Effect of Witnessing House Raids and Arrests on Child Behavior: Evidence From Israeli Palestinian Conflict

Sameh Hallaq and Belal Fallah

EFFECT OF WITNESSING HOUSE RAIDS AND ARRESTS ON CHILD BEHAVIOR: EVIDENCE FROM ISRAELI-PALESTINIAN CONFLICT

Sameh Hallaq[1] and Belal Fallah

Working Paper No. 1437

December 2020

Send correspondence to:
Belal Fallah
Palestine Polytechnic University
bfallah2000@yahoo.com

---

[1] Al-Quds University, shallaq@staff.alquds.edu

Abstract

This study utilizes self-reported data on exposure to conflict, collected in the West Bank, to examine the exposure effect of house raid or arrest of household members on child behavior. We show that exposed children are more likely to engage in violent behaviour. We also show that the exposure effect is independent of gender and that the magnitude of the effect is greater for older children. We propose that altering personality traits, mainly neuroticism and agreeableness, is a channel through which the exposure to house raid or arrests adversely affect children behavior.

1. Introduction

Exposure to ethnic-political conflict harms children's wellbeing. This is the far-reaching message of a mounting literature studying conflict in several countries like Iraq, Afghanistan, Peru, Columbia, Chad, Burundi, and other countries in Sub-Saharan Africa (see Kountchou et al.,2019; Naufal et al., 2019; La Mattina et al., 2017; Singh et al., 2016; Becerra & others, 2014). Researchers often show that child's exposure to conflict, whether being a victim or a witness, is linked to a number of maladjustment indicators, including post-traumatic stress (PTS) symptoms, anxiety, and depression (for a review, see Dubow et al., 2009).

Generally, children have limited skills to cope with conflict (Lieberman & Knorr, 2007) and thus are more likely to develop internalizing symptoms (e.g., depression and anxiety) (see Buckner et al., 2004; Evans et al., 2008) and externality problems such as conduct disorder and aggressive behavior (see Guerra et al., 2003).[2] In this respect, exposure to conflict is expected to alter children behavior through a number of mechanisms such as losing the sense of own safety (Dubow et al., 2009), development of aggressive supporting script, and aggravation of emotional desensitization (Carnagey et al., 2007; Kirwil & Huesmann, 2007).

This paper revisits the linkage between exposure to political conflict and aggressive behavior among Palestinian children. It mainly focuses on the effect of witnessing house raids or arrests of household members, which has been a long-standing practice of the Israeli army in the Occupied Palestinian Territories. Such house raids are often coercive and generally conducted at night-time or during the early morning in which the Israeli soldiers often bang heavily on doors or destroy them to break through to houses. During the raid, all household members are usually confined at gun point in one room for several hours. Prior to departure, Israeli soldiers sometimes destroy house property, mainly furniture. With such circumstances, house residents are traumatized from being subjected to a high state of fear and uncertainty. Children are suffering the most, bursting into tears and screams (Al Haq, 2006).

This study belongs to a growing literature that highlights the linkages between house raid/arrests and child psychological wellbeing, including bedwetting, anxiety, and nightmare (see Kinner et al., 2007;Malone et al., 2004), antisocial behavior and violence (Geller et al., 2009), as well as attention deficit (Dawson et al., 2012).[3] Though, the main theme of this literature highlights the effect of criminal arrests. Pursuing similar research interest a political context, several researchers have paid a close attention to the Palestinian-Israeli conflict, with a

---

[2] Psychologists differentiate between two types of children's behaviors and disorders based on their reactions to stressors. The externalizing behavior includes symptoms of aggression and delinquency while the internalizing problems measures symptoms of depression, anxiety, somatic complaints, and social withdrawal (Foster et al., 2008).

[3] To identify a longer list of references on the linkages between child behavior and house arrest see Shehadeh et al. (2015).

main focus on a number of maladjustment indicators, such as behavioral problems (Garbarino & Kostelny, 1996), post-traumatic stress (Lewis et al., 2010), family and school violence (Dubow et al., 2009). Yet, the findings of these studies are based on correlation analysis that does not satisfactorily account for confounding factors related to community characteristics and household characteristic, among other factors.

The closest to this research is Shehadeh et al. (2015), who find a positive linkage between father arrest and children post-traumatic stress. They show that the effect does not differ by gender and its magnitude is greater for younger children. Other studies also emphasize the consequences of the Israel-Palestinian conflict, but looked at other outcome indicators. These include education attainment (Brück et al., 2019; Di Maio & Nandi, 2013; Di Maio & Nisticò, 2019; Saad & Fallah, 2020), physical and mental health (Mansour & Rees, 2012; Jürges & Westermaier, 2020; Jürges et al., 2019) and school performance and non-cognitive skills among children (Jürges et al., 2020). To the best of our knowledge, this paper is the first to carefully explore the linkage between witnessing house arrest and raid and child's aggressive behavior.

The inferences in this paper are based on secondary data collected in 2013 from a random and representative sample of children, between 9 to 15 years old, who live in the West Bank and enrolled in sex-separated schools. The sampled student self-reported information regarding their behavior as well as experiences on exposure to conflict. The secondary data also cover other indicators, collected from the households of the targeted students, including household demographic and socioeconomic characteristics as well as indicators on the psychological wellbeing of the sampled students. These data sets are matched with administrative data, obtained from the Ministry of Education, covering student performance and school characteristics, among other factors.

The paper provides empirical evidences that exposed children (those witnessing house raid or arrests of household members) are more likely, by a magnitude of 11%, to engage in violent fights. This conclusion is robust to controlling for children's demographic characteristics, school performance, household characteristics, school characteristics, and neighborhood fixed effects. In addition, the findings show no gender effect. Still, we find that the magnitude of the effect is higher for older children. Markedly, the findings show differential effect per type of exposure, such that the effect is mainly attributed to witnessing the arrest of family member.

Another contribution of the paper is that it explores the mechanisms through which witnessing house raids or arrests of household members are linked to children's involvement in violent fights. Building on existing literature, we mainly focused on the 'big five traits' mechanism, including openness, conscientiousness, extraversion, agreeableness, and neuroticism. The

results show that witnessing house raids or arrests of household members exacerbate neuroticisms and hampers agreeableness.

This paper is organized as follows. Section (2) describes the data and identifies data sources. Sections (3) discusses the econometrics model and the identification strategy, whereas section (4) presents the results. Section (5) discusses the mechanism linking witnessing house raid or arrest of household members to children's violent fight. The paper then concludes in Section (6).

2. Data and Data Sources

In this study, we utilize data that was collected in May of September 2013 as part of a multidisciplinary research project exploring the determinants of health and cognitive development in the West Bank including East Jerusalem.[4] A number of questionnaires were utilized to collect the data including the Health Behavior in School-Aged Children (HBSC), which is used to collect self-reported data from students on various aspects of well-being and behavior.[5] The HSBC data is matched with administrative data, obtained from the Ministry of Education, covering student performance as well as school and class characteristics, among other factors. The HSBC data is also matched with household demographic and socioeconomic characteristics, collected from students' parents using the 'household survey' (see more discussion below).

The targeted population of the HSBC survey is all students from the 5th to 9th grade (between 10 to 15 years old) in the West Bank and enrolled in sex-separated schools. In this context, 100 schools were randomly selected and stratified by sex, region, and school authority (60 schools are administered by the government while the rest are administered by the UNRWA[6]). For each selected school, 60 students were randomly selected; composed of 12 students per targeted grade. In total, the sample size utilized in our analysis sums to 4,231 observations. Worth mentioning, female students are over-represented in the sample making up 70% of the total sample. The reason is that 59% of schools (436 schools) are girl schools. In total, the number of girl schools in the sample is 65.

The outcome variable "violent fight" is obtained from the HSBC questionnaire in which sampled students were asked to answer the following question: *During the past 12 months, how many times were you in a physical fight?* The response options are either: none, one time, two times, three times, or more than three times. The data show that 45% of the students have

---

indicated that they never engaged in any violent behavior, while those involved only once represents 18% as opposed to 14%, 7% and 16% for those involved twice, three times, or four times, or more, respectively. As shown below, the outcome variable is specified as a dichotomous variable taking a value of one if a child engaged in physical (violent) fight or zero otherwise.

Children also self- report their experience regarding exposure to political conflict during the past 12 months. To this end, the treatment variable reflects child's witnessing of arresting family members or house raids by the Israeli soldiers. In total, 60% of the sampled children were exposed to arrests of household members or witnessed house raids, such that 25% has witnessed arrests of household members, 19% witnessed night raid, and 16% witnessed day raid. While self-reporting is commonly used in conflict surveys, it suffers from drawbacks that may introduce estimation biases (measurement error). In our case, some students may erroneously report that they had (had not) been exposed to conflict or erroneously report the number of times engaged in violent fights. This remains the main limitation of the study.

3. Estimation Strategy and Model

To examine the effect of children's witnessing of house raids or arrests of household members on students' likelihood to involve in violent fights, we estimate the following linear probability model:

$$Violent\ Fight_{isl} = \alpha_0 + \alpha_1\ (Raids\ \&\ Arrests)_{isl} + \alpha_2\ (X_{isl}) + \alpha_3\ (S_{sl}) + \varepsilon_{ils} \quad (1)$$

The dependent variable, *Violent Fight*, takes a value of one if child (student)[7] *i* in school *s* and located in locality *l* was involved in a violent fight during the last 12 months or zero if she was not involved. The treatment variable, *Raids & Arrests* (the exposure variable), is a dummy variable that takes a value of one if a given student is exposed to house raids or witnessed an arrest family member over the past 12 months. Otherwise, the dummy variable takes a value of zero if she was not exposed. The coefficient α_1 is a probability estimate that measures the likelihood of engaging in a violent fight of exposed children relative to the unexposed.

To ensure that the treatment estimate is not biased, a number of identification requisites should be fulfilled. Firstly, the probability of treatment should not be simultaneity determined. In this respect, there is no reason to speculate that the child's behavior is linked to the policy (mechanism) that the Israeli army utilizes to select raided houses mainly since violent fights among children of the targeted are less likely to be politically driven.

---

[7] In what follows child and student are used interchangeably.

Secondly, for the treatment estimate to reflect a causal impact, selection to treatment (engaging in violent fight) should be randomly distributed among sampled children. This might not be the case as exposed children may belong to households with different characteristics from those who are not exposed or living in neighborhoods that are more likely to be raided. The characteristics of the former include observed factors such household's living standard and parents' level of education. To account for these confounding factors, we include a multitude of demographic and socioeconomic characteristics of the sampled children and their parents, including child's sex, age, also largely accounts for difference per grade, and academic performance in the previous academic year (2011/2012). The latter captures the linkages between violent behavior and poor academic performance (Gentile et al., 2004) and also accounts for individuals' ability differences, which is expected be correlated with child's behavior. In terms of household characteristics, the model includes mother's level of education (whether she finished 12 years of education), father's level of education, father's employment status (whether he is employed), number of siblings, and household standard living.[8] The model also includes house characteristics covering house size (whether the number of rooms is greater than the locality's median).

Furthermore, the propensity to engage in violent behavior might be correlated with other household characteristics. For example, parents of the exposed children might have adopted kid-raising models that are systematically different from that of non-exposed households. In such a case, the treatment estimate may (partly) reflect the effect of unobserved household characteristics. We address this concern, in the robustness check analysis by comparing the exposure estimate based on frequency of violent fights of the exposed children.

The model also control for school characteristics including average class size to account for the correlation between aggressive behavior and large class size (Smith et al., 1999). The model also includes the number of students per grade in each school, and school type (UNRWA vs. public school) as well as locality characteristics. The latter include locality type (urban, rural, or refugee camp), proportion of the locality that belong to area C,[9] and whether the Separation Wall crosses that locality[10]. In a separate regression model, we control for school fixed effects, which capture differences in the time-constant within a given locality. These include distance to Israeli settlements and military checkpoints; factors that are expected to affect probability of

---

[8] The standard living index reflects whether a household owns fixed assets such a TV, mobile phone, DVD player, air condition, cars, among other belongings.

[9] Area C include areas in the West Bank that are still under full Israeli military and civil control based on the Oslo Accords of 1993, while the PA has civil and security control in area A. The PA has civil autonomy but no security control in area B (Vishwanath et al., 2014). For more details, see www.btselem.org/topic/Area_c.

[10] The Israeli West Bank barrier or wall is a separation barrier built by the Israeli government in the West Bank along the 1949 Armistice Line known as the "Green Line" (B'Tselem, 2012). The barrier divides Palestinian communities, encircles some, and isolates others from their surroundings, while separating East Jerusalem from the rest of the West Bank (UNSCO, 2014).

raids. Importantly, it also captures unobserved time-constant school characteristics that might be correlated student fights including school management.

Another issue that may raise an estimation concern is the exposure's timing of occurrence. We can't ignore the possibility, for some children, exposure to treatment may have preceded engaging in violent fights. In such a case, the reported effect may reflect omitted variable bias, such as neighborhood effects. Including the aforementioned controls in the regression model is expected to help mitigate this concern (see also the discussion on the placebo test). Finally, model (1) is estimated using school sampling weights and assumes that the error terms are clustered at school level. The descriptive statistics of all variables utilized in the analysis are reported in Table (1) in the appendix.

4. Results
4.1 Main Results

In this section, we discuss the findings, presented in Table (2), in the following fashion: Column (1) presents the estimates of the model including only the Raids & Arrest variable; Column (2) adds the individual level characteristics (parsimonious model); Column (3) adds household characteristics and children academic performance; Column (4) adds school characteristics and locality characteristics, while Column (5) alternatively adds school fixed effects (the base model). Then we separately estimate the base model by gender, grade, and type of exposure. We limit the discussion of the findings to the exposure effect.

The results of the parsimonious model show that the probability estimate is positive, with a magnitude of 0.16, and statistically significant at 1%. Adding children's observed characteristics (age and sex) reduces the probability estimate to 0.12, but remains statistically significant at 1%. Interestingly, when including the other control variables, as reported in Column (3) to (5), the magnitude of the exposure coefficient slightly decreases to 0.11. The latter estimate suggests that children who are exposed to house raid or arrests of household members are 11% more likely to involve in a violent fight. The treatment variable used in this analysis embeds three types of exposures (arrests, night raids, and day raids). Table (4) separately reports the base model estimates of each of these types such that the outcome variable takes a value of zero if a child did not experience any of the aforementioned exposure. The findings show that the exposure effect is limited to witnessing the arrest of household members.

4.2 Robustness Checks

As indicated above, unobserved characteristics of the exposed children might drive the exposure estimate. It could be the case that households who are exposed to house raid or arrest are more politically engaging. Children of such household could have been raised differently in a manner that affects their likelihood to engage in violent fights. In other words, the exposure estimate

might be biased due to some omitted variable that mask the linkage between the treatment an outcome variable.

One venue to correct for the bias estimate is to control for whether a household is "politically active". As a proxy, the data allows control if household head had been previously arrested by the Israeli army for political reasons. The data show that only 4% of the sampled household head were arrested. If the corresponding estimate of this variable is statistically significant, and the magnitude of the exposure estimate drops substantially, then it can be concluded that the exposure estimate is biased. The results[11] show that the effect is positive, with a magnitude of 0.05, but statistically insignificant (se = 0.04). Though, this finding should be interpreted cautiously as it might be shaped by a small sample of size of the arrested cohort or utilizing a poor proxy.

Alternatively, we examine the exposure effect on the frequency of violent fights. Arguably, if children of the "politically active" households are more likely to engage in violent fights, they are expected to engage more frequently than other children. In such a setting, the reported exposure estimate is likely reflecting unobserved household effects. To test for this hypothesis, we limit the sample to children who engaged in violent fights and re-specify the dependent variable based on frequency of flights during the past 12 months; takes a value of zero if a student engaged once in a fight and one if engaged four times or more. A positive and statistically significant estimate of the treatment variable would indicate that it may confound unobserved household effects. The findings show that the treatment estimate positive, with a magnitude of 0.052, but statistically insignificant (se = 0.034).

The last robustness check is a placebo test for children that are not exposed to witnessing house raids or arrests. For the exposure estimate to capture other factors, the result should show a statistically significant effect on the probability to engage in violent fight. In this respect, we randomly assigned treatment to a sample of these children and then estimated the model for 1500 times. The average treatment estimate is close to zero (-0.006) and statistically insignificant (se = 0.019).

4.3 Gender and Age Effect

As noted above, the way in which individuals cope with stressful situations, i.e. exposure to conflict, drives the impact on wellbeing. A number of studies (for a review see Eschenbeck et al., 2007) show that boys might be more likely to show anger and act aggressively while girls have a higher tendency to show emotional and psychological maladaptive behavior. Another strand of literature shows that girls often seek more social support and problem solving than boys

---

[11] To avoid multicollinearity with the exposure variable, we excluded the observations in which the year of arrest is 2013 or 2012.

(Eschenbeck, Heike and Kohlmann, 2002). Though, earlier studies (see Spirito et al., 1991) show no difference in copying strategies between girls and boys. Table (3) reports the results by gender showing that the exposure estimate does not vary by gender; exposure estimate for boys and girls is the same. This conclusion is consistent with that of Shehadeh et al (2015) as well as existing research that addresses the effect of conflict on student academic performance in Palestine (see Bruck et al 2019).

Age is also expected to affect individuals' coping strategies when exposed to conflict. This comes through influence of the interaction between biological factor, on one hand, and life experience, cognition, and social context, on the other hand (Book et al., 2001). Furthermore, hormones can be involved in the development of aggression as they affect the emotional level of the teens and hence are likely reflected on their aggressive behavior. (Tsorbatzoudis et al., 2013; Ramirez, 2003). To explore the differential age effects, we model the exposure effect per grade (from 5th to 9th). The results in Table (5) show that, except for the 7th grade, the exposure estimate is statistically significant. Interestingly, the magnitude of the effect is larger for the highest grade (0.15).

5. Mechanisms

In this section, we attempt to explain the mechanisms through which witnessing house raid or arrests of household members are linked to children's involvement in violent fights. Consistent with the existing literature, we focus on the 'big five traits' mechanism, which covers the following characteristics: openness, conscientiousness, extraversion, agreeableness, and neuroticism. These are widely used to gauge psychological well-being of children (see Barlett & Anderson, 2012; Jovanović et al., 2011). The Data on these traits are obtained from the "household" questionnaire, which was filled by the mothers of the sampled children. The questionnaire includes three statements per trait that mothers evaluated via indicating the extent to which they agree with each statement using Likert 5-point scale.

The lists of the statements are reported in Table (A.1). Each trait is given a score, calculated as the mean values of corresponding evaluated statement. For a given child, a higher score of openness, conscientiousness, and agreeableness is negatively associated with violent behavior, while a higher score of neuroticism is positively correlated with violent behavior (see Barlett & Anderson, 2012). As for extraversion, which reflects the characteristics of being talkative, assertive, and energetic (John et al., 1999), the correlation with violent behavior is inconclusive. This personality attribute is negatively related to vengefulness (an aggressive emotion) and thus negatively correlated with aggressive behavior (Sharpe & Desai, 2001). On the other hand, other studies document a positive association between extraversion and physical aggression (Gallo & Smith ,1998; Trninić et al., 2008) as the former is linked to being extrovert and more likely to express emotions (Martin et al., 1999).

To examine whether these personal traits are potential mechanisms, we conduct two-stage tests to explain linkages between children exposure to house raids or arrest of household members and violent behaviour. The first stage test which of these traits are associated with children's violent fight. In particular, we estimate a separate regression model to estimate the effect of each trait on the probability that a child involves in violent fights. The control variables are the same as those used in the base model. Once relevant traits are identified, we test in the second stage analysis if they are correlated with the exposure variable. To achieve this objective, we estimate a similar regression to the base model except that the dependent variable is specified as the identified trait.

Table (6) presents the estimates of the first stage, showing that three traits are correlated with violent behaviour (agreeableness, neuroticism, and extraversion). The findings show that the effect of extraversion is positive and, consistent with the a priori expectations, the effect of extraversion (agreeableness) is positive (negative). As for the second stage analysis (see Table 7), that the findings show that witnessing house raid or arrests of a household member is positively (negatively) associated with neuroticisms (agreeableness). Though, we find no effect on extraversion. In sum, we provide evidence that exposure to house raids or arrests affects child's involvement in violent fight via exacerbates neuroticisms and hampers agreeableness.

6. Conclusion

Raiding Palestinian houses and arresting activist are among the main measures that the Israeli army utilize to oppress Palestinians. Children exposed to such experiences are exposed to suffer. In this study, we utilize self-assessed to examine the exposure effect of house raids or arrests on students' violent behavior. The population of interest is students in the 5th to 9th grade (aged 10 to 15) in the West Bank including East Jerusalem. We provide evidence that exposed students, regardless of the sex, are more likely to involve in violent fights. We also show that the exposure effect is higher for older children. Utilizing data on students' traits, assessed by mothers, we suggest that house raids or arrests of a household member enhance violent behavior via enhancing students' neuroticisms and agreeableness.

Based on the findings presented in this paper, we suggest that children witnessing military raids or arresting their family members need specialized intervention programs to overcome the consequences of such experiences. In this respect, the findings also indicate that these programs should be designed to improve children's social skills and reduce their anxiety disorder symptoms. Notably, existing literature[12] indicates that addressing these objectives through early-life intervention programs is more effective.

---

[12] See Heckman et al (2006) and Currie (2009).

References

Al Haq. (2006). *Israeli forces holding palestinians captive during house Raids*. Technical Report. Ramallah, Palestine. Al haq Organization. http://www.alhaq.org/advocacy/7347.html

B'Tselem. (2012). *The long term impact of Israel's separation barrier in the West Bank* (Technical report). Jerusalem: B'Tselem: The Israeli Information Center for Human Rights in the Occupied Territories.

Barlett, C. P., & Anderson, C. A. (2012). Direct and indirect relations between the Big 5 personality traits and aggressive and violent behavior. *Personality and Individual Differences*, *52*(8), 870–875. https://doi.org/10.1016/j.paid.2012.01.029

Becerra, K. del M. O., & others. (2014). Forced Displacement and Early Childhood Nutritional Development in Colombia1. *University of Sussex, Households in Conflict Network.[Online]*. Available from: http://www.hicn.org/wordpress/wp-content/uploads/2012/06/HiCN-WP180.pdf.

Book, A. S., Starzyk, K. B., & Quinsey, V. L. (2001). The relationship between testosterone and aggression: A meta-analysis. *Aggression and Violent Behavior*, *6*(6), 579–599.

Brück, T., Di Maio, M., & Miaari, S. H. (2019). Learning the hard way: The effect of violent conflict on student academic achievement. *Journal of the European Economic Association*, *17*(5), 1502–1537.

Buckner, J. C., Beardslee, W. R., & Bassuk, E. L. (2004). Exposure to violence and low-income children's mental health: Direct, moderated, and mediated relations. *American Journal of Orthopsychiatry*, *74*(4), 413–423.

Carnagey, N. L., Anderson, C. A., & Bushman, B. J. (2007). The effect of video game violence on physiological desensitization to real-life violence. *Journal of Experimental Social Psychology*, *43*(3), 489–496.

Currie, J. (2009). Healthy, wealthy, and wise: Socioeconomic status, poor health in childhood, and human capital development. *JoUrnal of EconomIc LIteratUre*, *47*(1), 87–122.

Dawson, A., Jackson, D., & Nyamathi, A. (2012). Children of incarcerated parents: Insights to addressing a growing public health concern in Australia. *Children and Youth Services Review*, *34*(12), 2433–2441.

Di Maio, M., & Nandi, T. K. (2013). The effect of the Israeli--Palestinian conflict on child labor and school attendance in the West Bank. *Journal of Development Economics*, *100*(1), 107–116.

Di Maio, M., & Nisticò, R. (2019). The effect of parental job loss on child school dropout: Evidence from the Occupied Palestinian Territories. *Journal of Development Economics*, *141*, 102375.

Dubow, E. F., Boxer, P., Huesmann, L. R., Shikaki, K., Landau, S., Gvirsman, S. D., & Ginges, J. (2009). Exposure to conflict and violence across contexts: Relations to adjustment

among Palestinian children. *Journal of Clinical Child & Adolescent Psychology*, *39*(1), 103–116.

Eschenbeck, H., Kohlmann, C.-W., & Lohaus, A. (2007). Gender differences in coping strategies in children and adolescents. *Journal of Individual Differences*, *28*(1), 18-26.

Evans, S. E., Davies, C., & DiLillo, D. (2008). Exposure to domestic violence: A meta-analysis of child and adolescent outcomes. *Aggression and Violent Behavior*, *13*(2), 131–140.

Foster, C. J. E., Garber, J., & Durlak, J. A. (2008). Current and past maternal depression, maternal interaction behaviors, and children's externalizing and internalizing symptoms. *Journal of Abnormal Child Psychology*, *36*(4), 527–537.

Gallo, L. C., & Smith, T. W. (1998). Construct validation of health-relevant personality traits: Interpersonal circumplex and five-factor model analyses of the Aggression Questionnaire. *International Journal of Behavioral Medicine*, *5*(2), 129–147.

Garbarino, J., & Kostelny, K. (1996). The effects of political violence on Palestinian children's behavior problems: A risk accumulation model. *Child Development*, *67*(1), 33–45.

Geller, A., Garfinkel, I., Cooper, C. E., & Mincy, R. B. (2009). Parental incarceration and child well-being: implications for urban families. *Social Science Quarterly*, *90*(5), 1186–1202.

Gentile, D. A., Lynch, P. J., Linder, J. R., & Walsh, D. A. (2004). The effects of violent video game habits on adolescent hostility, aggressive behaviors, and school performance. *Journal of Adolescence*, *27*(1), 5–22.

Guerra, N. G., Rowell Huesmann, L., & Spindler, A. (2003). Community violence exposure, social cognition, and aggression among urban elementary school children. *Child Development*, *74*(5), 1561–1576.

Heckman, J. J., Stixrud, J., & Urzua, S. (2006). The effects of cognitive and noncognitive abilities on labor market outcomes and social behavior. *Journal of Labor Economics*, *24*(3), 411–482.

John, O. P., Srivastava, S., & others. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. *Handbook of Personality: Theory and Research*, *2*(1999), 102–138.

Jovanović, D., Lipovac, K., Stanojević, P., & Stanojević, D. (2011). The effects of personality traits on driving-related anger and aggressive behaviour in traffic among Serbian drivers. *Transportation Research Part F: Traffic Psychology and Behaviour*, *14*(1), 43–53.

Jürges, H., Schwarz, A., Cahan, S., & Abdeen, Z. (2019). Child mental health and cognitive development: evidence from the West Bank. *Empirica*, *46*(3), 423–442.

Jürges, H., Stella, L., Hallaq, S., & Schwarz, A. (2020). Cohort at risk: long-term consequences of conflict for child school achievement. *Journal of Population Economics*, 1–43.

Jürges, H., & Westermaier, F. G. (2020). Conflict Intensity and Birth Outcomes--Evidence from the West Bank. *The BE Journal of Economic Analysis & Policy*, *20*(2). 20190301.

Kinner, S. A., Alati, R., Najman, J. M., & Williams, G. M. (2007). Do paternal arrest and

imprisonment lead to child behaviour problems and substance use? A longitudinal analysis. *Journal of Child Psychology and Psychiatry*, *48*(11), 1148–1156.

Kirwil, L., & Huesmann, L. R. (2007). Why Observing Violence Increases the Risk of Violent Behavior? *The Cambridge Handbook of Violent Behavior and Aggression (p. 545–570). Cambridge University Press. Https://Doi.Org/10.1017/CBO9780511816840.029*, *In D. J. F*, 545–570.

La Mattina, G., Shemyakina, O., & others. (2017). Domestic violence and childhood exposure to armed conflict: attitudes and experiences. HiCN Working Papers 255. Households in Conflict Network.

Lewis, T., Kotch, J., Thompson, R., Litrownik, A. J., English, D. J., Proctor, L. J., Runyan, D. K., & Dubowitz, H. (2010). Witnessed violence and youth behavior problems: A multi-informant study. *American Journal of Orthopsychiatry*, *80*(4), 443-450.

Lieberman, A. F., & Knorr, K. (2007). The impact of trauma: A developmental framework for infancy and early childhood. *Pediatric Annals*, *36*(4), 209–215.

Malone, P. S., Lansford, J. E., Castellino, D. R., Berlin, L. J., Dodge, K. A., Bates, J. E., & Pettit, G. S. (2004). Divorce and child behavior problems: Applying latent change score models to life event data. *Structural Equation Modeling*, *11*(3), 401–423.

Mansour, H., & Rees, D. I. (2012). Armed conflict and birth weight: Evidence from the al-Aqsa Intifada. *Journal of Development Economics*, *99*(1), 190–199.

Martin, Rene, Choi K. Wan, James P. David, Elizabeth L. Wegner, Bradley D. Olson, and D. W. (1999). "Style of anger expression: Relation to expressivity, personality, and health." *Personality and Social Psychology Bulletin*, *25,* 1196-1207.

Kountchou, A., Sonne, S., & Gadom, G. (2019, May). The Local Impact of Armed Conflict on Children's Nutrition and Health Outcomes: Evidence from Chad. In CSAE Conference, University of Oxford.Avilable on: https://custom.cvent.com/ 4E741122FD8B4A1B97E483EC8BB51CC4/files/fbd9c353d5ee4a3f93cbc9d9dba2e3d3. pdf

Naufal, G., Malcolm, M., & Diwakar, V. (2019). Armed conflict and child labor: evidence from Iraq. *Middle East Development Journal*, *11*(2), 236–250.

Ramirez, J. M. (2003). Hormones and aggression in childhood and adolescence. *Aggression and Violent Behavior*, *8*(6), 621–644.

Saad, A. F., & Fallah, B. (2020). How educational choices respond to large labor market shocks: Evidence from a natural experiment. *Labour Economics*, *66*, 101901.

Sharpe, J. P., & Desai, S. (2001). The revised Neo Personality Inventory and the MMPI-2 Psychopathology Five in the prediction of aggression. *Personality and Individual Differences*, *31*(4), 505–518.

Shehadeh, A., Loots, G., Vanderfaeillie, J., & Derluyn, I. (2015). The impact of parental detention on the psychological wellbeing of Palestinian children. *PLoS One*, *10*(7),

e0133347.

Singh, P., Morales, A., & others. (2016). *" Face the Bullet, Spare the Rod?" Evidence from the Aftermath of the Shining Path Insurgency*. IZA Discussion Paper No. 10093, Available at SSRN: https://ssrn.com/abstract=2819374

Smith, P. K., Catalano, R., JUNGER-TAS, J. J., SLEE, P. P., MORITA, Y., & OLWEUS, D. A. N. (1999). *The nature of school bullying: A cross-national perspective*. Psychology Press. Hove, United Kingdom.

Spirito, A., Stark, L. J., Grace, N., & Stamoulis, D. (1991). Common problems and coping strategies reported in childhood and early adolescence. *Journal of Youth and Adolescence*, *20*(5), 531–544.

Trninić, V., Barančić, M., & Nazor, M. (2008). The five-factor model of personality and aggressiveness in prisoners and athletes. *Kinesiology*, *40*(2).

Tsorbatzoudis, H., Travlos, A. K., & Rodafinos, A. (2013). Gender and age differences in self-reported aggression of high school students. *Journal of Interpersonal Violence*, *28*(8), 1709–1725.

UNSCO. (2014). *Report to the Ad Hoc Liaison Committee* (Technical Report). *New York*. Office of the United Nations Special Coordinator for the Middle East Peace Process https://unsco.unmissions.org/sites/default/files/un_ahlc_report_sept_2014.pdf

Vishwanath, T., Blankespoor, B., Calandra, F., Krishnan, N., Mahadevan, M., & Yoshida, M. (2014). *Seeing believes: poverty in the Palestinian territories*. (Technical Report). Washington, DC: World Bank Group.

Table (1): Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Frequent Fight	4,231	0.55			
Witnessing raid or arrest of household member	4,231	0.38			
Male child	4,231	0.29			
Child's age in years	4,231	12.83	1.52	10	17
Father Education> 12 years	4,231	0.24			
Mother Education > 12 years	4,231	0.19			
Living standard scale (10 points)	4,231	4.39	1.66	1	10
Father is working	4,231	0.60			
Rooms at home (above median per locality)	4,231	0.73			
No. of Siblings	4,231	5.22	2.43	0	20
School GPA 2011/2012	4,231	70.62	15.98	18.5	99.83
Proportion of locality under Area C	4,231	0.29	0.30	0	1
Locality Affected by Separation Wall	4,231	0.39			
Locality Type					
Rural Locality	4,112	0.33			
Refugee camp	4,112	0.23			
UNRWA School	4,231	0.40			
Class Size	4,231	32.02	7.48	6	56
Cohort Enrollment	4,231	59.70	33.20	6	197
Big 5 Personality traits					
Conscientiousness	4,188	3.90	0.89	1	5
Extraversion	4,199	3.31	0.70	1	5
Openness to experience	4,173	3.99	0.81	1	5
Neuroticism	4,181	3.21	0.89	1	5
Agreeableness	4,184	3.85	0.80	1	5

Table (2) Self-reported exposure to house raid or arrest of household members and Child's Violent Behavior

Dep. var.: Child's Violent Behavior	(1)	(2)	(3)	(4)	(5)
Witnessing raid or arrest of household member	0.161***	0.121***	0.120***	0.119***	0.110***
	(0.022)	(0.022)	(0.022)	(0.022)	(0.018)
Constant	0.486***	0.335***	0.210**	0.198*	0.411***
	(0.017)	(0.044)	(0.102)	(0.110)	(0.106)
Observations	4,231	4,231	4,231	4,112	4,231
R-squared	0.024	0.067	0.077	0.080	0.126
Individual-level controls	NO	YES	YES	YES	YES
Family-level controls	NO	NO	YES	YES	YES
School GPA	NO	NO	YES	YES	YES
Class size and enrollment per cohort	NO	NO	NO	YES	YES
Locality-level controls	NO	NO	NO	YES	NO
School Type	NO	NO	NO	YES	NO
School FE	NO	NO	NO	NO	YES

Notes: The robust standard errors clustered at the school level are reported in parentheses. The individual-level controls include sex, child age. The family level controls include indicators whether child's father/mother has more than 12 years schooling, the standard of living scale (with 10 points), an indicator if the number of rooms above the median per locality, the number of siblings. The school GPA includes the school GPA for the 2011/12 academic year. Class Size indicates the average class size that students enrolled during the 2012/2013 academic year and the enrollment per cohort according to each school record. The locality-level controls contain the proportion of the locality under area C, the presence of the separation wall, and the locality type (dummy for urban). The school-level controls include school type (UNRWA or governmental). *** $p<0.01$, ** $p<0.05$, and * $p<0.1$.

Table (3): Self-reported exposure to house raid or arrest of household members and Child's Violent Behavior, by gender

Dep. var.: Child's Violent Behavior	(1) Male Student	(2) Female Student
Witnessing raid or arrest of household member	0.112***	0.112***
	(0.034)	(0.021)
Constant		
Observations	1,223	3,008
R-squared	0.078	0.087
Individual-level controls	YES	YES
Family-level controls	YES	YES
School GPA	YES	YES
Class size and enrollment per cohort	YES	YES
Locality-level controls	NO	NO
School Type	NO	NO
School FE	YES	YES

Notes: The robust standard errors clustered at the school level are reported in parentheses. The individual-level controls include sex, child age. The family level controls include indicators whether child's father/mother has more than 12 years schooling, the standard of living scale (with 10 points), an indicator if the number of rooms above the median per locality, the number of siblings, and an indicator if father is working. The school GPA includes the school GPA for the 2011/12 academic year. Class Size indicates the average class size that students enrolled during the 2012/2013 academic year and the enrollment per cohort according to each school records. The locality-level controls contain the proportion of the locality under area C, the presence of the separation wall, and the locality type (dummy for urban). The school-level controls include school type (UNRWA or governmental). *** $p<0.01$, ** $p<0.05$, and * $p<0.1$.

Table (4): Robustness Checks: Self-reported to Different Types of Exposures to conflict on Child Violent Behavior

Dep. var.: Violent Behavior	(1)	(2)	(3)
Witnessing Arrest of Relative	0.107***		
	(0.026)	0.083*	
Night raids by army		(0.047)	
			0.03
Day raids by army			(0.056)
Observations	2,991	2,742	2,681
R-squared	0.128	0.124	0.119
Controls (Individual, Family& GPA)	YES	YES	YES
Locality-level controls	NO	NO	NO
School Type	NO	NO	NO
School FE	YES	YES	YES

Notes: The robust standard errors clustered at the school level are reported in parentheses. The individual-level controls include sex, child age. The family level controls include indicators whether child's father/mother has more than 12 years schooling, the standard of living scale (with 10 points), an indicator if the number of rooms above the median per locality, the number of siblings, and an indicator if father is working. The school GPA includes the school GPA for the 2011/12 academic year. Class Size indicates the average class size that students enrolled during the 2012/2013 academic year and the enrollment per cohort according to each school record. The locality-level controls contain the proportion of the locality under area C, the presence of the separation wall, and the locality type (dummy for urban). The school-level controls include school type (UNRWA or governmental). *** $p<0.01$, ** $p<0.05$, and * $p<0.1$.

Table (5): Self-reported exposure to house raid or arrest of household members and Child's Violent Behavior, by student's grade

Dep.Var: Violent Behavior	(1) Grade 5	(2) Grade 6	(3) Grade 7	(4) Grade 8	(5) Grade 9
Witnessing Arrest of Relative or raids	0.124**	0.112**	0.060	0.110**	0.149***
	(0.050)	(0.048)	(0.043)	(0.042)	(0.041)
Constant	0.190	0.273	0.403	0.488	0.343**
	(0.209)	(0.249)	(0.289)	(0.354)	(0.167)
Observations	858	847	866	825	835
R-squared	0.251	0.194	0.296	0.292	0.244
Controls (Individual, Family, GPA, class size, school enrollment)	YES	YES	YES	YES	YES
Locality-level controls	NO	NO	NO	NO	NO
School Type	NO	NO	NO	NO	NO
School FE	YES	YES	YES	YES	YES

Notes: The robust standard errors clustered at the school level are reported in parentheses. The individual-level controls include sex, child age. The family level controls include indicators whether child's father/mother has more than 12 years schooling, the standard of living scale (with 10 points), an indicator if the number of rooms above the median per locality, the number of siblings, and an indicator if father is working. The school GPA includes the school GPA for the 2011/12 academic year. Class Size indicates the average class size that students enrolled during the 2012/2013 academic year and the enrollment per cohort according to each school record. The locality-level controls contain the proportion of the locality under area C, the presence of the separation wall, and the locality type (dummy for urban). The school-level controls include school type (UNRWA or governmental). *** $p<0.01$, ** $p<0.05$, and * $p<0.1$

Table (6): Mechanisms, the Impact of Big Five Personality Traits on Child's Violent Behavior

Dep. Variable: Violent Behavior	(1)	(2)	(3)	(4)	(5)
Conscientiousness	-0.013				
	(0.009)				
Extraversion		0.035***			
		(0.011)			
Openness to experience			0.007		
			(0.010)		
Neuroticism				0.028***	
				(0.010)	
Agreeableness					-0.022**
					(0.010)
Constant	0.485***	0.319***	0.402***	0.344***	0.513***
	(0.111)	(0.119)	(0.110)	(0.110)	(0.115)
Observations	4,188	4,199	4,173	4,181	4,184
R-squared	0.117	0.119	0.117	0.120	0.118
Controls (Individual, Family, GPA, class size, school enrollment)	YES	YES	YES	YES	YES
Locality-level controls	NO	NO	NO	NO	NO
School Type	NO	NO	NO	NO	NO
School FE	YES	YES	YES	YES	YES

Notes: The robust standard errors clustered at the school level are reported in parentheses. The individual-level controls include sex, child age. The family level controls include indicators whether child's father/mother has more than 12 years schooling, the standard of living scale (with 10 points), an indicator if the number of rooms above the median per locality, the number of siblings, and an indicator if father is working. The school GPA includes the school GPA for the 2011/12 academic year. Class Size indicates the average class size that students enrolled during the 2012/2013 academic year and the enrollment per cohort according to each school record. The locality-level controls contain the proportion of the locality under area C, the presence of the separation wall, and the locality type (dummy for urban). The school-level controls include school type (UNRWA or governmental). *** $p<0.01$, ** $p<0.05$, and * $p<0.1$

Table (7): Mechanisms, self-reported exposure to house raid or arrest of household members and Child's Big Five Personality Traits

Dep.Var:	(1) Conscientiousness	(2) Extraversion	(3) Openness to experience	(4) Neuroticism	(5) Agreeableness
Witnessing raid or arrest of household member	-0.036	-0.020	-0.032	0.079**	-0.076***
	(0.029)	(0.025)	(0.029)	(0.036)	(0.027)
Constant	2.933***	3.720***	3.190***	3.109***	3.718***
	(0.194)	(0.132)	(0.187)	(0.175)	(0.194)
Observations	4,188	4,199	4,173	4,181	4,184
R-squared	0.099	0.046	0.081	0.055	0.064
Controls (Individual, Family, GPA, class size, school enrollment)	YES	YES	YES	YES	YES
Locality-level controls	NO	NO	NO	NO	NO
School Type	NO	NO	NO	NO	NO
School FE	YES	YES	YES	YES	YES

Notes: The robust standard errors clustered at the school level are reported in parentheses. The individual-level controls include sex, child age. The family level controls include indicators whether child's father/mother has more than 12 years schooling, the standard of living scale (with 10 points), an indicator if the number of rooms above the median per locality, the number of siblings, and an indicator if father is working. The school GPA includes the school GPA for the 2011/12 academic year. Class Size indicates the average class size that students enrolled during the 2012/2013 academic year and the enrollment per cohort according to each school record. The locality-level controls contain the proportion of the locality under area C, the presence of the separation wall, and the locality type (dummy for urban). The school-level controls include school type (UNRWA or governmental). *** p<0.01, ** p<0.05, and * p<0.1

Appendix

Table (A.1): Big 5 personality Traits Questions

Big 5 personality Factor (Dimension)	Statement
	You may or may not describe your child is like
Openness to experience	Is original, comes up with new ideas
Openness to experience	Has an active imagination
Openness to experience	Likes artistic and creative experiences
Conscientiousness	Does things carefully and completely
Conscientiousness (-)	Tends to be Lazy
Conscientiousness	Does things effectively and efficiently
Extraversion	Is talkative
Extraversion (-)	Reserved; keeps thoughts and feelings to self
Extraversion	Is outgoing, sociable
Agreeableness	Has a forgiving nature
Agreeableness	Nice with others
Agreeableness (-)	Is sometimes rude to others
Neuroticism	Worries a lot
Neuroticism (-)	Stays calm in tense situations
Neuroticism	Gets nervous easily

Notes: respondents were asked to state how much they agree with each statement on a 5-point Likert scale. Some items' scales are reversed when computing the personality score.