

DOMESTIC VIOLENCE: GATEKEEPING ONE'S WINDOW TO OPPORTUNITY? TRACING INEQUALITY IN YOUNG LIVES' RETURNS TO SCHOOLING

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ABSTRACT

Increasing attainment and school enrolment form key objectives amongst the UN 2030 Sustainable Development Goals (SDGs), yet the risk of academic under-achievement persists in the backdrop of economic adversity where incidence of domestic violence is rampant. This article explores the socio-emotive echoes of violence, the very implications on children's emotional development, as these risk distorting young survivors' incentive to invest effort towards formal schooling. The buffering effects of individual self-efficacy, confidence in own ability, alongside maternal education in the face of early childhood exposure to intimate partner violence (IPV), motivate holistic intervention to support both caregiver and child as they seek refuge. In the long run signs of deepening divergence are traced in young survivors' language achievements as children's ability to form career aspirations is undermined, derailing them from potential academic pathways. Ultimately, the indirect implications on inequality are explored through two country-level case studies on youths' earnings at age 22. Exposure to IPV in Ethiopia was linked to negative estimated returns to pursuing secondary education, making it 'unprofitable' for young survivors to forgo work, as reflected in the stark attainment gap. Notwithstanding, chronic physical abuse was linked with the lowest estimated earnings but highest returns to schooling in the Andhra Pradesh state of India, reflecting scope for early intervention so as to pre-empt the negative self-enforcing effects of trauma.

INTRODUCTION

"Education is an ornament in prosperity and a refuge in adversity."

— Aristotle (c. 300 B.C)

Experiences of domestic violence leave an imprint on children's development across the globe. Alarming, 1 in 4 children under the age of 5 witness their mother's subjection to abuse by her intimate partner. 3 in 4 children, amounting to 300 million in total, are on the receiving end of physically abusive disciplinary measures by their caregivers (UNICEF, 2017).

The universality and prevalence of such adversity in early childhood evidences the gravity of the phenomenon as it risks a permanent derailment of children's development trajectories from their potential pathways. Past studies have conducted cross-country comparisons of children's achievements in the face of adverse family experiences (Metsäpelto et al., 2014; Radl et al., 2017), yet there is merit in extending focus to developing contexts.

To this extent, the Young Lives Survey (YLS) has been widely employed to explore drivers behind inequalities in children's learning trajectories across the countries of Peru, Ethiopia, Vietnam, and the Andhra Pradesh state of India. Issues have entailed maternal depression (Bendini and Dinarte, 2020), parental investment in education (Attanasio and Meghir, 2020), as well as socio-economic affluence (Darko and Vasilakos, 2020). Further studies have examined the long-term effects of peer-related violence (Pells et al., 2016) and behavioural poverty traps fuelled by aspiration gaps (Ross, 2019).

At a disaggregate level, higher prevalence of domestic violence under socio-economic adversity may lead to decreased social mobility, feeding into vicious cycles of poverty (Dalton et al., 2014). These cycles spiral as children's capacity to set academic goals is hampered by the negative socio-emotive impacts of violence, narrowing individual production possibility 'windows' (Lybbert and Wydick, 2018). The present study is

motivated by such entrenched risks of inequality under experiences of domestic violence.

Under the existing policy framework, efforts to bridge inequalities in learning have largely been driven by foreign aid objectives to meet the UN Sustainable Development Goals (SDGs), focusing on increasing enrolment and attainment levels by 2030 (Riddell and Nino-Zarazua, 2016). Instead, this paper flags the risks of under-achievement against adversity, even in countries where SDGs may be met.

Countries may buffer the negative pressures on achievements through social capital formation, creating a safety net for children to fall back on by strengthening understanding in interpersonal relations with peers and instructors. This may occur through aligning pedagogical objectives with Neo-Aristotelian principles, supporting the pursuit of individual potential to its greatest capacity. For instance, instructors may take on the role of 'first responders' in identifying early signs of abuse through attentiveness to individual adversity, stirring intervention (Vu, 2016). This paper contributes to knowledge surrounding the role of mediating factors in the effects domestic violence on learning, examining factors on the child and family levels (Supol et al., 2021).

The effects of violence are traced across different stages of youth's development using data from the Young Lives Survey. While early life outcomes emerge as integral founding blocks, early life shocks in the form of physical abuse need not incur irreversible effects on learning. In a series of country case studies, children's resilience to family adversity is studied by exploring estimated returns to schooling, the percent change in earnings upon transitioning along attainment levels (i.e. primary to secondary, secondary to tertiary). Ultimately, results are in line with Pankhurst (2020), as youth facing chronic abuse are offered a second chance to 'catch up' to peers during adolescence, which is only possible through persevering with schooling. Unlike direct victimisation, intimate partner violence (IPV) poses deeper-rooted risks on inequalities in early labour market earnings, calling for multi-faceted interventions, supporting both youth and caregivers.

BACKGROUND

Domestic Violence: Socio-Emotive Ripples on Children's Development

Wilting in the Shadows of Violence?

Children's maltreatment may be classified through direct and indirect victimisation (Barnett et al., 1993). Indirect victimisation occurs through exposure to IPV, defined as the culmination of acts and repeated patterns of coercive control and undignified treatment of a partner in a relationship (Code for Crown Prosecutors, 2017). Instead, direct victimisation of children through physical abuse, as opposed to supervisory neglect, is linked to higher on average reading test scores. This reflects the off-setting effects of authoritative parenting in reinforcing academic orientation (Coohey et al., 2011).

However, the effects of IPV may be deeper rooted, as it hinders caregivers' ability to attend to their children's nutritional needs, leaving the child behind its peers in rankings along growth measures such as height. Growth stunting and malnutrition in turn impede on the child's cognitive development with the child notably 'falling' behind its peers in its learning (Kochupurackal, 2021). Furthermore, IPV is linked with a higher turnover in household residence as women seek safety in fleeing their abusers. Uncertainty of this form increases risks of young survivors developing learning disabilities (Blackburn, 2009).

Maladaptive Behaviour; Learning to Navigate Survival under Abuse

Fantuzzo et al. (2011) identify the timing of violence in a child's development as an important dimension. Early interpersonal trauma, prior to formal schooling, is associated with more pronounced negative effects on posterior academic achievements. Early life outcomes may therefore carve out a child's development trajectory. Concretely, behavioural responses to environmental stressors can lead to both externalising behaviours (including conduct disorder, aggression towards peers, non-compliance and truancy) as well as internalising responses (such as attention-deficiency and social withdrawal) (Palmu et al., 2017).

Early life under-achievement may therefore have knock-on effects on achievements in subsequent years as the child grows increasingly disengaged from their studies. In a cross-country longitudinal study, Metsäpelto et al. (2014) identify a close link between achievements and the history of the child's behaviour in early phases of its development, when the child is most susceptible to self-fulfilling bias.¹ As poor academic achievements reinforce maladaptive behaviour and vice-versa, it is difficult to identify which of the two caused the other. McGee et al. (1986) reflect scope for evaluating environmental factors in the child's upbringing linked to both behavioural outcomes and academic achievements, identifying these in the form of family adversity. These environmental factors may be proxied through poor maternal mental health, single parenthood, or financial coercion, all closely linked to domestic violence.

Who to turn to, who to count on?

Youth are able to change the course of under-achievement through positive adaptiveness. Individual protective factors to environmental stressors include high agency, self-esteem, and self-efficacy, the belief in one's capacity to deliver upon goals. Resilience theory places social norms that foster responsibility-taking and self-actualisation at the core of these coping mechanisms (Himaz, 2020). Protective factors are further identified at the family level, with maternal education increasing leverage in household decision-making. Importantly, maternal education may serve as a substitute for non-female headship in households, reinforcing resource allocation towards children's learning, due to the mother's vested interests in her offspring (McElroy, 1990).

Economics of Human Capital Accumulation: Overview of Theory

Antagonistic Interests and Poor Resource Investment towards Children's Education

The nature of joint custody over children presents an issue of caregivers' resource allocation towards their education and development. Given that a household draws on a finite resource-base to assign between individual and household-level consumption, economics may provide the tools to study and evaluate decision-making when faced with pragmatic constraints.

The classical paradigm under rational choice theory portrays individuals as agents pursuing self-serving interests through strategic interactions. Under a household setting, partners may fail to factor in the consequences of their investment decisions on their counterpart's welfare, driving a wedge between their own private benefit and the household's collective benefit, for example investing in their child's education. When agents invest in a good which *indirectly* enhances others' welfare, the issue is classed as one of *positive externality* in consumption. With reference to the example of investment in education, this emerges as the respective partners cannot be prevented from benefiting by their child's intellectual development.²

In light of domestic violence, the primary caregiver may have high regard for her children's outcomes, perceiving them as a vehicle for her own emancipation (Essilfie et al., 2020).³ Instead, the abuser is likely to show little regard for the children's outcomes as he has low capacity for empathy and caregiving. In effect the abuser may antagonise his partner, weaponising their children as a form of subjugation. It follows directly that the higher the agent's valuation of children's outcomes, the higher their investment in education will be.

Chen and Woolley (2003) model the intertwined nature of individual welfare within a partnership. They incorporate a separate parameter to capture partnership cohesion, i.e., the extent to which an agent internalises the positive externality of their investment in their child's learning. The resulting investment outcomes crystallise into inefficiently low resource allocation towards the child's education due to the 'narrow' interests of partners under persisting discordance.⁴

¹ A child risks growing into the person that others paint them to be, with labels/characterisations based on observed behaviour.

² Children's learning outcomes are ultimately a function of cumulative resources directed towards their schooling and are non-divisible in consumption as such. For example, a parent that pays x amount towards tuition will benefit from the sum paid towards the child's tuition ($x+y$), with y being the counterpart's contribution.

³ The primary caregiver will be referred to as the mother henceforth, without making value judgements around gender roles in child-rearing.

⁴ Neither partner has an incentive to adjust their investment levels as they cannot do better off, strictly speaking, by deviating to a different level of investment.

Young Survivors' Marred Capacity to Cope with Uncertainty

Initially, the assignment of economic value to time endowments presented learning as an issue of individual resource allocation (Becker, 1993). Lybbert and Wydick (2018) study the implications of uncertainty on children's academic achievement in the form of negative external events. The framework can be applied to the issue of domestic violence as children with an abusive past may internalise negative events to a greater degree due to poor self-perceptions around agency and efficacy. Their impaired capacity to cope with uncertainty is a direct effect of the anxious and unstable attachments formed through inconsistent caregiving (Barbaro and Shakleford, 2019).

Indicatively, under experience of abuse, a child's propensity to internalise negative shocks grows disproportionately. Motivated by Kahneman and Tsversky's (1979) study, children may be thought to establish boundaries and reference points around future production possibilities in the face of uncertainty (Bogliacino and Ortoleva, 2013). In this respect, young survivors of abuse may set low aspirations and reference points around their academic achievements due to their impaired self-esteem. Due to low self-efficacy, children surviving abuse will have particularly low academic goals and aspirations. Consequently, their maximal achievement will be at a far lower level than in the absence of uncertainty. These socio-emotive effects occur as youth underestimate their capabilities, while building an incapacity to appreciate possible channels of achieving their aspirations (Lybbert and Wydick, 2018).

While there is no evidence of 'excess returns' to schooling in developing countries, as motivated by Duflo (2001), the individual average estimated change in earnings to an additional year of schooling lies at 7.6% (Peet et al., 2015). The social returns to education stand at a far higher level, particularly in regions of Africa, with primary level attainment becoming a universal milestone (Psacharopolous and Patrinos, 2018). Therefore, underlying efforts to increase attainment set an optimistic outlook on prospects of regional economic development. Nevertheless, the critical timing of early-life shocks, such as that of domestic violence, persist in posing detrimental risks to children's development. The challenge arises when attempting to isolate the effects of environmental factors such as single-parenthood and low maternal education, from underlying experiences of socio-economic adversity (Duncan et al., 2011).

Recent studies on domestic violence in developing contexts focus on short-term effects on health (Agu et al., 2019; Chilinda et al., 2021; Shroff et al., 2009) but there is scope in exploring the long-term economic costs (Fawzi et al., 2019), unpacking young survivors' choices and incentives around pursuing formal schooling (Falch and Massih, 2012). This study aims to contribute to the intersection of these issues, shifting focus to the socio-emotive ripples of domestic violence, to explore the indirect implications on early labour market inequality through shaping children's career aspirations. Further possible protective factors are investigated at the child and family level, tracing their mediating effects on children's academic achievements in this understudied issue.

MEASURES AND METHODS

Young Lives Dataset

This study seeks to build a narrative around the socio-emotive effects of domestic violence during a child's development. The study seeks to reflect on how experience of violence shapes children's incentives to pursue formal schooling, ultimately rooting long-term risks of economic inequality in developing contexts. To this extent the article sources data from the *Young Lives Survey*, an international longitudinal study tracing childhood poverty in the developing countries of Vietnam, Peru, Ethiopia, and the Andhra Pradesh state of India. The Young Lives Survey commenced in 2002, sampling measures of the experience of 12,000 children over 3-4 year intervals across 5 survey rounds. Although Young Lives focuses on adverse backgrounds, the sampling of individuals across poor, non-poor, urban and rural settings composes nationally representative samples.

This paper will focus on outcomes from the old cohort, following 3,772 children from their 5th to 22nd year of age. This timeframe allows us to trace children's development throughout their formal years of schooling, and their subsequent early labour market outcomes. Attrition bias in data from the old cohort remains low relative to its young counterpart, due to experiencing greater financial stability through accumulated assets at later life stages (Outes-Leon and Dercon, 2008).⁵

Domestic Violence Proxies

Following Barnett's (1993) maltreatment classification system, early childhood domestic violence was proxied by measures in Round 01, at age 5, encompassing both direct and indirect forms of victimisation.⁶ The survey item recorded an experience that, self-reportedly, made the children 'feel sad'. These included being beaten by their family, recoded as physical abuse, or witnessing their parents fighting, proxying exposure to IPV (Barnett et al., 1993). Therefore, recoded outcomes highlight the most emotionally taxing form of domestic violence, yet artificially separate experiences when these could be occurring in tandem.

Physical abuse incidents are higher than those reported for exposure to IPV. The highest incidents of IPV and physical abuse were observed in Ethiopia and India, respectively. The incidence of family dissolutions is low, amounting to less than 3% of children's families, with the co-occurrence of physical abuse linked to a relatively larger proportion of total dissolutions as compared to that of exposure to IPV.

Academic Achievements

Amongst the sampled outcomes included, the Peabody Picture Vocabulary Test (PPVT), was present in Rounds 02-04. This measure captures variation in vocabulary reception, constituting a key component of literacy (Wood and Schatschneider, 2018). Similarly, a standardised measure of numerical competency was sampled across Rounds 02-04, facilitating cross-country comparisons in achievements.

Earnings Outcomes

In turn, youths' early labour market outcomes were sampled at age 12 in Round 02 using self-reported accounts with respect to the relevant timeframe, the 12 months immediately preceding questionnaire completion. The outcome was constructed by

⁵ Attrition bias emerges as a pattern of households who share similar characteristics that 'drop-out' of the survey; removing important observations amongst the most financially vulnerable strata, for

example. This non-random loss of 'information' poses issues in the subsequent validity of estimations.

⁶ In all countries under study except for Peru where old cohort children were 8, as opposed to 5, years old at time of Round 01 sampling.

incorporating earnings across all reported individual labour activities. Considering the developing economic contexts, this accommodates for non-regular employment, which is pertinent in the agricultural sector, as well as flexible occupation types, in the forms of self-employment and employment in family undertakings (Abay et al., 2021). Furthermore, earnings encompass both monetary wage earnings, as well as the monetary value of earnings paid in kind, as appraised by the individual.

The daily frequency of labour earnings was selected to harmonise data reported across differing timeframes. For this purpose, available data on individual labour force participation, reported on an hours per day, days per week, and months per year basis was used to derive annualised daily labour earnings.

Covariates in Children's Development

In terms of covariates, community level violence is sampled in Round 02, reflecting parents' subjective valuation as to whether it is safe for a child to walk on their own in the community. Precedence of community-level violence may be positively related to incidents of domestic violence but may also cultivate chronic psychological stress and negative social adaptations, impeding upon one's academic orientation (Burdick-Will, 2016). Further covariates include the height-to-age index sampled in Round 02. The measure was recoded in the form of a binary variable reflecting 2 standard deviations, or below the mean value, in order to capture growth stunting due to malnutrition (Nuñez and Perez, 2015).

Aspirations outcomes were sampled across Rounds 01-03, where children identified the occupation they wished to be pursuing at the age of 20. This paper codified occupation items according to the International Standard Classification of Occupations 2008, ISCO-08, constructing four categories of aspirations, varying by skill-intensity (Ganzeboom and Treiman, 1996). In light of the psycho-social questionnaire developed by Sherer and Maddux (1982), the child's self-efficacy with respect to their studies was sampled in Round 02 through agreement with the statement 'if I study hard, I will be rewarded with a better job in the future' (Haj-Yahia et al., 2021: NP9555). The item was recoded into a binary variable indicating presence/absence of self-efficacy, the perception of one's capacity to deliver upon the necessary actions to yield a particular outcome/level of performance (Bandura, 1986).

Research Design

Initially, short-term effect estimations are performed on language and maths standardised test scores at age 12, respectively. The model entails child-level factors, distinguishing between anthropometric (physical development), socio-emotive and behavioural channels through which violence may affect achievements (Duncan et al., 2007). The specification is augmented with family-level outcomes, in order to account for the effect of resource allocation towards children's schooling. The specification further controls for institutional factors around education and cultural norms affecting gender norms and perceptions of violence, through a series of country binary variables (Rogers, 2008). Moreover, long-term effects are estimated using a dynamic panel mode using data on achievements through to the age of 19. The model

is namely dynamic in nature for the very reason that past experience critically shapes future learning and achievements.

Finally, the effects of domestic violence on early-labour market outcomes (at age 22) are modelled using country-level Mincerian earnings functions, quantifying the effect of work experience and education on earnings. Returns to schooling are estimated to reflect outcomes, if all youth were to have experienced violence and no violence respectively, across three thresholds of schooling: 6, 12 and 16 years (Das, 2019). This enables the study to capture the indirect effects of violence through human capital accumulation and children's decision-making around their education paths (Buis, 2010).

RESULTS

In seeking to isolate the effect of domestic violence on academic achievements, this study aims to rule out a potential reverse causal link along the lines of punitive abuse, in response to the child's poor academic achievements. The issue is addressed through both sampling achievements in subsequent periods to self-reported accounts of experiencing abuse.⁷

Short Term Effects, age 12

The following section provides an overview of the estimations of the effects of adversity on achievement scores across experience of violence.⁸

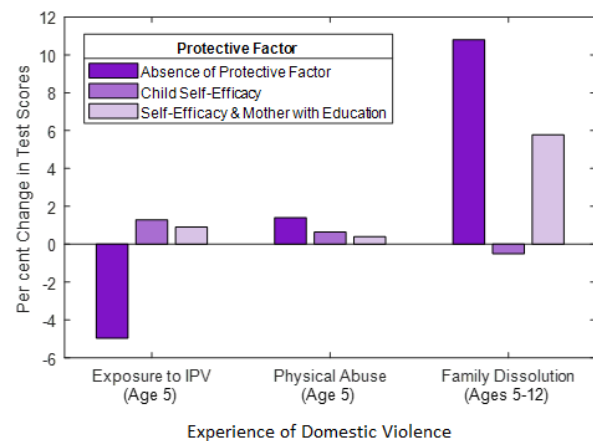


Figure 1: Percent change in language test scores at age 12 across experience of domestic violence and protective factors (Young Lives Survey)

Estimates in Figure 1 reflect that children's exposure to IPV amongst those with low self-efficacy was linked to performing 5% lower in language test scores relative to their counterparts with no experience of violence. However, in the presence of high self-efficacy the negative effect of witnessing IPV is neutralised.⁹ Under abuse, the child's low self-efficacy limits its subjective horizon of ability and achievement, capping test scores at a far lower level than true potential. Therefore, mental health support-provision within school establishments may mitigate the negative socio-emotive effects of exposure to IPV.

⁷ Furthermore, a logarithmic transformation was applied to the outcomes of PPVT and Math Test Scores from Round 02, in order to express change in relative (%), as opposed to a unit-by-unit, absolute term increase in scores (Hoang et al., 2019: 2004).

⁸ Full estimation tables along with notation concerning statistical robustness can be provided to the interested reader.

⁹ The model includes interaction terms to explore the different channels of violence. Estimations of the combined effect follow the principle of computing the partial derivative with respect to violence across different protective factors, i.e. $\frac{\partial \text{Log}(\text{Lang Achiev})}{\partial \text{Viol}}$.

With respect to physical abuse there are no significant 'behavioural' effects of violence on language achievements. Nonetheless, experience of family dissolution is associated with higher achievement scores by a factor of 11%. The effect is reinforced amongst children whose mothers have attained secondary level education. This trend suggests that separation and distancing from the perpetrator may mediate behavioural issues that impede upon learning, but that single-parent families whose caregiver has completed secondary education are able to support their children more effectively.

The structure of analysis examining different channels of violence highlights mediating factors such as maternal education and individual self-efficacy that merit further study. Ultimately, the above estimations motivate the holistic nature of support-provision towards families affected by violence, pressing for intervention at both child and family level.

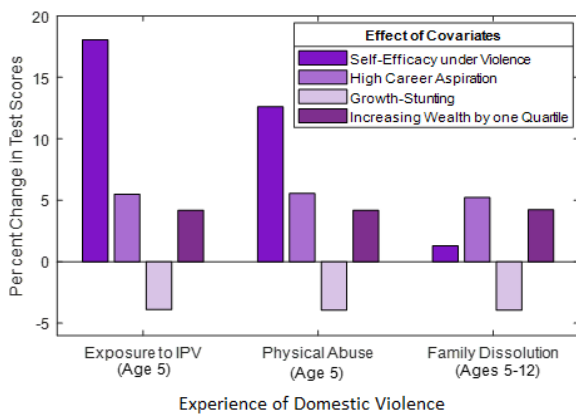


Figure 2: Percent change in language test scores at age 12 across experience of domestic violence and covariates (Young Lives Survey)

Further study extends to covariates, parameters that may impact achievements in tandem to violence against the backdrop of adversity. Figure 2 reflects that high career aspiration levels are linked to improved achievements by a factor of 5%. However, high self-efficacy is seen to have a far higher effect amidst children with experience of direct and indirect victimisation. That is, aspirations need strong socio-emotive foundations to manifest into achievements in the first place. Aspirations may also fall out of line of an individual's window of production capacities, presenting infeasible output levels.

Amongst family-level covariates, wealth accounts for a significant variation in language achievements. Scores increase by 4% as households climb their cohort's wealth ladder.¹¹ However, growth stunting is associated with a 4 percentage point achievement gap in language testing.¹² Deviations from age-dependent normative standards around height/growth (anthropometric measures) may pose setbacks in cognitive development, as children experiencing abuse face challenges in 'catching up' to peers, in light of their neglected nutritional needs. While growth-stunting emerges as an alarming potential channel of violence, the article seeks to underline the *intangible* echoes of abuse that risk raising barriers in children's aspirations. This sinister dimension of violence restricts individuals' opportunity to escape the adverse circumstances that they were born into. Thus, to instil equality to opportunity across socio-economic backgrounds, it is meaningful to offer

¹¹ Wealth ranking is broken into 4 classes: quartiles. Climbing the wealth ladder would mirror a move from the 0-25th to the 25th-50th rank, that is the household would turn from being amongst the least well-off to at least as well off as a quarter of the sample under study.

support along the lines of exploring plausible career paths and build individual self-efficacy.

Figure 3 continues to explore the effects of domestic violence in similar spirit, instead shifting focus to maths achievements. Aspirations now bear a relatively higher promotive effect, as individual grit and perseverance are more closely linked to maths achievements. The protective role of self-efficacy is also higher than in the case of language scores, reflecting the importance of socio-emotive inputs in subject areas where innate ability bears higher leverage on test scores. Similarly, the effects of growth stunting mirror those in language scores, underlining the risk of 'falling behind' in early stages of schooling as the mother fails to meet the child's nutritional needs.

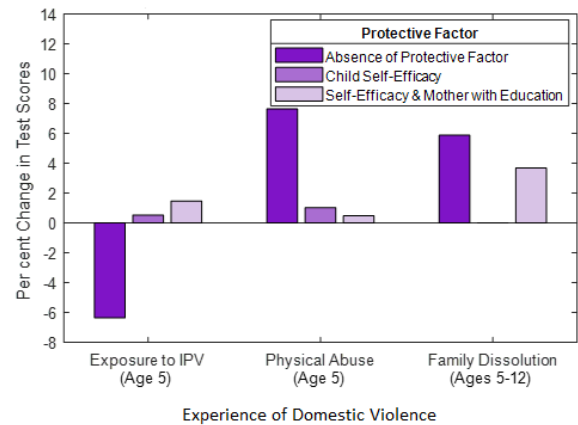


Figure 3: Percent change in language and test scores at age 12 across experience of domestic violence and protective factors (Young Lives Survey)

While physical abuse does not account for a significant variation in language achievements, a positive significant behavioural effect is observed on maths achievements. This may suggest the disciplinary motives of physical abuse, reflecting parents' strict monitoring of child activity. Parental authoritarianism may reinforce academic orientation, pressuring children towards high achievement under threat of violence. Notwithstanding, this external pressure may only serve as a weak substitute for individual emotional reserves which must be cultivated early-on in childhood.

Moreover, amongst young survivors whose mothers had not completed secondary education, those with low self-efficacy were estimated to see an 8% increase in achievement scores upon experience of physical abuse. However, those with high self-efficacy observed just a 1% corresponding increase in maths achievement scores relative to their peers with no experience of abuse. This stark contrast in scores ultimately reflects that it is the children who must draw on their own socio-emotive wellbeing, building on their self-efficacy (Bandura, 1986), rather than perform in the fearful shadow of violence.

Long Term Effects on Achievements, age 19

The following section highlights the risk of persisting divergence in achievements amongst children with experience

¹² Growth stunting poses an alarming health measure of delayed child physical development. Present study classifies this as ranking two standard deviations or below the cohort mean height-to-age ratio.

of early childhood domestic violence.¹³ The dynamic nature of learning is captured, modelling achievements as a function of past accumulated knowledge/skills. The model is further augmented with aspirations outcomes, motivated by the negative socio-emotive effects on agency and efficacy as these limit children's outlook on future career paths.

The study observed a positive yet inconclusive dependence of children's past learning on future achievements.¹⁴ Thus, early years of schooling play a critical role in moulding children's achievement tracks. In particular, estimates of the effect of maths achievement are positive, yet lower in magnitude than language scores. This may reflect higher leverage of innate ability in reasoning and computation, serving as a buffer against adversity.¹⁵ Furthermore the effect of past career ambition is positively linked to achievement scores but poses a relatively weaker feedback effect compared to past achievements. Notwithstanding, to the extent of evaluating the validity of estimations, the short timeframe emerges as a constraint in sampling information around children's achievements. Future available data extending the timeframe along which children are followed is necessary towards highlighting the gravity of early social intervention to break the cycle of violence.

Returns to Schooling, age 22

This section explores how risks of persistent underachievement accrue to disparities in earnings in early adulthood, motivated by the deepening divergence in learning trajectories. Ultimately this study seeks to trace inequalities in earnings back to early childhood adversity.

To this effect, labour earnings of youth aged 22 are estimated using a Mincerian earnings function (Houcine and Zouheyr, 2019). The classical function encompassing schooling and work experience is modified to account for the indirect effects of adversity on labour skill and productivity, accounting for the *interaction* between years of formal schooling and experience of violence. The Young Lives sample is restricted to those no longer in full-time education at age 22, sampled in Round 05, as the variable of earnings was constructed using data on both labour force participation, hours worked, as well as wages, youths' monetary compensation.¹⁶ The model also includes a set of 'controls' pertaining to sector, occupation type and sex, isolating the effect that these parameters may have on gaps in earnings.¹⁷

Experience of domestic violence was classified along the lines of exposure to IPV, physical abuse as well as chronic physical abuse, accounting for the qualitative dimension of long haul abuse (Kiesel et al., 2016). Figure 4 reflects that those experiencing chronic physical abuse by age 15 are estimated to realise 38.5% lower earnings at age 22, compared to their peers

with no past experience of violence. Although the indirect effects through schooling are statistically insignificant, the positive sign amongst those experiencing either chronic or non-chronic physical abuse suggests that perseverance in formal schooling carries potential to bridge inequalities in earnings.

Notwithstanding, children exposed to IPV in early childhood are estimated to accrue lower earnings for every year they invest towards schooling, compared to their non-IPV counterparts. This reflects young survivors' low capacity to build resilience through education due to their impaired ability to form aspirations.

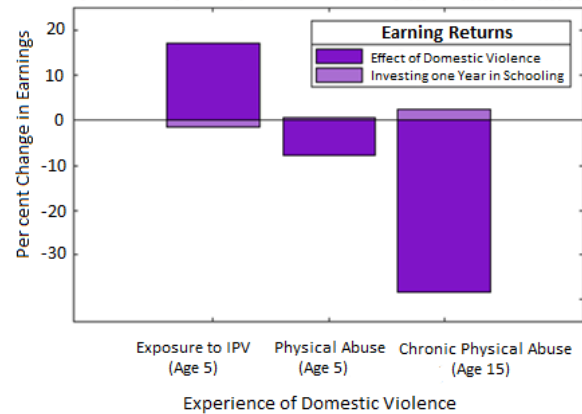


Figure 4: OLS estimations of Mincerian Earnings Function accounting for effect of domestic violence on returns to schooling (Young Lives Survey)

Thus, IPV poses a deeper-rooted risk in inequality compared to direct victimisation as the negative effects now unfold through both socio-emotive channels as well as impeding household resource allocation towards schooling, leading to insufficient support for academic perseverance. While only one consistent caregiver is needed to support a child through their development, perpetrators of IPV shake this last standing family pillar to its core (Shonkoff et al., 2015).

This article further explores estimated returns to schooling through two country case studies those of Ethiopia and the Andhra Pradesh state of India. The countries are chosen as they report the highest number of incidents of physical abuse, providing sufficient 'information' for study. Earnings were estimated for non-self-employed individuals whose main labour activity falls outwith the agricultural sector.¹⁸ Estimations of earnings were then computed across different levels of investment in schooling, namely 6, 12 and 16 years, across experience of violence.¹⁹

¹³ Children's scores in PPVT and Math testing were normalised into z-scores, harmonising reported results across Rounds 02, 03 and 04. This transformation reflects a child's deviation from the sample mean within its respective country cohort (Kowalski et al., 2018: 1854). Z-score transformations follow, $Zscore_i = \frac{Score_i - \overline{Score}}{s}$, where \overline{Score} and s are sample estimates of mean and standard deviation.

¹⁴ Please consult the Appendix for full report of estimations and background on the methodology.

¹⁵ Due to the nature of the data following a panel format, recording multiple observations over time, the model employed accounts for individual characteristics including cognitive endowments through a 'fixed' effects term.

¹⁶ The study aims to factor any circumstances that may prevent someone from working, excluding those that continued to hold study commitments at the given sample period.

¹⁷ A series of country binary variables were included to control for heterogeneities in labour market conditions and business cycle effects on labour force participation, arising from the booms and busts of a country's economy.

¹⁸ Youth who were enrolled in full-time education continue to be restricted from the sample, factoring for patterns in labour force participation, as explained above.

¹⁹ Taking log-difference of estimated earnings at these discrete attainment levels allows us to approximate returns (%) to pursuing attainment. Log-difference refers to applying a logarithmic transformation on the outcome variable and subsequently subtracting this outcome at discrete levels of schooling. Full results tables with the above estimations can be provided upon request.

YL Case Study 1a: Returns to Schooling Under Exposure to IPV by age 5, Ethiopia

Case Study 1a echoes that youth with exposure to IPV in Ethiopia were estimated negative returns to schooling in their pursuit of secondary attainment. That is, a non-self-employed youth whose main labour activity falls in the non-agricultural sector was estimated a 27% decrease in earnings at age 22, upon making the transition from primary to secondary level attainment. Whereas the corresponding increase in earnings amongst those with no experience of abuse was estimated at 31%. The costs to education may outweigh the benefits for young survivors as they are unable to capitalise upon their efforts, swamped by possible low self-efficacy, lagged cognitive development, and a weak family support network.

Ultimately, the above estimations are mirrored in an attainment gap amongst the Young Lives sample, with just 17 of 62 survivors completing secondary studies by age 22. As a result, the consequences of adversity on learning may deepen inequalities in early life outcomes, restricting learners' social mobility through discouraging pursuit of schooling.²⁰ Holistic policy-intervention to support both caregiver and child is of utmost importance as IPV shakes a child's family support system to its very foundation, disempowering the primary caregiver from standing up for her children and supporting them through their studies.

YL Case Study 1b: Returns to Schooling under Family Physical Abuse by age 5, Ethiopia

Table A: Arellano-Bover/Blundell-Bond Dynamic Panel Estimations of Language and Maths Standardised Testing Achievements (Ages 12-19)

	No abuse	Abuse
Secondary attainment	31.2%	14.2%
Tertiary attainment	20.8%	9.5%

Unlike previous estimations of negative returns to schooling under exposure to IPV, Case Study 1b reflects that children in Ethiopia with experience of physical abuse, by age 5, are estimated to derive *positive* returns to pursuing secondary and tertiary education. Nevertheless, the estimated returns to schooling are considerably lower compared to their counterparts with no experience of physical abuse. Indicatively, present estimations of returns to schooling fall below half the global benchmark approximated at a 7.6% increase in earnings for each year of schooling (Peet et al., 2015).

Although 5 of 245 young survivors continued to pursue tertiary education, the small sample size inhibits us from inferring signs of perseverance in the general population, despite seeming disadvantages under experience of adversity. Ultimately, while encouraging perseverance in schooling forms a core component of the UN Sustainable Development agenda, children must be supported in their path towards building resilience and reap the full fruits of choosing to remain in formal education.

YL Case Study 2: Returns to Schooling under Chronic Physical Abuse, by age 15, Andhra Pradesh state of India

Instead, Case Study 2 motivates the potential for resilience-building, as youth with chronic experience of physical abuse in the Andhra Pradesh state of India are estimated higher returns to schooling, increasing their earnings by 38% in their pursuit of secondary attainment. The steep figure reflects scope for bridging disparities, speaking to learners' capacity to 'catch-up' to peers during their adolescence (Pankhurst, 2020). Despite potential for personal development through formal schooling, an attainment gap is observed as no young survivor of chronic abuse continued to complete tertiary education, by age 22.

Ultimately, SDG objectives to increase enrolment and attainment do not address the risk of under-achievement in face of IPV and physical abuse. Patterns emerging from case studies in Ethiopia and Andhra Pradesh motivate curriculum-design that is attentive to individual behaviours. That is, recognising signs of domestic violence at an early age may increase the stream of support services available to the young survivors and pre-empt the negative self-enforcing socio-emotive effects before these take deep root.

CONCLUSION

Following Barnett's (1993) taxonomy of early childhood maltreatment, exposure to IPV is observed to be linked with lower language achievements, with the effect being neutralised through reinforced self-efficacy. This underscores the importance of mental-health support provision through reinforcing efficacy and agency amongst young survivors by the age of 12.

While experience of physical abuse may seemingly be linked to higher maths achievement scores, this is only observed amongst children with low self-efficacy. Parental authoritarianism may be expedient, but temporarily so, as it jeopardises the integrity of children's emotional reserves; the agency and efficacy that they will ultimately clasp onto in times of challenge and uncertainty. Instead, positive estimated effects of parent separation on both language and maths achievements are reinforced in face of maternal secondary attainment, as mothers seek to distance their children from abusive environments. Female empowerment emerges as an important protective factor in mitigating the negative consequences of violence.

In the long-term, consecutive periods of underachievement risk permanently derailing an individual from their potential learning trajectory due to the dynamic nature of literacy and vocabulary reception, critically building on past knowledge and experience. Although innate ability emerges as a protective factor in maths achievements, socio-emotive inputs including agency seem to contribute towards shaping achievement through fostering career aspirations. This motivates efforts to break vicious cycles of self-fulfilling bias amongst young survivors, providing children with support to overcome the residual wounds of trauma.

Gravely, exposure to IPV was associated with negative returns to pursuing secondary education in Ethiopia, manifesting in an observed attainment gap. IPV poses acute risks in inequality as children are impacted both directly through attenuated emotional 'reserves', and indirectly through obstructing household resource allocation towards schooling. Instead, experiences of chronic and non-chronic physical abuse in Andhra Pradesh and Ethiopia, respectively, presented scope for

²⁰ The corresponding returns to schooling under exposure to IPV in Andhra Pradesh are not explored for lack of adequate number of observations within the restricted sample.

resilience building, backed by supporting survivors' perseverance in formal schooling.

This article provides scope for social capital formation through aligning pedagogical objectives along Neo-Aristotelian principles, placing individual adversity at the core of instructors' attention. This may facilitate discerning signs of domestic abuse, and mobilising socio-emotive support early-on in a child's development (Jirapramukpitak et al., 2010). In this respect, institutions may serve as emotional lifelines for young survivors of abuse, mitigating the negative repercussions on self-perceptions around agency and efficacy (Coleman, 1968).

The present analysis relied on children's self-reported experience of domestic violence, separately studying different forms of violence when these could be occurring in tandem. This raises issues in reporting bias and lacking measures of qualitative characteristics around intensity and frequency of abuse. Furthermore, in analysing effects on early labour market earnings the study excluded individuals that were pursuing education at the time, missing on potential patterns of 'lagged' attainment amongst young survivors. Future study of endemic inequalities amongst survivors of abuse may depart from earnings, exploring social inequality in the forms of gender-parity and health outcomes.

Recent mobilisation around the issue of domestic violence shines light on the long-lasting cross-generational effects as these critically carve individuals' life paths and, by extension,

collective socio-economic development. This study sought to flag the channels through which violence may reinforce inequality, impacting children's incentives to pursue schooling and form career aspirations. Ultimately, education proves a *refuge* for young survivors of chronic abuse suggesting that the resonating effects of trauma need not be irreversible. It is of utmost importance to cultivate sensitivity and awareness around the issue within institutions and further explore the vital role that these may take in identifying signs of abuse early on in a child's development. In turn the emerging social 'safety nets' may work towards nurturing equality to opportunity, allowing for children to explore their full potential.

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APPENDIX

Table A 1: Arellano-Bover/Blundell-Bond Dynamic Panel Estimations of Language and Maths Standardised Testing Achievements (Ages 12-19). The magnitude of estimations are interpreted on the basis of approaching the benchmark set at 1, at which value future achievements of children's outcomes would depend on 1-on-1 basis on past outcomes of achievements and ambition. For example, the higher the decimal value under past achievement contribution the tighter the link between past and future outcomes, leaving less room for intervention/mediation of underachievement across time. Robust standard errors are reported for GMM-type estimations in parentheses. Built-in xtdpdsys command used in Stata 17 for estimations. Statistical significance reflected by asterisk notation with greater robustness in estimations being reflected by increased number in asterisks, *p < 0.10, ** p<0.05, *p<0.01**

	Language Scores	Maths Scores
Magnitude of Contribution of Past Test Score Achievement	0.303*** (0.0154)	0.276*** (0.0313)
Magnitude of Contribution of Past Career Ambition	0.0577*** (0.0181)	0.0484*** (0.0167)
Observations	6902	7995