
<td>18</td>
<td>Change to different line of work</td>
<td>36</td>
<td>40</td>
<td>Change in eating habits</td>
<td>15</td>
</tr>
<tr>
<td>19</td>
<td>Change in frequency of arguments</td>
<td>35</td>
<td>41</td>
<td>Vacation</td>
<td>13</td>
</tr>
<tr>
<td>20</td>
<td>Major mortgage</td>
<td>32</td>
<td>42</td>
<td>Christmas</td>
<td>12</td>
</tr>
<tr>
<td>21</td>
<td>Foreclosure of mortgage or loan</td>
<td>30</td>
<td>43</td>
<td>Minor violation of law</td>
<td>11</td>
</tr>
<tr>
<td>22</td>
<td>Change in responsibilities at work</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Score of 300+: At risk of illness. Score of 150-299+: Risk of illness is moderate.

The two theorists concluded that, during a given time, the more negative life events individuals experienced, the more likely they were to become ill. Holmes and Rahe summarized the relationships between illness, stress, and life events through what they called the Social Readjustment Rating Scale. For example, some of the most significant of the life events noted
in this study are jail experience, which is given 63 points out of 100, and the change in living conditions, which is given 25 points. In view of what I mentioned earlier if we add all the bolded scores in the scale, the total score will be 267, and if we consider other life events related to the child’s social environment, undoubtedly the score will exceed 300. Obviously, the above checklist gave sociologists the opportunity to easily assess whether exposure to social stressors and major life events precipitate mental health problems or not.

Pearlin et al., (1981) discovered too that chronic strains such as “living in overcrowded conditions, having persistent family arguments” are strong predictors of depression. Subsequently, Conrad (1987) in his illness-experience research concluded that the relationship between illness experience and social structures are crucial. Based on his understanding of the relationship between the two, he stated that:

[A] sociology of illness experience must consider people’s everyday lives living with and in spite of illness. It needs to be based on systematically collected and analyzed data from a sufficient number and variety of people with an illness. Such a perspective necessarily focuses on the meaning of illness, the social organization of the sufferer’s world, and strategies used in adaptation. (Conrad, 1987, p. 4–5)

Pearlin (1989) acknowledges that “the sociological study of stress...can contribute uniquely both to an understanding of social life and to an understanding of how the fates of individuals come to be bound in it.” He added, “it is of considerable importance to study social structures and their effects on individual wellbeing” (p. 254-255).

Later studies utilized the same approach and further progressed the exploration of social location and illness experience (Hulko, 2002; Ezzy, 2004). McGuffey (2005) stated that “conceptualizing trauma as a social and cultural experience has generated interdisciplinary work from a variety of fields” (p. 621).
We can infer from the above argument that illness experience varies from one person to another; it is unique and reflects the personal experience for the individual. Furthermore, the previous elaborations lead us to conclude that sociological research has profoundly contributed to our understanding of the mental illness experience by emphasizing the importance of the linkages between social structure and specific life experiences. Figure 1 illustrates the conceptual model as developed by House.

Figure 1. A paradigm of stress research. Solid arrows between boxes indicate presumed casual relationships among variables. Dotted arrows from the box labeled “conditioning variables” intersect solid arrows, indicating an interaction between the conditioning variables in the box at the beginning of the solid arrow in predicting variables in the box at the head of the solid arrow (House, 2001, p. 129).
Sociological Conceptualization of Trauma

Traumas are defined as “stressors that are thought to be so serious, so overwhelming in their potential for impact, that we must give them separate status to distinguish them from the usual class of events that we designate as stressful” (Horwitz and Scheid, 1999, p. 1888).

According to the DSM-III-R manual, a traumatic event is conceptualized as one “that is outside the range of usual human experience and...would be markedly distressing to almost anyone” (Horwitz and Scheid, 1999, p. 1888). This conceptualization focuses on the magnitude of the stressor more than any other element. Trauma results from severe situations such as: war stress (Laufer, Gallops, and Frey-Wouters, 1984), and sexual abuse or assault (Burnam et al., 1988).

Presented in the following section are sociological theories of mental illness that serve as theoretical framework to guide our efforts in explaining various levels of trauma among disadvantaged groups of Palestinian child ex-detainees, specifically child camp refugees.

Sociological Theories of Mental Illness

According to sociological research, the main sources of mental disorder are sought in the basic arrangements that constitute any society. Within this sociological framework, a main goal is to explain why disorder is more common among some segments of society than others. Therefore, the focus will be on the etiological factors that are determined by one’s location within society. As a result, this perspective “utilizes the stress process as the connection between structure and mental health outcome: high levels of disorder among certain groups
can be attributed to their extreme exposure to social stressors or limited access to ameliorative psychosocial resources” (Aneshensel et al., 1991, p. 12).

_Socioeconomic Status (SES) and the Social Causation Hypothesis_

SES is a primary concept in the sociological literature. Yet, there is a lot of controversy and dispute regarding its definition and measurement. For example, Duncan (1961) created a continuous index i.e. Socioeconomic Index (SEI) to measure this concept. The index is based on the educational level and income in any occupation. Another SES index was created by Hollingshead and Redlich (1958), known as Hollingshead’s Two Factor Index of Social Position, and it is based on education and occupation (Bollen et al., 2001).

The direction of the relationship between SES and health has been studied and the inverse relationship has been acknowledged by sociologists and public health scholars (Chaplin, 1924; Coombs, 1941; Villerme, 1840; Virchow, 1848). Recently, a new line of inquiry emerged and basically focused on the nature of the causality between SES and health. This investigation of the causal relationship between the two has been documented by the proponents of a social causation hypothesis. Yet, the relationship is not totally explained by the hypothesis that “socioeconomic variables necessarily increase the exposure of the less well-off to more stressful conditions or that the less well-off have fewer resources to manage those conditions” (Dressler et al., 1998, p. 425).

_Social Causation Theory_

Theorists of early social causation perspectives assumed that low-SES groups reflect
high rates of mental disorder because members of these groups disproportionately encounter difficult, harsh, or traumatic life conditions. Escalated disorder rates were due to restricted group access to different resources—assets used to combat difficult life circumstances (Dohrenwend and Dohrenwend, 1969). In other words, the individual’s location in the social system influences the probability of encountering stressors, which in turn increases the probability of becoming emotionally distressed; these relationships may occur only among some groups, or only under certain conditions.

Child camp refugees belong to the poorest groups among Palestinian people. In sociological literature, sociologists are not only interested in investigating the relationship between SES and mental disorder, but also in the direction of that relationship if it exists. Dohrenwend (1990) recognized that the inverse relationship between socioeconomic status and different kinds of mental disorder has been one of the consistent findings of social research. Similarly, the inverse relationship between mental disorder and socioeconomic status can be explained by social causation factors such as adversity and stress (Dohrenwend et al., 1992) and these affect negatively mental health and adaptive functioning.

Social causation theory views the higher rates of mental disorder in lower-SES groups as due to their socioeconomic adversities related directly to low SES placement. For Aneshensel (1992), “low SES environments are viewed as having high levels of pathogenic conditions and fewer resources for dealing with them than higher SES environments” (p. 158). Similarly, Horwitz and Scheid (1999) contended that “lower-SES groups are exposed to higher levels of stress; their social environments subject them to more stressful conditions” (p. 155).
Structural Strain Theory

The structural strain theory is both a psychological and sociological theory. It was first introduced by Durkheim and Merton. Specifically, Merton (1938) contributed to the theory by developing the strain models. The most important contribution of Merton is his analysis of the concept “anomie,” re-labeled later as “strain,” and how this situation is created by the social structure of the society. This idea will be employed as part of the theoretical background for this study; it is summarized in this paragraph. According to Merton, a society experiences the state of anomie when the social structure of that society holds high values for all the members of that society alike. Then the social structure, as a major reason behind the state of anomie, begins to impose restrictions on certain individuals and hampers them from living up to those values (Agnew, 1992).

Merton (1968) saw that higher proportions of deviant behavior are more common among the lower class, because they repeatedly fail to achieve their economic goals. Valuable contributions were provided by Cohen (1955), and Cloward and Ohlin (1960). But the recent developments and the new directions for the theory can be traced back to earlier findings (Elliott et al., 1979; Greenberg, 1977; Agnew, 1985a; Bernard, 1987). What marks this theory as a sociological theory is its focus on studying the individual within his/her social environment.

Regarding adolescents, strain theory claims that they “are pressured into delinquency by the negative affective states—most notably anger and related emotions that often result from negative relationships” (Agnew, 1992. p. 49). The focus of this theory is on negative relationships. According to the proponents of this theory, these kinds of relationships are behind deviant and delinquent behavior. Agnew says that Merton (1938), Cohen (1955), and
Cloward and Ohlin (1960) put emphasis on the “relationships in which others prevent the individual from achieving positively valued goals. In particular, they focus on the goal blockage experienced by lower class individuals trying to achieve monetary success or middle-class status” (Agnew, 1992, p. 50). They argued the three sources of strain are: 1) general failure of achieving valued goals; 2) removal of one’s valued stimuli, and 3) strain from presenting a negative stimuli (Agnew, 1992).

The theory has been criticized by a number of recent theorists. Bandura (1973) and Zillman (1979) argued that the failure of achieving valued goals is a weak predictor of deviant and aggressive behavior. Instead, they emphasized studying the life-events list, which definitely provides better explanation of the delinquent behavior specifically found among children and adolescents. However, in this research the focus will be on the key premises of the structural strain theory. According to Horwitz and Scheid (1999), they are described as follows. “First, a society’s organization, especially its economic organization, puts some groups (minority group members, women, the unmarried, the elderly, and the poor at a social or economic disadvantage. Second, socioeconomic disadvantage is a strain that in turn leads to higher rates of emotional or psychological breakdown” (p. 133). Structural theorists explicitly locate origins of distress “in the broader organization of society, where some social groups are disadvantaged in comparison to others” (p. 129). Horwitz and Scheid also contend that if we were to review the distribution of mental illness we will find that “it is concentrated in several demographic groups that are socially and economically disadvantaged” (p. 133). Strain theorists eventually argued that “psychological distress and disorder occur more frequently in lower-status groups than in higher-status groups“ (p. 127-128). Therefore, how society is structured or organized is
an important factor in the distribution of mental disorders. If scholars intention is to understand thoroughly the multiple and complex origins of mental disorders, then they need to study not only social systems but also social structures and the kind of strains induced by them.

In this research I am interested in the influence of SES on two types of trauma: PTSD and DESNOS. There are 10 independent variables and 11 outcome variables included in this research. The two types of variables correspond to the hypotheses detailed below.

Research Hypotheses

In order to complete the research, a number of general hypotheses for simple and complex trauma (PTSD and DSENOS) are formulated and they are described in this section.

$H_1$: Child Camp Refugee ex-detainees living in refugee camps have a higher level of PTSD and DESNOS symptoms than non-refugee child ex-detainees.

Khamis (2005), in her study titled “Post-Traumatic Stress Disorder among School Age Palestinian Children,” stated that “the prevalence of PTSD was higher among older children and children who lived in refugee camps” (p. 90). A group of researchers (Mollica et al., 1993; Kinzie et al., 1990; Allden et al., 1996) found many evidences confirming that elevated rates of post-traumatic stress disorder and depression symptoms are more likely prevalent among traumatized refugee populations from many different ethnic and cultural backgrounds. Among Palestinians, this occurs mainly because of the omnipresence of political and military violence imposed on them by the Israeli military forces and the pervasive feeling of insecurity and danger in their lives as a consequence; as well as the unpredictable external and stressful environment. In a nutshell, “prolonged socio-economic deprivation, lack of control, neglect
with military and political repression” (Rosenfeld, 2002), absence of infrastructure, overcrowding, and severe poverty characterize the sociodemographic and physical environments in the refugee camps. Theorists of early social causation perspectives assumed that high rates of disorders were more prevalent among low-status social groups because they disproportionately encountered depressing and traumatic life conditions. Escalated disorder rates resulted from restricted group access to social, economic, or personal resources-assets that are necessary to combat dire living circumstances (Dohrenwend and Dohrenwend, 1969).

In other words, the individual’s location in the social system and the restricted access to resources-assets influence the probability of encountering stressors, which in turn increases the probability of becoming emotionally distressed. These relationships may occur only among some groups, or only under certain conditions.

**H2:** Child Camp Refugee ex-detainees living outside refugee camps have a higher level of PTSD and DESNOS symptoms compared to non-refugee child ex-detainees.

Bremner et al. (1995) proposed that a child’s exposure to chaotic stressful environments definitely increased his/her risk of developing PTSD if that child was exposed to severe trauma later in life. In refugee camps, the universality of political, social, and economic hardships accumulate. Gibson (1987) gave emphasis to studying the psychological responses to stress not only within the context of the social-political history of the society, but also the personal history of those exposed to stress. A community attributes meaning to an event according to its experiences, values, and political aims. Complex trauma or DESNOS develops from the individual’s exposure to multiple traumatic events; however, post-traumatic stress disorder develops from exposure to a single traumatic event (Mueller, 2004).
H₃: Older child ex-detainees have a higher level of PTSD and DESNOS than younger child ex-detainees.

Jensen and Shaw (1993) found that young children, because of their less accurate perception and understanding of trauma, are more protected and therefore reflect lower levels of disorder clusters and symptoms. Also, we need to consider the fact that “health does deteriorate with age” (Cockerham, 2003 p. 43).

H₄: Males have higher levels of PTSD and DESNOS than females.

According to a study conducted by Qouta, Punamaki, and El Sarraj (2003), they confirm that females are more susceptible to PTSD symptoms than males. However, in this study I assume that high levels of PTSD–DESNOS are more prevalent among males due to the level of exposure to danger and life-threatening situations that they are routinely exposed to; level of trauma is inversely related to exposure. Cockerham confirmed that males have “more personality disorders, which consist largely of impaired personality traits” (Cockerham, 2003, p. 50). Khamis (2005) found similar results based on her study on school-age Palestinian children. She states that “prevalence of PTSD was higher in males than females” (p. 88). When comparing females to males Cockerham (2003) asserted that, “women tend to suffer from more frequent illnesses and disability, but their usual health disorders are not as serious or as life threatening as those encountered by men” (p. 44).

Generally, in detention centers, the methods of interrogation used against male children vary compared to those with female children; they tend to be more violent and intense.
H₅: Unemployed child ex-detainees have higher levels of PTSD and DESNOS than employed ones.

Cockerham (2003) reports that poor people living in reduced socioeconomic circumstances due to job loss are more likely to be exposed to risk factors that produce ill health. Further, he contends that the unemployed have considerably worse mental health when compared to those in work.

H₆: A higher level of education is associated with a lower level of PTSD and DESNOS symptoms.

Breslau et al. (1998) studied the relationship between PTSD and socioeconomic level of traumatized groups and found that there is a direct association between PTSD and socioeconomic adversity, mainly related to a low level of education. Cockerham (2003) stated that the strongest Socioeconomic Status predictor of good health appears to be education. Also according to Cockerham, individuals with higher educational levels are “generally the best informed about the merits of a healthy lifestyle and the advantages of seeking preventive care or medical treatment for health problems when they need it” (2003, p. 62).

H₇: The higher the respondent’s occupational level, the more likely he/she is to report a PTSD or DESNOS symptoms.

According to Wilkinson (1996), workers in lower-status occupations were not just suffering from deteriorated mental health but also they were not living as long as persons at the top of the occupational scale. Cockerham (2003) added that the highest levels of chronic and mental illness are prevalent among unskilled workers.
$H_9$: The lower the income, the more likely respondents are to report a PTSD or DESNOS diagnosis.

Hollingsworth (1981) confirms that “gross inequalities in levels of health are likely to persist across social classes as long as gross inequities in the distribution of income and education persist” (p. 281). A similar conclusion is provided by Case et al. (2002) in their study. These researchers stated “not only is children's health positively related to household Income, but the relationship between household income and children's health becomes more pronounced as children age. The adverse health effects of lower income accumulate over children's lives” (p. 1308).

$H_9$: A higher score on the scale of physical methods of interrogation is associated with a higher level of PTSD and DESNOS symptomology.

Mental health specialists agree that direct exposure to violence among children is associated with high PTSD scores in particular and elevated trauma symptoms in general. According to the research findings conducted by Qouta, Punamaki, and El Sarraj (2003), they found that “being personally the target of violence or witnessing it towards others” (p. 266) are significant determinants of children’s trauma symptoms. Children’s exposure to physical methods of interrogation during imprisonment “connotes with deep despair and emotional insecurity” (p. 266).

$H_{10}$: A higher score on the scale of psychological methods of interrogation is associated with a higher level of PTSD and DESNOS symptomology.

In general, detention is an extraordinary life event capable of inflicting suffering that can cause a wide range of symptoms reflecting simple and complex trauma among detained
children. In addition, different methods of interrogation if used against detained children can produce clusters of mental and emotional symptoms. It has been documented by Istanbul protocol (1999) that among detained adults, Post-Traumatic Stress Disorder is one of the disorders mostly associated with the psychological consequences of interrogation. This finding is agreed upon by “health providers, immigration courts and the informed lay public” (p. 47). Based on that assertion, I assume in this research that detained children who are exposed to psychological methods of interrogation will develop multiple trauma symptoms, simple as well as complex ones.

The hypothesized relationships between the two types of trauma and their categories were examined through the appropriate statistical techniques, and the findings and results are presented and discussed in the following chapters.
CHAPTER III
DATA AND METHODS

A quantitative methodology is used in this research in order to examine the previously stated hypotheses. This chapter presents a description of the sample, questionnaire, indices and instruments, reliability and validity, and analysis of the data.

Sampling and the Questionnaire

The unit of analysis was one child ex-detainee. Due to the sensitivity of the subject matter and the politically complicated situation in Palestine, this study is conducted as a secondary analysis of data originally collected by the Treatment and Rehabilitation Center of Victims of Torture located in the city of Ramallah/West Bank/Palestine. TRC data will be the only and primary information source.

Data analysis was used to test the models of trauma experience. The data were collected in 2006 by a highly skilled and reliable team of TRC experts in this field. A snowball sample of 600 Palestinian ex-detainees who served sentences in Israeli prisons from the West Bank and Gaza participated in the study. This method of purposive sampling was selected by the TRC team of researchers because the participants are not easily accessible by the center. A comprehensive questionnaire was developed by TRC staff that is composed of different sections: tools such as the Beck-Depression Scale (BDI), a Symptoms Checklist (SCL90), and the Post-Traumatic Stress Disorder Inventory (PTSDI) were developed and standardized (1997) by the authors Sehwail and Rasras.

Data collection started June 28, 2006, and lasted for approximately one month. TRC’s
The original study was conducted to verify if the illegal methods of interrogation are constantly practiced against Palestinian political prisoners by the Israeli Authorities or not (TRC).

Development of TRC Questionnaire

TRC researchers interviewed 50 ex-detainees as a pilot sample to identify interrogation methods used in Israeli detention centers. Then the original questionnaire was developed and tested to ensure validity and consistency. Furthermore, several psychological tests were utilized to assess the psychological effects of interrogation on the victims, such as PTSD criteria based on the DSM-IV. The questionnaire was developed and standardized at the TRC center in 1997, where several cultural and administrative factors were taken into account. For example, the Symptom Check List (SCL 90) was modified to become suitable for the Palestinian culture, ensuring validity and consistency at 95%. Then the data were analyzed using the SPSS. TRC study was funded by the core donors of the center.

Respondents

The study population of this research is all children 17 years of age or less at the time of arrest. They are broken into three groups based on two conditions: 1) political identity (refugee or non-refugee), and 2) place of residence (in refugee camp or outside of refugee camp – towns, villages, or cities). Based on this categorization, I ended up with three groups: refugee child ex-detainees in refugee camps, refugee child ex-detainees outside refugee camps, and non-refugee child ex-detainees. The total selected is (n = 202) out of the entire sample. Those who are refugees living in refugee camps represent the first group; the second group includes
refugees living outside refugee camps (towns, villages, or a cities); and the third group comprises non-refugee children ex-detainees living in a town, village, or city.

Participants completed self-report measures contained in a detailed a questionnaire, which constitute the dependent and the independent variables for this study.

Research Variables

Dependent Variables Definitions and Coding

Since the study is centered on examining the differences in post-traumatic symptomology of two types of trauma (PTSD and DESNOS) between three groups of Palestinian child ex-detainees due to differences in their socioeconomic status characteristics, a specific selection procedure is used to measure the dependent variables (two indices) representing PTSD AND DESNOS traumas and the indices for their categories.

PTSD and DESNOS Assessments

PTSD Checklist

To assess the post-traumatic symptomology, the PTSD Checklist (PCL-C) (Weathers et al., 1993) is used based on DSM-IV criteria (American Psychiatric Association, 1994; Sandberg, 2010). The PCL-C checklist consists of 17 items that should be completed by all children in the sample. The respondents are requested to indicate if they have been bothered by each of the 17 items of the checklist. The fundamental part of this checklist is that a specific cut-off score of 30 can be used to identify people with PTSD (Blanchard et al., 1996). Items of PCL-C are
detailed in Table 3. According to Sandberg (2010) all the 17 items of PTSD can be summarized into the following three categories:

1. Intrusive symptoms: Re-experiencing the trauma
2. Avoidant symptoms: Avoidance or numbing
3. Hyperarousal

DESNOS Checklist

The DESNOS index that was developed by Herman is utilized in this study to assess specific symptoms of complex trauma. The index includes 27 items (see Table 4) measuring lifetime alterations in seven areas (Pelcovitz et al., 1997).

PTSD Indices

The first dependent variable representing PTSD symptomology is divided into three categories (PTSD1, PTSD2, and PTSD3) in addition to (PTSDSUM) composed of the total score of the 17 items in order to examine PTSD symptomology.

1- Re-experiencing the trauma (PTSD1)

This subcategory is composed of five questions. The respondent was asked: “In the past month, did you ever have any of the following symptoms?” The five items below (B1-B5) constituted the five questions. The answer options were: 1 = yes and 2= no.

   B1: Repeated, disturbing memories, thoughts or images of a stressful experience from the past?
   B2: Repeated, disturbing dreams of a stressful experience from the past?
   B3: Suddenly acting or feeling as if a stressful experience from the past were happening again (as if you were reliving it)?
B4: Feeling very upset when something reminded you of a stressful experience from the past?

B5: Having physical reactions (i.e., heart pounding, trouble breathing, sweating) when something reminded you of a stressful experience from the past?

An index variable is constructed representing a composite indicator of the “re-experiencing the trauma” subcategory. The index is created because the underlying concept cannot be reliably measured with a single indicator. After recoding the answers (1=yes and 0=no), the new index PTSD1 is created by summing these items, with higher scores indicating a higher level of re-experiencing the trauma.

2-Avoidance or numbing (PTSD2)

This subcategory is composed of two questions shown as C1 and C2. The respondent was asked: “In the past month, did you ever have any of the following symptoms?” Answer options are: 1 = yes and 2 = no.

C1: Avoiding thinking about or talking about a stressful experience from the past or avoiding having feelings related to it?

C2: Avoiding activities or situations because they reminded you of a stressful experience from the past?

This index represents a composite indicator of “avoidance or numbing.” After recoding the answers (1 = yes and 0 = no), the new index PTSD2 is created by summing these items, with higher scores indicating a higher level of avoidance or numbing.
3-Hyperarousal (PTSD3)

This subcategory is composed of the questions shown below. The respondent was asked: “In the past month, did you ever have any of the following symptoms?” Unless indicated otherwise, answer options are: 1=yes and 2=no.

C3: Trouble remembering important parts of a stressful experience from the past?
C4: Loss of interest in activities that you used to enjoy?
C5: Feeling distant or cut off from other people?
C6: Feeling emotionally numb or being unable to have loving feelings for those close to you?
C7: Feeling as if your future will somehow be cut short?
D1: Trouble falling or staying asleep?
D2: Feeling irritable or having angry outbursts?
D3: Having difficulty concentrating?
D4: Being super alert or watchful or on guard?
D5: Feeling jumpy or easily startled?
AY4: Having difficulty concentrating?

0 = never; 1 = seldom; 2 = sometimes; 3 = many times; 4 = always
S40: Digestive system?
0 = never; 1 = seldom; 2 = sometimes; 3 = many times; 4 = always
S52: Conversion symptoms?
0 = never; 1 = seldom; 2 = sometimes; 3 = many times; 4 = always
S12: Cardiopulmonary symptoms?
0 = never; 1 = seldom; 2 = sometimes; 3 = many times; 4 = always

After recoding the answers for the above questions to presence/absence (0 = absent, 1 = present), the answers for questions C3 through C7 and D1 through D5 were recoded (1 = yes and 0 = no), AY4 was recoded ((0=0) (1=0) (2=1) (3=0) (4=1)) and S40, S52 and S12 were
recoded ((0=0) (1=1) (2=1) (3=1) (4=1)). The new index PTSD3 is created by summing these items, with higher scores indicating higher levels of hyperarousal.

PTSD Index (PTSDSUM)

PTSDSUM is the summated index created from the three categories of PTSD by summing (PTSD1, PTSD2 and PTSD3).

DESNOS Indices

A similar procedure was conducted to examine the DESNOS constellation of symptoms. DESNOSSUM is a summated scale representing the total score of the 27 items (see Table 5). This one is divided into seven categories.

1-Alteration in regulation of affect and impulses (DESNOS1)

To create a DESNOS1 index, the respondent was asked: “Do you have any of the following symptoms?” Answer options are: 1 = yes and 2 = no.

AY5: Affect Regulation?
DE5: Self-Destructive?
DE15: Suicidal Preoccupation?
AG24: Difficulty Modulating Sexual?
AN86: Excessive Risk Taking?
ICD10: Modulation of Anger Involvement?

After recoding the answers for the questions above to presence/absence (0 = absent, 1 = present), ICD10 was recoded (1 = yes and 0 = no), and AY5, DE5, DE15, AG24, AN86 were recoded ((0=0) (1=0) (2=1) (3=0) (4=1)). The new variable DESNOS1 is created by summing these items, with higher scores indicating higher levels of alteration in regulation of affect and impulses.
2-Alterations in attention or consciousness (DESNOS2)

To create a DESNOS2 index, the respondent was asked: “Do you have any of the following symptoms?” Answer options are 0 = never; 1 = seldom; 2 = sometimes; 3 = many times; and 4 = always

O9: Amnesia?
PS61: Depersonalization?
PS62: Transient Dissociative Episodes?
The answers for the questions above are recoded to presence/absence (0 = absent, 1 = present). O9, PS61 and PS62 were recoded ((0=0) (1=0) (2=1) (3=0) (4=1)), then the new index DESNOS2 is created by summing these items, with higher scores indicating higher levels of alterations in attention or consciousness.

3- Somatization (DESNOS3)

This index is removed from the analysis because the number of respondents who recorded somatization symptoms was only 8 children. This sample size is very small to be included in any regression analysis and was not considered useful input.

4-Alterations in self-perception (DESNOS4)

To create DESNOS4 index, the respondent was asked: “Do you have any of the following symptoms?” Unless indicated otherwise, answer options are: 0 = not applicable; 1 = before; arrest; 2 = during arrest; 3 = after release; and 4 = during arrest and after release.

Q89 and AY7: Guilt?
AY11 and DE79: Ineffectiveness?
AY6 and SN21: Shame?
ADD_B and AG67: Permanent damage? The answer options are: 1 = yes and 2 = no
SN36: Nobody can understand? The answer options are: 0 = never; 1 = seldom; 2 = sometimes; 3 = many times; and 4 = always.

All the answers for the abovementioned questions are recoded to presence/absence (0 = absent, 1 = present). Q89, AY7, AY11, DE79, AY6 and SN21, ADD_B and AG67 were recoded (1 = yes and 0 = no), and SN36 was recoded ((0=0) (1=0) (2=1) (3=1) (4=1)). Then the DESNOS4 index is created by summing all the items, with higher scores reflecting higher levels of alterations in self-perception.

5-Alterations in perception of the perpetrator (DESNOS5)

To create DESNOS5 as a dependent variable, the respondent was asked: “Do you have any of the following symptoms?” Answer options are recorded with the questions.

AG63: Preoccupation with hurting perpetrator? The answer options are: 0 = never; 1 = seldom; 2 = sometimes; 3 = many times; and 4 = always
PSY 19: Nightmares related to prison, interrogators, or jailers? The answer options are: 0 = not applicable; 1 = before arrest; 2 = during arrest; 3 = after release; and 4 = during arrest and after release
PSY 20: Do you have nightmares related to interrogators/jailers? The answer options are: 0 = not applicable; 1 = before arrest; 2 = during arrest; 3 = after release; and 4 = during arrest and after release

All the answers for the aforementioned questions were recoded to presence/absence (0 = absent, 1 = present). AG63 was recoded ((0=0) (1=0) (2=1) (3=1) (4=1)) and PSY 19 and PSY 20 were recoded ((0=0) (1=1) (2=1) (3=1) (4=1)). Then the DESNOS5 index is created by summing all the items, with higher scores reflecting higher levels of alterations in perception of the perpetrator.
6-Alterations in relations with others (DESNOS6)

To create the dependent variable DESNOS6, the respondent was asked: “Do you have any of the following symptoms?

P18: Inability to trust? The answer options are: 0 = never; 1 = seldom; 2 = sometimes; 3 = many times; and 4 = always

PSY 17: Do you feel that you lack self-confidence and/or have a lack of trust in others? The answer options are: 0 = not applicable; 1 = before arrest; 2 = during arrest; 3 = after release; and 4 = during arrest and after release

PSY 28: Do you feel a tendency to act violently toward others? The answer options are: 0 = not applicable; 1 = before arrest; 2 = during arrest; 3 = after release; and 4 = during arrest and after release

The respondent’s answers for P18 was recoded ((0=0) (1=0) (2=1) (3=1) (4=1), PSY 17 and PSY 28 were recoded ((0=0) (1=1) (2=1) (3=1) (4=1)). Then the DESNOS6 index is created by summing all the items with higher score reflecting higher levels of alterations in relations with others.

7-Alterations in systems of meaning (DESNOS7)

To create the index, DESNOS7, the respondent was asked: “Do you have any of the following symptoms?” Unless indicated otherwise, answer options are: 1 = yes and 2 = no.

A2: Despair?

DE54: Helplessness? The answer options are: 0 = never; 1 = seldom; 2 = sometimes; 3 = many times; and 4 = always

The respondent’s answers for the above questions are recoded to presence/absence (0 = absent, 1 = present). A2 was recoded (1 = yes and 0 = no), and DE54 was recoded ((0=0) (1=0)
(2=1) (3=1) (4=1)). Then I summed the items to create DESNOS7, with higher scores reflecting higher levels of alterations in systems of meaning.

**Overview of Indices**

The following tables, (Tables 3 and 4) present the outcome variables the researcher created, excluding the summated indices of PTSDSUM and DESNOSSUM.
Table 3

*PTSD Indices*

<table>
<thead>
<tr>
<th>Dependent Variable 1</th>
<th>Re-experiencing the trauma</th>
<th>Index 1: PTSD1, created from the summation of the items (1 through 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Repeated, disturbing memories, thoughts, or images of a stressful experience from the past</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Repeated, disturbing dreams of a stressful experience from the past</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Suddenly acting or feeling as if a stressful experience from the past were happening again (as if you were reliving it)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Feeling very upset when something reminded you of a stressful experience from the past</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Having physical reactions (i.e. heart pounding, trouble breathing, sweating) when something reminded you of a stressful experience from the past</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable 2</th>
<th>Avoidance or numbing</th>
<th>Index 2: PTSD2, created from the summation of the items (1 and 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Avoiding thinking about or talking about a stressful experience from the past or avoiding having feelings related to it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Avoiding activities or situations because they remind you of a stressful experience from the past</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable 3</th>
<th>Hyperarousal</th>
<th>Index 3: PTSD3, created from the summation of the items (1 through 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Trouble remembering important parts of a stressful experience from the past</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Loss of interest in activities that you used to enjoy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Feeling distant or cut off from other people</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Feeling emotionally numb or being unable to have loving feelings to those close to you</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Feeling as if your future will somehow be cut short</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. Trouble falling or staying asleep</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. Feeling irritable or having angry outbursts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. Having difficulty concentrating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. Being super alert or watchful or on guard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. Feeling jumpy or easily startled</td>
<td></td>
</tr>
</tbody>
</table>

Table 4

**DESNOS Indices**

<table>
<thead>
<tr>
<th>Dependent Variable 4</th>
<th>Alteration in regulation of affect and impulses</th>
<th>Index: 1 DESNOS 1, created from the summation of the items (I through 6).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Affect Regulation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Modulation of Anger Involvement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Self-Destructive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4) Suicidal Preoccupation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5) Difficulty Modulating Sexual</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6) Excessive Risk Taking</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable 5</th>
<th>Alterations in attention or consciousness</th>
<th>Index 2: DESNOS2, created from the summation of the items (I through 3).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Amnesia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Transient Dissociative Episodes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Depersonalization</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable 6</th>
<th>Somatization</th>
<th>Index 3: DESNOS3, this variable was discarded.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Digestive System</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. Chronic Pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. Cardiopulmonary Symptoms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. Conversion Symptoms</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. Sexual Symptoms</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable 7</th>
<th>Alterations in self-perception</th>
<th>Index 4: DESNOS4, created from the summation of the items (I through 6).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Ineffectiveness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Permanent Damage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Guilt and Responsibility</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4) Shame</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5) Nobody Can Understand</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6) Minimizing</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable 8</th>
<th>Alterations in perception of the perpetrator</th>
<th>Index 5: DESNOS5, created from the summation of the items (I through 3).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Adopting Distorted Beliefs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Idealization of the Perpetrator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Preoccupation with Hurting Perpetrator</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable 9</th>
<th>Alterations in relations with others</th>
<th>Index 6: DESNOS6, created from the summation of the items (I through 3).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Inability to Trust</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Revictimization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3) Victimization Others</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependent Variable 10</th>
<th>Alterations in systems of meaning</th>
<th>Index 7: DESNOS7, created from the summation of the items (I and 2).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) Despair and Hopelessness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2) Loss of Previously Sustaining Beliefs</td>
<td></td>
</tr>
</tbody>
</table>

### Table 5

**PTSD Indices: Levels and Regressions Performed**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Type</th>
<th>Maximum Score</th>
<th>Type of regression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable 1</td>
<td>PTSD1</td>
<td>6</td>
<td>Ordinary Least Squares (OLS)</td>
</tr>
<tr>
<td>Dependent Variable 2</td>
<td>PTSD2</td>
<td>3</td>
<td>Multinomial Regression</td>
</tr>
<tr>
<td>Dependent Variable 3</td>
<td>PTSD3</td>
<td>14</td>
<td>Ordinary Least Squares (OLS)</td>
</tr>
<tr>
<td>Dependent Variable 4</td>
<td>PTSDSUM</td>
<td>21</td>
<td>Ordinary Least Squares (OLS)</td>
</tr>
</tbody>
</table>

### Table 6

**DESNOS Indices: Levels and Regressions Performed**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Type</th>
<th>Max Score</th>
<th>Type of regression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable 5</td>
<td>DESNOS 1</td>
<td>6</td>
<td>Ordinary Least Squares (OLS)</td>
</tr>
<tr>
<td>Dependent Variable 6</td>
<td>DESNOS2</td>
<td>4</td>
<td>Multinomial Regression</td>
</tr>
<tr>
<td>Dependent Variable 7</td>
<td>DESNOS3</td>
<td>0</td>
<td>Removed from the analysis because $n = 8$</td>
</tr>
<tr>
<td>Dependent Variable 8</td>
<td>DESNOS4</td>
<td>7</td>
<td>Ordinary Least Squares (OLS)</td>
</tr>
<tr>
<td>Dependent Variable 9</td>
<td>DESNOS5</td>
<td>2</td>
<td>Logistic Regression</td>
</tr>
<tr>
<td>Dependent Variable 10</td>
<td>DESNOS6</td>
<td>2</td>
<td>Logistic Regression</td>
</tr>
<tr>
<td>Dependent Variable 11</td>
<td>DESNOS7</td>
<td>3</td>
<td>Multinomial Regression</td>
</tr>
<tr>
<td>Dependent Variable 12</td>
<td>DESNOSSUM</td>
<td>17</td>
<td>Ordinary Least Squares (OLS)</td>
</tr>
</tbody>
</table>

### Methods of Interrogation

There are two types of methods of interrogation drawn from the questionnaire. They include physical (13 items) and psychological (18 items), as described below.

- Physical methods of interrogation (ABUSEPHYS): Physical interrogation as defined in this research is identified through 13 questions. The respondent was asked: “How many times
you are exposed to the following methods? The answer options are: 0 = never; 1 = only one time; 2 = twice; and 3 = more than 3 times. The questions are detailed in Table 7.

Table 7

Physical Methods of Interrogation

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Beating (with cudgel, boots, pistol, other blunt object, hand, other)</td>
</tr>
<tr>
<td>2.</td>
<td>Electric shock (oral, sexual, extremities etc.)</td>
</tr>
<tr>
<td>3.</td>
<td>Hanging</td>
</tr>
<tr>
<td>4.</td>
<td>Non-physiology dislocation</td>
</tr>
<tr>
<td>5.</td>
<td>Sexual interrogation (rape, stripe, humiliation pose, etc.)</td>
</tr>
<tr>
<td>6.</td>
<td>Tooth - Medical interrogation (extract a tooth or other)</td>
</tr>
<tr>
<td>7.</td>
<td>Suffocation (by water, bag, gas mask, or other)</td>
</tr>
<tr>
<td>8.</td>
<td>Pharmacology interrogation (with different drugs, injections - knows or not what kinds of drugs)</td>
</tr>
<tr>
<td>9.</td>
<td>Cauterization (amputation of the extremity - nose, ear, eyes, cut off meet, nails etc.)</td>
</tr>
<tr>
<td>10.</td>
<td>Burn (with cigarette, hot iron objects, etc. - please indicate)</td>
</tr>
<tr>
<td>11.</td>
<td>Interrogation with animals (dogs etc.)</td>
</tr>
<tr>
<td>12.</td>
<td>Other (please describe - Interrogation with neural – paralytic gas “Cheriomukha”, as well “Telephone”; “Phalange”)</td>
</tr>
<tr>
<td>13.</td>
<td>Other : frousing of flanges under the threaten to death</td>
</tr>
</tbody>
</table>

Source: Manual on the Effective Investigation and Documentation of Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, Istanbul Protocol Submitted to the United Nations High Commissioner for Human Rights, 9 August 1999

- Psychological methods of interrogation (ABUSEPSY): This index is composed of 13 questions. The respondent was asked: “How many times you are exposed to the following methods? The answer options are: 0 = never; 1 = only one time; 2= twice; and 3 = more than 3 times. The questions are detailed in Table 8.
Table 8

*Psychological Methods of Interrogation*

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Deprivation, isolation</td>
</tr>
<tr>
<td>2.</td>
<td>Dark, lack of oxygen, cold</td>
</tr>
<tr>
<td>3.</td>
<td>Animals in the isolator (rodents, insects, etc.)</td>
</tr>
<tr>
<td>4.</td>
<td>Dirt and lack of the sanitary - hygienic normal conditions</td>
</tr>
<tr>
<td>5.</td>
<td>Agent in the cell</td>
</tr>
<tr>
<td>6.</td>
<td>Other interrogation victims in the isolator</td>
</tr>
<tr>
<td>7.</td>
<td>Hearing the voices of someone being tortured</td>
</tr>
<tr>
<td>8.</td>
<td>Attending on someone’s interrogation fact</td>
</tr>
<tr>
<td>9.</td>
<td>Interrogation of family members or other close persons</td>
</tr>
<tr>
<td>10.</td>
<td>Sleep deprivation</td>
</tr>
<tr>
<td>11.</td>
<td>Uncertainly waiting for torture</td>
</tr>
<tr>
<td>12.</td>
<td>Threats: 1. To be raped. 2. Regarding family 3. Regarding interrogation of the family member. 4. Other (please indicate or describe)</td>
</tr>
<tr>
<td>13.</td>
<td>Humiliation, inhuman attitude, oppression</td>
</tr>
<tr>
<td>14.</td>
<td>False death</td>
</tr>
<tr>
<td>15.</td>
<td>Starvation and lack of water</td>
</tr>
<tr>
<td>16.</td>
<td>Limitation of the natural needs of humans</td>
</tr>
<tr>
<td>17.</td>
<td>Non - real choice (collaboration as agent, signification, providing information etc.)</td>
</tr>
<tr>
<td>18.</td>
<td>Lack of medical aid, inhuman treatment</td>
</tr>
</tbody>
</table>


*Why Create Summed Indices?*

Statistically speaking, a summed composite would have less measurement error with higher reliability. In this study, correlations of the categories within (PTSD and DESNOS) symptoms as illustrated in Tables 9 and 10 show that these correlations are positive with
medium to large values. The reliability for DESNOS is (0.85) and for PTSD is (0.64); these reliabilities suggest that one summed index for each set of outcome measures would have good reliability.

Table 9

**PTSD Categories’ Correlations**

<table>
<thead>
<tr>
<th></th>
<th>PTSD1</th>
<th>PTSD2</th>
<th>PTSD3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlation Coefficient</strong></td>
<td>1.000</td>
<td>.504**</td>
<td>.672**</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>143</td>
<td>141</td>
<td>142</td>
</tr>
</tbody>
</table>

PTSD2

<table>
<thead>
<tr>
<th></th>
<th>PTSD1</th>
<th>PTSD2</th>
<th>PTSD3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlation Coefficient</strong></td>
<td>.504**</td>
<td>1.000</td>
<td>.474**</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>141</td>
<td>143</td>
<td>143</td>
</tr>
</tbody>
</table>

PTSD3

<table>
<thead>
<tr>
<th></th>
<th>PTSD1</th>
<th>PTSD2</th>
<th>PTSD3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlation Coefficient</strong></td>
<td>.672**</td>
<td>.474**</td>
<td>1.000</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>142</td>
<td>143</td>
<td>201</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

Table 10

**DESNOS Categories’ Correlations**

<table>
<thead>
<tr>
<th></th>
<th>desnos1</th>
<th>desnos2</th>
<th>desnos3</th>
<th>desno4</th>
<th>desno5</th>
<th>desno6</th>
<th>desno7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pearson Corr.</strong></td>
<td>1</td>
<td>.532**</td>
<td>.612</td>
<td>.778**</td>
<td>.494**</td>
<td>.480**</td>
<td>.487**</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.000</td>
<td>.107</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>209</td>
<td>176</td>
<td>8</td>
<td>209</td>
<td>174</td>
<td>176</td>
<td>207</td>
</tr>
</tbody>
</table>

DESNOS2

<table>
<thead>
<tr>
<th></th>
<th>desnos1</th>
<th>desnos2</th>
<th>desnos3</th>
<th>desno4</th>
<th>desno5</th>
<th>desno6</th>
<th>desno7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pearson Corr.</strong></td>
<td>.532**</td>
<td>1</td>
<td>-.387</td>
<td>.630**</td>
<td>.348**</td>
<td>.309**</td>
<td>.355**</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>.000</td>
<td>.448</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>176</td>
<td>176</td>
<td>6</td>
<td>176</td>
<td>174</td>
<td>176</td>
<td>176</td>
</tr>
</tbody>
</table>

*(table continues)*
Table 10 (continued).

<table>
<thead>
<tr>
<th></th>
<th>desnos1</th>
<th>desnos2</th>
<th>desnos3</th>
<th>desno4</th>
<th>desno5</th>
<th>desno6</th>
<th>desno7</th>
</tr>
</thead>
<tbody>
<tr>
<td>desnos3</td>
<td>Pearson Corr.</td>
<td>.612</td>
<td>-.387</td>
<td>1</td>
<td>.588</td>
<td>-.158</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.107</td>
<td>.448</td>
<td>.125</td>
<td>.765</td>
<td>1.000</td>
<td>.312</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>8</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>desno4</td>
<td>Pearson Corr.</td>
<td>.778**</td>
<td>.630**</td>
<td>.588</td>
<td>1</td>
<td>.552**</td>
<td>.467**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.125</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>209</td>
<td>176</td>
<td>8</td>
<td>209</td>
<td>174</td>
<td>176</td>
</tr>
<tr>
<td>desno5</td>
<td>Pearson Corr.</td>
<td>.494**</td>
<td>.348**</td>
<td>-.158</td>
<td>.552**</td>
<td>1</td>
<td>.319**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.765</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>174</td>
<td>174</td>
<td>6</td>
<td>174</td>
<td>174</td>
<td>174</td>
</tr>
<tr>
<td>desno6</td>
<td>Pearson Corr.</td>
<td>.480**</td>
<td>.309**</td>
<td>.000</td>
<td>.467**</td>
<td>.319**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>1.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>176</td>
<td>176</td>
<td>1.000</td>
<td>176</td>
<td>176</td>
<td>176</td>
</tr>
<tr>
<td>desno7</td>
<td>Pearson Corr.</td>
<td>.487**</td>
<td>.355**</td>
<td>-.500</td>
<td>.508**</td>
<td>.357**</td>
<td>.328**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.312</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>207</td>
<td>176</td>
<td>6</td>
<td>207</td>
<td>174</td>
<td>176</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).

Independent Variables

The socio-demographic variables used in the analyses include current age of respondent as a ratio variable (13-55 years), gender recoded (1 if male, 0 if female) and occupational status recoded (1 if employed, 0 if unemployed).

In addition to the abovementioned variables, I profiled as predictors the variables of groups, SES variables, and the two methods of interrogation. The primary predictor is the three groups, with the group of Child Camp Refugees Ex-detainees Living in Refugee Camps (coded 1,
0 if otherwise), and Children Refugees Ex-detainees Living Outside Refugee Camps (coded 1, 0 if otherwise). Non-Refugee Children Ex-detainees is the reference category.

The other main predictors are socioeconomic status variables. Educational level is measured on a seven-point scale with 1 reflecting no education and 7 indicating graduate or professional education. It is coded 1 if illiterate, 2 if elementary, 3 if preparatory, 4 if secondary, 5 if college (2 or 3 years), 6 if university (4 years), 7 if graduate.

Average family income assessed the monthly income from all family members expressed in shekels. It is a categorical variable coded 1 if the total family income is less than 2000 ILS, coded 2 if the income is between 2001-4000 ILS, and coded 3 if the total income is above 4000 ILS.

The occupational prestige is measured on a three-point scale with 0 reflecting low-ranked jobs and 3 indicating highly ranked jobs. It is coded 1 if student, housewife, or unemployed; coded 2 if worker, farmer, or employee; and coded 3 if technician, business owner, or specialized technician.

For methods of interrogation, I summed the scores for the physical and the psychological methods of interrogation into two categories: ABUSEPHYS to refer to physical methods, and ABUSEPSY to refer to psychological methods. Both are summated scales: ABUSEPHYS ranged from 1 as the lowest score to 29 as the highest score, and ABUSEPSY ranged from 1 as the lowest score to 23 as the highest score. The items composing the two different categories are illustrated in Tables 7 and 8.
Statistical Analyses

All the outcome variables in this study are summated indices with different levels. In this study, ordinary least square (OLS) regression was performed for some of the categories of PTSD and DESNOS, specifically PTSD1, PTSD3, DESNOS1, DESNOS4, PTSDSUM and DESNOSSUM. OLS is defined by Knoke (2002) as “a method for obtaining estimates of regression equation coefficients that minimizes the error sum of squares” (p. 174). In general, OLS regression when employed helps to calculate the arithmetic mean because it minimizes the sum of all the squared deviations for a set of scores and “the regression line helps in minimizing the sum of squared prediction errors” (Knoke, 2002, p. 174).

This technique can be applied when the level of measurement of the outcome variable has an interval ratio or ordinal with at least five categories. Therefore, OLS regression was used in this study to measure the impact of all the predictors on the aforementioned specific subtypes (categories) of trauma.

Due to the nature of the dichotomous dependent variables (DESNOS5 and DESNOS6), Logistic regression was performed for both and is appropriate for these variables. By applying this regression we will be able to predict the presence or absence of the specific trauma symptoms each one of them reflect based on the values of a set of predictor variables. The measure of association according to this type of regression is odd-ratios. However, multinominal regression was employed on the outcome variables PTSD2, DESNOS2, and DESNOS7 because each one of them consists of ordered, polytomous responses (more than two levels). This type of regression is defined by Knoke (2002) as “a logistic regression equation whose dependent variable has three or more categories” (p. 314).
The purpose of the aforementioned regressions is to determine the variations between the three groups in trauma symptoms and the best predictor of trauma among these groups of child ex-detainees.

Strengths and Limitations of the Study

This section highlights the strengths and limitations of this study. One of the strengths of this research is its approach to SES variables. I am using what is labeled as the component perspective. This perspective deals with SES as “having a number of distinct dimensions” because of the fact that “each component exerts certain effects” (Bollen et al., 2001, p. 160). Weber is the famous sociologist mostly associated with this approach.

This perspective considers SES a common predictor and one of the most consistent predictors of a person’s mental health. Cockerham (2003) presented a strong evidence that “the association of socioeconomic status with health occurs at every level of the social hierarchy” (p. 92).

According to several studies in the field of sociology (Cockerham, 1999; Ross et al., 2000; Lahelma, 2001; Wermuth, 2003), the key measures of socioeconomic status are income, occupational prestige, and level of education. Even though they are “interrelated, each of these measures reflects different dimensions of a person’s position in the class structure of a society” (Cockerham, 2003, p. 62).

Additional strength is demonstrated when the researcher divided the two major traumas into categories to effectively assess the symptomology of each subcategory as well as
to examine symptomology of the summated index for these categories “without meeting the full set of diagnostic criteria” (El Sarraj et al., 1996, p. 581) for that specific disorder.

**Study Limitations**

One of the main limitations of the study is the modest sample size. Also, due to the type of the sample used in this study (i.e., snowball) the findings can be generalized only to the levels of the data employed; it prevents us from drawing reliable conclusions. Also, the researcher provided empirical study and underutilized the qualitative methods, these methods if employed; they will enable the respondents to personally identify the key determinants of their psychopathology. Additional limitation of the study was the absence of potential mediating factors such as: duration of arrest, occurrences or the number of times of arrest.

Another limitation to this research is reflected in the original questionnaire, because the options for almost all the answers are composed of either “yes” or “no.” That refers to the symptom as present or absent without providing for degrees of presence. Without doubt, this simplification for the degree or the level of trauma is considered one of the limitations of these questions as reliable measures of trauma.

Technically speaking, the translation of part of the original questionnaire from Arabic to English language may have resulted in false or misleading interpretation of the concepts primarily introduced to measure the predicted disorders.
CHAPTER IV

FINDINGS AND ANALYSES

A central aim of this research is to investigate variations in the trauma symptoms among three different groups of Palestinian child ex-detainees. The findings and the analyses as the focus of this chapter will clarify whether there are variations among the three groups, and then ascertain the predictors that account for the level of trauma symptoms.

When I reviewed the previous literature I found that it failed to analyze the variations between groups and categories of the two traumas (PTSD1, PTSD2, PTSD3, DESNOS1, DESNOS2, DESNOS3, DESNOS4, DESNOS5, DESNOS6, and DESNOS7). The focus of previous studies was centered on inspecting the relationship between various groups in any society and the main traumas PTSD and DESNOS. This research, therefore, examines the relationship, if any, in an effort to verify if studying these categories will scientifically contribute or add to the literature pertaining to group variations in trauma symptomology.

Descriptive Statistics

This section presents the distribution of the three groups, the frequencies, and the descriptive statistics of the outcome and predictor variables. Distribution of the three groups is presented in Table 11.

1 All respondents in this study are only those who were detained as children at the age of 17 or below.
Table 11

*Groups Distribution*

<table>
<thead>
<tr>
<th>Political Identity</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refugees in camps (Group 1)</td>
<td>61</td>
<td>30.2</td>
</tr>
<tr>
<td>Refugees outside camps (Group 2)</td>
<td>42</td>
<td>20.8</td>
</tr>
<tr>
<td>Non-refugees (Group 3) - Reference Category</td>
<td>99</td>
<td>49</td>
</tr>
<tr>
<td>Total</td>
<td>202</td>
<td>100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Bank</td>
<td>165</td>
<td>80.9</td>
</tr>
<tr>
<td>Gaza Strip</td>
<td>37</td>
<td>19.1</td>
</tr>
<tr>
<td>Total</td>
<td>202</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 11 depicts the distribution of the three groups. It is obvious that the two refugee groups comprise approximately 50% of the total sample, and the non-refugee group comprises the other 50%. Their distribution by region shows that 81% of the respondents live in West bank and 19% reside in Gaza strip.

This chapter examines the minimum and maximum values, range, means, standard deviations, skewness, and kurtosis of all the dependent variables (indices). Descriptive statistics are shown in Table 12. As shown in Table 12, the means for the dependent variables re-experiencing the trauma index (PTSD1 is 3.2), avoidance or numbing (PTSD2 is 1.4), alterations in perception of the perpetrator (DESNSM5 is 0.41), and for alterations in relations with others (DESNSM6 is 0.62) signify that most of the scores were closer to the maximum score of (5, 2, 1, 1), respectively.
To test the normality assumption we test the kurtosis and the skewness. The kurtosis should fall between -2 and +2. The table tells us that all kurtosis values are within this acceptable range. All skewness values should fall between +1 and -1, and the table shows they are within the acceptable range as well. In general, these results about skewness and kurtosis for all the outcome indices satisfy the normality assumption for OLS regression; the parameter estimates are not biased.

Table 13 shows descriptive statistics of the predictors used in the study and Table 14 provides information about the independent variables.

---

Index DESNOS3 is excluded from the analysis due to the small sample size.
Table 13

Descriptive Statistics of the Predictors Used in the Study

<table>
<thead>
<tr>
<th></th>
<th>Range</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Std. Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current age</td>
<td>27</td>
<td>13</td>
<td>40</td>
<td>19.9</td>
<td>4.4</td>
</tr>
<tr>
<td>Educational level</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>4.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2.24</td>
<td>.67</td>
</tr>
<tr>
<td>Total family income</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1.8</td>
<td>.59</td>
</tr>
<tr>
<td>Physical methods of interrogation</td>
<td>29</td>
<td>.00</td>
<td>29</td>
<td>5.7</td>
<td>4.9</td>
</tr>
<tr>
<td>Psychological methods of interrogation</td>
<td>23</td>
<td>.00</td>
<td>23</td>
<td>11.9</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Table 14

Frequencies and Percentages for the Independent Variables

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-refugees (Ref.)=0</td>
<td>99</td>
<td>49.0</td>
</tr>
<tr>
<td>Refugees in camps=1</td>
<td>61</td>
<td>30.2</td>
</tr>
<tr>
<td>Refugees outside camps=1</td>
<td>42</td>
<td>20.8</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male =1</td>
<td>178</td>
<td>88.6</td>
</tr>
<tr>
<td>Female=0</td>
<td>24</td>
<td>11.4</td>
</tr>
<tr>
<td>Occupational status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed=1</td>
<td>110</td>
<td>54.5</td>
</tr>
<tr>
<td>Unemployed=0</td>
<td>92</td>
<td>45.5</td>
</tr>
<tr>
<td>Education Attainment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate=1</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Elementary =2</td>
<td>11</td>
<td>5.4</td>
</tr>
<tr>
<td>Preparatory=3</td>
<td>48</td>
<td>23.5</td>
</tr>
<tr>
<td>Secondary=4</td>
<td>89</td>
<td>43.6</td>
</tr>
<tr>
<td>College =5</td>
<td>6</td>
<td>2.9</td>
</tr>
<tr>
<td>University=6</td>
<td>44</td>
<td>21.6</td>
</tr>
<tr>
<td>Graduate =7</td>
<td>6</td>
<td>2.9</td>
</tr>
<tr>
<td>Occupational Prestige</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student, housewife, unemployed=1</td>
<td>24</td>
<td>11.8</td>
</tr>
<tr>
<td>Worker, farmer, employee=2</td>
<td>89</td>
<td>43.6</td>
</tr>
<tr>
<td>Technician, business owner, Specialized technician=3</td>
<td>68</td>
<td>33.3</td>
</tr>
<tr>
<td>Total family income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-&lt; 2000 ILS</td>
<td>53</td>
<td>26.0</td>
</tr>
<tr>
<td>2- 2001-4000 ILS</td>
<td>128</td>
<td>62.7</td>
</tr>
<tr>
<td>3- &gt;4000 ILS</td>
<td>22</td>
<td>10.8</td>
</tr>
</tbody>
</table>
Table 14 tells us that the majority of the population in the sample are males (89%). Table 13 shows the average age of respondents when they were surveyed was 20 years, with the highest age being 40. Approximately 46% of the respondents were unemployed (some were students and housewives). Almost all of the respondents had a certain level of education; 44% completed secondary education and approximately 27% have college degrees or higher. The percentage of respondents enjoying high occupational prestige is around 33%, which includes high-level technicians and business owners. Approximately 63% of respondents had a total family income that ranged between 2001-4000 ILS, representing middle class groups in the Palestinian society.

Researchers mostly use correlations to briefly illustrate the association between scale variables. In Table 15, I use a Pearson correlation coefficient to help measure the strength of the linear relationship between the main summated indices (i.e., PTSDSUM and DESNOSSUM) and the SES variables.

Table 15

<table>
<thead>
<tr>
<th>DESNOSSUM Correlations: Pearson Correlation Sig. (1-Tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample size = 174</td>
</tr>
<tr>
<td>Refugees in camps</td>
</tr>
<tr>
<td>Refugees outside camps</td>
</tr>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Occupational prestige</td>
</tr>
<tr>
<td>Income</td>
</tr>
</tbody>
</table>

The table shows the correlation between the DESNOS index, the three groups of children, and the socioeconomic variables. There are correlations of -0.011 and 0.059 between
the DESNOS index and educational level, indicating a negative relationship between the two variables among refugees living in camps and a positive relationship between the same variables among refugees living outside camps. Yet the relationship in both the cases is not large enough to be statistically significant.

Among refugees living outside camps, the table shows a 0.251 correlation between the DESNOS index and occupational prestige, indicating a positive and statistically significant relationship. This compares to an inverse and non-significant relationship between the same variables -0.018 for refugees living in camps.

Similar correlation trends are found between the DESNOS index and total family income. There is a 0.240 correlation between the two variables, indicating a positive and highly significant relationship for refugees living outside camps, compared to a -0.134 correlation for refugees living in camps, reflecting a negative and significant relationship.

Table 16

<table>
<thead>
<tr>
<th></th>
<th>Refugees in camps</th>
<th>Refugees outside camps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample size=176</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-.012</td>
<td>.062</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>-.043</td>
<td>.252***</td>
</tr>
<tr>
<td>Income</td>
<td>-.129*</td>
<td>.240***</td>
</tr>
</tbody>
</table>

Table 16 shows the correlation between the PTSD index, the three groups, and the socioeconomic variables. There are correlations of -0.012 and 0.062 between the PTSD index and educational level, indicating a negative relationship between the two variables among
refugees living in camps and a positive relationship between the same variables among refugees living outside camps. Yet the relationship is not large enough to be statistically significant.

Among refugees living outside camps, the table shows a 0.252 correlation between the PTSD index and occupational prestige, indicating a positive and statistically significant relationship. This compares to an inverse and non-significant relationship between the same variables (0.043) for refugees living in camps. Similar correlation trends are found between the PTSD index and total family income. There is a 0.240 correlation between the two variables, indicating a positive and highly significant relationship for refugees living outside camps, compared to a -0.129 correlation for refugees living in camps, reflecting negative and non-significant relationship.

Results from Ordinary Least Squares

The ordinary least squares regression technique derives its name from the criterion used to draw the best fit regression line: a line such that the sum of the squared deviations of the distances of all the points to the line is minimized. This technique is employed to account for the variance in a summated scale (interval predictor of more than five levels) based on a linear combinations of interval and dichotomous predictors. The most important components in the multiple linear regression are the regression coefficients, one for each independent variable. These coefficients provide information about the estimated change in the dependent variable associated with one unit change in the corresponding independent variable.
conditional on the other independent variables remaining constant (Landau and Everitt, 2003, p. 92).

Before conducting the OLS regression, multicollinearity was checked. Multicollinearity – This occurs when there are high intercorrelations among some of the independent variables (i.e., they may contain same information). A correlation matrix is used to determine if the condition existed or not, in addition to tolerance and VIF in the coefficients table: tolerance = 1/VIF, therefore if the tolerance value is low (<1 - R²) then there is a problem with multicollinearity. For all indexes, I created and applied OLS and found the tolerance values close to 1. VIFs below 10 (Landau and Everitt, 2003, p. 106) will not be seen as a cause of concern.

Assumptions of OLS Regression

In this study I focused on the major assumptions, which include:

- Linearity of relationships – This relationship has to be between each one of the predictors and the outcome variable.

- Normal distributions of the residuals – Residuals are not correlated with predictors. By running a scatterplot to check the linearity assumption and this assumption as well, I found that there are no curvilinear relationships between any of the variables. Additionally, I found that the dots are scattered, indicating that the data meet the assumption that the errors or residuals are not correlated with the linear combination of predictors.

Most importantly, examining the residual plots that follow tell us that the homogeneity of variance assumption is not violated in any of them, since the residuals scatter randomly around the zero line. Also, the histograms of these standardized residuals are consistent with normality assumption as one of the central assumptions needed testing before applying this kind of regression (Landau and Everitt, 2003).
When I performed OLS regression, each of the indices tested four models that employed the two refugee groups of children using their sociodemographic profile, SES, and the summated indices of the two methods of interrogation.

**Multiple Regression Results Predicting Respondents Re-experiencing Trauma (PTSD1)**

The first model of Table 17 examines the differences between the two refugee groups and the reference category (non-refugees) in re-experiencing trauma (PTSD1). The second model tests the effects of the sociodemographic variables on PTSD1. The third model contains the SES variables, while the final model is the nested model that added the two methods of interrogation as predictors of PTSD1. Technically speaking, nothing prevents the researcher from analyzing dichotomous outcome variables within an OLS framework (Knoke, 2002). Yet the outcome variable in Table 17 is an index that ranges from 0 = no symptoms as the lowest score to 5 = all the symptoms underlying this type of trauma. The refugee and non-refugee group predictor variables are dummy coded; Group 1 (refugees living in camps), Group 2 (refugees outside camps), and Group 3 (non-refugees (reference group)). Gender and employment status are the other two predictor variables.

In the multiple regressions, it is assumed that the dependent variables are linearly related to all the independent variables. In this case, the population regression equation takes the form:

\[ Y = a + B_1X_1 + B_2X_2 + \ldots + e, \]

Where

- \( Y \) is the dependent variable,
a is the constant or intercept,

B’s are the regression coefficients for the corresponding X (independent) terms

e is the error term reflected in the residuals

As shown in Model 1 in Table 17, the regression coefficients for child refugees in camps (b = 0.022) and for refugees outside camps (b = 0.385) are positive but statistically insignificant at the .05 level, indicating that these two groups have a somewhat higher score on the PTSD1 index or are more likely to re-experience the trauma than non-refugees (the reference group). The direction of the relationships is consistent with my hypothesis but the magnitudes do not reach statistical significance potentially due to the modest sample size.

As detailed in Model 2 above, the three socio-demographic variables were forced into the existing model. The overall model is statistically significant at the .05 level as well as the regression coefficients for employment status (b =-1.038) and age (b =0.033). The negative coefficient of employment status indicates that all respondents across all groups that are employed have a much lower score on the PTSD1 index, which is consistent with Hypothesis 5. The positive coefficient of age indicates that as all groups age they have a higher score on the PTSD1 index or are more likely to re-experience the trauma, which is consistent with Hypothesis 2. The regression coefficients for child refugees in camps (b = 0.110) and for refugees outside camps (b = 0.609) are positive while the regression coefficient for gender (b = -0.595) was negative but all three variables were statistically insignificant at the .05 level. Though insignificant as individual predictors, the inclusion of the additional variables increased the $R^2$ to (0.079).
Table 17

Estimates of OLS Regression Models Predicting Respondents’ Re-experiencing the Trauma Index (PTSD1), Palestinian Child Ex-Detainees, 2006

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>β</td>
<td>B</td>
<td>β</td>
</tr>
<tr>
<td>Constant</td>
<td>3.065***</td>
<td>(.206)</td>
<td>3.140***</td>
<td>(.645)</td>
</tr>
<tr>
<td>Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Ref=Non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>.022</td>
<td>(.338)</td>
<td>.110</td>
<td>(.331)</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>.385</td>
<td>(.455)</td>
<td>.609</td>
<td>(.448)</td>
</tr>
<tr>
<td>Current Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.033*</td>
<td>(.020)</td>
<td>.033</td>
<td>(.022)</td>
</tr>
<tr>
<td>Male</td>
<td>-.595</td>
<td>(.429)</td>
<td>-.831*</td>
<td>(.456)</td>
</tr>
<tr>
<td>Employed</td>
<td>-1.038**</td>
<td>(.379)</td>
<td>-1.199*</td>
<td>(.598)</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-.348*</td>
<td>(.137)</td>
<td>-.235</td>
<td>(.134)</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>.506</td>
<td>(.384)</td>
<td>.193</td>
<td>(.372)</td>
</tr>
<tr>
<td>Tot. Family Income</td>
<td>-.138</td>
<td>(.317)</td>
<td>-.044</td>
<td>(.306)</td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.005</td>
<td></td>
<td>.079</td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>.374</td>
<td></td>
<td>2.327*</td>
<td></td>
</tr>
<tr>
<td>$N$</td>
<td>143</td>
<td></td>
<td>141</td>
<td></td>
</tr>
</tbody>
</table>

*p≤.05  **p≤.01  ***p≤.001   Note: Standard Errors in parentheses (2-tailed test).
As detailed in Model 3, the socioeconomic variables were introduced to this Model. The overall model remained statistically significant and the regression coefficients for gender ($b = -0.831$), employment status ($b = -1.199$), and education ($b = -0.348$) where all statistically significant at the .05 level. The negative coefficient of gender indicates males within all groups that participated have a much lower score on the PTSD1 index (which falls counter to Hypothesis 4. The negative coefficient for employment indicates that within all groups that participated employed respondents have a much lower score on the PTSD1 index, which is consistent with Hypothesis 5. The negative coefficient of education indicates as all groups increase their education level the respondents have a lower score on the PTSD1 index or are less likely to re-experience the trauma, which is consistent with Hypothesis 6.

The regression coefficients for child refugees in camps ($b = 0.084$), child refugees outside camps ($b = 0.543$), current age ($b = 0.033$), and occupational prestige ($b = 0.506$) are all positive while the regression coefficient for total family income ($b = -0.138$) was negative but all variables were statistically insignificant at the .05 level. Though some variables are insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to 0.145, further enhancing the goodness to fit in comparison to Model 2.

The output for Model 4 includes all variables from the previous 3 models with the methods of interrogation variables introduced. The overall and three variables are statistically significant at the .05 level. The coefficients for employment status ($b = -1.225$) and education level ($b = -0.294$) negatively affect the model while the coefficient for the number of occurrences of psychological interrogation methods ($b = 0.107$) are positive. The negative coefficient for employment indicates the respondents who are employed within all groups that
participated have a lower score on the PTSD1 index, which is consistent with Hypothesis 5. The negative coefficient of education indicates as all groups increase their education level the respondents have a lower score on the PTSD1 index or are less likely to re-experience the trauma, which is consistent with Hypothesis 6. The positive coefficient of the psychological interrogation methods variable indicates that as the frequency of interrogation methods or number of occurrences of an individual method increases the survey participants exhibited a higher score on the PTSD1 index or are more likely to re-experience the trauma, which is consistent with Hypothesis 10.

The remaining regression coefficients were insignificant at the .05 level. The regression coefficients for child refugees outside camps (b = 0.209), current age (b = 0.011), occupational prestige (b = 0.568) and the use of physical interrogation methods upon the respondent (b = 0.035) are all positive while the regression coefficient for child refugees in camps (b = -0.61), education level (b = -0.294), and total family income (b = -0.101) were negative. Though some variables are insignificant as individual predictors, the inclusion of the additional variables increased the $R^2$ to 0.219, further enhancing the goodness to fit in comparison to Model 3 and providing the most robust model for the prediction of PTSD1 index scores.

![Figure 2. Histogram for re-experiencing the trauma (PTSD1).](image)
Figure 3. Scatterplot for re-experiencing the trauma (PTSD1).

Figure 3 shows that the residuals are randomly distributed around the line through 0, suggesting that the variances are equal.

Multinomial Regression Results for PTSD2

I used multinomial regression for this case because the parallel line assumption is not met for the PTSD2 data. Table 18 displays the parameter estimates for the trichotomous PTSD2 index, where “no symptoms” is the omitted baseline category. The coefficients in the first model indicate the effects of each predictor on experiencing more avoidance or numbing (PTSD2) symptoms compared to not experiencing this type of sub-trauma. The coefficients in the second model show the effects of experiencing the most avoidance or numbing (PTSD2) symptoms relative to no symptoms at all.

In Model 1 in Table 18, the (-1.087) of refugees living in camps parameter and the (-0.408) of refugees living outside camps parameter mean that the individuals from both groups were less likely to experience more symptoms of avoidance or numbing as opposed to none (no
symptoms); yet the coefficient sizes vary between the two groups. This study did not support the significance of the relationship.

The positive sign for age indicates that older respondents were more likely to experience more PTSD2 symptoms as opposed to no symptoms. The negative signs for gender, employment status, and educational level indicate that employed and more educated males are less likely to experience more symptoms of PTSD2 as opposed to no symptoms. Further, the positive sign for occupational prestige, total family income, and physical and psychological methods of interrogation parameters tell us that respondents with highly prestigious jobs and higher income levels who are exposed to both physical and psychological methods of interrogation when detained are more likely to experience more symptoms of avoidance or numbing (PTSD2) as opposed to none.

By looking at the odds ratio for the variables in Model 1, we can see that refugees living in camps experience 0.337 times the predicted odds of non-refugees, and refugees living outside camps experience 0.665 times the odds of non-refugees in regard to more symptoms of avoidance or numbing (PTSD2) as opposed to none. The predicted odds for older respondents to experience more symptoms of PTSD2 are 1.014 times the predicted odds for younger respondents. The same model tells us that the predicted odds for males to experience more symptoms of PTSD2 are 0.086 times the predicted odds for females. Also, the predicted odds for more educated respondents to experience more symptoms of PTSD2 are 0.086 times the predicted odds for less educated respondents. Similarly, the predicted odds for respondents with highly prestigious occupations are 1.064 times the odds of less prestigious jobs. The odds for those with higher family income levels were 1.148 times the odds of respondents with
lower family income levels. Regarding the odds of those respondents who experienced physical and psychological methods of interrogation, they are 1.027 times and 1.030 times the odds of those who were not exposed to those methods.

Model 2 compares the highest level of symptoms (most symptoms, highest score) versus no symptoms of the PTSD2 index. Here the negative parameters for Group 1 (refugees in camps) in both models tell us that they were less likely to experience more and most symptoms of avoidance or numbing as opposed to none (no symptoms). However, the positive sign for refugees living outside camps indicates that they were more likely to experience most symptoms of PTSD2 as opposed to none. Also in this model, older respondents are less likely to experience most of the PTSD2 symptoms than younger respondents, as opposed to none. Males in both models are less likely experience more and most of the PTSD2 trauma symptoms than females, as opposed to no symptoms. The negative sign for the occupational prestige tells us that respondents enjoying highly prestigious occupations are less likely to experience most symptoms of PTSD2 compared to those with less prestigious occupations, as opposed to none. Further, in both models respondents with higher family incomes are more likely to experience more and most of PTSD2 symptoms compared to those of lower family income levels. Similar to the results regarding methods of interrogation, respondents exposed to these methods are more likely to experience the highest score of symptoms on the PTSD2 index. In regard to odds ratio, rather than interpreting and explaining these results for every variable, I will point out some of these odds ratios that vary from Model 1.

Compared to Model 1, there were considerable changes in the predicted odds ratios for Groups 1 and 2; for refugees in camps they were 0.975 times the odds of non-refugees and for
refugees living outside camps they were 1.136 times the odds of the omitted baseline category.

Similarly, the predicted odds ratio for more educated respondents was 0.701 times that of less educated ones. Regarding respondents with higher family income levels, the odds ratios were 2.128 times the odds ratios of respondents with lower family income levels.

Table 18

Multinomial Logistic Regression Predicting Respondents’ Avoidance or Numbing (PTSD2), Palestinian Child Ex-Detainees, 2006

<table>
<thead>
<tr>
<th>Predictor</th>
<th>More symptoms vs no symptoms</th>
<th>Most symptoms vs no symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>(1.139) (4.615)</td>
<td>(6.421^*) (2.926)</td>
</tr>
<tr>
<td>Groups: (Ref=Non-refugees)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>(-1.087) (0.949)</td>
<td>(-0.025) (0.547)</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>(-0.408) (1.358)</td>
<td>(0.127) (0.842)</td>
</tr>
<tr>
<td>Current Age</td>
<td>(0.014) (0.055)</td>
<td>(-0.040) (0.039)</td>
</tr>
<tr>
<td>Male</td>
<td>(-2.454) (1.275)</td>
<td>(-1.892) (1.147)</td>
</tr>
<tr>
<td>Employed</td>
<td>(-1.221) (1.685)</td>
<td>(-2.753^*) (1.114)</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>(-0.014) (0.349)</td>
<td>(-0.355) (0.218)</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>(0.062) (1.224)</td>
<td>(-1.422) (0.732)</td>
</tr>
<tr>
<td>Tot. Family Income</td>
<td>(0.138) (0.883)</td>
<td>(0.755) (0.573)</td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>(0.027) (0.115)</td>
<td>(0.107) (0.071)</td>
</tr>
<tr>
<td>Psychological</td>
<td>(0.029) (0.115)</td>
<td>(0.173) (0.082)</td>
</tr>
<tr>
<td>-2 log Likelihood</td>
<td>162.2</td>
<td></td>
</tr>
<tr>
<td>Model (\chi^2)</td>
<td>37.1*</td>
<td></td>
</tr>
<tr>
<td>Pseudo R(^2)</td>
<td>.327</td>
<td></td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>119</td>
<td></td>
</tr>
</tbody>
</table>

\(^*p \leq .05\), \(^**p \leq .01\), \(^***p \leq .001\)  Note. The odds ratio is the antilog of B, and standard errors are in parentheses.

Model 2 tells us that there was a statistically significant relationship (B = -2.753, \(p <0.05\)) between the outcome variable (PTSD2) and the predictor (employed). This means that
respondents who are employed are less likely to experience most PTSD2 symptoms. The model chi square statistic \( \chi^2 = 37.1; <05 \) indicates that each variable contributes significantly to the model.

**OLS Results of Hyperarousal (PTSD3)**

As seen in Model 1 in Table 19, the overall model is statistically insignificant at the .05 level when forced with the initial variables for the individual group clusters. The variable refugees outside camps \( (b = -1.325) \) is negative and statistically significant at the .05 level, indicating that this group of respondents have a lower score on the PTSD3 index or are less likely to experience hyperarousal than non-refugees (the reference group) which falls counter to Hypothesis 2. The regression coefficients for child refugees in camps \( (b = -0.0145) \) has an inverse relationship with the PTSD3 but is not statistically significant.

As exhibited in Model 2, the three socio-demographic variables where forced into the existing model and the overall model is statistically significant at the .05 level. The individual regression coefficients for all the socio-demographic variables are all statistically significant at the .05 level. The positive coefficient of the current age variable \( (b = 0.066) \) indicates that as all participants across all groups age they score higher on the PTSD3 index supporting Hypothesis 3. The negative coefficient of gender variable \( (b = -1.722) \) indicates that all respondents across all groups that are male have a much lower score on the PTSD3 index (which falls counter to Hypothesis 4). The negative coefficient of the employment variable \( (b = -1.977) \) indicates that, if all other factors remain the same, the participant displays a lower score on the PTSD3 index or is less likely to experience hyperarousal, which is consistent with Hypothesis 5.
The regression coefficients for child refugees in camps (b = -0.114) and for refugees outside camps (b = -1.006) are both statistically insignificant at the .05 level for this model. Though insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to 0.08.

As detailed in Model 3, the socioeconomic variables were introduced to the model. The overall model and the regression coefficients for all the socio-demographic variables and the socioeconomic variable education are all statistically significant at the .05 level. The positive coefficient of the current age variable (b = 0.083) indicates that as all participants across all groups age they score higher on the PTSD3 index supporting Hypothesis 3. The negative coefficient of gender variable (b = -2.108) indicates that all respondents across all groups that are male have a much lower score on the PTSD3 index (which falls counter to Hypothesis 4). The negative coefficient of the employment variable (b = -2.405) indicates that if all other factors remain the same the participant displays a lower score on the PTSD3 index or is less likely to experience hyperarousal, which is consistent with Hypothesis 5. The negative coefficient of education level variable (b = -0.427) indicates that as all respondents across all groups receive greater education the respondents have a lower score on the PTSD3 index, which is consistent with Hypothesis 6.

The regression coefficient for occupational prestige (b = 0.721) is positive while the regression coefficients for child refugees in camps (b = -0.163), for child refugees outside camps (b = -0.538), and total family income (b = -0.11) were negative but all variables were statistically insignificant at the .05 level. Though some variables of the overall model are insignificant as
individual predictors the inclusion of the additional variables increased the $R^2$ to 0.11, further enhancing the goodness to fit in comparison to Model 2.

The output for Model 4 includes all variables from the previous 3 models with methods of interrogation variables introduced. The overall model and the coefficients for all the socio-demographic variables and the variable for physical interrogation methods are all statistically significant at the .05 level. The positive coefficient of the current age variable ($b = 0.047$) indicates that, when all things remain constant, as all participants across all groups age they score higher on the PTSD3 index supporting Hypothesis 3. The negative coefficient of gender variable ($b = -2.418$) indicates that all respondents across all groups that are male have a much lower score on the PTSD3 index (which falls counter to Hypothesis 4) than the female respondents. The negative coefficient of the employment variable ($b = -2.280$) indicates that, if all other factors remain the same, the participant displays a lower score on the PTSD3 index or is less likely to experience hyperarousal, which is consistent with Hypothesis 5. The positive coefficient of the physical interrogation methods variable ($b = 0.177$) indicates that as the frequency of physical interrogation methods or number of occurrences of an individual method increases the survey participants exhibited a higher score on the PTSD3 index or are more likely to experience hyperarousal, which is consistent with Hypothesis 10. The remaining regression coefficients were insignificant at the .05 level.

Though some variables are insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to (0.15), further enhancing the goodness to fit in comparison to Model 3 and providing the most robust model for the prediction of PTSD3 scores.
Table 19

Estimates of OLS Regression Models Predicting Respondents’ Hyperarousal (PTSD3), Palestinian Child Ex-Detainees, 2006

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>β</td>
<td>B</td>
<td>β</td>
</tr>
<tr>
<td>Constant</td>
<td>4.850*** (.393)</td>
<td></td>
<td>5.424*** (1.181)</td>
<td></td>
</tr>
<tr>
<td>Groups: (Ref=non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>-.145 (.639)</td>
<td>-.017 (.627)</td>
<td>.114 (.646)</td>
<td>.013 (.646)</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>-1.325* (.736)</td>
<td>-.134 (.716)</td>
<td>-1.006 (.807)</td>
<td>-.103 (.807)</td>
</tr>
<tr>
<td>Current Age</td>
<td></td>
<td>.066* (.036)</td>
<td>.115 (.038)</td>
<td>.083** (.038)</td>
</tr>
<tr>
<td>Male</td>
<td>-1.722** (.817)</td>
<td>-.146 (.847)</td>
<td>-2.108*** (.847)</td>
<td>-.186 (.847)</td>
</tr>
<tr>
<td>Employed</td>
<td>-1.977*** (.664)</td>
<td>-.251 (.1056)</td>
<td>-2.405*** (.1056)</td>
<td>-.307 (.1056)</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td>-.427* (.245)</td>
<td>-.151 (.245)</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td></td>
<td></td>
<td>.721 (.708)</td>
<td>.127 (.699)</td>
</tr>
<tr>
<td>Tot. Family Income</td>
<td></td>
<td></td>
<td>-.011 (.552)</td>
<td>-.002 (.543)</td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>.000 (.075)</td>
<td>.218 (.075)</td>
<td>.218 (.075)</td>
<td>.218 (.075)</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>.017</td>
<td>.08</td>
<td>.11</td>
<td>.11</td>
</tr>
<tr>
<td>( F )</td>
<td>1.695</td>
<td>3.584**</td>
<td>2.622**</td>
<td>2.926**</td>
</tr>
<tr>
<td>( N )</td>
<td>201</td>
<td>198</td>
<td>175</td>
<td>175</td>
</tr>
</tbody>
</table>

* \( p \leq .05 \); ** \( p \leq .01 \); *** \( p \leq .001 \). Note: Standard errors in parentheses.
Figure 4. Histogram for hyperarousal (PTSD3).

Figure 5. Scatterplot for hyperarousal (PTSD3).

Figure 5 shows that the residuals are randomly distributed around the line through 0, suggesting that the variances are equal.
OLS Results of Post-Traumatic Stress Disorder

(Simple Trauma Index or PTSDSUM)

In this multiple regression we need to examine first the nature of the relationships, second whether the relationships are statistically significant, and last if the model is powerful in explaining variations (in PTSD summated scale score) between Palestinian child ex-detainees.

PTSDSUM is an index variable representing a composite indicator of Post-Traumatic Stress Disorder. It represents a single score that summarizes responses to all symptoms underlying this trauma (refer to Table 5: PTSD Indices, Chapter 3).

As seen in Model 1 in Table 20, the overall model is statistically insignificant at the .05 level when forced with the initial variables for the individual group clusters. The regression coefficients for child refugees in camps (b = -0.116) and outside camps (b = -2.123) have an inverse relationship with the PTSDSUM, or those detainees are less likely to experience simple trauma, but the variable refugees outside camps (b = -2.123) is statistically significant at the .05 level, indicating that this group of respondents have a lower score on the PTSD3 index or are less likely to experience simple trauma than non-refugees (the reference group) which falls counter to Hypothesis 2.

As exhibited in Model 2, the three socio-demographic variables where forced into the existing model and the overall model was found statistically significant at the .05 level. The regression coefficients for all the socio-demographic variables are all statistically significant at the .05 level. The positive coefficient of the current age variable (b = 0.109) indicates that as all participants across all groups age they score higher on the PTSDSUM index supporting Hypothesis 3. The negative coefficient of gender variable (b = -2.985) indicates that all
respondents across all groups that are male have a much lower score on the PTSDSUM index (which falls counter to Hypothesis 4). The negative coefficient of the employment variable \( b = -3.248 \) indicates that, if all other factors remain the same, the participant displays a lower score on the PTSDSUM index or is less likely to experience simple trauma, which is consistent with Hypothesis 5.

The regression coefficients for child refugees in camps \( b = -.309 \) and for refugees outside camps \( b = -1.623 \) are both statistically insignificant at the .05 level for this model. Though insignificant as individual predictors the inclusion of the additional variables increased the \( R^2 \) to \( 0.089 \).

As detailed in Model 3, the socioeconomic variables were introduced to this Model. The overall model and the regression coefficients for all the socio-demographic variables and the socioeconomic variable education are statistically significant at the .05 level. The positive coefficient of the current age variable \( b = .121 \) indicates that as all participants across all groups age they score higher on the PTSDSUM index supporting Hypothesis 3. The negative coefficient of gender variable \( b = -3.727 \) indicates that all respondents across all groups that are male have a much lower score on the PTSDSUM index (which falls counter to Hypothesis 4). The negative coefficient of the employment variable \( b = -4.423 \) indicates that, if all other factors remain the same, a currently employed ex-detainee displays a lower score on the PTSDSUM index or is less likely to experience simple trauma, which is consistent with Hypothesis 5. The negative coefficient of education level variable \( b = -.982 \) indicates that as all respondents across all groups receive greater education the respondents have a lower score on the PTSDSUM index, which is consistent with Hypothesis 6.
The regression coefficient for child refugees in camps \( (b = -0.29) \) and occupational
prestige \( (b = 1.801) \) are positive while the regression coefficients for child refugees outside
camps \( (b = -0.998) \) and total family income \( (b = -0.17) \) were negative but all variables were
statistically insignificant at the .05 level. Though some variables of the overall model are
insignificant as individual predictors the inclusion of the additional variables increased the \( R^2 \) to
\( (0.132) \), further enhancing the goodness to fit in comparison to Model 2.

The output for Model 4 includes all variables from the previous 3 models with methods
of interrogation variables introduced. The overall model and the coefficients for the socio-
demographic variables for gender and employment status, the socioeconomic variables for
education level and occupation prestige and the variable for physical interrogation methods are
all statistically significant at the .05 level. The negative coefficient of gender variable \( (b = -4.243) \) indicates that all respondents across all groups that are male have a much lower score
on the PTSDSUM index (which falls counter to Hypothesis 4) than the female respondents. The
negative coefficient of the employment variable \( (b = -4.227) \) indicates that, if all other factors
remain the same, the participant displays a lower score on the PTSDSUM index or is less likely
to experience simple trauma, which is consistent with Hypothesis 5. The negative coefficient of
education level variable \( (b = -0.731) \) indicates that as all respondents across all groups receive
greater education the respondents has a lower score on the PTSDSUM index, which is
consistent with Hypothesis 6. The positive coefficient of the occupational prestige variable \( (b = 1.953) \) indicates that, when all other variables remain constant, the higher the perceived
occupational prestige of a former detainee the greater the score on the PTSDSUM index
supporting Hypothesis 7.
<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>β</td>
<td>B</td>
<td>β</td>
</tr>
<tr>
<td>Constant</td>
<td>8.198***</td>
<td>(.640)</td>
<td>9.314***</td>
<td>(1.926)</td>
</tr>
<tr>
<td>Groups: (Ref=non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>-.116</td>
<td>(-.008)</td>
<td>.309</td>
<td>.022</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>-2.123*</td>
<td>(-.131)</td>
<td>-1.623</td>
<td>.101</td>
</tr>
<tr>
<td>Current Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.109*</td>
<td>(.059)</td>
<td>.121*</td>
<td>(.062)</td>
</tr>
<tr>
<td>Male</td>
<td>-2.985**</td>
<td>(1.336)</td>
<td>-3.727**</td>
<td>(1.393)</td>
</tr>
<tr>
<td>Employed</td>
<td>-3.248**</td>
<td>(1.086)</td>
<td>-4.423**</td>
<td>(1.734)</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational prestige</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Family Income</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.017</td>
<td>.089</td>
<td>.132</td>
<td>.176</td>
</tr>
<tr>
<td>$F$</td>
<td>1.683</td>
<td>3.750**</td>
<td>3.187**</td>
<td>3.536***</td>
</tr>
<tr>
<td>$N$</td>
<td>202</td>
<td>199</td>
<td>176</td>
<td>176</td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Note. Standard errors in parentheses.
The positive coefficient of the physical interrogation methods variable (b = 0.275) indicates that as the frequency of physical interrogation methods or number of occurrences of an individual method increases the survey participants exhibited a higher score on the PTSDSUM index or are more likely to experience simple trauma, which is consistent with Hypothesis 10.

The remaining regression coefficients were insignificant at the .05 level. Though some variables are insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to (0.176), further enhancing the goodness to fit in comparison to Model 3 and providing the most robust model for the prediction of PTSDSUM scores of the generated models.

![Histogram](image)

**Figure 6.** Histogram of post-traumatic stress disorder (PTSDSUM).

Figure 7 shows that the residuals are randomly distributed around the line through 0,
suggesting that the variances are equal.

Ordinary Least Squares Regression Results of Respondents' Alteration in Regulation of Affect and Impulses (DESNOS1)

Table 21 shows the regression models that examine the effect of various predictors on alteration in regulation of affect and impulses (DESNOS1) score.

As seen in Model 1, the overall model is statistically insignificant at the .05 level when forced with the initial variables for the individual group clusters. The regression coefficients for child refugees in camps (b = -.032) and outside camps (b = 0.152) have a positive relationship with the DESNOS1, or those detainees are more likely to exhibit an alteration in regulation of affect and impulses, but are not individually statistically significant at the .05 level.

As exhibited in Model 2, the three socio-demographic variables where forced into the model and the overall model was statistically significant at the .05 level. The regression coefficients for the socio-demographic variables for age and employment are statistically

Figure 7. Scatterplot of post-traumatic stress disorder (PTSDSUM).
significant at the .05 level. The positive coefficient of the current age variable (b = .036) indicates that as all participants across all groups age they score higher on the DESNOS1 index supporting Hypothesis 3. The negative coefficient of the employment variable (b = -0.835) indicates that, if all other factors remain the same, the participant displays a lower score on the DESNOS1 index or is less likely to exhibit an alteration in regulation of affect and impulses, which is consistent with Hypothesis 5.

The regression coefficients for child refugees in camps (b = 0.057), refugees outside camps (b = 0.196), and gender (-0.032) are all statistically insignificant at the .05 level for this model. Though insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to (0.074).

As detailed in Model 3, the socioeconomic variables were introduced to this Model. The overall model and the regression coefficient for the socio-demographic variable current age are statistically significant at the .05 level. The positive coefficient of the current age variable (b = 0.045) indicates that as all participants across all groups age they score higher on the DESNOS1 index supporting Hypothesis 3.

The remaining regression coefficients were insignificant at the .05 level. Though some variables are insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to (0.094), further enhancing the goodness to fit in comparison to Model 2.

The output for Model 4 shows that the coefficients for the socio-demographic variable current age and the variable for physical interrogation methods are both statistically significant at the .05 level.
## Table 21

*Estimates of OLS Regression Models Predicting Respondents’ Alteration in Regulation of Affect and Impulses (DESNOS1), Palestinian Child Ex-Detainees, 2006*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>β</td>
<td>B</td>
<td>β</td>
</tr>
<tr>
<td>Constant</td>
<td>1.443***</td>
<td>(.134)</td>
<td>.914*</td>
<td>(.396)</td>
</tr>
<tr>
<td>Groups:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Ref=non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>.032</td>
<td>(.216)</td>
<td>.057</td>
<td>(.213)</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>.152</td>
<td>(.245)</td>
<td>.196</td>
<td>(.238)</td>
</tr>
<tr>
<td>Current Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-.032</td>
<td>(.286)</td>
<td>-.035</td>
<td>(.305)</td>
</tr>
<tr>
<td>Employed</td>
<td>-.835***</td>
<td>(.225)</td>
<td>-.616</td>
<td>(.376)</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>-.038</td>
<td>(.086)</td>
<td>-.036</td>
<td>(.086)</td>
</tr>
<tr>
<td>Tot. Family Income</td>
<td>-.278</td>
<td>(.254)</td>
<td>-.142</td>
<td>(.248)</td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.002</td>
<td>.074</td>
<td>.094</td>
<td>.153</td>
</tr>
<tr>
<td>$F$</td>
<td>.195</td>
<td>3.062**</td>
<td>2.149*</td>
<td>2.948***</td>
</tr>
<tr>
<td>$N$</td>
<td>200</td>
<td>199</td>
<td>174</td>
<td>174</td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Note. Standard errors in parentheses.
The positive coefficient of the current age variable (b = 0.029) indicates that as all participants across all groups age they score higher on the DESNOS1 index supporting Hypothesis 3. The positive coefficient of the physical interrogation methods variable (b = 0.070) indicates that as the frequency of physical interrogation methods or number of occurrences of an individual method increases the survey participants exhibited a higher score on the DESNOS1 index or are more likely to exhibit an alteration in regulation of affect and impulses, which is consistent with Hypothesis 10. The remaining regression coefficients were insignificant at the .05 level. Though some variables are insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to 0.153, further enhancing the goodness to fit in comparison to Model 3 and providing the most robust model for the prediction of DESNOS1 scores.

![Histogram of alteration in regulation of affect and impulses (DESNOS1).](image)

*Figure 8. Histogram of alteration in regulation of affect and impulses (DESNOS1).*
Figure 9. Scatterplot of alteration in regulation of affect and impulses (DESNOS1).

Figure 9 shows that the residuals are randomly distributed around the line through 0, suggesting that the variances are equal.

Multinomial Regression Results for Alterations in Attention or Consciousness (DESNOS2)

I used this type of regression because the parallel line assumption is not met. Table 22 displays the parameter estimates for the DESNOS2 index, where “no symptoms” is the omitted baseline category. The coefficients in the first model indicate the effects of each predictor on experiencing the least alterations in attention or consciousness (DESNOS2) symptoms relative to not experiencing this category of complex trauma. And the coefficients in the second model show the effects of experiencing more alterations in attention or consciousness (DESNOS2) symptoms relative to no symptoms at all. And the third model tells us the effects of
experiencing the most alterations in attention or consciousness (DESNOS2) symptoms relative
to no symptoms at all.

According to Model 1, the (1.741) refugees living in camps parameter and the (0.860)
refugees living outside camps parameter mean that the individuals from both groups are more
likely to experience the least symptoms of alterations in attention or consciousness as opposed
to none (no symptoms) than non-refugees; yet the coefficient sizes vary between the two
groups. The negative sign for age indicates that younger respondents are less likely to
experience the least DESNOS2 symptoms, as opposed to no symptoms, than older ones.

The positive sign for gender indicates that males are more likely to experience the least
DESNOS2 symptoms, as opposed to no symptoms, than females. And the statistically significant
B value with a negative sign for the employed predictor tells us that employed respondents are
less likely to experience least DESNOS2 symptoms, as opposed to no symptoms, than
unemployed respondents. The positive sign for the variable education indicates that less
educated respondents are more likely to experience the least DESNOS2 symptoms, as opposed
to no symptoms, than those with a graduate degree.

Further, the negative sign for occupational prestige tells us that respondents with low
occupational prestige are less likely to experience least symptoms of alterations in attention or
consciousness, as opposed to none, than respondents with high occupational prestige.

However, the positive signs for total family income and physical and psychological
methods of interrogation parameters in Table 22 tell us that respondents with higher income
levels who are exposed to both physical and psychological methods of interrogation when
detained are more likely to experience the least (DESNOS2) symptoms, as opposed to none,
compared to respondents with higher family incomes and not exposed to those methods of interrogation.

The odds ratio for Group 1 in Model 1 shows that the odds of experiencing the least DESNOS2 symptoms compared to experiencing no symptoms increase by a factor of (5.701) for being a refugee living outside camps rather than being a non-refugee, controlling for the other variables in the model.

Similarly, the odds of experiencing the least alterations in attention or consciousness symptoms (DESNOS2) compared to experiencing no symptoms increase by a factor of (2.364) by being a refugee living outside camps rather than being a non-refugee, controlling for the other variables in the model.

The predicted odds for the covariate age tell us that the odds of experiencing the least DESNOS2 symptoms, compared to experiencing no symptoms, are reduced by a factor of (0.977) when the respondents were young rather than old, controlling for the other variables in the model.

The same model tells us that the odds of experiencing the least DESNOS2 symptoms, compared to experiencing no symptoms, are increased by a factor of (1.254) by being a male rather than female, controlling for the other variables in the model.

The odds of experiencing the least DESNOS2 symptoms, compared to experiencing no symptoms, are reduced by a factor of (0.038) when the respondents were employed rather than unemployed, controlling for the other variables in the model.

The odds of experiencing the least DESNOS2 symptoms, compared to experiencing no symptoms, are increased by a factor of (0.308) when the respondent is less educated rather
than having a graduate degree, controlling for the other variables in the model. The odds of experiencing the least symptoms of DESNOS2, compared to experiencing no symptoms, are reduced by a factor of (0.308) when the respondents have low occupational prestige rather than having high occupational prestige, controlling for the other variables in the model.

The odds of experiencing the least DESNOS2 symptoms in Table 22, compared to experiencing no symptoms, are increased by a factor of (1.205) when the respondents have low family income rather than having high family income, controlling for the other variables in the model. Regarding the odds of respondents exposed to physical and psychological methods of interrogation, the odds are (1.100) times and (1.049) times the odds of those who were not exposed to these methods, respectively. Or we can say that the odds of experiencing the least DESNOS2 symptoms, compared to experiencing no symptoms, increase by a factor of (1.100) when the respondents were exposed to physical methods of interrogation rather than not exposed to these methods, controlling for the other variables in the model. Similarly, the odds of experiencing the least DESNOS2 symptoms, compared to experiencing no symptoms, are increased by a factor of (1.049) when the respondents were exposed to psychological methods of interrogation rather than being not exposed to these methods, controlling for the other variables in the model.

Model 1 tells us that there is a statistically significant relationship between the outcome variable (DESNOS2) and the predictors (refugees in camps (B = 1.741, P <0.05, and employed (B = -3.278, P <0.05). This means that respondents who were refugees in camps were more likely to experience more DESNOS2 symptoms, as opposed to none, than non-refugees.
However, those employed are less likely to experience more DESNOS2 symptoms, compared to no symptoms, than non-refugees.

In Model 2, I compare more symptoms versus no DESNOS2 symptoms. The positive parameters for Group 1 (refugees in camps) and Group 2 (refugees outside camps) tell us that both groups were more likely to experience more symptoms of DESNOS2, as opposed to none, compared to non-refugees.

Also in this model, younger respondents were less likely to experience more DESNOS2 symptoms, as opposed to none, than older respondents. Males were less likely to experience more DESNOS2 symptoms, as opposed to no symptoms, than females. Less educated respondents were more likely to experience more DESNOS2 symptoms, as opposed to no symptoms, than respondents with graduate degree.

The negative sign for the occupational prestige tells us that respondents with low occupational prestige were less likely to experience more DESNOS2 symptoms, as opposed to none, compared to those with high occupational prestige. Further, respondents with low family income were less likely to experience more of DESNOS2 symptoms, as opposed to none, compared to those with high family income levels.

Respondents exposed to physical and psychological methods of interrogation are more likely to experience more DESNOS2 symptoms, as opposed to none, compared to respondents who are not exposed to these methods.

In regard to odds ratio, rather than interpreting and explaining these results for every variable, I will point out some of the odds ratios that vary from Model 1.

Compared to Model 1, there was considerable change in the predicted odds ratios for
males. The odds for experiencing more DESNOS2 symptoms, compared to experiencing no symptoms, were reduced by a factor of (0.192) by being a male rather than female, controlling for the other variables in the model. And the odds for experiencing more DESNOS2 symptoms, compared to experiencing no symptoms, were reduced by a factor of (0.527) when respondents had low family income than when respondents had high family income, controlling for the other variables in the model.

According to Model 3 results, the (-0.037) parameter for refugees living in camps indicates that the respondents from this group were less likely to experience most of the symptoms of alterations in attention or consciousness (DESNOS2), as opposed to none, compared to non-refugees; however, the (0.330) parameter for refugees living outside camps means that the respondents from this group were more likely to experience the most symptoms of DESNOS2, as opposed to none, than non-refugees.

The positive sign for age indicates that younger respondents were more likely to experience most DESNOS2 symptoms, as opposed to no symptoms, than older respondents. The positive sign for gender indicates that males were more likely to experience most of DESNOS2 symptoms, as opposed to no symptoms, than females. The negative sign for the employed predictor tells us that employed respondents were less likely to experience most DESNOS2 symptoms, as opposed to no symptoms, than unemployed ones. The positive sign for education indicates that less educated respondents were more likely to experience most DESNOS2, symptoms as opposed to no symptoms, than respondents with a graduate degree.

Further, the negative sign for occupational prestige tells us that respondents with low occupational prestige were less likely to experience most symptoms of alterations in attention
or consciousness, as opposed to none, than respondents with high occupational prestige.

However, the negative sign for the total family income variable tells us that respondents with low family incomes were less likely to experience the most DESNOS2 symptoms, as opposed to none, than respondents with high family income.

The positive signs for parameters of the physical and psychological methods of interrogation tell us that respondents who were exposed to both physical and psychological methods of interrogation when detained are more likely to experience the most DESNOS2 symptoms, as opposed to none, than respondents who have not been exposed to both methods when detained.

The odds ratio for Group 1 in Model 3 shows that the odds of experiencing most symptoms of DESNOS2, compared to experiencing no symptoms, were reduced by a factor of (0.964) when the respondent was a refugee living in camps rather than a non-refugee, controlling for the other variables in the model.

However, the odds of experiencing the most symptoms of alterations in attention or consciousness (DESNOS2), compared to experiencing no symptoms, were increased by a factor of (1.377) for being a refugee living outside camps rather than being a non-refugee, controlling for the other variables in the model.

The predicted odds to experience the most DESNOS2 symptoms, as opposed to no symptoms, were increased by a factor of (1.004) by younger respondents when compared to older respondents, controlling for the other variables in the model.

The same model tells us that the odds of experiencing the most DESNOS2 symptoms, compared to experiencing no symptoms, were increased by a factor of (0.903) by being a male
rather than a female, controlling for the other variables in the model.

The odds of experiencing the most DESNOS2 symptoms, compared to experiencing no symptoms, were reduced by a factor of (0.228) when being employed rather than unemployed, controlling for the other variables in the model.

The odds of experiencing the most DESNOS2 symptoms, compared to experiencing no symptoms, were increased by a factor of (0.172) when the respondents were less educated rather than having a graduate degree, controlling for the other variables in the model.

The odds of experiencing the most DESNOS2 symptoms, compared to experiencing no symptoms, were reduced by a factor of (0.534) when the respondents had low occupational prestige rather than high occupational prestige, controlling for the other variables in the model.

The odds of experiencing the most DESNOS2 symptoms, compared to experiencing no symptoms, were reduced by a factor of (0.913) when the respondents had low family income rather than high family income, controlling for the other variables in the model.

Regarding the odds of respondents exposed to physical and psychological methods of interrogation in Table 22, they are, respectively, (1.091) times and (1.126) times the odds of those who were not exposed to these methods. Or we can say that the odds of experiencing the most DESNOS2 symptoms, compared to experiencing no symptoms, were increased by a factor of (1.091) when the respondents were exposed to physical methods of interrogation rather than being not exposed to these methods, controlling for the other variables in the model.
### Table 22

**Multinomial Logistic Regression Predicting Respondents’ Alterations in Attention or Consciousness (DESNOS2), Palestinian Child Ex-Detainees, 2006**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Least symptoms vs no symptoms</th>
<th>More symptoms vs no symptoms</th>
<th>Most symptoms vs no symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B (Odds ratio)</td>
<td>B (Odds ratio)</td>
<td>B (Odds ratio)</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>1.468 (.3190)</td>
<td>4.165 (2.716)</td>
<td>-.864 (3.128)</td>
</tr>
<tr>
<td><strong>Groups:</strong> (Ref=Non-refugees)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>1.741* (.719)</td>
<td>1.220 (1.639)</td>
<td>-.037 (1.762)</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>.860 (.862)</td>
<td>.118 (.743)</td>
<td>.320 (.791)</td>
</tr>
<tr>
<td><strong>Current Age</strong></td>
<td>-.023 (.044)</td>
<td>-.032 (.037)</td>
<td>.004 (.040)</td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>.226 (1.115)</td>
<td>-1.650 (.867)</td>
<td>.903 (1.295)</td>
</tr>
<tr>
<td><strong>Employed</strong></td>
<td>-3.278* (1.218)</td>
<td>-5.05 . (1.013)</td>
<td>-1.476 (1.140)</td>
</tr>
<tr>
<td><strong>SES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>.388 (.266)</td>
<td>.117 (.222)</td>
<td>.172 (1.246)</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>-1.179 (.823)</td>
<td>-.841 (.707)</td>
<td>-.628 (.787)</td>
</tr>
<tr>
<td>Tot. Family Income</td>
<td>.186 (.584)</td>
<td>-.641 (.536)</td>
<td>-.091 (.582)</td>
</tr>
<tr>
<td><strong>Methods of interrogation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>.095 (.090)</td>
<td>.112 (.080)</td>
<td>.087 (.086)</td>
</tr>
<tr>
<td>Psychological</td>
<td>.048 (.077)</td>
<td>.090 (.069)</td>
<td>.118 (.079)</td>
</tr>
<tr>
<td><strong>-2 log Likelihood</strong></td>
<td>338.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model $\chi^2$</td>
<td>52.4*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>.321</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>148</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Note. The odds ratio is the antilog of B, and standard errors are in parentheses.
Similarly, the odds of experiencing the most DESNOS2 symptoms, compared to experiencing no symptoms, were increased by a factor of (1.126) when the respondents were exposed to psychological methods of interrogation rather than being not exposed to these methods, controlling for the other variables in the model.

The model chi square statistic ($\chi^2 = 52.4; p < .05$) indicates that each variable contributes significantly to the model.

**OLS Results of Alterations in Self-Perception (DESNOS4)**

Table 23 shows the regression models that examine the effects of various predictors on the alterations in the self-perception index score (DESNOS4).

As seen in Model 1, the overall model is statistically insignificant at the .05 level when forced with the initial variables for the individual group clusters. The regression coefficients for child refugees in camps ($b = 0.082$) and outside camps ($b = 0.603$) have a positive relationship with the DESNOS4, or those ex-detainees are more likely to exhibit alterations in the self-perception index score, but are not individually statistically significant at the .05 level.

As exhibited in Model 2, the three socio-demographic variables where forced into the model and the overall model was statistically significant at the .05 level. The regression coefficients for refugees outside camps ($b = .669$) and employment ($b = -0.892$) are statistically significant at the .05 level. The positive coefficient of the refugees outside camps variable indicates that those ex-detainees score higher on the DESNOS4 index compared to non-refugees, supporting Hypothesis 2. The negative coefficient of the employment variable ($b = -0.892$) indicates that, if all other factors remain the same, the participant displays a lower score
on the DESNOS4 index or is less likely to exhibit alterations in self-perception index score, which is consistent with Hypothesis 5. The regression coefficients for child refugees in camps (b = 0.138), current age (b = 0.29), and gender (b = -0.118) are all statistically insignificant at the .05 level for this model. Though insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to (0.047).

As detailed in Model 3, the socioeconomic variables were introduced in the Model. The overall model and the regression coefficient for refugees outside camps (b = .921) and the socio-demographic variable current age (b = 0.038) are the only statistically significant variables within this model at the .05 level. The positive coefficient of the refugees outside camps variable indicates that those ex-detainees score higher on the DESNOS4 index compared to non-refugees, therefore, Hypothesis 2 is totally supported. The positive coefficient of the current age variable (b = 0.045) indicates that as all participants across all groups age they score higher on the DESNOS4 index supporting Hypothesis 3.

The remaining regression coefficients were insignificant at the .05 level. Though some variables of the overall model are insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to (0.058), further enhancing the goodness to fit in comparison to Model 2.

The output for Model 4 shows that the coefficients for refugees outside camps (b = 0.743) and the variable for physical interrogation methods (b = 0.091) are both statistically significant at the .05 level. The positive coefficient of the refugees outside camps variable indicates that those ex-detainees score higher on the DESNOS4 index compared to non-refugees supporting Hypothesis 2.
Table 23

Estimates of OLS Regression Models Predicting Respondents’ Alterations in Self-Perception (DESNOS4), Palestinian Child Ex-Detainees, 2006

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1</th>
<th></th>
<th>Model 2</th>
<th></th>
<th>Model 3</th>
<th></th>
<th>Model 4</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>β</td>
<td>B</td>
<td>β</td>
<td>B</td>
<td>β</td>
<td>B</td>
<td>β</td>
</tr>
<tr>
<td>Constant</td>
<td>2.278*** (.204)</td>
<td></td>
<td>2.032*** (.639)</td>
<td></td>
<td>2.042* (.994)</td>
<td></td>
<td>1.571 (1.034)</td>
<td></td>
</tr>
<tr>
<td>Groups: (Ref=non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>.082 (.328)</td>
<td>.019</td>
<td>.138 (.330)</td>
<td>.031</td>
<td>.084 (.353)</td>
<td>.019</td>
<td>-.006 (.346)</td>
<td>-.001</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>.603 (.370)</td>
<td>.122</td>
<td>.669* (.369)</td>
<td>.136</td>
<td>.921** (.434)</td>
<td>.177</td>
<td>.743* (.432)</td>
<td>.143</td>
</tr>
<tr>
<td>Current Age</td>
<td></td>
<td></td>
<td>.029 (.019)</td>
<td>.132</td>
<td>.038* (.021)</td>
<td>.173</td>
<td>.016 (.021)</td>
<td>.073</td>
</tr>
<tr>
<td>Male</td>
<td>-.118 (.443)</td>
<td>-.019</td>
<td>.009 (.473)</td>
<td>.001</td>
<td>-.145 (.468)</td>
<td>-.024</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>-.892** (.348)</td>
<td>-.222</td>
<td>-.676 (.583)</td>
<td>-.165</td>
<td>-.640 (.571)</td>
<td>-.157</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.042 (.133)</td>
<td>.027</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>-.275 (.393)</td>
<td></td>
<td>-.093 (.386)</td>
<td></td>
<td>-.244 (.386)</td>
<td></td>
<td>-.082 (.283)</td>
<td></td>
</tr>
<tr>
<td>Tot. Family Income</td>
<td>-.102 (.288)</td>
<td></td>
<td>-.030 (.283)</td>
<td></td>
<td>-.110 (.283)</td>
<td></td>
<td>-.032 (.283)</td>
<td></td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.091** (.039)</td>
<td>.213</td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.030 (.040)</td>
<td>.066</td>
</tr>
<tr>
<td>Psychological</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.014</td>
<td></td>
<td>.047</td>
<td></td>
<td>.058</td>
<td></td>
<td>.110</td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>1.376</td>
<td></td>
<td>1.903*</td>
<td></td>
<td>1.261*</td>
<td></td>
<td>2.007**</td>
<td></td>
</tr>
<tr>
<td>$N$</td>
<td>200</td>
<td>198</td>
<td>174</td>
<td>174</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Note. Standard errors in parenthesis.
The positive coefficient of the physical interrogation methods variable indicates that as the frequency of physical interrogation methods or number of occurrences of an individual method increases the ex-detainees exhibited a higher score on the DESNOS4 index or are more likely to exhibit alterations in the self-perception index score, which is consistent with Hypothesis 10. The remaining regression coefficients were insignificant at the .05 level.

The remaining regression coefficients were insignificant at the .05 level. Though some variables are insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to (0.11), further enhancing the goodness to fit in comparison to Model 3 and providing the most robust model for the prediction of DESNOS4 index scores.

Figure 10. Histogram of alterations in self-perception (DESNOS4).

Figure 11 shows that the residuals are randomly distributed around the line through 0, suggesting that the variances are equal.
Table 24 presents the logistic regression results for predicting the odds of experiencing alterations in perception of the perpetrator. Four regression models were examined to assess if the predictors significantly predicted whether or not this type of trauma exists. The first model examines the effects of group membership on the alterations in perception of the perpetrator (DESNOS5), while the next model tests the effects of socio-demographic variables on DESNOS5. The third model adds the SES variables. The fourth and final model is a fully nested model that includes all the predictors.

Across Models 3 and 4, total family income is the only independent variable that has significant influence predicting this type of trauma. Those with high family incomes were significantly more likely to experience alterations in perception of the perpetrator than those with lower family incomes.
The odds of experiencing alterations in perception of the perpetrator were 1.036 times higher for refugees living in camps than non-refugees; for refugees outside camps the odds to experience this trauma were (1.805) times higher than non-refugees. Refugees in general are considerably more likely to experience this trauma than non-refugees. Yet the significance column for Group 1 and Group 2 tells us that the observed relationship could possibly be attributed to chance.

The socio-demographic variables of gender, age, and employment status and SES variables (excluding total family income), and the two methods of interrogation indicate that they did not generate any significant results as predictors for this type of trauma.

Yet, compared to Models 1 through 3, the final model tells us that it is the better fit (-2 log Likelihood = 181, $\chi^2 = 18.4, p < .05$, Pseudo $R^2 = .159$, $df = 10$). Specifically, if we look at the model chi, which tests whether the model as a whole predicts occurrence of this type of trauma better than chance, we can conclude that the model does have predictive power since it has significance value.

Table 25 presents the logistic regression results for predicting the odds of experiencing alterations in relations with others. Four regression models were examined to assess if the predictors significantly predicted whether or not this type of trauma exists. The first model examines the effects of group membership on the alterations in relations with others (DESNOS6), while the next model tests the effects of socio-demographic variables on DESNOS6. The third model adds the SES variables. The fourth and the final model is a fully nested model that includes all the predictors.
Table 24

**Logistic Regression Estimates Predicting Respondents’ Alterations in Perception of the Perpetrator (DESNOS5), among Palestinian Children Ex-Detainees, 2006**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1 B (SE)</th>
<th>Model 1 Odds Ratio</th>
<th>Model 2 B (SE)</th>
<th>Model 2 Odds Ratio</th>
<th>Model 3 B (SE)</th>
<th>Model 3 Odds Ratio</th>
<th>Model 4 B (SE)</th>
<th>Model 4 Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-.429 (.243)</td>
<td>.651</td>
<td>-.726 (.788)</td>
<td>.484</td>
<td>-4.715** (.1.919)</td>
<td>.009</td>
<td>-5.373** (.2.028)</td>
<td>.005</td>
</tr>
<tr>
<td>Groups: (Ref=non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>.006 (.382)</td>
<td>1.006</td>
<td>.013 (.389)</td>
<td>1.013</td>
<td>.065 (.406)</td>
<td>1.067</td>
<td>.035 (410)</td>
<td>1.036</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>-.652 (.457)</td>
<td>1.920</td>
<td>.727 (.473)</td>
<td>2.068</td>
<td>.723 (.513)</td>
<td>2.060</td>
<td>.591 (.530)</td>
<td>1.805</td>
</tr>
<tr>
<td>Current Age</td>
<td>-.014 (.023)</td>
<td>.987</td>
<td>-.004 (.024)</td>
<td>.996</td>
<td>-.011 (.026)</td>
<td>.989</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>.883 (.561)</td>
<td>2.419</td>
<td>.924 (.581)</td>
<td>2.520</td>
<td>.856 (.590)</td>
<td>2.353</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>-.154 (.419)</td>
<td>.857</td>
<td>-.108 (.673)</td>
<td>.898</td>
<td>-.056 (.678)</td>
<td>.946</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational prestige</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Family Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2 log Likelihood</td>
<td>197</td>
<td>193.15</td>
<td>183.05</td>
<td>180.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model $\chi^2$</td>
<td>2.3</td>
<td>3.66</td>
<td>16.02*</td>
<td>18.4*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>.021</td>
<td>.053</td>
<td>.140</td>
<td>.159</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>2</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td></td>
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<tr>
<td>N</td>
<td>146</td>
<td>146</td>
<td>146</td>
<td>146</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Note. The odds ratio is the antilog of the B, and standard errors are in parenthesis.
Across Models 1 through 4, the variable refugees living in camps is the only independent variable that has significant influence predicting this type of trauma. Those refugees living in camps were significantly less likely to experience alterations in relations with others than other groups this falls counter to Hypothesis 2.

According to Model 4, the odds of experiencing alterations in relations with others were 0.383 times higher for refugees living in camps than non-refugees; for refugees outside camps the odds of experiencing alterations in relations with others were (0.742) times higher than non-refugees. Refugees in general are considerably less likely to experience this trauma than non-refugees. The significance column for Group 1 tells us that the observed relationship cannot be attributed to chance.

The socio-demographic variables of gender, age, and employment status and the SES variables in addition to the two methods of interrogation did not generate any significant results as predictors for this type of trauma. For instance, males presented statistically non-significant odds of about (0.932) times less likely than females to experience alterations in relations with others ($B = -0.070$, odds ratio = 0.932).

Similarly, age produced statistically non-significant results; older respondents are less likely to experience alterations in relations with others compared to younger respondents ($B = -0.031$).

Highly educated respondents with high occupational prestige are less likely to experience this trauma compared to less educated respondents with low occupational prestige.

Respondents with high family income are more likely to experience alterations in relations with others compared to respondents with low family income ($B = 0.130$).
Table 25

Logistic Regression Estimates Predicting Respondents’ Alterations in Relations with Others (DESNOS6), among Palestinian Child Ex-Detainees, 2006

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1 B</th>
<th>Model 1 Odds Ratio</th>
<th>Model 2 B</th>
<th>Model 2 Odds Ratio</th>
<th>Model 3 B</th>
<th>Model 3 Odds Ratio</th>
<th>Model 4 B</th>
<th>Model 4 Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>.821</td>
<td>(.256)</td>
<td>2.165**</td>
<td>(.849)</td>
<td>3.502*</td>
<td>(1.811)</td>
<td>2.549</td>
<td>(1.887)</td>
</tr>
<tr>
<td>Groups:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Ref=non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>-.988**</td>
<td>(.386)</td>
<td>.372</td>
<td></td>
<td>-.940**</td>
<td>(.402)</td>
<td>.391</td>
<td></td>
</tr>
<tr>
<td>Refugee outside camps</td>
<td>-.233</td>
<td>(.470)</td>
<td>.782</td>
<td></td>
<td>-.015</td>
<td>(.491)</td>
<td>.985</td>
<td></td>
</tr>
<tr>
<td>Current Age</td>
<td>-.029</td>
<td>(.023)</td>
<td>.972</td>
<td></td>
<td>-.031</td>
<td>(.024)</td>
<td>.969</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>-.003</td>
<td>(.545)</td>
<td>1.003</td>
<td></td>
<td>-.049</td>
<td>(.556)</td>
<td>.953</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>-.828</td>
<td>(.443)</td>
<td>.437</td>
<td></td>
<td>-1.171</td>
<td>(.657)</td>
<td>.310</td>
<td>-1.214</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
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<td>Education</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational prestige</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Tot. Family Income</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2 log Likelihood</td>
<td>191.3</td>
<td></td>
<td>181.3</td>
<td></td>
<td>180.23</td>
<td></td>
<td>176.6</td>
<td></td>
</tr>
<tr>
<td>Model $\chi^2$</td>
<td>6.8*</td>
<td></td>
<td>16.9**</td>
<td></td>
<td>17.9*</td>
<td></td>
<td>21.6**</td>
<td></td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>.061</td>
<td></td>
<td>.146</td>
<td></td>
<td>.155</td>
<td></td>
<td>.184</td>
<td></td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>2</td>
<td></td>
<td>5</td>
<td></td>
<td>8</td>
<td></td>
<td>10</td>
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<tr>
<td>N</td>
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<td></td>
<td>148</td>
<td></td>
<td>148</td>
<td></td>
<td>148</td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Note. The odds ratio is the antilog of the B, and standard errors are in parentheses.
The regression coefficient for the physical methods of interrogation tells us that for every movement from one increment to the next on physical methods of interrogation scale, the log odds of experiencing this category of complex trauma will be reduced by (0.973). And the regression coefficient for the psychological methods of interrogation tells us that for every movement from one increment to the next on psychological methods of interrogation scale, the log odds of experiencing this category of complex trauma will be increased by (1.096).

This final model tells us that it is the better fit (-2 log Likelihood =177, $\chi^2 = 22$, $p < .01$, Pseudo $R^2 = .184$, $df = 10$). Specifically, if we look at the model chi, which tests whether the model as a whole predicts occurrence of this type of trauma better than chance, we can conclude that the model does have predictive power since it has significance value.

### Multinomial Regression Results for Alterations in Systems of Meaning (DESNOS7)

I used this type of regression because the parallel line assumption is not met. Table 26 displays the parameter estimates for the DESNOS7 index, where “no symptoms” is the omitted baseline category. The coefficients in the first model indicate the effects of each predictor on experiencing more alterations in systems of meaning (DESNOS7) symptoms relative to not experiencing this subtype of complex trauma at all. And the second model tells us the effects of experiencing the most alterations in systems of meaning symptoms relative to no symptoms at all.

In Model 1, the (-0.942) parameter for refugees living in camps means that respondents from this group were less likely to experience more alterations in systems of meaning symptoms, as opposed to none (no symptoms), than non-refugees. And the (0.448) parameter
for refugees living outside camps means that respondents from this group were more likely experience more symptoms of alterations in systems of meaning, as opposed to none (no symptoms), compared to non-refugees.

The negative sign for age indicates that younger respondents were less likely to experience more DESNOS7 symptoms, as opposed to no symptoms, than older respondents.

The negative sign for gender indicates that males were less likely to experience more DESNOS7 symptoms, as opposed to no symptoms, than females. The positive sign for the employed predictor tells us that employed respondents were more likely to experience more DESNOS7 symptoms, as opposed to no symptoms, than unemployed. The positive sign for education indicates that less educated respondents were more likely to experience more DESNOS7 symptoms, as opposed to no symptoms, than those with a graduate degree.

Further, the negative sign for occupational prestige tells us that respondents with low occupational prestige were less likely to experience more symptoms of alterations in systems of meaning, as opposed to none, than those with high occupational prestige. However, the negative sign for total family income tells us that respondents with low family income were less likely to experience more symptoms of alterations in systems of meaning, as opposed to none, than those with high family income.

The positive sign for physical methods of interrogation indicates that respondents exposed to these methods were more likely to experience more DESNOS7 symptoms, as opposed to none, than those who have not been exposed to these methods. On the contrary, the negative sign for psychological methods of interrogation parameters indicates that those who were exposed to psychological methods of interrogation when detained are less likely to
experience more (DESNOS7) symptoms, as opposed to none, than those who were not exposed to these methods.

The odds ratio for Group 1 in Model 1 shows that the odds of experiencing more DESNOS7 symptoms compared to experiencing no symptoms were reduced by a factor of (2.564) when being a refugee living inside camps rather than being a non-refugee, controlling for the other variables in the model. On the contrary, the odds of experiencing more DESNOS7 compared to experiencing no symptoms were increased by a factor of (1.565) when being a refugee living outside camps rather than being a non-refugee, controlling for the other variables in the model.

The predicted odds for the covariate age tell us that odds of experiencing more DESNOS7 symptoms, compared to experiencing no symptoms, were reduced by a factor of (0.974) when the respondents were young rather than old, controlling for the other variables in the model. The same model tells us that the odds of experiencing more DESNOS7 symptoms, compared to experiencing no symptoms, were decreased by a factor of (0.556) by being male rather than female, controlling for the other variables in the model.

The odds of experiencing more DESNOS7 symptoms, compared to experiencing no symptoms, were increased by a factor of (1.406) when the respondents were employed rather than unemployed, controlling for the other variables in the model. The odds of experiencing more DESNOS7 symptoms, compared to experiencing no symptoms, were increased by a factor of (1.163) when the respondents were less educated rather than having a graduate degree, controlling for the other variables in the model. The odds of experiencing more symptoms of DESNOS7, compared to experiencing no symptoms, were reduced by a factor of (0.999) when
the respondents had low occupational prestige rather than high occupational prestige, controlling for the other variables in the model.

Further, the odds of experiencing more DESNOS7 symptoms, compared to experiencing no symptoms, were reduced by a factor of (0.515) when the respondents had low family income rather than high family income, controlling for the other variables in the model.

The odds of experiencing more DESNOS7 symptoms, compared to experiencing no symptoms, were increased by a factor of (1.101) when the respondents were exposed to physical methods of interrogation than not being exposed to those methods. Contrary to that, the odds of experiencing more DESNOS7 symptoms, compared to experiencing no symptoms, were reduced by a factor of (0.937) when the respondents were exposed to psychological methods of interrogation than not being exposed to those methods.

In Model 2, I compared most symptoms versus no DESNOS7 symptoms. The positive parameters for Group 1 (refugees in camps) and Group 2 (refugees outside camps) tell us that both groups were more likely to experience most DESNOS2 symptoms, as opposed to none, when compared to non-refugees.

Also in this model, younger respondents were more likely to experience the most DESNOS7 symptoms, as opposed to none, than older respondents. Males were more likely to experience the most DESNOS7 symptoms, as opposed to no symptoms, than females. Employed respondents were less likely to experience the most DESNOS7 symptoms, as opposed to none, than unemployed ones.

Less educated respondents were less likely to experience the most DESNOS7 symptoms, as opposed to no symptoms, than respondents with a graduate degree.
The negative sign for occupational prestige tells us that respondents with low occupational prestige were less likely to experience most symptoms of alterations in systems of meaning, as opposed to none, than those with high occupational prestige. Further, respondents with low family income were less likely to experience the most DESNOS7 symptoms, as opposed to none, compared to those with high family income.

Respondents exposed to physical and psychological methods of interrogation are more likely to experience the most DESNOS7 symptoms, as opposed to none, compared to respondents who were not exposed to these methods.

The odds ratio for Group 1 in Model 2 shows that the odds of experiencing the most DESNOS7 symptoms compared to experiencing no symptoms were increased by a factor of (2.469) when being a refugee living inside camps rather than being a non-refugee, controlling for the other variables in the model. Likewise, the odds of experiencing the most DESNOS7 symptoms compared to experiencing no symptoms were increased by a factor of (1.631) when being a refugee living outside camps rather than being a non-refugee, controlling for the other variables in the model.

The predicted odds for covariate age tell us that odds of experiencing the most DESNOS7 symptoms, compared to experiencing no symptoms, were increased by a factor of (1.009) when the respondents were young rather than old, controlling for the other variables in the model.

The same model tells us that the odds of experiencing the most DESNOS7 symptoms, compared to experiencing no symptoms, were decreased by a factor of (0.547) by being male rather than female, controlling for the other variables in the model.
The odds of experiencing the most DESNOS7 symptoms compared to experiencing no symptoms were reduced by a factor of (0.452) when respondents were employed rather than unemployed, controlling for the other variables in the model. The odds of experiencing the most DESNOS7 symptoms compared to experiencing no symptoms were decreased by a factor of (0.968) when the respondents were less educated rather than having a graduate degree, controlling for the other variables in the model.

The odds of experiencing the most symptoms of DESNOS7 compared to experiencing no symptoms were reduced by a factor of (0.800) when the respondents had low occupational prestige rather than high occupational prestige, controlling for the other variables in the model. Further, the odds of experiencing the most DESNOS7 symptoms compared to experiencing no symptoms were reduced by a factor of (0.647) when the respondents had low family income rather than high family income, controlling for the other variables in the model.

The odds of experiencing the most DESNOS7 symptoms compared to experiencing no symptoms were increased by a factor of (1.149) when the respondents were exposed to physical methods of interrogation than not being exposed to those methods. Likewise, the odds of experiencing the most DESNOS7 symptoms compared to experiencing no symptoms were increased by a factor of (1.027) when the respondents were exposed to psychological methods of interrogation than not being exposed to those methods.

The model chi square statistic ($\chi^2 = 28$) is not significant, indicating that none of the predictor variables contributed significantly to the model.
Table 26

*Multinomial Logistic Regression Predicting Respondents' Alterations in Systems of Meaning (DESNOSS7), Palestinian Child Ex-Detainees, 2006*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>More symptoms vs no symptoms</th>
<th></th>
<th>Most symptoms vs no symptoms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Odds ratio</td>
<td>B</td>
<td>Odds ratio</td>
</tr>
<tr>
<td>Constant</td>
<td>2.517</td>
<td>(2.179)</td>
<td>1.283</td>
<td>(2.334)</td>
</tr>
<tr>
<td>Groups: (Ref=Non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>-.942</td>
<td>(.538)</td>
<td>.904</td>
<td>(.578)</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>.448</td>
<td>(.599)</td>
<td>.489</td>
<td>(.648)</td>
</tr>
<tr>
<td>Current Age</td>
<td>-.026</td>
<td>(.032)</td>
<td>.009</td>
<td>(.034)</td>
</tr>
<tr>
<td>Male</td>
<td>-.587</td>
<td>(.715)</td>
<td>-.603</td>
<td>(.763)</td>
</tr>
<tr>
<td>Employed</td>
<td>.341</td>
<td>(.809)</td>
<td>-.794</td>
<td>(.873)</td>
</tr>
<tr>
<td>SES Education</td>
<td>.151</td>
<td>(.187)</td>
<td>-.032</td>
<td>(.208)</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>-.001</td>
<td>(.542)</td>
<td>-.223</td>
<td>(.570)</td>
</tr>
<tr>
<td>Tot. Family Income</td>
<td>-.664</td>
<td>(.419)</td>
<td>-.436</td>
<td>(.447)</td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>.097</td>
<td>(.072)</td>
<td>.139</td>
<td>(.075)</td>
</tr>
<tr>
<td>Psychological</td>
<td>-.065</td>
<td>(.059)</td>
<td>.026</td>
<td>(.065)</td>
</tr>
<tr>
<td>-2 log Likelihood</td>
<td>330</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model $\chi^2$</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>.163</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degrees of Freedom</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>173</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Note. The odds ratio is the antilog of the B, and standard errors are in parentheses.

**OLS Results of DESNOSSUM (or Complex Trauma) Index**

DESNOSSUM is an index variable representing a composite indicator of the disorder of extreme stress not otherwise specified (complex trauma). It represents a single score that summarizes responses to all symptoms underlying this.

As seen in Model 1 in Table 27, the overall model is statistically insignificant at the .05
level when forced with the initial variables for the individual group clusters. The regression coefficients for child refugees in camps \( (b = 0.546) \) and outside camps \( (b = 1.103) \) have a positive relationship with the DESNOSSUM, or those ex-detainees are more likely to exhibit complex trauma, but are not individually statistically significant at the .05 level.

As exhibited in Model 2, the three socio-demographic variables where forced into the model and the overall model was statistically significant at the .05 level. The overall model and the regression coefficients for the socio-demographic variables for age and employment are statistically significant at the .05 level. The positive coefficient of the current age variable \( (b = 0.101) \) indicates that as all participants across all groups age they score higher on the DESNOSSUM index supporting Hypothesis 3. The negative coefficient of the employment variable\( (b = -2.371) \) indicates that, if all other factors remain the same, the participant displays a lower score on the DESNOSSUM index or is less likely to exhibit complex trauma, which is consistent with Hypothesis 5. The regression coefficients for child refugees in camps \( (b = 0.650) \), refugees outside camps \( (b = 1.240) \), and gender \( (b = -0.337) \) are all statistically insignificant at the .05 level for this model. Though insignificant as individual predictors the inclusion of the additional variables increased the \( R^2 \) to \( (0.049) \).

As detailed in Model 3, the socioeconomic variables were introduced to this Model making the model insignificant at the .05 level. The regression coefficient for refugees outside camps \( (b = 1.822) \) and the socio-demographic variable current age \( (b = 0.128) \) are the only statistically significant variables within this model at the .05 level. The positive coefficient of the refugees outside camps variable indicates that those ex-detainees score higher on the DESNOSSUM index compared to non-refugees, supporting Hypothesis 2.
### Table 27

*Estimates of OLS Regression Models Predicting Respondents’ DESNOSSUM Symptomology, Palestinian Child Ex-Detainees, 2006*

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>β</td>
<td>B</td>
<td>β</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>6.897*** (.514)</td>
<td></td>
<td>5.619*** (1.606)</td>
<td></td>
</tr>
<tr>
<td>Groups:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Ref=non-refugees)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugees in camps</td>
<td>.546 (.827)</td>
<td>.050</td>
<td>.650 (.828)</td>
<td>.059</td>
</tr>
<tr>
<td>Refugees outside camps</td>
<td>1.103 (.935)</td>
<td>.089</td>
<td>1.240 (.927)</td>
<td>.101</td>
</tr>
<tr>
<td>Current Age</td>
<td></td>
<td>.101** (.048)</td>
<td>.128** (.052)</td>
<td>.231</td>
</tr>
<tr>
<td>Male</td>
<td>-2.371** (.874)</td>
<td>-.235</td>
<td>-1.918 (1.467)</td>
<td>-.187</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
<td>-.337 (1.114)</td>
<td>-.162 (1.191)</td>
<td>-.010</td>
</tr>
<tr>
<td>SES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-.023 (.335)</td>
<td>-.006</td>
<td>-.023 (.335)</td>
<td>-.006</td>
</tr>
<tr>
<td>Occupational prestige</td>
<td>-.471 (.990)</td>
<td>-.063</td>
<td>-.471 (.990)</td>
<td>-.063</td>
</tr>
<tr>
<td>Tot. Family Income</td>
<td>-.054 (.724)</td>
<td>-.006</td>
<td>-.054 (.724)</td>
<td>-.006</td>
</tr>
<tr>
<td>Methods of interrogation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( R^2 )</td>
<td>.007</td>
<td>.049</td>
<td>.058</td>
<td>.123</td>
</tr>
<tr>
<td>( F )</td>
<td>.733</td>
<td>1.958*</td>
<td>1.265</td>
<td>2.290**</td>
</tr>
<tr>
<td>( N )</td>
<td>200</td>
<td>198</td>
<td>174</td>
<td>174</td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01; ***p ≤ .001. Note. Standard errors are in parentheses.
The output for Model 4 includes all variables from the previous 3 models with methods of interrogation variables introduced. The overall model and the variable for physical interrogation methods are statistically significant at the .05 level. The positive coefficient of the physical interrogation methods variable (b = 0.223) indicates that as the frequency of physical interrogation methods or number of occurrences of an individual method increases the survey participants exhibited a higher score on the DESNOSSUM index or are more likely to exhibit complex trauma, which is consistent with Hypothesis 10.

The remaining regression coefficients were insignificant at the .05 level. Though some variables are insignificant as individual predictors the inclusion of the additional variables increased the $R^2$ to (0.123), further enhancing the goodness to fit in comparison to Model 2 and providing the most robust model for the prediction of DESNOSSUM index scores.

![Histogram of complex trauma (DESNOSSUM).](image)

Figure 12. Histogram of complex trauma (DESNOSSUM).

Figure 13 shows that the residuals are randomly distributed around the line through 0, suggesting that the variances are equal.
The primary hypothesis of this research was that child camp refugee ex-detainees living in or outside refugee camps have a higher level of PTSD and DESNOS symptoms than non-refugee child ex-detainees. This hypothesis is based on the assumption that Palestinian Child Camp Refugees are the most vulnerable victims because of 1) their low socioeconomic status and 2) living in politically violent, economically and socially stressful circumstances. However, this hypothesis was not confirmed in this research. This result implies that for Child Refugees ex-detainees, the mere exposure to socially and economically stressful environment and political hardships was minimally associated with increased distress indices. Obviously, these circumstances are “insufficient to invoke a profound reaction at the level of psychiatric symptomatology” (Slone et al., 1999, p. 87).

In Chapter 2, two sociological approaches are used to explain the development of trauma among child ex-detainees. The analysis for the central Hypotheses 1 and 2 did not
confirm the argument. Overall, the results contradict with prior findings on the association between child refugee ex-detainees and psychiatric disorders, particularly those living in refugee camps and experienced earlier war trauma, displacement, longstanding conflict and community violence (Nader et al., 1990; Qouta, Punamaki, and El Sarraj, 1995; Savin et al., 1996; Baker, 1990; Qouta et al., 1995a; Shannon, 1994). In the following chapter a discussion of the possible reasons are argued in relation to the existing literature.

Additionally, this chapter examined a number of factors the researcher assumed that they can lead to Palestinian child ex-detainees psychopathology. Multiple regression, logistic regression and multinomial regression analyses were completed to establish which variables were associated with trauma symptoms. The following chapter examines the results of the regression analyses the researcher performed as they relate to the ten hypotheses postulated in chapter 2.
CHAPTER V

DISCUSSION AND CONCLUSIONS

This chapter summarizes the findings of this research and discusses their implications. It also raises questions for further investigations.

Summary of the Findings

_Hypotheses 1 and 2_

Hypotheses 1 and 2 posit that child camp refugee ex-detainees living in refugee camps or outside those camps have a higher level of trauma (PTSD-DESNOS) symptoms compared to non-refugee children.

The above-mentioned hypotheses are not totally confirmed by this research. For example, the results of the ordinary least square (OLS) regression analysis for hyperarousal (PTSD3) yielded unexpected results and showed a statistically significant negative association for the level of symptoms experienced by refugees living outside camps compared to non-refugees. Refugees outside camps are less likely to experience elevated levels of hyperarousal compared to non-refugees. This result provided support for the exact opposite of what the researcher hypothesized. Yet, the significant association withers away in the full model.

The same findings apply to OLS regression results in Table 20. The models show that the predicted Post-Traumatic Stress Disorder index (PTSDSUM) levels among the three groups of child ex-detainees and the results contradict what the researcher anticipated. There is a statistically significant negative relationship between refugees living outside camps and PTSDSUM index levels. They are less likely to experience these symptoms compared to non-
refugees; however, this significant association disappears when we add all the explanatory variables to the full model.

Likewise, in Table 25, logistic regression findings did not provide support for what we theorized. Contrary to that, child camp ex-detainees living in refugee camps are less likely to experience elevated levels of alterations in relations with others as opposed to non-refugees. There is a statistically significant and negative association, $P<0.05$, as indicated in the full model.

Yet the results of the first model of the multinomial regression in Table 22 support the hypothesis that child camp ex-detainees living in refugee camps have a statistically significant proportion of elevated symptoms of alterations in attention and consciousness (DESNOS2) compared to non-refugee children. And the association is highly significant ($p < 0.05$). Yet, these findings disappear in the full model when we add all the predictors to the regression model.

Similar results were found in Table 23. The findings indicate a statistically significant positive association ($p < 0.05$) between alterations in self-perception among refugees living outside camps compared to non-refugees. The research hypothesis is supported that this group of refugees has elevated levels of this type of trauma.

**Hypothesis 3**

Hypothesis 3 suggests that older child ex-detainees have a higher level of PTSD and DESNOS than younger child ex-detainees. According to the OLS regression findings in Table 17, Model 2 confirms what the researcher postulated. The older the age of respondents the more likely they will experience elevated levels of PTSD1 (re-experiencing the trauma).
Similar to these findings are the OLS regression results in Table 19. The table displays evident confirmation of the hypothesis above. The findings in the three models reflect a statistically significant positive relation between the age of the child and hyperarousal symptoms (PTSD3 score). Likewise, Tables 20 and 21 demonstrate a statistically significant and positive association between the age covariate and PTSD score levels in Models 2 and 3 and in the alterations in regulation of affect and impulses symptoms or DESNOS1 score level. Also, in Table 23, the hypothesis is partially confirmed in the results provided through Model 3. They confirm the positive and significant relationship between age and the alterations in self-perceptions scores among respondents.

The most important results pertaining to complex trauma, or DESNOS total score, are presented through Table 27. They reflect positive and highly significant results between age and the summated index score of complex trauma (DESNOSSUM). Yet the results wither away in the full model.

**Hypothesis 4**

Hypothesis 4 suggests that males have higher levels of PTSD and DESNOS than females. Gender is rejected as a significant predictor of PTSD and DESNOS trauma, and for the categories as well. It did not produce statistically significant relationships in any of the regression analyses the researcher conducted.

**Hypothesis 5**

Hypothesis 5 postulates that unemployed child ex-detainees have higher levels of PTSD
and DESNOS than employed ones.

According to the OLS regression findings in Table 17, Model 4 confirms what the researcher postulated. Employed respondents are less likely to experience elevated levels of PTSD1 (re-experiencing the trauma). Similar to these findings are the multinomial logistic regression results displayed in Table 18. They tell us that employed respondents are less likely to experience elevated symptoms of avoidance and numbing compared to the unemployed respondents. Similar results are demonstrated through Tables 19 and 20. The OLS regression results across all the models where this predictor was added reflected a statistically significant negative association between being employed and hyperarousal symptoms (PTSD3) and Post-Traumatic Stress Disorder index score. This predictor exhibits overwhelming significance for predicting simple trauma (PTSD and its categories).

In contrast, Tables 21, 22, and 23 demonstrate a statistically significant and negative association between this covariate and the alterations in regulation of affect and impulses symptoms (DESNOS1) score level and alterations in attention and or consciousness (DESNOS2) and alterations in self-perception (DESNOS4). These significant associations were only confirmed in Model 1 as shown in the above-mentioned tables.

Tables 24, 25, and 26 show that this predictor did not produce any significant results pertaining to alterations in perception of the perpetrator (DESNOS5); alterations in relations with others (DESNOS6), or alterations of systems of meaning (DESNOS7).

Yet the results pertaining to complex trauma, or DESNOSSUM, which are presented in Table 27 reflect negative and highly significant associations between being employed and the summed index score of complex trauma (DESNOSSUM). However, the association is
demonstrated only in Model 1 of the OLS regression, and then it withers away in the full model.

**Hypothesis 6**

Hypothesis 6 posits that a higher level of education is associated with a lower level of PTSD and DESNOS symptoms.

The above-mentioned hypothesis is confirmed as reflected in Table 17. The results of the OLS regression analysis for re-experiencing the trauma (PTSD1) indicate a statistically significant negative association between the level of education and the level of PTSD1 symptoms. The higher the level of education the less likely the respondent is to experience elevated levels of PTSD1. In contrast, the multinomial regression results in Table 18 produced statistically non-significant association between this predictor and avoidance or numbing (PTSD2).

Different findings are shown in Tables 19 and 20. The models confirmed what the researcher anticipated. There is a statistically significant negative relationship between the level of education and PTSD3 and PTSDSUM scores. Yet the association was only confirmed in Model 3 as shown in Table 19. Compared to that, the association was totally confirmed in all models in Table 20, indicating that level of education is a strong predictor of PTSD scores.

Tables 21 through 27 yielded unexpected results, as the predictor “the level of education” did not exhibit overwhelming significance for predicting the complex trauma (DESNOS), or any of its categories. The findings did not provide support to what I theorized.
Hypothesis 7

Hypothesis 7 posits that the higher the respondent’s occupational level, the more likely he/she is to report a PTSD or DESNOS symptoms.

The above-mentioned hypothesis was not confirmed, as the regression results in Tables 17, 18, and 19 reveal. The covariate occupational level as one of the important dimensions of SES did not produce a statistically significant association with the three categories of PTSD score. However, the OLS regression (Table 20) provided contradictory results to what the researcher postulated. Occupational prestige, according to the full model, is a strong predictor for the post-traumatic stress disorder (PTSDSUM) score. It tells us that the higher the occupational prestige level of the respondent the more likely he/she is to experience elevated levels of PTSDSUM. It is a statistically positive association. Therefore, the hypothesis is rejected.

Regarding complex trauma and its categories, Tables 21 through 27 yielded unexpected results, as the predictor “occupational prestige level” did not exhibit overwhelming significance for predicting complex trauma (DESNOS) or any of its categories. The findings did not provide support to what I theorized.

Hypothesis 8

Hypothesis 8 posits that the lower the income, the more likely respondents are to report a PTSD or DESNOS diagnosis.

The above-mentioned hypothesis was rejected based on the regression results shown in Tables 17, 18, 19, and 20. The covariate total income of the family as one of the important
dimensions of SES did not produce a statistically significant association with the three categories of PTSD score, or the Post-Traumatic Stress Disorder score.

Similarly, this predictor as revealed through Tables 21, 22, and 23 did not produce any significant results pertaining to alterations in regulation of affect and impulses (DESNOS1), alterations in attention and or consciousness (DESNOS2), or alterations in self-perception (DESNOS4).

Similar to the above results, Table 24 did not support what the researcher postulated. It tells us that the predictor “total family income” significantly predicts alterations in perception of the perpetrator (DESNOS5) symptoms. It produced a statistically significant but positive association between this predictor and the response variable. It tells us that the higher the total family income level, the more likely the respondent is to experience higher levels of alterations in perception of the perpetrator (DESNOS5) symptoms.

Once again, the hypothesis is rejected according to what Tables 25, 26, and 27 demonstrate. This predictor did not overwhelmingly predict symptoms of complex trauma, specifically alterations in relations with others (DESNOS6), alterations of systems of meaning (DESNOS7), or DESNOSSUM symptoms. The findings did not provide support to what the researcher posited.

**Hypothesis 9**

Hypothesis 9 suggests that a higher score on the scale of physical methods of interrogation is associated with a higher level of PTSD and DESNOS symptomology. According to the OLS regression findings in Tables 17 and 18, this hypothesis was rejected. The results did
not support what the researcher postulated. This predictor did not produce significant results in predicting these categories of simple trauma.

Contrary to that, Tables 19 and 20 confirm what the researcher posited. The hypothesis is confirmed. The results reveal that this method of interrogation is a very strong predictor of hyperarousal symptoms (PTSD3) and Post-Traumatic Stress Disorder index level (PTSDSUM).

Likewise, the hypothesis is confirmed according to the findings in Tables 21, 23, and 27. This predictor is a strong predictor of alterations in regulation of affect and impulses elevated levels (DESNOS1) and alterations in self-perception (DESNOS4) or the DESNOSSUM symptoms.

But according to Tables 22, 24, 25, and 26 the hypothesis was once again rejected. Method of interrogation failed to predict alterations in attention and or consciousness (DESNOS2), alterations in perception of the perpetrator (DESNOS5), alterations in relations with others (DESNOS6), or alterations of systems of meaning (DESNOS7).

*Hypothesis 10*

Hypothesis 10 suggests that a higher score on the scale of psychological methods of interrogation is associated with a higher level of PTSD and DESNOS symptomology.

What I postulated above is confirmed only in Table 17; the hypothesis is confirmed. The findings show that psychological methods of interrogation are a strong predictor of re-experiencing the trauma elevated levels. Other than this result, and consistently, this predictor produced non-significant results when added to all regression models to predict simple or complex Trauma levels. Therefore, the hypothesis is rejected according to the findings shown in Tables 18 through 27.
The sociological approach to mental illness conceptualizes disorders as a direct consequence of the social structure and the structural arrangements of a society. This study addressed the correlates of simple and complex trauma symptomology among Palestinian child ex-detainees: the sociodemographic characteristics of the targeted population, their socioeconomic status, and the methods of interrogation they are exposed to during detention. The main objective behind this work is to provide answers to the research questions introduced before starting our investigation. They are:

1. Whether the three groups of Palestinian child ex-detainees differ in PTSD-DESNOS as well as their categories?
2. Whether the differences still exist after controlling for sociodemographic factors, SES, and physical and psychological methods of interrogation.

This study explored the relationships between the predictors and the outcome variables based on a sociological theoretical grounding that facilitated testing the procedures for that relationship. Based on the findings of this research, the researcher was able to answer the questions presented in the first chapter.

In this chapter, the results of all the regression analyses were discussed. Specifically, the findings as they relate to each outcome variable.

**PTSD Simple Trauma and Its Categories**

*Re- Experiencing the Trauma (PTSD1)*

The regression analysis as shown in Table 17 indicates that employment status, the level of educational attainment and the psychological methods of interrogation are the most significant predictors of this type of trauma. These results show that employed respondents
who are highly educated were less likely to experience this trauma; however, those scored higher at psychological methods of the interrogation index were more likely to experience this trauma. Therefore, Hypothesis 5 using (employment status) as a predictor; Hypothesis 6 predicting inverse association between PTSD1 and level of education; and Hypothesis 10 predicting a positive association between psychological methods of interrogation and re-experiencing the trauma (PTSD1) are all confirmed.

Avoidance or Numbing (PTSD2)

All the predictors used in the logistic regression and across all the models of Table 18 point at rejecting what the researcher hypothesized. So, Hypotheses 1 through 10 are totally rejected, the findings did not yield any significant associations.

Hyperarousal (PTSD3)

OLS regression models in Table 19 tell us that age, gender, employment status and physical methods of interrogation are the strongest predictors of hyperarousal. Hypothesis 3 which predicted positive association between the age of respondent and hyperarousal was confirmed. Similarly, Hypotheses 5 and 9 were confirmed, the first one predicted a negative association between employment status and hyperarousal and the second one predicted a positive association between physical methods of interrogation score and the outcome variable. However, Hypothesis 4 which predicted that males experience higher levels of hyperarousal was rejected. The results in the table demonstrate that males were less likely to experience high levels of hyperarousal.
Post-Traumatic Stress Disorder Index -Simple Trauma (PTSDSUM)

This index is the summated index for all the categories of the simple trauma (PTSD).

According to the results shown in Table 20, it is evident that gender, employment status, education, occupational prestige and physical methods of torture are the strongest predictors of the simple trauma (PTSDSUM) among the target population. Most importantly, there was a statistically significant association between refugees living outside camps and simple trauma. This group of ex-detainees is less likely to experience elevated levels of simple trauma compared to non–refugees. Accordingly, I reject Hypothesis 2. These findings contradict with what Chen (2004) stressed in her study titled, Why socioeconomic status affects the health of children? Chen affirmed that “lower-SES children experience more negative life events” and those “lower-SES individuals may be more prone to experiencing negative emotional states than higher-SES individuals.”

Likewise, I reject Hypothesis 4, since males were less likely to experience higher levels of PTSDSUM compared to females. Yet, Hypothesis 5 is confirmed concerning employment status where being employed is associated with less PTSDSUM, as well as Hypothesis 9 where it was predicted a positive association between physical methods of interrogation and elevated levels of simple trauma. Moreover, based on the results of that table I reject Hypothesis 7, since I found that the higher the occupational prestige status of the respondents the more likely they experience higher levels of simple trauma.
Complex Trauma (DESNOS) and Its Categories

**Alterations in Regulation of Affect and Impulses (DESNOS1)**

The results in Table 21 indicate that the current age of the respondents and the physical methods of interrogation were the strongest predictors of alterations in regulation of affect and impulses (DESNOS1). Hypotheses 3 and 9 were confirmed by a statistically significant and positive association between age and the physical methods of interrogation as predictors for higher levels of DESNOS1.

**Alterations on Attention and Consciousness (DESNOS2)**

Based on the results presented in Table 22, it is very clear that the multinomial regression analysis did not show a statistically significant association between any of the predictors and this type of trauma specifically when I compared the highest level of DESNOS2 symptoms and no symptoms. However, when I compared least symptoms with no symptoms, the regression results in model 1 revealed a statistically significant and positive association between refugees living in camps compared to non-refugees in the level of DESNOS2 symptoms. Refugees living in camps suffer from an elevated level of symptoms compared to the reference group. Additionally, the table tells us that there was a statistically significant and negative association between employed respondents and the presence of this type of trauma. I conclude from the table that only Hypotheses 2 and 5 are confirmed.

**Alterations in Self-Perception (DESNOS4)**

According to OLS regression results in Table 23, the researcher found that the strongest
predictor of DESNOS4 was physical methods of interrogation, confirming Hypothesis 9.

Similarly, Hypothesis 2 was confirmed by a statistically significant and positive association between refugees living outside camps and elevated levels of DESNOS4. The other Hypotheses 1, 3, 4, 5, 6, 7, 8 and 10 were rejected.

*Alterations of Perception of the Perpetrator (DESNOS5)*

Based on the logistic regression results shown in Table 24, the researcher found that total family income was the only significant predictor for alterations of perception of the perpetrator. Yet (H 8) was rejected because, as the table shows, there was a positive and statistically significant relationship between the total family income level and the presence of DESNOS5 symptoms. This result did not provide support for what the researcher postulated. Therefore, all 10 hypotheses were rejected.

*Alterations in Relations with Others (DESNOS6)*

All the hypotheses (1 through 10) are totally rejected based on the results of the logistic regressions shown in Table 25. The only significant result (contrary to what I hypothesized) was that there was a negative and statistically significant relationship between refugees living in camps and DESNOS6 trauma. This group of children is less likely to experience this trauma compared to non-refugees.

*Alterations in Systems of Meanings (DESNOS7)*

The multinomial regression results shown in Table 26 did not reflect any statistically
significant associations between the predictors included in the regression models and this type of trauma. All the predictors failed to predict symptoms of alterations in systems of meaning among child ex-detainees. Therefore all 10 hypotheses were rejected.

*Complex Trauma (DESNOSSUM Index)*

This index is a summated scale for all the categories mentioned above (DESNOS1, DESNOS2, DESNOS4, DESNOS5, DESNOS6, and DESNOS7). The results indicate that the only predictor of complex trauma among child ex-detainees was physical methods of interrogation.

There was a positive and statistically significant relationship between the predictor and the outcome variable. Accordingly, Ha (9) is confirmed. However, all the other predictors failed to predict DESNOSSUM symptoms.

**Summary**

Following the main goals of this study, I tried to avoid the skewed focus of studying only simple trauma (PTSD) among child ex-detainees. I added the complex trauma (DESNOS) to be examined to reflect the complexity of child ex-detainees’ psychosocial comorbidity. When DESNOS was established as a distinct syndrome from PTSD, a structured clinical interview was specifically developed to introduce the new concept (Herman, 1992; Van der Kolk, Mandel, Pelcovitz, and Roth, 1992a). Authors from previous studies argued that PTSD does not capture the symptomology experienced by victims of severe and repeated traumatization.

Although the findings of this research were very complex, the general results did not provide strong support for the theories included in the previous chapters. The theories
assumed that low-SES children are more susceptible to trauma compared to high-SES children. In addition, the social arrangements of their living environments are behind the complexity of their psychopathology. This study did not provide sufficient support for these theories. In general, the inverse relation between SES and mental health was not totally confirmed in this study.

Initially, the three groups of children were compared to determine if they differ in the level and the type of trauma, if any, reflecting the variation. This comparison was employed because the detection of the trauma among child ex-detainees while considering their demographic and socioeconomic profile is a critical task for the understanding of the complexity of their psychopathology. It was predicted that PTSD and DESNOS scores (and their categories) would differ as a function of a child’s political identity (refugee or not), age, gender, and occupational status. Also, it was predicted that the two traumas’ symptomology in children would vary with their Socioeconomic Status and the extent to which these children were exposed to physical and psychological methods of interrogation when detained. I found that few of these predictors have a significant association with psychopathology among child ex-detainees as illustrated earlier.

Child Refugee Ex-Detainees Living in Camps

I postulated that the life of Palestinian refugees, specifically those still living in refugee camps, is subject to various types of stressors. Most importantly, they are one of “the least well served by coordinated health interventions” (Vickers & Masri, 2005, p. 1). According to Khamis (2005) “Post-traumatic stress disorder (PTSD) was diagnosed in 34.1% of the children, most of
whom were refugees.” (p.81). Bremner et al. (1995) in their study confirmed the results published by Khamis (2005) and emphasized that stressful living conditions caused by the exposure to stressful environment in childhood lead to developing PTSD when exposed to severe trauma later in life. Yet this study found many unexpected findings: child ex-detainees living in refugee camps, in general, did not report PTSD or DESNOS reactions compared to their counterparts. Continuing PTSD and DESNOS symptoms were more prevalent among the group of refugees living outside the camps and the non-refugee group.

Data shown in Tables 19, 20, 22, and 25 do not support the first/key hypothesis of this study. However, there is at least one finding that supported the researcher’s hypothesis; in Table 22, refugees living in camps were more likely to experience elevated levels of alterations in attention or consciousness (DESNOS2). This type of trauma was not captured in the diagnostic criteria of simple trauma (PTSD) or its indices. This group met the criterion of alterations in attention and consciousness (DESNOS2), encompassing “the subcategories amnesia, transient dissociative episodes and depersonalization” noted by El Sarraj et al. (1996, p. 579).

One possible reason for the general absence of DESNOS complex trauma symptoms among the Child Refugee ex-detainees was argued by El Sarraj et al. (1996) when they wrote, “traumatization after the age of 26 seldom led to DESNOS” (p. 578). In this study, the sample included 86 out of 202 respondents above the age of 26 years at the time the survey was administered.

Along with that explanation, Stein et al. (2005) saw that the failure to diagnose this type of complex trauma is due to “the restricted range of the items of dependent variable (yes or no
DESNOS diagnosis) in this analysis” (p. 872). For refugees in camps, the DESNOS absence tells us that the volatile childhood that these children experienced was not associated with severe pathological reactions or heightened sensitization to trauma.

The most important and sound explanation I would like to highlight is provided by Miller and Rasco (2004), when they asserted that:

Refugees often possess remarkable resilience, including a determination to adapt as well as possible to the most challenging of circumstances. This resilience is evident in the development of community organizations and structures that permit some degree of re-establishment of normality and collective coping. It is also evident in the remarkable adaptation of some individuals who, despite significant hardships, master the many challenges facing them and become leaders in their communities. (p. 23)

To expand upon the study findings, I would emphasize what Stein et al. (2005) indicated: “individuals exposed to childhood trauma subsequently develop adaptive coping methods to deal with extreme stressors...and that childhood trauma may inoculate against PTSD development when severe traumas are repeatedly experienced” (p. 872).

Child Refugee Ex-Detainees Living Outside Camps

In contrast, refugees living outside camps (as shown in Table 23 of this study) do suffer from alterations in self-perception (DESNOS4) symptomology, including “feelings of helplessness, the feeling of having sustained permanent damage, and feelings of guilt and shame” (El Sarraj et al., 1996, p. 579). Additionally, in Model 2 in Table 27, this group of refugees experienced symptoms of complex trauma (DESNOSSUM) and qualified for the DESNOS diagnosis more than the other two groups of children. They were the only group subjected to interpersonal stressors and met the criterion of complex trauma. According to El Sarraj et al. (1996), complex trauma is commonly related to interpersonal stressors and “early
childhood traumatization and/or chronic, prolonged traumatization” (p. 578). This also could be explained by the harmful influence from the new surroundings and social environment; both shaped their lives after they moved from the camps. As a consequence, this group of refugees suffered from social isolation reflected in distancing and hostility, in addition to stigma and alienation.

The general findings of this study augment the credibility of the relation between socioeconomic and political factors to trauma outcomes specifically among Palestinian Child Refugees ex-detainees. Despite the continuous victimization of this segment of Palestinian children, “a strong attempt to maintain psychological intactness is found” (Punamaki, 1990, p. 83). There may lie a clue in the dimensions of ideological commitment; patriotism and glorification of war and the values of national pride on symptomatological manifestations of trauma among the two groups of Child Refugees in specific and the Palestinian population in general (Punamaki, 1996). Within circumstances of political hardships the ideological commitment has been stimulated to enhance social support and community structures (Allodi, 198). Most importantly, ideology “serves as a psychological counterforce to the political hardship and violence” (Altawil et al., 2008, p. 7) that Palestinian Child Refugee ex-detainees witness and experience. Their psychological stress reactions have to be moulded to suit the political situation. These reactions in themselves become a weapon (Punamaki, 1990). In general, we conclude that the socio-political context of the national conflict gives unexpected, yet, a special meaning to hardships to those who are directly involved in that conflict and therefore regulates their emotional and psychological expressions and reactions. This may explain the socio-political persistence of Child Refugee ex-detainees. They know that the
psychological knowledge and resilience plays a central role in defeating the enemy, regardless of the level of exposure to political violence.

As a result, a revision of the theoretical understanding of the relation between sociopolitical and economic developments at the individual and the collective level and the psychological developments should be considered.

To conclude, if we want to understand child refugees’ mental health based on the results of this research, we have to acknowledge that a major shift from the previous literature should be noted, especially when we try to investigate the mental health of Palestinian refugee child ex-detainees living in camps. There is a need to find variables that will more accurately assess the prevalence of PTSD and DESNOS among child ex-detainees while taking into account the variation in the social environments of these two refugee groups by focusing more on residential patterns. I recommend the use of more culturally sensitive instruments in future research. Also, the use of qualitative methods will allow the participants to use their own words to describe their experiences.

Another aspect of this study focused on testing the socioeconomic status covariates and their effects on the two main trauma types and their subcategories. Two theoretical explanations are presented in the previous chapters to relate SES to mental disorders; both predict an inverse association between socioeconomic status and psychopathology among adults and children alike. The theory of social causation hypothesizes that the incremental adversity repeatedly experienced by the disadvantaged and vulnerable groups in any society produces incrementally higher rates of psychopathology at all SES levels (Dohrenwend, 1992). On the other hand, using structural strain theory, we know that the founders of this theory
posited that the economic organization of any society puts specifically vulnerable groups at a socioeconomic disadvantage. This in itself is a strain that produces elevated rates of psychopathology among lower-status groups than in higher-status groups (Horwitz and Scheid, 1999).

When I analyzed the results of this research, specifically those concerning the relationship between SES and trauma, I found that education and occupational prestige were significantly related to PTSDSUM symptoms. These results partially confirmed what was hypothesized in the relevant published literature. The results revealed that highly educated respondents were less likely to experience simple trauma symptomology. Therefore, this expected and predicted inverse relationship is confirmed. Yet the regression analysis showed an unexpected result regarding occupational prestige; it indicated that those with higher occupational prestige are more likely to experience these symptoms and are exposed to more psychological risks. This can be attributed to the fact that they encounter a highly stressful environment with complicated life domains through their work. That requires a larger psychological response that leads after all to diminishing reserve capacity for responding to mental challenges and definitely make them more vulnerable to elevated levels of trauma (Adler et al., 2003).

The total family income was not associated with the two types of trauma and their categories’ symptomology. This result can be explained by looking at the distribution of the total family income for the targeted population in our study. The covariate income did not reflect major variations in the income categories. Therefore, it is not surprising that this predictor did not produce a statistically significant association with trauma symptomology.
These last results presented evidence supporting the approach used in this study, that is, to assess the impact of each dimension of SES separately and not as a summated scale. SES reflects multi-dimensional aspects of the social position of the individual. Our approach is justified by the fact that each one of these dimensions reflects different resources as stated by Adler et al. (2003): education confers knowledge, credentials and social networks; income provides access to better housing, nutrition, and health care (p. 119).

Even though it is well established in the literature that higher SES is normally associated with better physical and mental health, this study did not show a consistent demonstration of this relationship. This conclusion suggests that we still need to differentiate between SES dimensions and their effects on the physical and mental health as two distinct outcomes.

More importantly, these SES covariates failed to produce a significant association with complex trauma (DESNOSSUM). By referring to the age distribution of the respondents, I found that 57.4% were above 26 years of age, the age when symptoms of complex trauma tend to fade.

In addition to SES covariates, I also assessed the effects of the two methods of interrogation on trauma levels among the three groups. I found that physical methods of interrogation were associated both with elevated levels of simple trauma (PTSDSUM) and complex trauma (DESNOSSUM). This is evidence that this specific type of interrogation is directly related to psychiatric comorbidity (i.e., two types of traumas). We can say now that these results accord empirical support for what Van der Kolk and his colleagues found in their study (1996). They reported that “many individuals with PTSD also consistently displayed a number of other symptoms not captured in the PTSD diagnostic criteria” (p. 376). According to
Van der Kolk et al., the combination of symptoms represented by the PTSD and DESNOS criteria “rarely occur as a syndrome in subjects not exposed to high-magnitude or chronic stressors, which supports the notion that DESNOS constitutes a complex post traumatic syndrome associated with chronic / severe interpersonal traumatization” (p. 376). Along with these results, Van der Kolk et al. firmly proved “the common co-occurrence of DESNOS and PTSD in patients with histories of chronic traumatization” (p. 376). Physical methods of interrogation, if exercised against children in prison, produce co-morbid conditions that reflect the facets of long-term psychological injury and severe trauma symptomology. In other words, physical methods, if practiced against children during detention, provide compelling proof that exposure to these methods produces full criteria for simple PTSD and DESNOS diagnosis.

Conclusions and Implications of the Study

Living in refugee camps affects children by making them more vulnerable to various types of disorders due to the harsh living conditions, including lack of basic physical needs, densely crowded residential areas, lack of utilities, high unemployment, etc.

This study tested the variations in simple and complex PTSD levels among the three groups of child ex-detainees. My main goal is to contribute more specifically to 1) whether categorizing child ex-detainees based on living in or out of refugee camps as an explanatory variable can account for trauma differentials; 2) how the various dimensions of SES account for psychopathology among child ex-detainees; and 3) how the various methods of interrogation practices affect children and account for correlates of simple and complex PTSD.
Thus far, the general findings stated in this dissertation have not provided support for the previously discussed theories. What I found demonstrated the importance of examining variations in trauma symptomology between three distinct heterogeneous groups of Palestinian child ex-detainees. They evidently reflected variations in psychiatric reactivity to trauma. The published literature (Smith et al., 2002; Thabet and Vostanis, 2000) on trauma among Palestinian child refugees deals with them as one homogeneous group.

What make this study of great value is the two categories of child refugees I examined in comparison to the reference group. It was evident that child refugee ex-detainees living outside camps are the most vulnerable group, and the most susceptible to trauma. This can be attributed to the lack of strong social networks they used to have while living in camps, in addition to negative stereotyping, social stigma, elevated levels of hostility, and the social exclusion exercised upon them by non-refugees. In contrast, the apparent absence of trauma in child refugee ex-detainees living in camps under consecutive political and economic hardships can be described as such that their emotions have “crystallized” (Punamäki, 1990, p. 75). In other words, they have become very hard and cannot afford to show their sensitization to trauma; they saw their intensified suffering levels as “an affirmation of their status as freedom fighters, and thus did not appraise these events as extremely stressful” (p. 76) in and of themselves. The focus by the published literature on psychopathology among child refugees failed to consider the persistent and remarkable resiliency within refugee communities that provide them with immunity against highly stressful experiences.

An additional conclusion can be drawn regarding the SES trauma-related characteristics. Sociologists of mental health have established the association between SES and
psychopathology for several decades (Faris and Dunham, 1939; Hollingshead and Redlich, 1958; Gurin, Veroff, and Feld, 1960; Dohrenwend and Dohrenwend, 1969; Dopkeen, and Labreche, 1970). This study to some extent contributed to explaining the relationships between SES and mental health, with emphasis on the need for assessing the effects of each dimension of the socioeconomic status on trauma symptomology separately (due to income having no influence in this study). Even though these dimensions are interrelated, they are still distinct measures, reflecting different resources.

Social causation theory, stating that elevated levels of trauma are observed mostly among people in low status groups, was not supported as expected, since the study results revealed that those with high occupational status are more likely to experience the full criteria of PTSD and DESNOS diagnoses. Additionally, the total family income as a key dimension of SES was not associated with trauma symptomology in this study. Based on this conclusion, there is a need for further in-depth analyses of the SES trauma-related characteristics pertaining to traumatized children.

I agree with Wheaton (1995) in his book titled The Epidemiology of Social Stress when he stated that it is not uncommon to prove the inverse relationship between education and psychological distress. He stressed that occupational status specifically corresponds to major depressive disorder symptomology. He emphasized using occupational prestige level rather than family income to measure SES “because more missing data occurs in income” (p. 109). He also mentioned that published literature interested in SES-mental health relationships either examined occupational prestige level alone (e.g., Goldberg and Morrison, 1963; Turner and Wagenfeld, 1967) or as the dominant element in a composite index (e.g., Hollingshead and
Redlich, 1958; Langner and Michael, 1963, p. 108). Our study findings provided strong support to what Wheaton recommended when studying the three dimensions of SES.

The hypothesized determinants of the prevalence of trauma due to physical methods of interrogation are supported in this study but the determinants due to psychological methods are not supported. Usually, these methods were used in Israeli detention centers to “obtain confessions” (El Sarraj et al., 1996, p. 596) about a child’s involvement in political activities. Numerous studies have documented the relationship between these methods of interrogation and subsequent psychopathology. Amnesty International has received reports indicating that:

Palestinians arrested for security reasons and interrogated by Israeli intelligence services have been hooded, handcuffed, and forced to stand without moving for many hours at a time for several days, and have been exposed while naked to cold showers or cold air ventilators for long periods of time. Detainees have also been deprived of food, sleep, and toilet and medical facilities, and have been subjected to abuse, insults, and threats against themselves and the female members of their families. (Punamaki, 1988, p. 82)

However, there is one exception related to the use of these methods and their association with psychopathological symptoms we should not ignore. I found that psychological methods of interrogation produced a statistically significant and positive association with re-experiencing the trauma (PTSD1); they reflect characteristic symptoms such as “intrusive memories and constant dreaming of the trauma.” (El Sarraj et al., 1996). This supports the results by El Sarraj and his team of scholars in their 1996 study mentioned previously. This means that psychological methods produced only a few symptoms of this PTSD subcategory without qualifying for the full PTSD criteria.

I believe that the lack of confirmation of the role of these methods, and their suppressed impact on producing full set of diagnostic criteria for the two disorders and the
relevant subcategories among the research population, can be justified by the fact that the majority of these ex-detainees have undergone repeated clinical assessments by rehabilitation centers throughout Palestine.

Overall, these results impose doubts on the credibility of a general relationship between various methods of interrogation and psychiatric outcomes. Yet we have to be cautious in extending these findings beyond the research population, since all the respondents are referred to the study (snowball sample).

**Study Implications**

In Palestine, for a prolonged period of time, the continuous exposure to the factors of political terror such as (occupation, detention, and chronic conflict etc.) constitutes a risk factor for developing psychopathological symptoms among Child ex-detainees. For more than sixty years, up-to-date polices are implemented consistently to reduce the cumulative sources of trauma and to lessen their consequences on the most vulnerable segments of Palestinian people; children. Therefore, the study of child trauma is essential in preventing psychopathological disorders and implementing treatment.

The central aim of this research is to investigate variations in the trauma symptoms among three groups of Palestinian Child ex-detainees and then ascertain the predictors that account for the level of trauma symptoms among them. This assessment of the psychosocial well-being of Child ex-detainees living in Palestinian Occupied Territories should assist policy makers and designers of rehabilitation programs to successfully achieve their goals in helping Palestinian children who are severely affected by prolonged conflict.
Despite the limitations of this study, mainly the insignificant associations between groups as the main predictors and the outcome variables, the findings—in general—emphasized the need for new polices to reduce the strain and the psychopathological symptoms among Palestinian Child ex-detainees. Especially if we consider that in Palestine, rates of detaining children are increasing.

In order to craft effective intervention programs to improve child ex-detainees’ health and their psychosocial well-being, polices must be focused on eradicating the cultural and socio-economic sources of trauma, not only the political.

The initial step is to implement a nationwide educational policy. Its main goal should be to enhance the enrollment of all ex-detainees in higher educational programs. This study reveals that educated child ex-detainees are less likely to suffer from trauma. Yet, it is important to form specific polices to empower and enable older ex-detainees to actively enroll in informal educational programs that will provide them with psychological knowledge on how to deal with trauma sources. In general, the study reveals that, as all respondents across all groups age, they score higher on simple trauma index. As for younger ex-detainees, regular schools can provide various services (such as screening, detection, and referral to specialized agencies for treatment). Also, these schools can partner with parents and community networks to ensure effective and successful intervention. Further, intensive training programs for clinical psychologists, counselors, therapists and health workers could improve the recognition of child ex-detainees mental health problems then management.

Most importantly, polices should be developed to reduce unemployment rates among child ex-detainees in general. The study indicates that currently employed ex-detainees display
a lower score on the simple and complex trauma indices.

Further, new polices are needed to provide financial support for trauma research centers to assist them to conduct qualitative studies to allow male ex-detainees to more openly express with their own words their traumatic experience to researchers. Also, this can be through projects which fit local contexts and differ from Western-based approaches to Trauma, these projects have to enable recording the memories and narratives by male ex-detainees to encourage assertiveness and self-expression.

Additionally, based on the findings of this study, policy makers need to focus the attention on studying deeply the trauma among Child Refugee ex-detainees living outside camps who are not considered at risk compared to their counterparts regarding their imprisonment experience. The findings indicted that the members of this group were more likely to suffer from higher levels of alterations in attention or consciousness, this cognitive impairment among this group in specific calls for an immediate mental health interventions.

Lastly, the evident practice of physical methods of interrogation in detention centers as the study confirmed necessitates the active involvement of human rights organizations and legal institutions to observe with caution the violations of child detainees’ rights during imprisonment, and to provide these children with the protection and adaptational demands to face their profound crisis.

Future Research

Based on the previous argumentation and the study results presented here, further research must be established, including larger and stratified samples; culturally sensitive
instruments; empirical testing to the kind of group support; the ideological preparation and the psychological coping modes that child ex-detainees, mainly refugees, generally receive to assisting them in the psychological recovery from the detention experience (Punamäki, 1988). In addition, “behavioral, cognitive, and affective tendencies that develop in response to the greater psycho-social stress encountered in low-SES environments must be investigated since it may partially mediate the impact of SES on mental health” (Adler and Snibbe, 2003). And lastly, there is an emergent need to study the “protective processes [which] contribute to resilient mental health outcomes” (Betancourt, 2008) in child ex-detainees in general and in refugees in specific.

Further investigation is needed regarding the items of the subcategories of the two traumas. The researcher proposes the use of each category of trauma in future studies with the list of items under each category fully detailed, and the avoidance of creating scales or indices. This is a very crucial procedure if we intend to comprehensively understand trauma among detained children.
APPENDIX

TREATMENT AND REHABILITATION CENTER FOR VICTIMS OF TORTURE QUESTIONNAIRE
1-Questionnaire #: ________________________________

2-File #: __________________________________________

3-Date of interview: ____/____/2006

Section 1: Background

4- The current age: ________________________________

For each of the following questions, please circle the number that corresponds with your answer.

5- Gender

1-Male  2- Female

6-Marital status

1-Single  2- Engaged  3- Married  4- Divorced  5- Widowed
<table>
<thead>
<tr>
<th>7- Nationality</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Palestinian</td>
</tr>
<tr>
<td>2-Other: Specify________________________________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8- Are you a refugee (1948)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Yes</td>
</tr>
<tr>
<td>2- No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9- Place of residence:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Town/ village</td>
</tr>
<tr>
<td>2-Camp</td>
</tr>
<tr>
<td>3-City</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10: Governorate: (Name of place of residence):</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Jenin</td>
</tr>
<tr>
<td>2- Tubas</td>
</tr>
<tr>
<td>3- Toolkarem</td>
</tr>
<tr>
<td>4- Qalqyliah</td>
</tr>
<tr>
<td>5- Salfeet</td>
</tr>
<tr>
<td>6- Nablus</td>
</tr>
<tr>
<td>7- Ramallah</td>
</tr>
<tr>
<td>8- Jerusalem</td>
</tr>
<tr>
<td>9- Jericho</td>
</tr>
<tr>
<td>10- Bethlehem</td>
</tr>
<tr>
<td>11- Hebron</td>
</tr>
<tr>
<td>12- North Gaza</td>
</tr>
<tr>
<td>13- Gaza City</td>
</tr>
<tr>
<td>14- Deir Al Balah</td>
</tr>
<tr>
<td>15- Khan Yunus</td>
</tr>
<tr>
<td>16- Rafah</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11: Education:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Illiterate</td>
</tr>
<tr>
<td>2- Elementary school</td>
</tr>
<tr>
<td>3- Preparatory</td>
</tr>
<tr>
<td>4- Secondary</td>
</tr>
<tr>
<td>5- College</td>
</tr>
<tr>
<td>6- Undergraduate</td>
</tr>
<tr>
<td>7- Graduate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12: Employment status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Employed</td>
</tr>
<tr>
<td>2- Unemployed</td>
</tr>
</tbody>
</table>
13: Occupation:
1-Worker  2-Technician  3-Farmer  4-Business  5-Owner
6-Student  7-Employee  8-Housewife  9-Skilled  10-Laborer
11-Unemployed  12-Retired

14: If unemployed: specify why:
1-Unable to work (disabled)  2-Housewife  3-Student  4-Other specify

15: Employment sector:
1-Public  2-Private  3-NGOs  4-Foreign organization  5-Not applicable
6-Not public sector  7-Other specify

16: Residence type:
1- Owned  2- Rented  3-Other specify

17: Type of family where you live:
1- Extended  2- Nuclear

18: Total number of people living with you permanently:
(        ) person/s

19: Average monthly income:
1. Less than 1000 Shekels (NIS)  2- 1001-2000  3- 2001-3000
4-3001-4000  5-More than 4000

20: Age at arrest:
1. <= 17 years  2. > 17 years
# Psychological Methods of Interrogation

<table>
<thead>
<tr>
<th>How many times you are exposed to:</th>
<th>Never</th>
<th>Only one time</th>
<th>Twice</th>
<th>More than 3 times</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Deprivation, isolation</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Dark, lack of oxygen, cold</td>
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<tr>
<td>3. Animals in the isolator (rodents, insects etc.)</td>
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<tr>
<td>4. Dirt and lack of the sanitary - hygienic normal conditions</td>
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<tr>
<td>5. Agent in the cell</td>
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<tr>
<td>6. Other torture victims in the isolator</td>
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<tr>
<td>7. Hearing the voice of someone being tortured</td>
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<tr>
<td>8. Attending on someone’s torture fact</td>
<td></td>
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<tr>
<td>9. Torture of family members or other close persons</td>
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<tr>
<td>10. Sleep deprivation</td>
<td></td>
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<tr>
<td>11. Uncertainly waiting for torture</td>
<td></td>
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<tr>
<td>12. Threats 1. To be raped. 2. Regarding family 3. Regarding torture of the family member. 4. Other (please indicate or describe)</td>
<td></td>
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</tr>
<tr>
<td>13. Humiliation, inhuman attitude, oppression</td>
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<tr>
<td>14. False death</td>
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<tr>
<td>15. Starvation and lack of the water</td>
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<tr>
<td>16. Limitation of the natural needs of humans</td>
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<tr>
<td>17. Non- real choice (collaboration as agent, signification, providing information etc.)</td>
<td></td>
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<tr>
<td>18. Lack of medical aid, inhuman treatment</td>
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</tr>
</tbody>
</table>
### Section 2- B: Physical Methods of Interrogation

<table>
<thead>
<tr>
<th>During imprisonment, have you been exposed to:</th>
<th>Never</th>
<th>Only one time</th>
<th>Twice</th>
<th>More than 3 times</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Beating (with cudgel, boots, pistol, other blunt object, hand, other)</td>
<td></td>
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<tr>
<td>2. Electric shock (oral, sexual, extremities etc.)</td>
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<tr>
<td>3. Hanging</td>
<td></td>
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<tr>
<td>4. Non-physiology dislocation</td>
<td></td>
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<tr>
<td>5. Sexual torture (rape, stripe, humiliation pose) etc.)</td>
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<tr>
<td>6. Tooth - Medical torture (extract a tooth or other)</td>
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<tr>
<td>7. Suffocation (by the water, bag, gas mask, or other)</td>
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<tr>
<td>8. Pharmacology torture (with different drugs, injections - knows or not what kinds of drugs)</td>
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<tr>
<td>9. Cauterization (amputation of the extremity - nose, ear, eyes, cut off meet, nails etc.)</td>
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<tr>
<td>10. Burn (with cigarette, with hot iron objects etc. - please indicate)</td>
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<tr>
<td>11. Torture with animals (dogs, etc.)</td>
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<td></td>
</tr>
<tr>
<td>12. Other (please describe - Torture with neural – paralytic gas “Cheriomukha”), as well “Telephone”; “Phalange”</td>
<td></td>
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<tr>
<td>13. Other : frousing of flanges under the threaten to death</td>
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</tbody>
</table>
Section 3: Post-Traumatic Stress Disorder Checklist PCL_C Symptoms

In the PAST MONTH, did you ever have any of the following symptoms?

1. Repeated, disturbing memories, thoughts or images of a stressful experience from the past
   1-YES  2-NO

2. Repeated, disturbing dreams of a stressful experience from the past
   1-YES  2-NO

3. Suddenly acting or feeling as if a stressful experience from the past were happening again (as if you were reliving it)
   1-YES  2-NO

4. Feeling very upset when something reminded you of a stressful experience from the past
   1-YES  2-NO

5. Having physical reactions (i.e., heart pounding, trouble breathing, sweating) when something reminded you of a stressful experience from the past
   1-YES  2-NO

6. Avoiding thinking about or talking about a stressful experience from the past or avoiding having feeling related to it
   1-YES  2-NO

7. Avoiding activities or situations because they reminded you of a stressful experience from the past
   1-YES  2-NO

8. Trouble remembering important parts of a stressful experience from the past
   1-YES  2-NO

9. Loss of interest in activities that you used to enjoy
   1-YES  2-NO

10. Feeling distant or cut off from other people
    1-YES  2-NO

11. Feeling emotionally numb or being unable to have loving feelings to those close to you
    1-YES  2-NO

12. Feeling as if your future will somehow be cut short
1-YES  2-NO

13. Trouble falling or staying asleep
   1-YES  2-NO

14. Feeling irritable or having angry outbursts
   1-YES  2-NO

15. Having difficulty concentrating
   1-YES  2-NO

16. Being super alert or watchful or on guard
   1-YES  2-NO

17. Feeling jumpy or easily startled
   1-YES  2-NO
## Section 4: DESNOS Checklist

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Never</th>
<th>Seldom</th>
<th>Sometimes</th>
<th>Many times</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you have any of the following symptoms?</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1. Affect Regulation</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Modulation of Anger involvement</td>
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<tr>
<td>3. Self-Destructive</td>
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<td>4. Suicidal Preoccupation</td>
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<tr>
<td>5. Difficulty Modulating Sexual</td>
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<tr>
<td>6. Excessive Risk taking</td>
<td></td>
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<tr>
<td>7. Amnesia</td>
<td></td>
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<tr>
<td>8. Transient Dissociative Episodes and Depersonalization</td>
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<tr>
<td>9. Digestive System</td>
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<tr>
<td>10. Chronic Pain</td>
<td></td>
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<tr>
<td>11. Cardiopulmonary Symptoms</td>
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<tr>
<td>12. Conversion Symptoms</td>
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<tr>
<td>13. Sexual Symptoms</td>
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<tr>
<td>14. Ineffectiveness</td>
<td></td>
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<tr>
<td>15. Permanent Damage</td>
<td></td>
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<tr>
<td>16. Guilt and Responsibility</td>
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<tr>
<td>17. Shame</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>18. Nobody Can Understand</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>19. Minimizing</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>20. Adopting Distorted Beliefs</td>
<td></td>
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<tr>
<td>21. Idealization of the Perpetrator</td>
<td></td>
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<tr>
<td>22. Preoccupation with Hurting Perpetrator</td>
<td></td>
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<tr>
<td>23. Inability to Trust</td>
<td></td>
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<tr>
<td>24. Revictimization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>25. Victimizing Others</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>26. Despair and Hopelessness</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>27. Loss of Previously Sustaining Beliefs</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
### Section 5: Psychosocial Consequences of Interrogation

<table>
<thead>
<tr>
<th>Answers</th>
<th>Psy</th>
<th>Q. #</th>
<th>Have you suffered from not participating in social activities?</th>
<th>How many times tortured</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Psy</td>
<td>1</td>
<td>Do you suffer from a lack of motivation?</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>2</td>
<td>Do you suffer from a loss of social status?</td>
<td>Before Arrest</td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>3</td>
<td>Do you suffer from alienation from society or your family?</td>
<td>During Arrest</td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>4</td>
<td>Do you feel that your role has changed in your family? (as father/mother)</td>
<td>After Release</td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>5</td>
<td>Do you suffer from adjustment problems within the family?</td>
<td>During arrest &amp; After release</td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>6</td>
<td>Do you suffer from adjustment problems within the society?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>7</td>
<td>Do you suffer from adjustment problems within friends?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>8</td>
<td>Do you think of migrating from where you live or from the country?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>9</td>
<td>Do you feel that the world around you is not safe or secure?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>10</td>
<td>Do you have problems performing your daily activities and/or job?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>11</td>
<td>Do you have problems studying or achieving academically?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>12</td>
<td>Do you have feelings of guilt toward your family because of your arrest?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psy</td>
<td>13</td>
<td>Do you have feelings of guilt toward your society because of your arrest?</td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>14</td>
<td>Do you feel you are not able to fulfill your obligations toward your family and loved ones?</td>
<td></td>
<td></td>
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<tr>
<td>-----</td>
<td>----</td>
<td>-----------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>15</td>
<td>Do you feel shamed or stigmatized?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>16</td>
<td>Do you feel that you suffer from memory loss compared to before arrest?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>17</td>
<td>Do you feel that you lack self-confidence and/or have a lack of trust in others?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>18</td>
<td>Do you feel that your personality has changed, if there is any continuous change in your mood, and/or you started behaving differently?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>19</td>
<td>Do you have nightmares related to prison, interrogators or jailers?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>20</td>
<td>Do you have nightmares related to interrogators/jailers?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>21</td>
<td>Do you suffer from insomnia?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>22</td>
<td>Do you suffer from a fast or irregular heartbeat?</td>
<td></td>
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<tr>
<td>Psy</td>
<td>23</td>
<td>Do you suffer from chills/shivering?</td>
<td></td>
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</tr>
<tr>
<td>Psy</td>
<td>24</td>
<td>Do you suffer from sweating?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>25</td>
<td>Do you suffer from humiliation?</td>
<td></td>
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</tr>
<tr>
<td>Psy</td>
<td>26</td>
<td>Do you feel that you lack self-confidence and/or have a lack of trust in others?</td>
<td></td>
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</tr>
<tr>
<td>Psy</td>
<td>27</td>
<td>Do you feel that your personality has changed, if there is any continuous change in your mood, and/or you started behaving differently?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>28</td>
<td>Do you feel a tendency to act violently toward others?</td>
<td></td>
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</tr>
<tr>
<td>Psy</td>
<td>29</td>
<td>Do you use the same methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>30</td>
<td>Do you mentally practice the methods of torture that you were exposed to?</td>
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</tr>
<tr>
<td>Psy</td>
<td>31</td>
<td>Do you have feelings of revenge?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>32</td>
<td>Do you have feelings of anger and hatred?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>33</td>
<td>Do you feel that the jailers followed accepted methodological methods of torture or do you feel that they just abused the methods?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>34</td>
<td>Do you feel that you have the ability to forgive them?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>35</td>
<td>Do you feel that it is necessary to sue them and punish them?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>36</td>
<td>Do you feel that they need to publicly apologize for the victims of torture? (Prime Minister, President)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>37</td>
<td>Do you feel that it is necessary to publicize and allow the world to witness your experiences of torture?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psy</td>
<td>38</td>
<td>Do you feel that your faith and religious beliefs helped you to adjust and cope with the consequences of torture?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
REFERENCES


