



An evidence-based analysis of the psychosocial adaptability of conflict-exposed adolescents

and the role of the education system
as a protective environment

Acknowledgements

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Glossary

CDC	Centres for Disease Control and Prevention
ESPAD	European School Survey Project on Alcohol and Other Drugs
GCA	Government-controlled areas
HBSC	Health and Behaviour in School-aged Children
MoES	Ministry of Education and Science
NGCA	Non-government controlled areas
PTSD	Post-Traumatic Stress Disorder
SCORE	Social Cohesion and Reconciliation Index
SeeD	Centre for Sustainable Peace and Democratic Development
UISR	Ukrainian Institute for Social Research after Oleksandr Yaremenko
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USE	United Nations Social Cohesion and Reconciliation Index for Eastern Ukraine CRC
CRC	Convention on the Right of the Child

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1. KEY TERMS AND DEFINITIONS

Risk: the term risk refers mainly to environmental risk, defined in the study as exposure to threats of or actual adverse experiences that can be detrimental to one's development. The study analyses different types of risks, such as socio-demographic risk, family abuse, victimization at school, and conflict exposure and how they negatively influence adolescents' psychosocial adjustment (i.e., detrimental outcomes of development). Details are provided in chapter 6.

Resilience: resilience is defined in this study as the ability of adolescents to withstand, adapt to, and recover in the face of adversity, trauma, threats or significant sources of stress.

Adolescents: the term adolescents in UNICEF indicates boys and girls aged 10 to 18 years. However, the study targeted adolescents between 13 and 18 years for survey purposes, as the broadest range which could be targeted in one single questionnaire.

Adolescent development outcomes: adolescent development in this study is defined as a continuous process in which adolescents develop competencies, life skills and social networks. Competency is viewed as the ability to adapt to diverse ecologies and environments within a specific context. Outcomes indicators were selected to gain insights on adolescent development and to analyse the specific drivers of adolescent development in eastern Ukraine, how does the conflict impact on it and what are the environmental factors and individual traits which mitigate the development of negative outcomes, including those created by the conflict and its consequences. In total, 62 indicators were identified, including positive indicators (such as life satisfaction, academic performance, sense of school safety, civic engagement) and negative ones (such as school drop-out tendency, internalizing and behaviour problems, likelihood to engage in bullying). A full list all indicators of the study can be found in the appendix.

Violence: violence against adolescents in this study is analyzed in several forms, including physical and emotional abuse at home and among peers, as well as direct and indirect exposure to conflict-related violence itself.

Psycho-social adaptability: psycho-social adaptability in this study refers to the emotional and social ability to change and adapt to a new environment.

Internalizing problems: internalizing problems are defined in this study as anxiety, depression, post-traumatic stress disorders (PTSD) and self-harm and suicidality.

Behavioral problems: behavioral problems are defined in this study as tendency to delinquency, physical aggression, substance abuse and risky sexual behaviour.

School connectedness: school connectedness is a well-established concept with school psychology and adolescent development. In this study it is defined as the extent to which students feel personally accepted, respected, included and supported by others in the school social environment.

Areas near the contact line: the study defines areas near the contact line as areas within 15 kilometers of the contact line in the government-controlled areas of Donetsk and Luhansk oblasts. Oblasts are administrative units within Ukraine.

2. EXECUTIVE SUMMARY

The objective of this study is to provide a comprehensive overview of the challenges adolescents face in conflict-affected eastern Ukraine and inform relevant policy and programme design processes, most notably the on-going educational reform as outlined in the “New Ukrainian School” strategy document. To this end, the United Nations Children’s Fund (UNICEF), the United Nations Development Programme (UNDP) and the International Organization for Migration (IOM), supported by the UN Coordination Office, collaborated with the Centre for Sustainable Peace and Democratic Development (SeeD) for the implementation of a large-scale quantitative study, with an overall sample of 3,331 adolescents from 48 educational institutions in government-controlled Donetsk and Luhansk Oblasts.

The study investigated the impact of conflict exposure as well as micro-systemic risks on adolescent development, then sought to identify potential sources of resilience that might interrupt pathways from risk exposure to detrimental outcomes of development. Specifically, the study found that conflict exposure is associated with a broad range of internalizing and externalizing mental health problems, such as anxiety, depression, substance abuse and aggression, while it is also associated with a reduced overall quality of life and life satisfaction. Exposure to violence in the micro-system, such as in the context of family abuse or school-based victimization, is also associated with mental health problems, while additionally contributing to school drop-out tendency and reduced readiness for civic participation. In contrast, exposure to socio-demographic risk (e.g. family poverty, single-parent families) is primarily associated with reduced academic achievement.

While these findings represent a “call-to-protect”, specifically to reduce conflict exposure and micro-systemic risk that adolescents are experiencing, it is important to also identify sources of resilience that can mitigate detrimental outcomes in risk-exposed adolescents. In this regard, the study found that collaborative and executive skills, in combination with parent support and teacher support, greatly contribute to build resilience in adolescents exposed to violence in their microsystem, i.e. at school or at home. In addition, adolescents that are resilient to conflict exposure are more likely to be characterized by supportive relationships with peers, emotional connection to the school, inter-dependent values, collaborative problem-solving skills and tolerance of diversity. These findings suggest that, in order to build adolescents’ resilience, programmes should reflect and address the nature of risk they are facing, be it micro systemic or conflict exposure.

Given the important contribution of school connectedness constitutive elements (i.e. teacher support, peer support, emotional connection to school) in nurturing resilience, the study then proceeds to an in-depth investigation of

the specific protective factor. Several developmental outcomes were found to be associated with the experience of school connectedness. These include enhanced life satisfaction, enhanced academic performance and enhanced sense of school safety, reduced school drop-out tendency, reduced internalizing problems, reduced behaviour problems, reduced likelihood to engage in bullying and increased readiness for non-violent civic engagement. These findings highlight the importance of school connectedness as an intermediate developmental objective that can pave the way to multiple beneficial outcomes.

Several individual and contextual factors that can contribute to experiencing school connectedness were identified in the study. At the individual level, it was found that pro-social orientation, interpersonal skills and executive functioning, all predict enhanced levels of school connectedness, suggesting that adolescents with these specific life skills are in a better position to engage with teachers and peers, build positive social networks and experience connectedness. At the contextual level, the findings show that experiencing connectedness at home is strongly associated with experiencing connectedness at school, thus highlighting the importance of establishing family-based positive relationships on the path towards school-based positive relationships.

Some of the developmental outcomes which school connectedness contributes to, are also directly impacted by other individual and contextual factors. Specifically, victimization at school is directly predicted by abuse at home, thus highlighting a darker aspect of home-to-school developmental processes. In contrast, executive functioning directly reduces the risk of victimization, presumably by providing adolescents with strategies to effectively navigate the threats that are posed by potential perpetrators of bullying at their school. Another important developmental outcome, non-violent civic engagement, is also predicted by school connectedness along with other protective factors. Specifically, the combination of school connectedness, pro-social orientation (i.e. characterized by collaborative skills, inter-dependent values and empathy) and tolerance of diversity most effectively prepare adolescents for constructively engaged and non-violent citizenship.

As far as gender is considered, the majority of the study’s indicators highlighted significant differences in scores. Girls reported higher levels of empathy, social tolerance, family connectedness, peer support, social skills and collaborative skills than boys, while also reporting stronger academic performance and greater readiness for non-violent civic engagement. At the same time, girls reported higher levels of internalizing problems, such as anxiety, depression and post-traumatic stress, along with increased vulnerability to victimization and a more pronounced migration tendency.

Boys, in contrast, report higher levels of executive functioning, higher entrepreneurial aspirations, higher levels of self-confidence, and enhanced sense of school safety as well as perceived quality of life. At the same time, they report a greater likelihood to engage in externalizing behaviours, such as aggression, delinquency, unsafe sexual practices and substance abuse, while also reporting higher levels of callous unemotional traits and authoritarian tendencies. Furthermore, boys report a greater readiness to engage in political violence while displaying a stronger school drop-out tendency. These gender disaggregated findings point the way towards gender-sensitive programming. In girls, programmes should aim to cultivate executive skills and mitigate internalizing problems while providing opportunities for civic inclusion and participation. In boys, programmes should focus on building collaborative skills and social skills, nurturing family connectedness, while mitigating callous unemotional traits, preventing externalizing problems and enhancing academic commitment.

Beyond gender differences, several important differences in the study's indicator scores by proximity to the contact line¹ have been identified. Specifically, adolescents at schools living in areas near the contact line reported greater school drop-out tendency, greater readiness for political violence, higher normalization of bullying, lower teacher support and reduced quality of life, compared to adolescents elsewhere in the Donbas. Furthermore, adolescents near the contact line reported elevated levels of callous unemotional traits, in what is likely a self-defensive emotional response to the harsh conditions of life as an adolescent amid an active military conflict. To avoid negative long-term consequences in the socio-emotional development of conflict-exposed adolescents, emphasis must be placed on nurturing their resilience through positive peer relations, interdependent values, healthy self-esteem and emotional connection to their school, while working to restore normality to their communities and in Eastern Ukraine more broadly.

3. INTRODUCTION

3.1 Background

In 2017, three UN Agencies, UNICEF, UNDP and IOM supported by the UN Coordination Office partnered to launch the United SCORE for Eastern Ukraine (USE) to provide an in depth understanding of societal dynamics in eastern Ukraine and how the conflict impacts on them. USE is a sophisticated analytical tool based on evidence-based programme design methodologies developed by the Centre for Sustainable Peace and Democratic Development (SeeD). These include the Social Cohesion and Reconciliation Index (SCORE), a tool that was co-developed by SeeD, UNDP and USAID to capture social cohesion dynamics as they relate to peace processes in conflict-affected societies. Following a pilot implementation in Cyprus, the SCORE has since been implemented in several countries in Europe, Asia, Africa and the Middle East, including Bosnia-Herzegovina, Nepal, Liberia, Moldova and Iraq. In Ukraine, a nation-wide SCORE index is implemented by the USAID's Confidence Building Initiative, and SCORE also constitutes the underlying methodology for USE which is specifically focused on eastern Ukraine.

The USE team developed two components, an adult² and an adolescent one. While they differ in focus and scope they are

both specifically tailored to the eastern Ukrainian context and their respective modelling is based on extensive literature research and multiple stakeholder consultations. As such, they should be understood as complementing each other in developing an in depth understanding of societal dynamics in eastern Ukraine. The adult component has a strong focus on social cohesion examining quality of inter-group relations, including citizen-state relations, with an emphasis on institutional trust, perceptions of state efficiency and service delivery, and human security. On the other hand, the adolescent component seeks to identify both the drivers and processes through which these drivers influence how children will come to define their vision of the world and invest their roles as adults. Specifically, the adolescent component of USE assesses challenges, including conflict driven ones and identifies pathways for youth resilience, skills development and empowerment.

USE represents the first participation of UNICEF in a study which utilizes the evidence-based programme design methodologies being developed by SeeD, and the first instance of inclusion of adolescents in the methodology for which UNICEF took the leadership role in design, implementation and analysis.

¹ Areas within 15 kilometers of the contact line

² For additional information on the eastern Ukraine adolescent study and on the adult component please visit the eastern Ukraine adolescent study on www.scoreforpeace.org.

3.2 Rationale

While Ukraine is a well surveyed country and there are several studies, including from UNICEF and its partners, showing the impact of the conflict on children, most reports focus exclusively on children living near the contact line as a demographic group or on the impact of exposure to traumatic events on psychosocial distress. There have been few attempts towards a comprehensive research exploring how the conflict and different underlying factors interact and influence adolescent development outcomes. To achieve these objectives, two predictive models were developed based on extensive

literature research, partner consultations and empirical study findings. The first one explores psychosocial adaptability from a risk–resilience approach while the second, school connectedness, which was found globally to support key development outcomes, examines the impact of school within the eastern Ukrainian context. The latter is particularly important as the schools were consistently singled out as key protective environment in areas near the contact line by partners and adolescents themselves.

3.3 Scope of the study

This report, developed by UNICEF and SeeD, is based on the analysis of data collected in the first of three planned waves of the USE adolescent component through a self-reporting survey of 3,331 adolescents aged 13-17 from 48 randomly selected education institutions in government-controlled areas of Donetsk and Luhansk oblasts.

The overall objective of the report is to inform the ambitious Education reform as outlined in the “New Ukrainian School” strategy³ of December 2016.

The eastern Ukraine adolescent study aims to increase the evidence base and inform government institutions and other key stakeholders on the incorporation of different structural factors into policy and programmatic design with potential for scale and impact—including through gender sensitive approaches — addressing key differences in how adolescent girls and boys experience the conflict.

Specifically, in order to inform the education reform, this study first examines how risk variables, including individual traits and environmental factors, influence both behavioural problems and psychosocial problems (internalising problems) defined in the framework of this study as delinquency, substance abuse, risky sexual behaviour and physical aggression for the former and anxiety, depression, PTSD and self-harm and suicidality for the later. The influence of these effects on negative adolescent development outcomes are further unpacked as resilience factors. Building on this risk-resilience analysis, the study examined the protective nature of the education system and its role in building resilience among adolescents through the modelling of school connectedness, a framework closely aligned with the objectives of the education reform.

As a result, the adolescent study can contribute to the education reform by informing the curriculum revision and the skills

framework components through evidence on the student-centred focus and the importance of specific skills as resilience factors. This study directly contributes to specifically the following four key elements of the reform: /03 leading-edge educational processes that engender values”; /05 teaching based of partnerships between the pupil, the teacher and parents”; /06 A focus on pupil’s needs in the education process, i.e. child centred education” and; /07 a new structure for schools that allows the mastering of new content and acquiring life competencies”.

Whilst this study presents the findings of the first wave of data collection completed in October 2017, the eastern Ukraine adolescent study is currently planned as a three-year research with data collection for the second carried out in October 2018. The second and subsequent waves will allow for comparative analysis and track trends and, following the introduction of unique anonymised identifiers also allow for powerful longitudinal studies. Following the adoption of the adolescent study by the Ministry of Education and Science and as a tool to measure the impact of joint pilots in eastern Ukraine for the education reform, in parallel to the second wave of data collection, UNICEF is also using the tool developed as part of this study to evaluate several projects, namely mediation in schools and safe schools pilots as well as the Life Skills Education programme.

As such, the findings of the study are not limited to the impact of the conflict and its consequences. Instead they should be considered under the broader development impact the education reform can play in eastern Ukraine by to achieving scale, sustainability and long-term change towards quality learning.

3 <https://goo.gl/XjpBqi>

4. METHODOLOGY

The study was carefully calibrated to the specific context of the East of Ukraine and specific measures were taken to ensure compliance with UNICEF's and national ethical considerations on surveying of children.

In the design phase of the study, based on extensive literature review and partner consultations, specific indicators were selected to gain insights on adolescent development, particularly in a context of conflict exposure such as Eastern Ukraine. **Indicators under consideration for inclusion in the study were assessed against their ability to answer three research questions namely:**

- what are the specific drivers of adolescent development in eastern Ukraine,
- how does the conflict impact on them and,
- what are the environmental factors and individual traits which mitigate the development of negative outcomes, including those created by the conflict and its consequences.

Through this selection process, a total of 62 indicators were chosen for inclusion in the study, ranging from the experience of life at school (e.g. peer support, teacher support, emotional connection to school, school dropout tendency), to mental health (e.g. anxiety, depression, conduct problems, sense of wellbeing), to individual-level risk and protective factors (e.g. narcissism, callous unemotional traits, executive skills, collaborative problem-solving skills), to contextual risk and protective factors (e.g. family, victimization at school, conflict exposure, parental involvement), and finally traits that are associated with civic development (e.g. readiness for non-violent civic engagement, readiness for political violence, intergroup polarization or harmony, tolerance of diversity). A full list of the 62 adolescent indicators can be found in the appendix.

4.1 Research instruments

For each of these indicators, an average of 3 to 5 questionnaire items that tap into different aspects of the specific phenomenon were included in the adolescent survey, which were then aggregated to form a composite scale. For instance, to measure parental involvement, one item asked whether parents routinely check with their adolescent on how their day at school was, while another item asked whether parents spend time with their adolescent on enjoyable activities. Where

possible and available, internationally-validated psychometric instruments that are known to provide reliable measures of the indicators, were included in the study. In cases where no such instruments were available, or for indicators that were specific to the Ukrainian context, original questionnaire items and composite scales were designed using best practices in psychometric scale construction.

4.2 Ethical considerations

The research team thoroughly reviewed all ethical considerations to ensure the protection of children's rights during the study. UNICEF contracted the Ukrainian Institute for Social Research after Oleksandr Yaremenko⁴ (UISR), a leading institute accredited for conduct of national surveys and with substantial experience in school-based surveying to provide expert advice on the questionnaire formulation and its translation. UISR is the Ukrainian accredited institute for the European School Survey Project on Alcohol and Other Drugs⁵ (ESPAD) and leads Ukraine's data collection for the Health and Behaviour in School-aged Children⁶ (HBSC), both cross-national studies taking place in 35 and 48 countries respectively. UISR carried out an initial independent ethical review of the questionnaire developed by the research team following which the questionnaire was revised before being field tested in a controlled environment by the UISR and subsequently adjusted. The questionnaire was then submitted to the Sociological Association of Ukraine⁷ for ethical review and then submitted for a further ethical review by the State Scientific Institution "Institute of Education Content Modernization of Ministry of Education and Science of Ukraine⁸" (IECM).

Regional field managers and Interviewers from the UISR National network received a full day training before administering the paper-based questionnaire within classrooms rigorously, following the protocol used in the HBSC study. Students were informed about the objectives of the study, how the data would be used and informed that participation was on a voluntary basis, that not all the questions needed to be answered and that they could withdraw at any time.

4 <http://www.uisr.org.ua/>

5 <http://www.espad.org>

6 <http://www.hbsc.org>

7 <http://i-soc.com.ua/en/institute/>

8 <https://en.imzo.gov.ua/>

Each student received a questionnaire and an individual envelope in which they sealed their completed questionnaire. All individual envelopes of the class were then sealed by the interviewer in a second envelope prior to the return of the teacher in the room.

4.3 Data collection and analysis

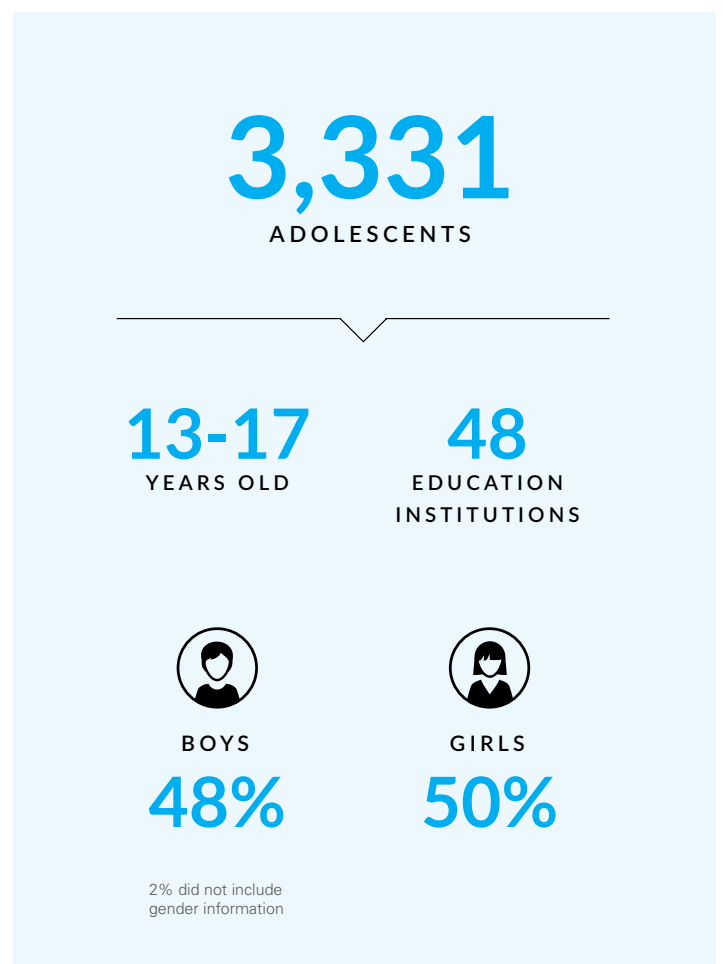
The data itself was collected through a Ukrainian language paper based self-report questionnaire administration in September and October 2017. The sample consisted of 3,311 adolescents aged 13-17 from 48 randomly selected education institutions in government-controlled areas of Donetsk and Luhansk oblasts with an oversampling on adolescents living within 15 kilometers of the contact line. Boys represent 48 per cent of the sample, girls 50 percent and a further 2 percent of the questionnaires did not include gender information.

Adolescent data was then processed, firstly by checking that all composite scales did in fact work well as coherent measures (factor analysis and reliability analysis were used for this), then disaggregating scores of all indicators by age, gender, and contact line proximity. To investigate underlying dynamics and gain actionable insights into processes that drive outcomes of interest, predictive statistical modelling was utilized.

Specifically, for the psychosocial adaptability section of the report, structural equation modelling was utilized to investigate how exposure to different types of adversity (e.g. family abuse, conflict exposure, victimization) can undermine development in learning, civic and psychosocial domains. For each documented pathway from adversity to detrimental outcome of development, candidate sources of resilience (including individual assets such as collaborative skills or executive skills, and contextual resources such as peer support and teacher support) were then investigated to identify which of these can most effectively provide protection by interrupting the pathway from adversity to detrimental outcome. This was implemented using the statistical technique of moderation analysis, which identifies how the strength of an identified pathway can differ based on the levels (i.e., experiencing low to high school connectedness) of a potential resilience factor. For instance, being exposed to conflict can lead to behaviour problems, but only in adolescents with low tolerance of diversity.

For the school connectedness section of the report, structural equation modelling was used to explore how different risk and protective factors at the individual and contextual levels affect school connectedness, and how in turn school connectedness predicts outcomes of development — including in learning, civic and psychosocial domains. The structural equation model was then disaggregated by gender and contact line proximity, to understand how pathways from risk and protective factors to school connectedness differ in boys and girls, and also in schools near versus far from the contact line.

Findings from all analyses were then utilized to draw insights that can inform programmatic and policy decisions, within the context of UNICEF's education and protection mandates and in support of the Ministry of Education and Science on-going school reform.



5. INVESTING IN ADOLESCENTS

5.1 Adolescents in Eastern Ukraine

The importance of adolescence as a critical period of formative growth between childhood and adulthood that affects well-being across the lifespan is now universally accepted. Recent advances in neuroscience have shown that, in addition to physiologic changes, adolescence represents an important second phase of brain development with structural remodelling and neuronal re-configuring of the brain occurring in this period bearing a strong influence on neural circuits involved in processing emotions, risks, rewards and social relationships. As such, adolescence is characterized by a sensitivity to environmental influences, capacity for rapid learning and increased risk taking as boys and girls take on additional responsibilities and experiment different ways to interact amongst themselves and with their environment in their quest for independence.

Evidence shows that when adolescent girls and boys are supported and encouraged by caring adults, along with policies and services attentive to their needs and capabilities, they have the potential to break long-standing cycles of poverty, discrimination and violence. For positive development adolescents need opportunities to develop a growth mind set, build resilience and foster their sense of belonging, autonomy and competence as they settle in their own identity, views of society and start to engage actively in shaping the world around them. During adolescence risk and opportunities go hand in hand. Behavioural and emotional patterns experienced across adolescence can drive positive or negative outcomes as a result of complex interactions of social, emotional, psychological, behavioural and neuro-developmental processes.

The adoption of the Convention on the Right of the Child (CRC)'s General Comment on the Rights of Children during adolescence in 2016 highlights the global recognition of the importance of investing in adolescents, and that failure to do so carries the risk of undermining the progress achieved in the first decade of life. This is particularly relevant for adolescents in Ukraine, all of whom are impacted at different levels by the conflict, as evidenced by Ukraine's decline of nine per cent in the 2016 Global Youth Development Index, the largest deterioration of all 183 countries covered⁹.

5.2 The situation of adolescents in Donetsk and Luhansk

While all children within the country are affected by the conflict in eastern Ukraine, adolescents and their communities in Donetsk and Luhansk are exposed to particularly high levels of adversity resulting from the conflict. The creation of a de facto barrier between the regional administrative and economical center now located in non-government-controlled areas, the collapse of industrial activity and damages to the transportation infrastructure have



led to massive loss of employment, which has contributed to exacerbating existing problems and eroding pre-conflict protection systems, including poor quality of and access to social services, including healthcare and mental health.

The situation is particularly dire for communities living near the contact line, which is the 500 kilometers demarcation point between government-controlled and non-government-controlled areas. With hundreds of ceasefire violations recorded on a daily basis by the Organization for Security and Co-operation in Europe (OSCE) Special Monitoring Mission and the presence of mines and unexploded ordnance, these communities are exposed to the danger of armed conflict in ways that children living beyond this zone do not face. Between 16 February and 15 August 2018 alone, the Office of the High Commissioner for Human Rights recorded 196 civilian conflict related casualties. Major issues regarding child protection along the contact line include children living in consistently shelled areas, families forced to spend considerable time in makeshift bomb shelters, psychological distress, military presence in schools, gender-based violence, sexual exploitation and neglect. Access to infrastructure such as health, education, and water are far more restricted in these areas and the presence of land mines and unexploded ordnances in forests and farm lands not only represents a physical threat to all but also a dramatic loss of livelihood. As a consequence, many parents—mostly fathers—have left in the pursuit of employment opportunities elsewhere, further increasing the number of single parent-headed households.

In a recent UNICEF¹⁰ report on the situation of children living near the contact line, over three-quarters of school directors and teachers interviewed in areas near the contact line noted strong behavioral changes in students since the beginning of the conflict. In heavily shelled districts in particular, numerous children show symptoms consistent with post-traumatic stress disorder according to the trained psychologist interviewed in the same research. Abuse is another difficult issue to gauge with few reliable figures on physical abuse, but educational professionals agree that the frequency of abuse at home has increased because parents are under emotional and psychological stress as a result of the conflict and worsened economic situation.

9 <http://youthdevelopmentindex.org>

10 <https://goo.gl/kA32T5>

6. PSYCHO-SOCIAL ADAPTABILITY: A RISK — RESILIENCE APPROACH

The study shows that currently an alarming 22.5 percent of adolescents in Donetsk and Luhansk oblasts are at risk of developing clinical levels of internalizing or externalizing problems in adulthood, with very strong gender differences. To help prevent and hopefully revert this tendency the study analysed the psychosocial adaptability of adolescents in eastern Ukraine. This helped identify on the one hand how and through which mechanisms the conflict and its consequences impact adolescents and, on the other hand, which contextual (e.g., protective environment) and individual (e.g., executive functioning skills) resilience factors mitigate these risks. In order to explore the psychosocial adaptability of adolescents, a risk-resilience approach was chosen, as illustrated in diagram 1 below.

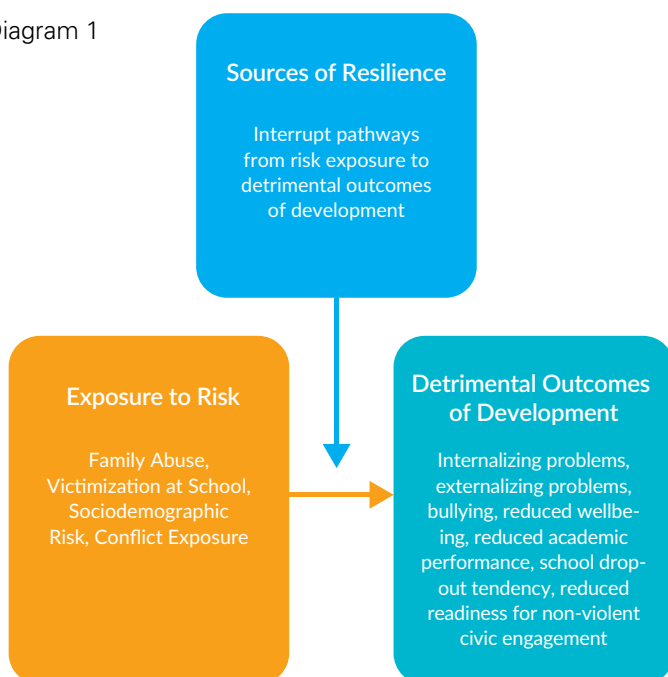
Environmental risk is defined in the study as exposure to threats of or actual adverse experiences that can be detrimental to one’s development. These experiences have been shown to induce changes in biological systems responsible for maintaining normal functioning and responsiveness to stressful experiences¹¹. There is a large body of evidence showing that exposure to adverse environmental experiences creates a lasting imprint on emotion, cognition, behaviour and chances for success in adulthood. However, the unique influences of each environmental risk factor on developmental outcomes are currently unknown, since the majority

There is a large body of evidence showing that exposure to adverse environmental experiences creates a lasting imprint on emotion, cognition, behaviour and chances for success in adulthood

of existing research does not statistically control for the associations among environmental risk variables or use cumulative risk factors (i.e., a combination of risk factors)¹².

To test the unique and distinct associations of each risk factor on adolescent adjustment, a structural equation model was created. Initial analysis aimed to establish the association between exposure to risk and negative developmental outcomes, by following a risk framework. Researchers expected environmental risk factors, including socio-demographic risk, family abuse, victimization at school, and conflict exposure, to negatively influence adolescents’ psychosocial adjustment (i.e., detrimental outcomes of development). These variables were packaged together into an overall model, which was empirically tested on the data. The final, empirically-validated model (diagram 1) displays excellent fit to the data based on established model indices and shows the distinct associations of each risk factor on adolescent outcomes and the unique effects of each environmental risk factor on them. Furthermore, the model acknowledges — and reflects the fact — that relationships from risk exposure to detrimental outcomes are often mediated through the development of mental health problems. For instance, family abuse contributes to reduced academic performance, but this occurs through the development of behaviour problems which in turn undermine personal discipline and therefore academic performance. In contrast, socio-demographic risk (e.g. living in a poor or single-parent household) also contributes to reduced academic performance, but this is a direct relationship which is not mediated by mental health problems.

Diagram 1



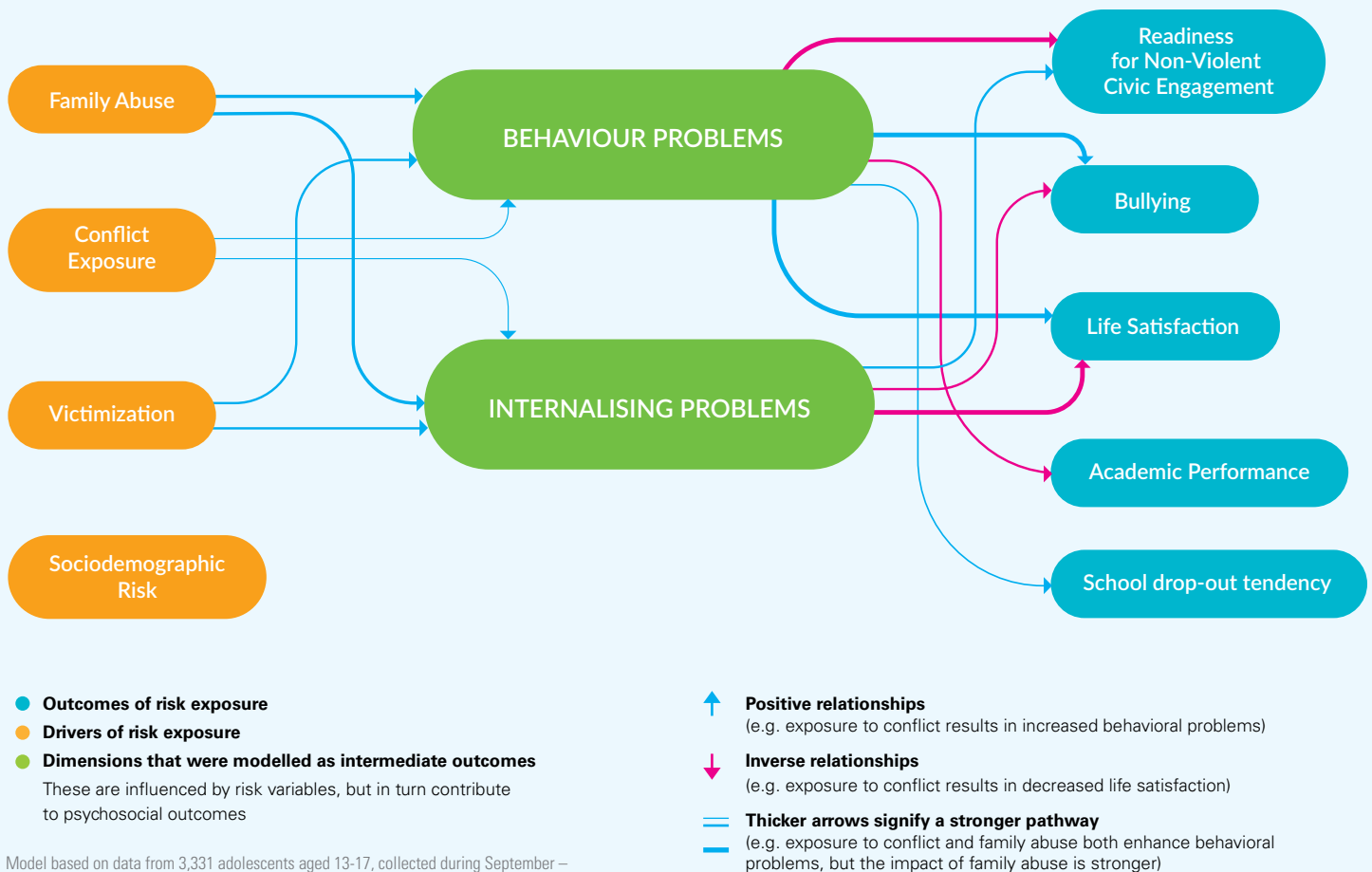
11 Danese, A., & McEwen, B. S. (2012). Adverse childhood experiences, allostasis, allostatic load, and age-related disease. *Physiology & behaviour*, 106(1), 29-39

12 McLaughlin, K. A., & Sheridan, M. A. (2016). Beyond cumulative risk: A dimensional approach to childhood adversity. *Current directions in psychological science*, 25(4), 239-245.

Diagram 2

Risk Exposure Model

Structural Equation Model of pathways from risk exposure to developmental outcomes



With the effect of exposure to risk identified, follow-up analyses aimed to identify resilience factors. Resilience is defined in this study as the ability of adolescents to withstand, adapt to, and recover in the face of adversity, trauma, threats or significant sources of stress. To identify sources of resilience, potential factors were tested in a regression analysis, measuring their influence on adolescent outcomes after statistically controlling for environmental risk. Moderation analysis was then used to test the interactions between each risk and resilience variable in relation to specific outcomes. Simply put, instead of assuming that the identified relationship, for instance, from conflict exposure to behaviour problems, is equally strong in all adolescents, a test was conducted to see whether specific adolescent experiences or characteristics (e.g. collaborative skills, peer support) actually weaken

the relationship in question. This analytic approach led to several important insights on sources of resilience.

Since prevention efforts are a matter of decreasing exposure to risks, providing a protective environment and enhancing positive individual traits, identifying factors mitigating risks of negative outcomes among adolescents can inform the development of successful prevention and intervention efforts. As such, the model should be viewed as a framework informing prevention through different mechanisms supporting resilience among adolescents.

6.1 Risk exposure: main outcomes

The empirically-validated model reveals that exposure to risk has several negative outcomes, broadly in line with global findings. Specifically, these outcomes are:

- (i) Decreased academic performance and increased school dropout tendency.
- (ii) Decrease in overall life satisfaction.
- (iii) Increase in behavioural problems and becoming a perpetrator of bullying.
- (iv) Increase in internalising problems.
- (v) Decrease in readiness for non-violent civic engagement.

The four environmental risk factors included in this study were found to each have its unique impact on psychosocial outcomes. These are:

A. Socio-demographic risk

Socio-demographic risk is mainly associated with learning outcomes, such as academic performance and school drop-out tendency, but was not found to increase risk for mental health problems. In other words, adolescents who are otherwise mentally healthy appear to become demotivated for academic achievement when exposed to socio-demographic risk. This might be associated with reduced professional aspirations in such families, or alternatively, adolescents at high socio-demographic risk may be distracted by expectations to contribute to family income or other family responsibilities, in ways that undermine their academic progress.

B. Family abuse

Family abuse in contrast, was found to have a much more pervasive negative impact on adolescent development, contributing directly to a deterioration in mental health (internalizing as well as behaviour problems), reducing sense of well-being, increasing risk for school drop-out, and undermining motivation for non-violent civic engagement. A harmonious family life is essential for identity development in adolescence. When parents and other family members fail to play the role of positive role models who are beacons of warmth and stability, adolescents experience inner anguish which, depending on personality traits, can then be directed within, in the form of internalizing problems such as anxiety, depression, post-traumatic stress, self-harm or suicidality, or can be directed outwards, through problematic behaviours that include aggression, delinquency, substance abuse or unsafe sexual behaviour. Furthermore, a harmonious family life is an essential stepping stone to healthy social development. Children from connected and caring families tend to graduate smoothly from that microsystem into broader communities, such as the school community and society at large. It is therefore no surprise that adolescents who lose faith in the familial microsystem, due to experiences of abuse, consequently also lose faith in the broader communities that they are called to belong to. It is such dynamics that probably explain the pathways from familial abuse to increased tendency for school drop-out and reduced readiness for non-violent civic engagement.

***Socio-demographic risk** was constructed as a composite index, comprised of the following indicators: low family income, low educational level of parents, disrupted nuclear family and crowded households. No significant differences were found in overall levels of socio-demographic risk between adolescents living near or away from the contact line.*

***Family abuse** was composed of questions associated with psychological (e.g., has anyone in your family threatened to leave you or forever abandon you), sexual (e.g., has anyone in your family made you upset by speaking to you in a sexual way or writing sexual things about you) and physical (e.g., has anyone in your family pushed, grabbed, or kicked you) abuse.*

Adolescents living near the contact line reported equal levels of family abuse.

C. School victimization

The impact of school victimization, further discussed in section 6.3, displays some similarities with family abuse, particularly in that it also contributes to inner anguish that translates to mental health problems, both internalizing and externalizing variety. Victimization is also associated with school drop-out tendency, though the most probable mechanism to explain this is experiential avoidance — a desire to escape the dangerous and hostile environment that school has become for victimized adolescents. Furthermore, victimization strongly predicts bullying. This finding confirms in the Ukrainian context a dynamic that has been evidenced in several countries, namely that many perpetrators of bullying have themselves been victims of bullying.

D. Conflict exposure

Finally, conflict exposure is also associated with increased internalizing and behaviour problems, along with a reduced overall sense of well-being. Similar to other risk factors discussed above, conflict exposure — for instance through being close to regions that are subject to shelling, or having family members participating in the conflict, or experiencing family division because of the conflict — leads to inner anguish which is then expressed as internalizing or behaviour problems.

In several studies, including by UNICEF and its partners, internalizing problems which can be broadly defined as psychological adaptability problems and behavioral problems have been highlighted as a consequence of high levels of conflict related stress with high levels of prevalence among children in eastern Ukraine in general and in areas near the contact line in particular. In the eastern Ukraine adolescent study, internalising problems have been modelled, quantified and measured based in four distinctive elements: anxiety, depression, post-traumatic stress disorders (PTSD) and self-harm and suicidality while behaviour problems were modelled, quantified and measured based on the following elements: delinquency, physical aggression, substance abuse and risky sexual behaviour.

For this analysis of risk and resilience, internalizing and behavioral problems were modelled as intermediary outcomes in so far that they are negative outcomes of risk exposure in their own right but also bear strong influence on other outcomes within the model through distinct mechanisms of their own. For instance, while family abuse decreases levels of life satisfaction through a direct relationship, its impact is amplified through increased levels of internalizing problems which, in turn, also impacts life satisfaction. Therefore, beyond the direct effect of environmental risk exposure, we can talk of a cascade effect where risk exposure undermines mental health along with other outcomes of development as described above, but then impaired mental health additionally undermines downstream outcomes, thus magnifying the overall

Victimization refers to being exposed to one or several of the following four forms of bullying: physical, relational, verbal and, the more recent phenomenon of cyber-bullying.

Exposure to conflict has been measured based on ten items tailored to assess conflict exposure within the context of eastern Ukraine, which are further detailed in section 6.2.

impact of risk exposure. Fully understanding the underlying dynamics of internalizing problems and behavior problems is crucial for developing effective, multi sectoral policies and programmatic interventions. The impact of family abuse for instance speaks to the need for prevention mechanisms and dedicated family centered interventions while addressing internalizing problems and behavioral problems speaks to dedicated psychological and mental health support.

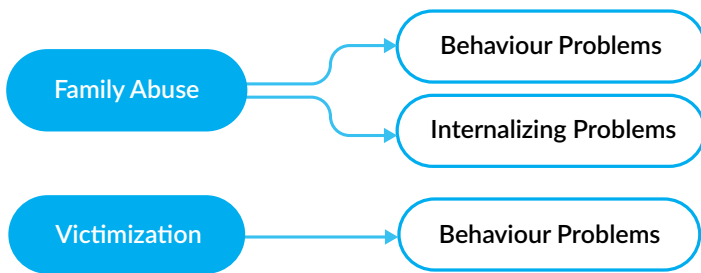
6.1.1 Findings

Specifically, this study found that behaviour problems themselves contribute to impairment across several outcome dimensions, most notably reduced academic performance, increased likelihood of school drop-out, increased bullying behaviours and reduced readiness for non-violent civic engagement. Paradoxically, adolescents with elevated behaviour problems report increased well-being, a finding that can be explained as the short-term pleasure that they derive through their problem behaviours, such as substance abuse, which deceptively creates a false sense that “all is well” with their lifestyle.

In contrast, adolescents with internalizing problems present a very different impact profile: academic performance is not obviously impaired, school-drop out tendency is not increased, while in fact the likelihood of becoming a bully is lower amongst adolescents with internalizing problems with their peers. Furthermore, adolescents with internalizing problems appear to stand out as ‘model adolescents’, displaying



Pathways stronger near the contact line



a greater likelihood for non-violent civic engagement than other adolescents in their school. For all these reasons, it is easy to disregard the plight of adolescents facing internalizing problems which are much more likely to be girls.

And yet, the study shows that internalizing problems are associated with a sharp reduction in emotional well-being, as well as an elevated likelihood of self-harm and suicidality. In a nutshell, seen by external observers, adolescents with internalizing problems may appear to be “doing fine” and are likely to be more difficult to detect, particularly boys for which gender stereotypes and social norms do not allow for easy association with such problems. At the same time however, they are silently experiencing great internal suffering, which might reach lethal proportions in those cases where suicide is being contemplated.

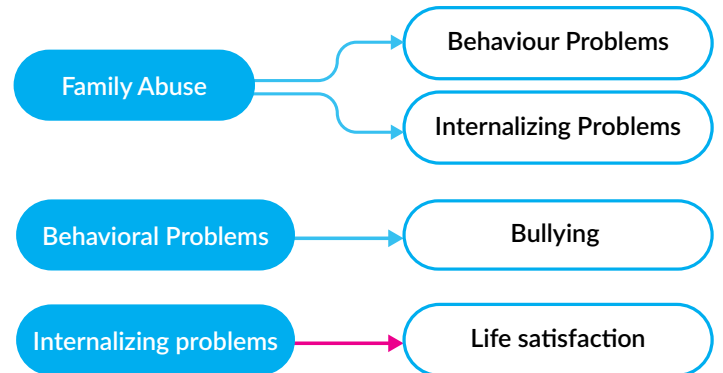
Exposure to risk was found to impact adolescents who live near the contact line (<15 km) differently than those in the other regions. Family abuse was found to have a significantly stronger influence on internalising and externalising problems in these areas, while similarly victimization at school has a stronger influence on behaviour problems near the contact line. One way to interpret these findings is that adolescents near the contact line are more dependent on their micro-systemic resources — family and school — for their mental health and emotional well-being, than their peers in the remainder of the oblasts. Therefore, when these supports are withdrawn, as is the case in incidents of family abuse or school victimization, the deleterious impact on adolescent mental health is greater than it would be amongst adolescents in areas not affected by the conflict.

6.1.2 Gender

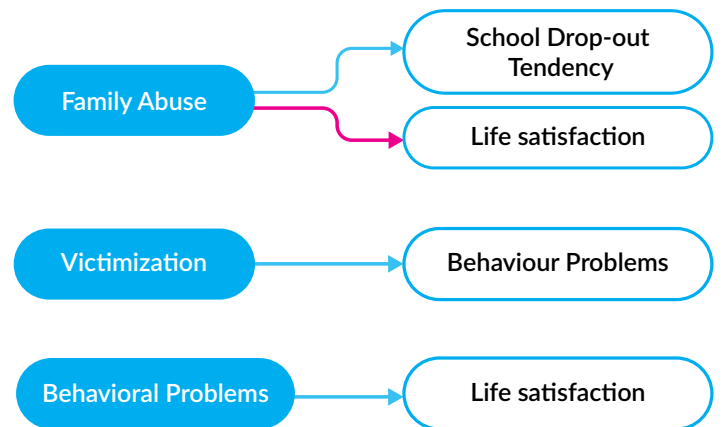
A large number of outcomes of risk exposure are gender specific for they are statistically more significant for either boys or girls. When exposed to family abuse, girls are at greater risk of mental health problems — including internalizing problems as well as behaviour problems while boys are more likely to experience general loss of meaning, as manifested through higher levels of school dropout tendency and reduced general



Pathways stronger for girls



Pathways stronger for boys



life satisfaction. Similarly, the impact of school victimization is gender specific. Boys are more likely to deal with the challenge through a “fight” response — behaviour problems and bullying in return — while girls are more likely to adopt a “flight” response — as manifested through elevated school drop-out tendency.

It is particularly important to have strong evidence regarding outcomes of exposure to risk, but also of how the conflict might increase the extent these risks impact adolescents in eastern Ukraine. Indeed, while the model is broadly in line with international studies and is likely to be relevant for other parts of the country, the findings show significant differences in areas near the contact line. As the economic hardship remains the strongest in Donetsk and Luhansk oblasts, the influence of the socio-demographic risk would be higher in these oblasts. Likewise, other studies, reports and anecdotal evidence show that there are increased levels of family abuse, particularly gender-based violence in eastern Ukraine since the beginning of the conflict showing the increased vulnerability of adolescents in eastern Ukraine.

6.2 Sources of resilience: resilience in the context of conflict exposure

In this study exposure to conflict has been modelled, quantified and measured based on ten items tailored to assess conflict exposure within the context of eastern Ukraine: respondents were asked if they saw armed soldiers, saw heavy military equipment, heard or saw actual fighting, were displaced from their home, close relative or friend participated as a combatant, saw people who were wounded or had been killed, their family was separated because of the conflict, close relative or friend was injured, close relative or friend was killed, their family suffered economic hardship because of the conflict.

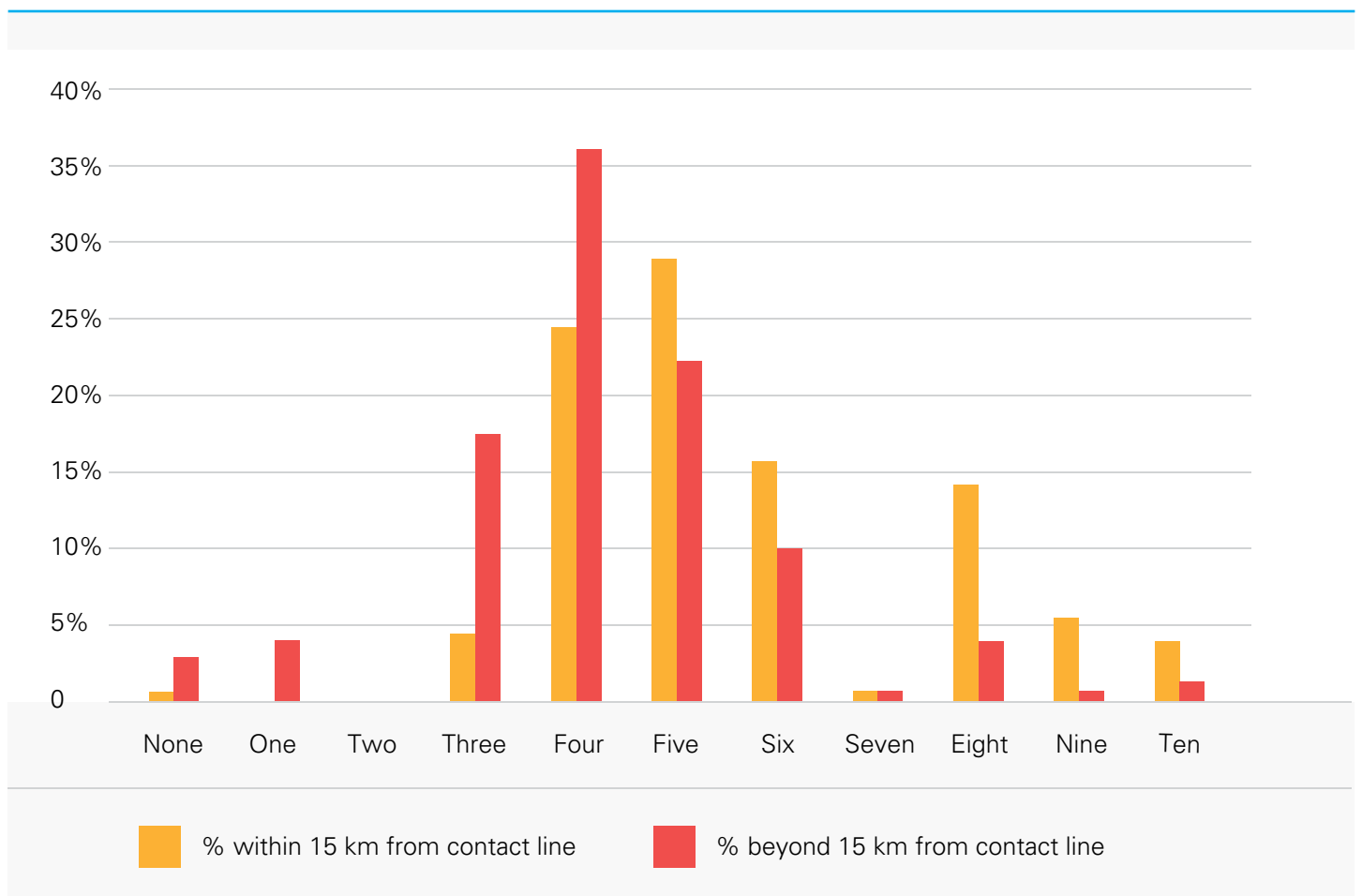
The frequencies of responses are presented below in graph 1, showing that 90 per cent of adolescents experienced more than three events with 83 per cent of them experiencing 3 to 6 conflict experiences and the remaining 7 percent 7 to 10 such experiences. Only 10 percent of adolescents experiencing 2 events or less. Predictably, adolescents in areas near

the contact line (<15km) were found to have higher levels of exposure to the conflict, where characteristically a large proportion of them — almost 25 per cent — reported exposure to 8 or more such events. And, while the average differences are statistically significant, they remain smaller than one could have expected with conflict exposure levels of 5.5 and 4.1 in areas within 15 kilometres of the contact line and the remainder of the oblasts respectively. This can be in part explained by the questionnaire, which does not account for exposure frequency, but the results nevertheless highlight that adolescents across the oblasts have been exposed to the conflict at least once. There have been no gender differences identified in exposure to conflict.

The study also analyzed how certain values and skills can be potential sources of resilience for conflict-exposed children against behavioral and internalizing problems. A detailed description is provided below.

Graph 1

Exposure to conflict exposure events



6.2.1 Interdependent values and tolerance of diversity

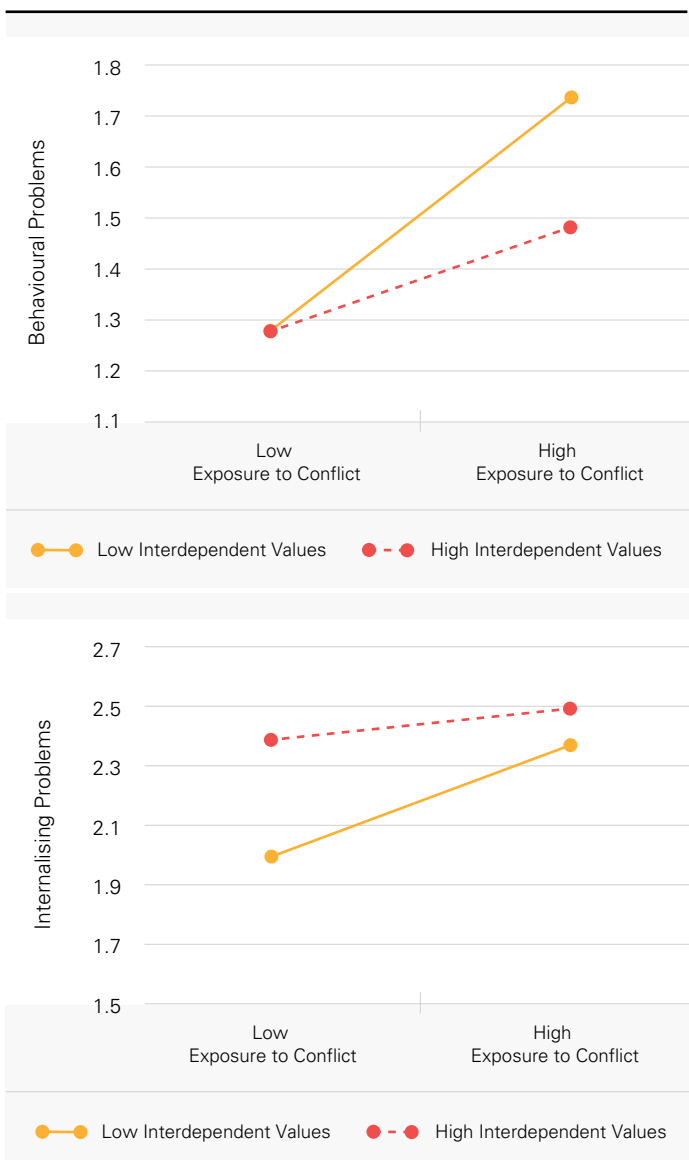
Interdependent values represent the importance that individuals place on the needs of the group rather than on themselves.

As shown in graph 2, interdependent values have proven to be a resilience factor against the impact of exposure to conflict on both internalizing problems and behaviour problems. The findings of the study seem to suggest that conflict-exposed adolescents draw strength, meaning and consolation through developing a sense of solidarity and orienting their efforts towards objectives that are greater than themselves. In contrast, adolescents who are more individualistic in their pursuits may be feeling more exposed and unprotected in the chaotic and unpredictable context of a conflict.

During consultations, field practitioners had clearly articulated this link as one specifically applicable to areas near the contact line which is also corroborated by adolescents themselves who consistently report that the conflict has changed social values among them. Further correlation analysis of adolescent data indeed shows that exposure to conflict is associated with interdependent values, suggesting that conflict exposure shifts values in the direction of greater interdependence, in a way that then protects adolescents from negative mental health outcomes.

Graph 2

Interdependent values interrupt the pathway from conflict exposure to behavior problems and internalizing problems

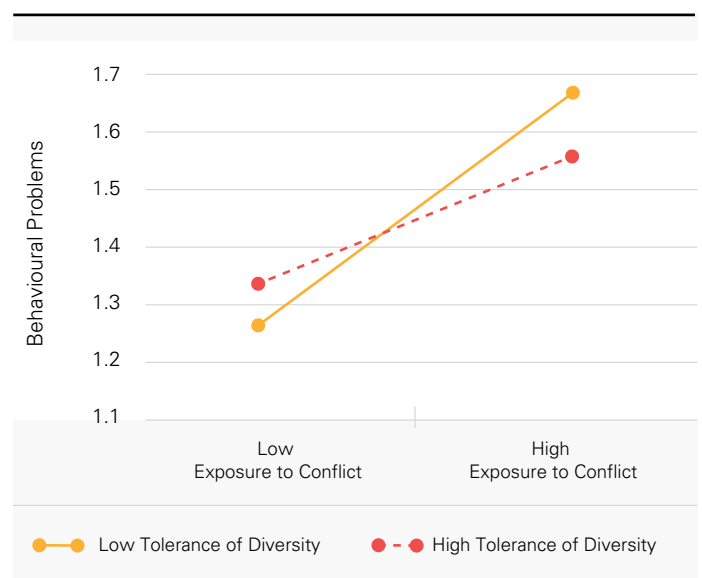


An associated finding from moderation analysis, which strengthens the thesis that an interdependent, socially-oriented outlook contributes to resilience in conflict exposure is shown in graph 3 below.

Specifically, tolerance of diversity was found to interrupt the pathway from conflict exposure to behaviour problems. A possible explanation is that adolescents who are intolerant of diversity are more likely to develop a polarized outlook when exposed to conflict, blaming different out-groups for all that is going wrong in the community. Out-group blaming, in turn, might be priming the adolescent to externalize blame more generally, thus paving the way for behaviour problems. In contrast, tolerance of diversity interrupts this relationship, as socially tolerant adolescents adopt a collective responsibility approach towards addressing conflict-related tensions in the community.

Graph 3

Tolerance of diversity interrupts the pathway from conflict exposure to behavior problem



6.2.2 Collaborative problem-solving skills

Collaborative problems solving skills, defined within the study as one’s ability and openness to compromise, build consensus and share responsibility for solving problems and easing tensions, was identified as an important resilience factor for both behavioral and internalizing problems when exposed to conflict. In other words, exposure to conflict was more likely to engender behavioral and internalizing problems among adolescents reporting lower collaborative problem-solving skills (see Graph 4).

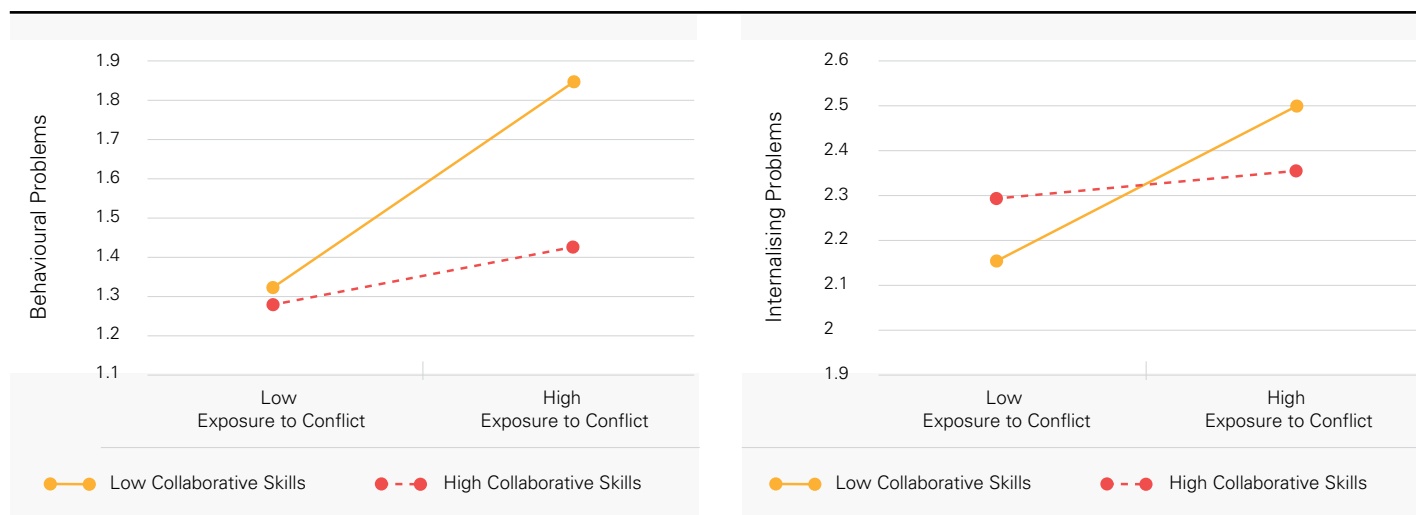
A recent prevention program suggested that enhancing collaborative problem-solving skills among adolescents can result in decreased behavioral problems and individual characteristics associated with extreme aggressive and antisocial behavior¹³. The findings of the adolescent study show that

these skills can protect adolescents from developing behavioral problems even when exposed to conflict.

Existing research investigating associations between collaborative problem solving and internalizing problems is limited, and the study findings provide novel evidence for the importance of this specific life skill for decreasing internalizing problems as well. While the precise mechanism by which collaborative problem solving contributes to resilience in the context of conflict exposure requires further investigation, a plausible hypothesis is that collaborative skills increase adolescent’s capacity to deal with the increased practical, social and emotional challenges that occur in a conflict, by orienting adolescents to seek support where needed and mutually rely on one another’s talents to solve problems in creative and effective ways.

Graph 4

Collaborative skills interrupts the pathway from conflict exposure to behavior problems and internalizing problems



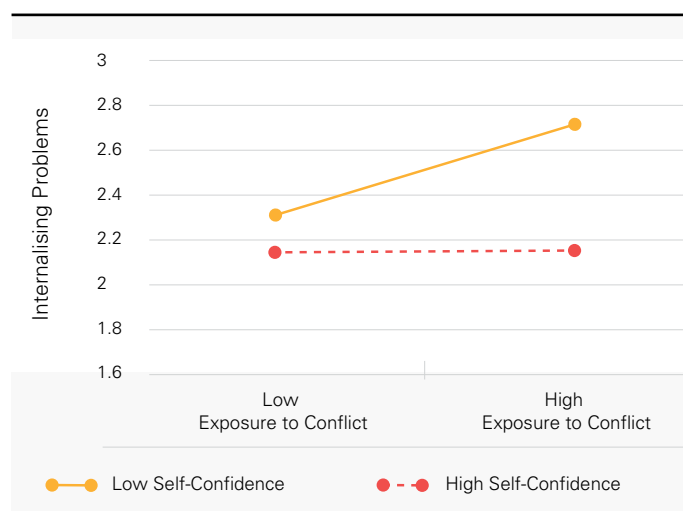
6.2.3 Self-confidence

While the risk exposure analysis at the beginning of this section identified a relationship between conflict exposure and internalizing problems, moderation analysis (see graph 5 below) suggests that conflict exposure is associated with internalizing only in the context of low self-confidence. When adolescents experience healthy self-esteem, this appears to interrupt the pathway from conflict exposure to internalizing problems.

A hypothesis to explain this finding is that low self-confidence, which reflects a lack of faith in one’s internal resources, interacts with the uncertainty and upheaval that is inherent to conflict, leading to a sense that life is out of control and unmanageable. In contrast, adolescents with healthy self-esteem do have faith in their capacity to deal with challenges

Graph 5

Self-Confidence interrupts the pathway from conflict exposure to internalizing problems



13 Kyranides, M.N., Fanti, K.A., Katsimicha, E., & Georgiou, G. (2018). Preventing conduct disorder and callous unemotional traits: Preliminary results of a school based pilot training program. *Journal of Abnormal Child Psychology*, 46(2), 291-303

and uncertainty, and therefore do not develop internalizing problems in response to conflict exposure.

Several intervention programs have focused in enhancing self-confidence among school age children and adolescents, and based on the findings of the study, these programs can have positive effects in nurturing resilience against conflict exposure amongst adolescents in eastern Ukraine.

6.2.4 School connectedness

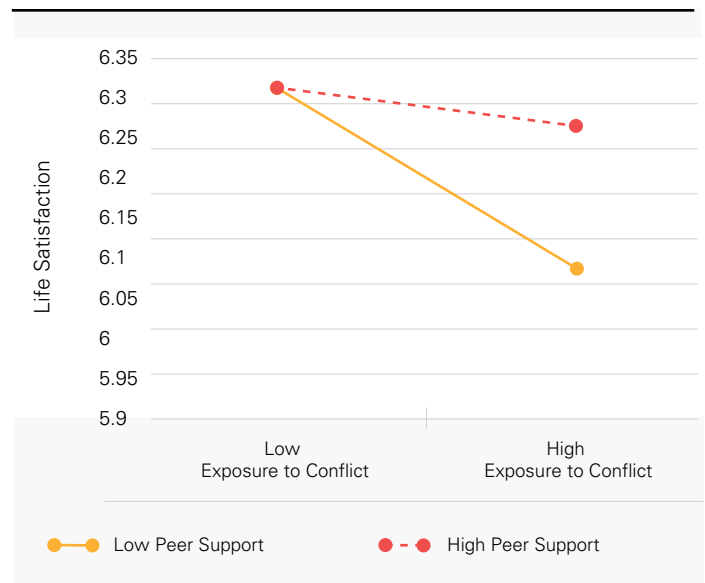
School Connectedness, further discussed in section 7, is composed of three constitutive elements: peer support, teacher support and emotional connection to school.

Looking at whether the elements of school connectedness constitute a protective factor increasing resilience in relation to conflict exposure is a crucial question in understanding the mechanisms through which the education system mitigates the impact of the conflict and, as such provides key evidence for policy and programmatic interventions. The moderation analysis shown in graph 6 shows that peer connectedness is a resilience factor against the impact of exposure to conflict on life satisfaction. In other words, conflict exposure has a far greater impact on life satisfaction among adolescents with low levels of peer support.

Similarly, graph 7 shows that emotional connection to school is a resilience factor against internalizing problems among adolescents exposed to conflict, in that only adolescents with low emotional connection to school exhibit internalizing problems due to conflict exposure. At the same time, it is interesting to note that the third constitutive element of school connectedness, teacher support, was not found to contribute to resilience in conflict-exposed adolescents, even though teacher support is a source of resilience against other types of risk, such as family abuse and school victimization (more on that in the sections below). Perhaps one way to explain the intriguing finding that peer support and emotional connection to school contribute to resilience against conflict exposure, but teacher support does not, is to consider that in cases of conflict exposure, adults in the adolescent’s environment, including teachers and parents, are often bearing even more conflict-related distress than the adolescents. Thus, interaction of adolescents with such conflict-affected adults does not do much to alleviate conflict-related anguish. In contrast, good relations with peers are more likely to create the carefree environment and sense of normality that adolescents require in order to momentarily forget the conflict, and simply be adolescents. This is not to say that teacher support could not be a source of resilience for conflict-exposed adolescents, but for teachers to play an effective protective role in such a context they would need to emulate the worry-free and normalizing socio-emotional environment that adolescent peers are often better at creating.

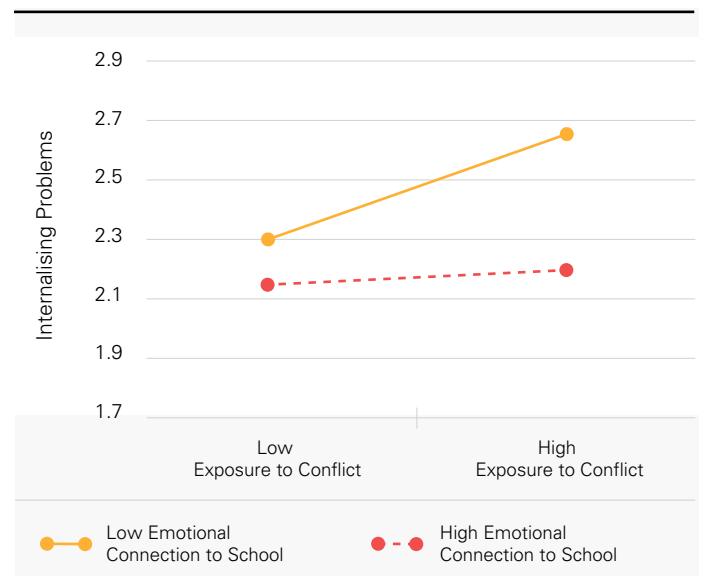
Graph 6

Peer Support mitigates the impact of conflict exposure of life satisfaction



Graph 7

Emotional connection to school interrupts the pathway from conflict exposure to internalizing problems



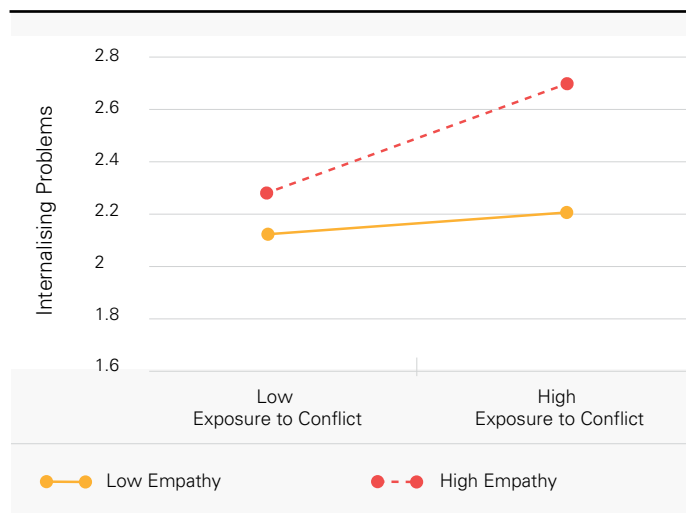
6.2.5 The paradoxical influence of empathy on internalizing problems among conflict exposed adolescents

A surprising association identified in the moderation analysis is that empathy actually amplifies the pathway to internalizing problems among conflict-exposed adolescents (see Graph 8). It should be noted that exposure to conflict in the current study was actually found to increase empathy. Prior work investigated the association between suffering and compassion, finding that high severity of past adversity predicts increased empathy, which in turn, is linked to a stable tendency to feeling compassion for others in need¹⁴.

In contexts of ongoing adversity, these feelings of compassion might in turn result in persistent sadness, or even anxiety for others in their family or community who might be experiencing negative consequences due to the conflict. Such experiences of inner suffering on behalf of others might eventually lead to increased internalizing problems, explaining the current study findings. In contrast, this study’s findings suggest that focusing on positive peer relations, developing an emotional connection to the school, cultivating interdependent values, developing collaborative problem-solving skills and nurturing self-esteem, are all promising directions in supporting adolescents to become more resilient in the face of conflict exposure.

Graph 8

Empathy amplifies the pathway to internalizing problems among conflict-exposed adolescents



6.3 Resilience in the context of victimization

Victimization here refers to one being victim of bullying. This section will focus primarily on examining three resilience factors found to have a strong mitigation on the effects of bullying for adolescents subject to it, namely collaborative problem solving skills, executive functioning, and empathy.

The identification of specific skills building resilience is an important finding which can inform the education curriculum reform and tailoring specific interventions.

In addition to the skills in question, the study found that parental involvement as well as teacher support are elements of a

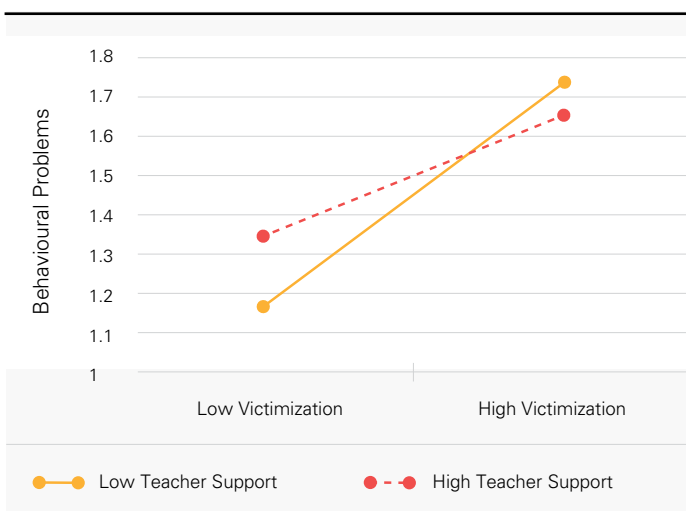
Graph 9

Parental involvement mitigates risk of victims of bullying to become perpetrators of bullying



Graph 10

Teacher support mitigates the risks of behavioral problems among victimized adolescents



¹⁴ Lim, D., & DeSteno, D. (2016). Suffering and compassion: The links among adverse life experiences, empathy, compassion, and prosocial behavior. *Emotion*, 16(2), 175.

protective environment which also mitigates the impact of bullying on adolescents, although their impact is lower than the three specific skills mentioned above. Nevertheless, victims of bullying are less likely to develop behaviour problems or become bullies themselves when benefitting from higher levels of parental involvement or teacher support (see graphs 9 and 10).

This finding is of course not surprising. The availability of supportive adults when an adolescent experiences victimization means that bullying behaviour can be reported so that adults take appropriate action, while it also provides an avenue to calm counsel for victimized adolescents that helps them navigate constructively through their socio-emotional challenges. In contrast, victimized adolescents without recourse to supportive adults are more vulnerable to reacting to bullying in haste, and to attempting to solve their problem by ‘taking the law in their own hands’, i.e. themselves resorting to behaviour problems and bullying.

The eastern Ukraine adolescent study findings confirm that such adult support, from parents or from teachers, contributes to resilience in victimized adolescents particularly in interrupting pathways from victimization to behaviour problems and bullying.

Furthermore, the study analysed how specific skills among victimized adolescents are sources of resilience against risks of behavioural problems and becoming perpetrator of bullying. A detailed description is provided below.

6.3.1 Collaborative problem-solving skills

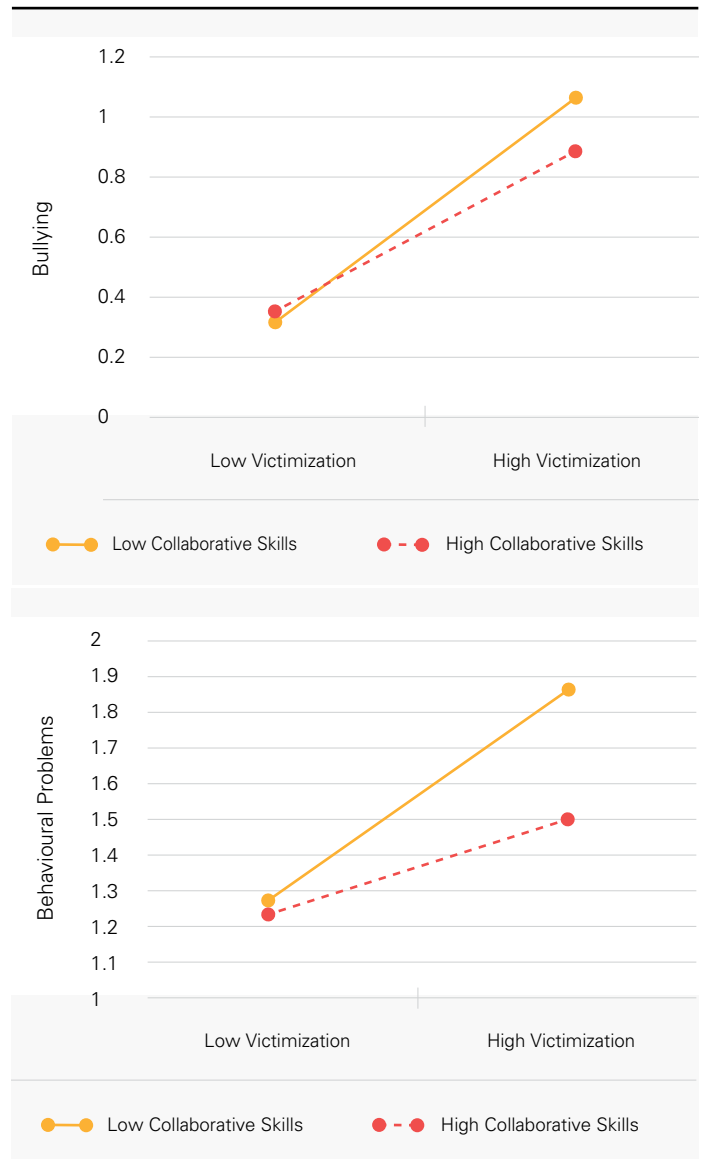
Collaborative problem-solving skills was identified as an important source of resilience for behavioral problems and bullying amongst victimized adolescents. In contrast, victimization was more likely to pave the way for behavioral problems and bullying behavior among adolescents reporting low collaborative skills. A hypothesis to explain the identified protective influence of collaborative problem solving is that adolescents who possess the specific skill are able to identify effective and non-violent ways to deal with the problem of victimization, whereas adolescents who lack collaborative skills have fewer response options available to them, and are therefore more likely to resort to violence (bullying; other forms of aggression) or seek escape (substance abuse; unsafe sexual behaviour) to deal with the challenge of being victimized.

6.3.2 Executive functioning skills

Executive functioning represents a set of cognitive processes that relates to self-management and self-regulation, while providing resources towards decision-making and goal-oriented behaviour. These abilities tend to increase from adolescence to adulthood, while their relative deficit in the developmental stage of adolescence is frequently posited as an explanation for the higher likelihood of adolescents to take risks or engage in antisocial behaviors.

Graph 11

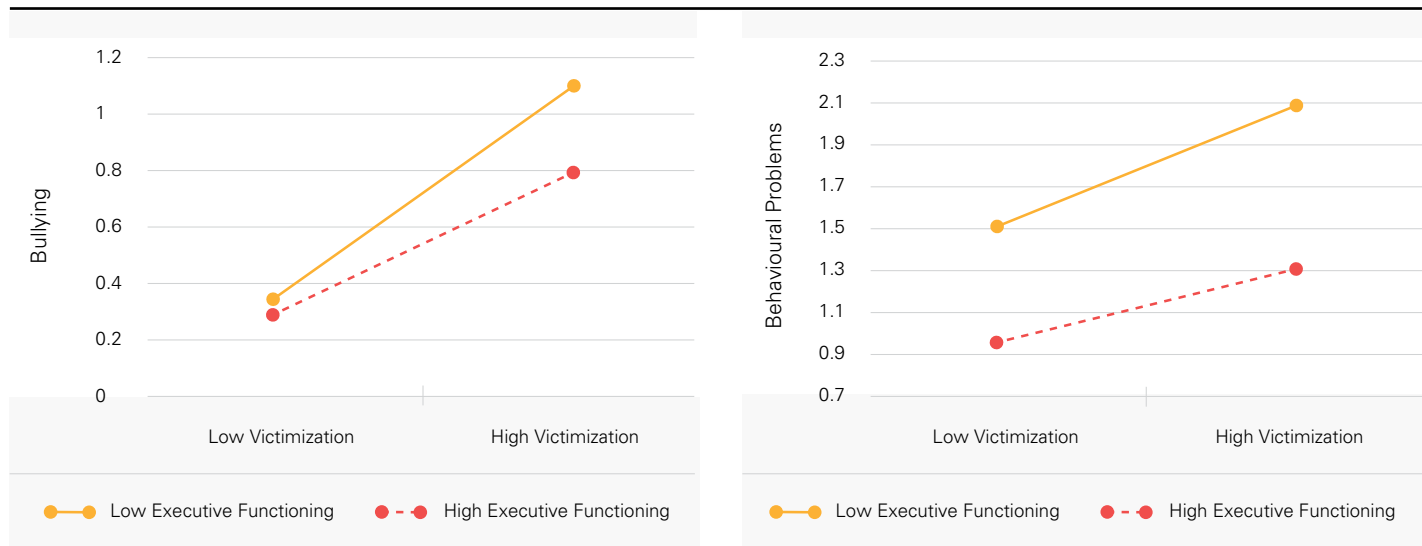
Collaborative skills interrupt pathways from victimization to bullying or other behavior problems



Executive functioning skills were found to be a source of resilience against risk of developing behavioral problems and resorting to bullying among victimized adolescents. On the other hand, victimized adolescents with poor executive functioning were more likely to respond with antisocial behaviors, both behavioral problems and bullying. An explanation for this finding is that victimized adolescents with strong executive functioning can frame their response to bullying in the context

Graph 12

Adolescents with poor executive functioning are more likely to react to victimization with bullying and other behavior problems



of a well-thought out plan, and then inhibit unhelpful impulses — for instance the desire for revenge — in the context of carrying out their strategy. In contrast, victimized adolescents with poor executive functioning are more likely to lash out instinctively and in anger, give in to extreme negative emotionality, and more generally become preoccupied with the perpetrator(s) in ways that then set them on a path to behaviour problems and retaliation. Thus, interventions focusing on enhancing executive functioning can help decrease engagement in behavioral problems amongst victimized adolescents, but also protect them from developing an aggressive repertoire.

6.3.3 Paradoxical findings: empathy, self-confidence and peer support as factors that contribute to fragility among victimized adolescents.

Paradoxical associations were identified in the moderation analysis in that empathy actually amplified the relationship from victimization to internalizing problems and life dissatisfaction. Correlational analysis pointed also to comparable findings with exposure to conflict, since experiences of victimization were actually associated with increased empathy.

One possibility to explain the potentiation of the victimization to internalizing problems and life dissatisfaction pathway via empathy, is that the empathizing adolescent struggles with efforts to display empathy towards the perpetrator, a strategy which is likely to lead to the internalisation of several hostile perceptions of the self. By understanding and internalizing the perspective of the perpetrator, victimized empathizers might be opening themselves up to an internalization of the bullying experience itself, contributing to mental

health problems and reduced life satisfaction. Although empathy might have this negative influence among victimized adolescents, non-victimized adolescents in the current study who reported high levels of empathy actually experienced high levels of life satisfaction.

Yet another paradoxical finding of the study is that, among victims of bullying, adolescents with high levels of self-confidence and peer support are more likely to become perpetrators of bullying (see graphs 14 and 15 below). While in the context of conflict exposure, peer support and self-confidence were identified as sources of resilience, in the case of victimization we see a reverse dynamic.

A possible explanation of this finding is that victimized adolescents who are strongly attached to a peer group may be receiving encouragement and guidance from their peers in the direction of retaliation. Similarly, self-confidence in victimized adolescents might in some cases be associated with a belief in one’s own strength to take on the bully directly through retaliation. Thus, we see what are otherwise positive experiences and traits, namely peer support and self-confidence, contributing in some cases to the “successful transition” of victimized adolescents to becoming bullies themselves.

Overall, the findings of the eastern Ukraine adolescent study regarding resilience in the context of victimization suggest a need to simultaneously emphasize contextual resources, most notably teacher support and parental involvement, while cultivating personal skills and assets, most notably executive functioning and collaborative problem-solving skills. Caution should be exercised when considering interventions that simply buttress the adolescent’s self-esteem or develop a peer network — any peer network — around the victimized

Graph 13

High levels of empathy paradoxically amplify pathways from victimization to internalizing problems and life dissatisfaction



Graph 14

Self-confidence paradoxically amplifies the victimization-to-bullying pathway



Graph 15

Peer support paradoxically amplifies the victimization-to-bullying pathway



adolescent. Specifically, building up self-esteem should be grounded in practical life-skills such as executive functioning and collaborative problem solving, while the development of peer networks should be accompanied by the cultivation of peer responsibility over the type of guidance and encouragement that is offered to the victimized adolescent.

Finally, interventions that focus on empathy training should be considered as contra-indicated in the case of victimized adolescents; such adolescents already display elevated levels of empathy as a result of their experiences, while taking them

further in this direction is likely to lead to even more severe internalizing problems. While empathy training undoubtedly has a place in general life skills education, when it comes to the nexus of bullying and victimization such trainings should be prioritized for the perpetrators rather than the victims.

6.4 Resilience in the context of family abuse

In the adolescent study, family abuse is composed of two constitutive elements, physical and psychological abuse.

Global studies have associated these experiences with severe maladjustment over a lifespan. Among others, family abuse in childhood and adolescence is associated with poor behavioral and psychological function across development outcomes and a more negative view of life. The findings of this study also show that family abuse is a major risk factor to which 18 per cent of adolescents were found to score above average levels.

Policies, services and interventions of preventive nature that target family dynamics are effective means to reduce risk exposure and are part of a well-documented field of work which is not examined in this study. Instead, the study looked into which resilience factors or protective environment elements outside of the family environment mitigate the impact of exposure to family abuse.

An important finding that will be discussed in the following sections was that adolescents who experience abuse at home but receive support from teachers had more positive development outcomes. In addition, individual characteristics, including collaborative problem solving skills and executive functioning, were identified as sources of resilience. As reported in prior sections, children high on empathy that experience familial abuse were at risk for negative developmental outcomes.

The study also looked at how certain skills and external support can prove fundamental in building resilience against internalizing problems and life dissatisfaction in adolescents subject to family abuse. Details are presented below.

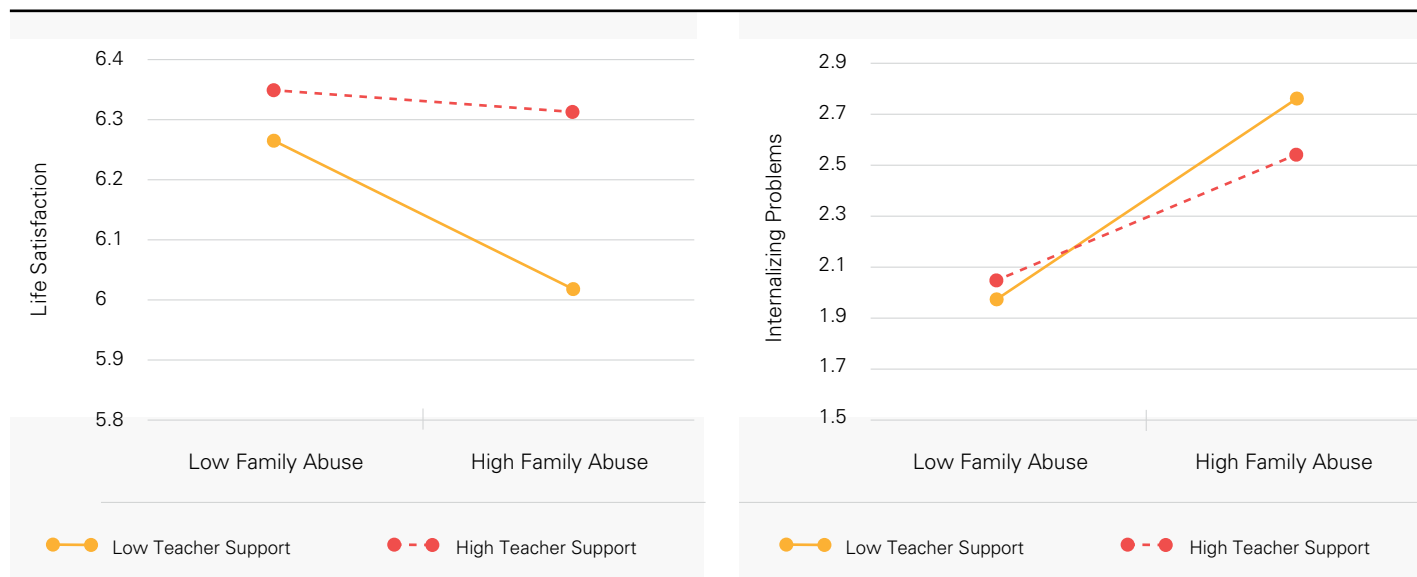
6.4.1 Teacher support

Children experiencing family abuse strongly benefit from safe and protective environments outside the home, which can compensate for threats which they experience in the familial context. The study findings indicate that high levels of familial abuse have more detrimental effects on adolescents' life satisfaction and internalizing problems among adolescents experiencing low teacher support. In fact, familial abuse does not influence children's life satisfaction when teacher support is high. Further, family abuse had a lower impact on the child's levels of depression and anxiety when teacher support was high.

Once again this highlights the protective nature of the education system, in this case for adolescents that experience familial abuse, and also that the presence of alternate supportive adults who can help adolescents develop a sense of coherence, acquire life skills, clarify their value systems and

Graph 16

Teacher support mitigates the risks of internalizing problems and life dissatisfaction among adolescents subject to family abuse



*Family abuse is a major risk factor to which **18%** of adolescents were found to score above average levels*

therefore experience life satisfaction while being protected from mental health problems.

While the study did not explicitly investigate the role of other supportive adults in the community (e.g. coaches, priests, volunteers) it is reasonable to hypothesize that different variants of alternative adult support can be a source of resilience in adolescents experiencing familial abuse.

6.4.2 Collaborative problem-solving skills

Collaborative problem solving skills was identified as an important protective factor for both behavioral, including bullying, and internalizing problems among adolescents experiencing familial abuse. As discussed in section 6.3.1, collaborative problem solving is a critical skill that allows individuals to solve their problems together with others, and in the case of familial abuse it might point to a skill set that allows abused adolescents to ask for help from their social

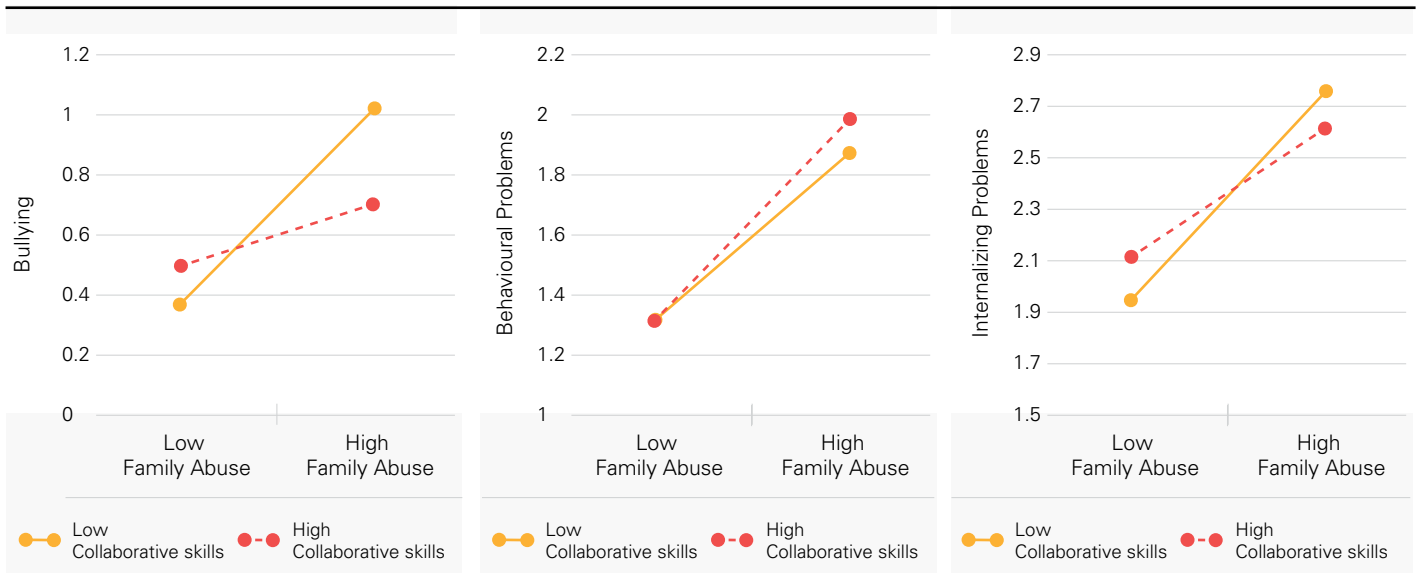
network. If they are successful in obtaining support, they might be less likely to act out against others (i.e., behavior problems and bullying), and they might even be less likely to experience negative emotions themselves.

However, as shown in the graphs, although experiencing abuse is less detrimental for adolescents' with high collaborative skills, family abuse continues to have a negative effect through increase in both behavioral and internalizing problems. Thus, adolescents with high collaborative problem solving skills still need to be protected from the negative experiences associated with familial abuse.

Similar findings were identified in relation to executive functioning (see section 6.3.2). In summary, individual resilience traits are not sufficient in their own right to actually protect adolescents from the detrimental effects of familial abuse although they contribute to their mitigation.

Graph 17

Collaborative problem solving skills mitigates the risks of adolescents subject to family abuse developing internalizing and externalizing problems or becoming a perpetrator of bullying



6.4.3 Executive functioning skills

Executive functioning skills relate to high self-regulation and we expect adolescents high on executive skills to be able to manage their behaviors or anger and protect themselves from engaging in negative behaviors, such as bullying.

This study's findings suggest that the protective effects of executive functioning on bullying behavior extend to those experiencing family abuse. Specifically, abused adolescents with low executive functioning were more likely to engage in bullying behavior. Thus, interventions focusing on enhancing executive functioning can protect abused adolescents from developing an aggressive repertoire towards others.

Nevertheless, familial abuse increases bullying behavior in adolescents with both high and low levels of executive functioning despite its partial protective influence. It has been suggested that individuals experiencing familial abuse develop higher hostility towards others, which can explain the identified positive effects between familial abuse and bullying behavior, even among those high on executive functioning.

6.4.4 The paradoxical influence of empathy

The paradoxical influence of empathy on life satisfaction and internalizing problems has already been discussed in section 5.3.3 and similar findings were found in the context of family abuse. These findings can be extended showing that empathy can have detrimental effects in the context of negative environmental experiences occurring in the community, school, and within the family, particularly from the viewpoint of victims that struggle to empathize with the perpetrators of their abuse, leading to greater anguish for themselves in the process. In the context of family abuse, similarly to the context of school victimization, high empathy was associated with increased internalizing problems and lower life satisfaction. However, in contrast to victimization and exposure to conflict which increased empathy, correlational analysis suggested that familial abuse was actually associated with decreased empathy. This finding agrees with proposals that familial abuse increase hostility towards others, possibly through processes of social learning as adolescents begin to model their attitudes and behaviour on their abusive parents.

Based on this analysis, the overall recommendation for nurturing resilience in adolescents subjected to familial abuse is quite similar to the recommendation for nurturing resilience in adolescents that are victimized at school: focus on practical life skills, such as collaborative problem solving and executive functioning, that can enrich the adolescent with the requisite assets to navigate the extreme circumstances that they are currently experiencing. Having said that, it is important to note that in both adversity contexts the protective influence of such life skills is partial: Even those who possess them are not fully protected from the adverse outcomes of risk exposure. This

Graph 18

Executive functioning skills mitigate the risk of adolescents subject to family abuse becoming perpetrator of bullying

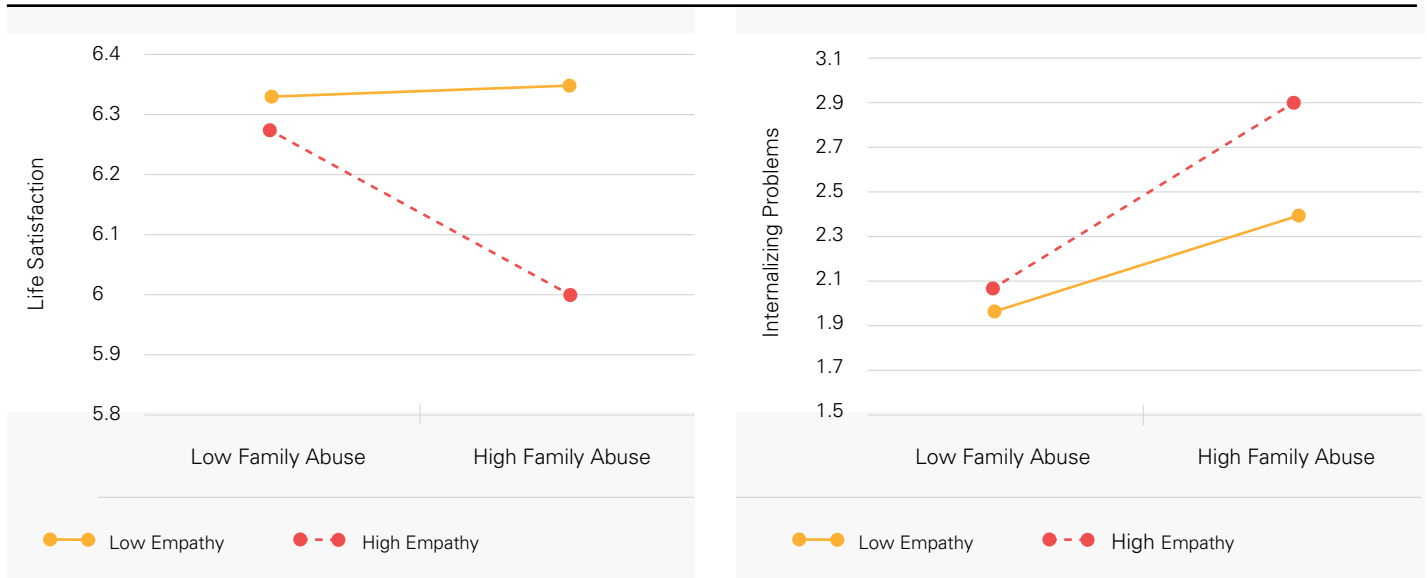


highlights the need to adopt a multidimensional protective strategy, which includes ensuring that supportive adults are available to provide counsel, comfort and coaching for adolescents experiencing familial abuse or victimization at school. Such adult support can be provided within the school environment, at home or in the community.

While the findings of this study point the way to specific evidence-based recommendations that can increase resilience among victimized and abused adolescents, at the same time the evidence warns against generic psychosocial interventions that are sometimes implemented without a clearly thought-out and evidence-based theory of change on how these will exercise a protective influence on adolescents that are experiencing micro-systemic adversity. Such examples include widely popular programmes to build self-esteem, nurture peer support or cultivate empathy. While this study and its findings do not raise doubt about the usefulness of such behavioural interventions in youth education and development, when it comes to protecting victimized or abused adolescents from detrimental developmental outcomes, all selected interventions should aim at building resilience to adversity in the specific context.

Contrasting the findings on what constitutes resilience when faced with microsystemic risk (in this study, family abuse and victimization) with resilience against macro systemic risk (in this study, conflict exposure), we note more differences than similarities. Specifically, while in the case of micro systemic risk what seems to contribute most are practical life skills for self-management and collaboration, along with adult support

Graph 19

Empathy, paradoxically, acts as a fragility factor by amplifying the impact of family abuse on internalizing problems and life dissatisfaction

to provide wise coaching and counsel, in the case of macro systemic risk it would seem that civic life skills — such as respect for diversity and readiness to participate in the pursuit of an interdependent society — contribute most to resilience, along with peer support to provide a care-free and developmentally normal environment. These findings highlight the situational nature of resilience building, as different assets and resources can contribute to the interruption of specific risk-to-detrimental outcome pathways.

Having said that, one common denominator that was identified in this study, and which deserves special mention as a source of resilience that is protective across various types of micro systemic and macro systemic risk and should be prioritized for programming within the context of the school

School connectedness can be considered to be a worthwhile target for the protection of adolescents in Eastern Ukraine that are currently facing multi-dimensional risk.

reform process but also more broadly in the life of adolescents, is collaborative problem-solving skills. The partnership philosophy, which underlies the school reform process, if of course eminently suitable for the development of collaborative problem-solving, through team-oriented active learning classroom activities, as well as through more focused life skills education curricula for the acquisition of cross-cutting skills to underlie the development of key competencies.

Additionally, worth highlighting, is the important role of school connectedness in interrupting pathways from different types of risk to detrimental outcomes. While support from teachers plays a pivotal role in protecting adolescents from the blunt force impact of personal exposure to victimization and abuse, support from other students and the emotional connection to school which that engenders can protect adolescents from pervasive stress in communities that are exposed to conflict. Therefore, school connectedness can be considered to be a worthwhile target for the protection of adolescents in Eastern Ukraine that are currently facing multi-dimensional risk. In this regard, the current reform process should be seen an opportunity to enhance the connectedness of Ukrainian schools, by appropriately leveraging key elements of the new school formula such as the emphasis on crosscutting skills, the emphasis on partnership, the motivation of teachers and focus on the pupil. To provide more specific recommendations on how the school reform process can be leveraged to promote school connectedness, the next section will present a more detailed interrogation of the study's findings, particularly focused on this topic.

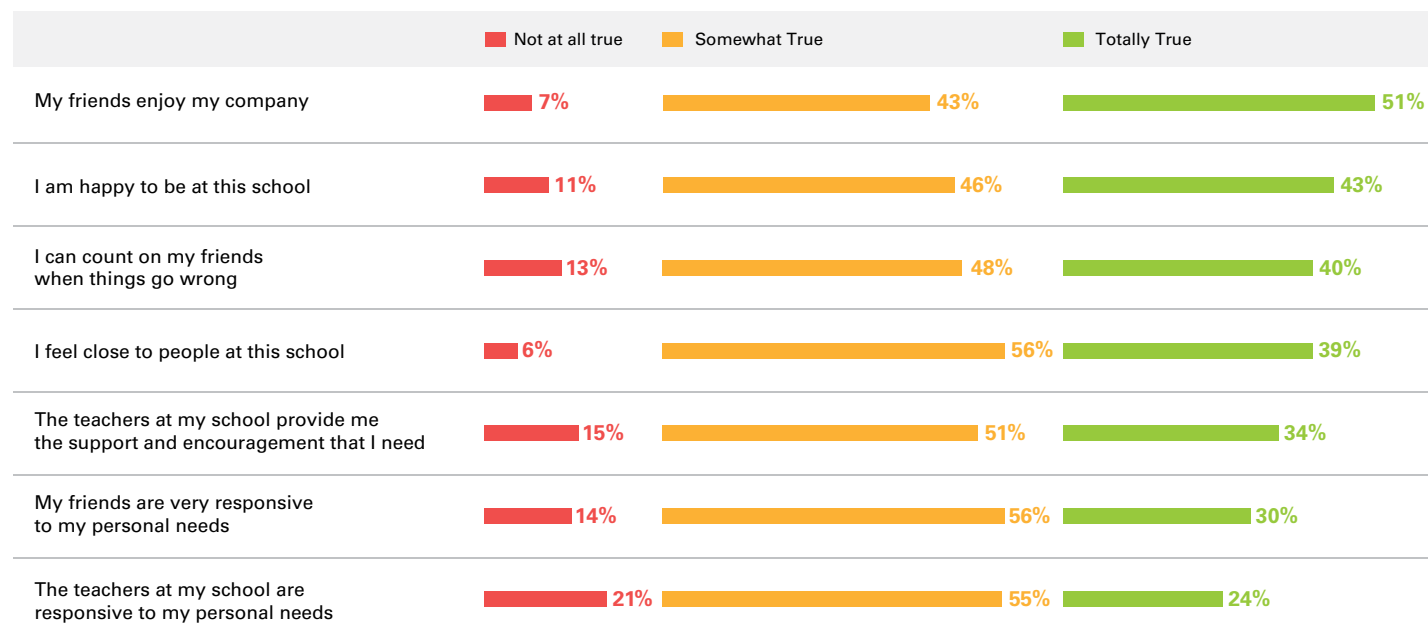
7. SCHOOL CONNECTEDNESS

School connectedness is a well-established concept in school psychology and adolescent development. A large body of research has identified strong associations between school connectedness and a number of positive adolescent developmental outcomes¹⁵. In a longitudinal study investigating protective factors on adolescent health and well-being, school connectedness was found to be one of the strongest factors mitigating substance use, school absenteeism, early sexual initiation, violence and risk of unintentional injury¹⁶. Particularly relevant to eastern Ukraine, school connectedness was also found to have a strong protective effect second only to family connectedness against emotional distress, disordered eating and suicidal ideation and attempts¹⁷. Feeling connected to school in adolescence has also been found to be associated with higher levels of academic achievement, lower levels of classroom misbehaviour and decreases school dropout risks¹⁸.

In June 2003, the Division of Adolescent and School Health of the United States Centres for Disease Control and Prevention (CDC) brought together an interdisciplinary team of researchers, educators, health professionals, psychologists and sociologists to review the evidence

on the impact of school connectedness. The conclusions of their work, known as the “Wingspread Declaration¹⁹” defines school connectedness as “the extent to which students feel personally accepted, respected, included and supported by others in the school social environment”. School connectedness, as a construct, aligns well with the conceptual principles of secondary education reform outlined in the Ministry of Education and Science “New Ukrainian School” document namely building strong, positive relationships: among students, between students and educational professionals and the involvement of families and communities within the education framework. As such, school connectedness can be thought as a proxy measure of key strategic elements of the education reform. This study examines what is the extent of the protective nature of the education system within the eastern Ukrainian context and further explores how school connectedness might impact adolescents differently based on gender and intensity of exposure to the conflict. In doing so it establishes baseline data for further research and for assessing the impact of specific pilot interventions, building the evidence to identify policies and intervention for reaching adolescents at scale.

Table 2



15 Chapman, R. L., Buckley, L., Sheehan, M., & Shochet, I. (2013). School-based programs for increasing connectedness and reducing risk behavior: A systematic review. *Educational Psychology Review*, 25(1), 95-114.

16 Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., ... & Ireland, M. (1997). Protecting adolescents from harm: findings from the National Longitudinal Study on Adolescent Health. *Jama*, 278(10), 823-832.

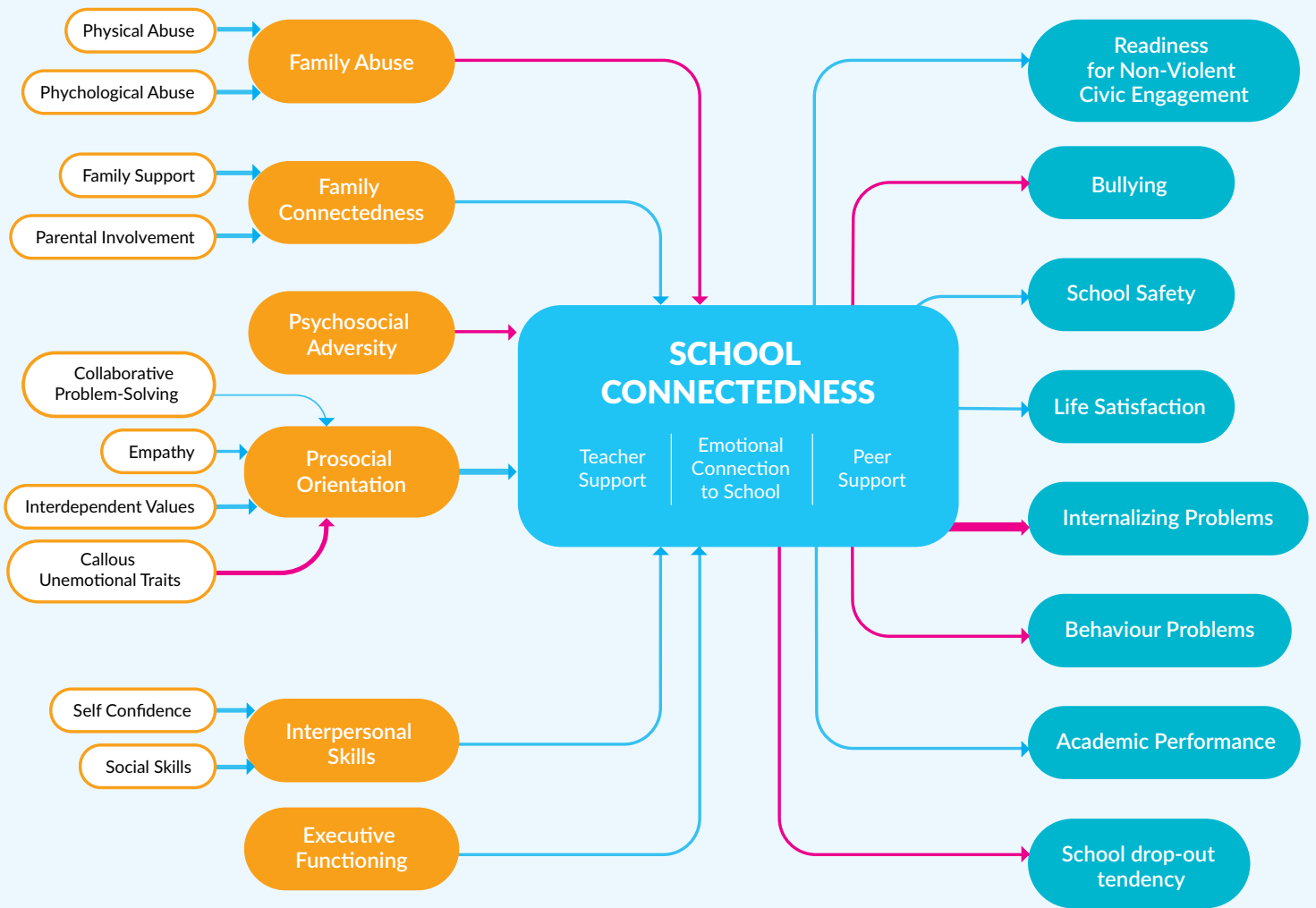
17 Blum, R. W., McNeely, C., & Rinehart, P. M. (2002). Improving the odds: The untapped power of schools to improve the health of teens. Center for Adolescent Health and Development.

18 Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education*, 62(1), 60-71; Rosenfeld, L., Richman J. and Bowen G. (1998). Low social support among at-risk adolescents. *Social Work in Education*, 20,245-260; Battin-Pearson S., Newcomb M., Abbot R., Hill K., Catalano R., and Hawkins J. (2000). Predictors of early high school dropout: a test of five theories. *Journal of Educational Psychology*, 92(3), 568-582.

19 Wingspread Declaration on School Connections, (Sept. 2004). *Journal of School Health*, Vol. 74, No. 7, 233-234.

Diagram 3

School connectedness model



Outcomes of School Connectedness

Drivers of School Connectedness

Constituent elements of broader dimensions
(e.g. Prosocial Orientation is made up of Collaborative Problem Solving, Empathy, Interdependent Values and absence of Callous Unemotional Traits)

Positive Relationships
(e.g. if School Connectedness increases, then Academic Performance increases)

Inverse Relationships
(e.g. if School Connectedness increases, Internalizing Problems are reduced)

Thicker arrows signify a stronger pathway
(e.g. Interpersonal Skills and Executive Functioning both enhance School Connectedness, but the impact of Interpersonal Skills is stronger)

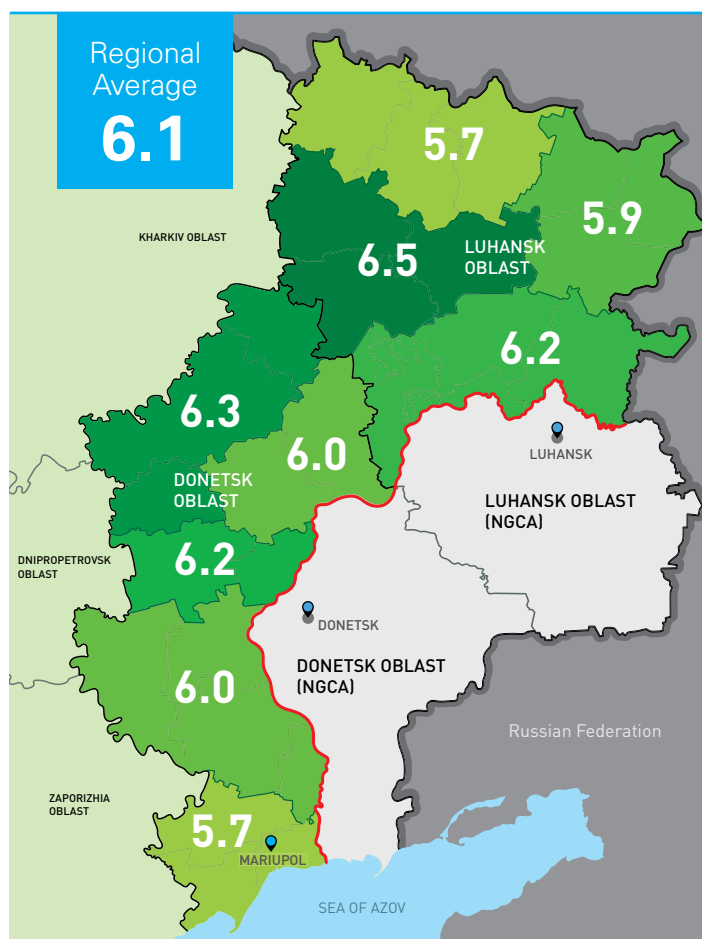
In the eastern Ukraine adolescent study, school connectedness has been modelled, quantified and measured based in its three constituent concepts as outlined in the Wingspread Declaration, namely teacher support, peer support, and emotional connection to the school (e.g. ‘feeling close to’ people at the school, ‘feeling happy’ to be a member of the school community). In total, 7 questions were asked that tap into school connectedness, with frequencies of responses presented below.

While a majority (51%) of adolescents feel that it is “totally true” that their friends enjoy their company only 30 per cent feel the same about friends actually being responsive to their needs. When it comes to teacher support, one in three students feel it is “totally true” that teachers provide the needed encouragement and support and, one in five students feel that it is “not true at all” that teachers are responsive to their personal needs. Importantly, less than half (43%) of adolescents say that it is ‘totally true’ that they are happy to be members of their school community. These are relatively low figures indicating a gap between students’ expectations and how they experience their educational experience.

Focusing on the constituent elements of school connectedness we see important differences come to light when disaggregating by gender, age and proximity to the contact line. Specifically, boys report lower peer support than girls, younger adolescents report lower emotional connection to their school than older adolescents, while students in schools that are in proximity to the contact line report lower teacher support than students in schools elsewhere. These differences are further explored in the relevant sections of the document.

Diagram 3 shows the empirically validated model for school connectedness among adolescents in Donetsk and Luhansk oblasts (GCA). The advantage of such a model is to better understand, through the lens of school connectedness, how schools in Eastern Ukraine contribute to positive adolescent development. It also shows which factors strengthen or hamper the development of School Connectedness. As such, the model should be viewed as a framework for devising

Geographical distribution of levels for School Connectedness within Donetsk and Luhansk oblasts



The map shows geographical distribution of the School Connectedness level in Donetsk and Luhansk. These scores should be understood as a baseline to track School Connectedness dynamics in future. A difference in scores of 0.5 constitutes a statistically significant difference.

a multi-sectoral, multi-stakeholder approach to maximise impact. The model will be unpacked and explained in details, in the following sections.

The geographical distribution of levels for School Connectedness within Donetsk and Luhansk oblasts shows a homogenous picture with the exception of Mariupol and the northern parts of Luhansk oblast which have significantly lower levels of School Connectedness. These lower levels of school connectedness are driven by lower levels of experienced teacher support and, in the case of the Mariupol, also by lower levels of emotional connection to the school.

7.1 Outcomes of school connectedness

7.1.1 Findings

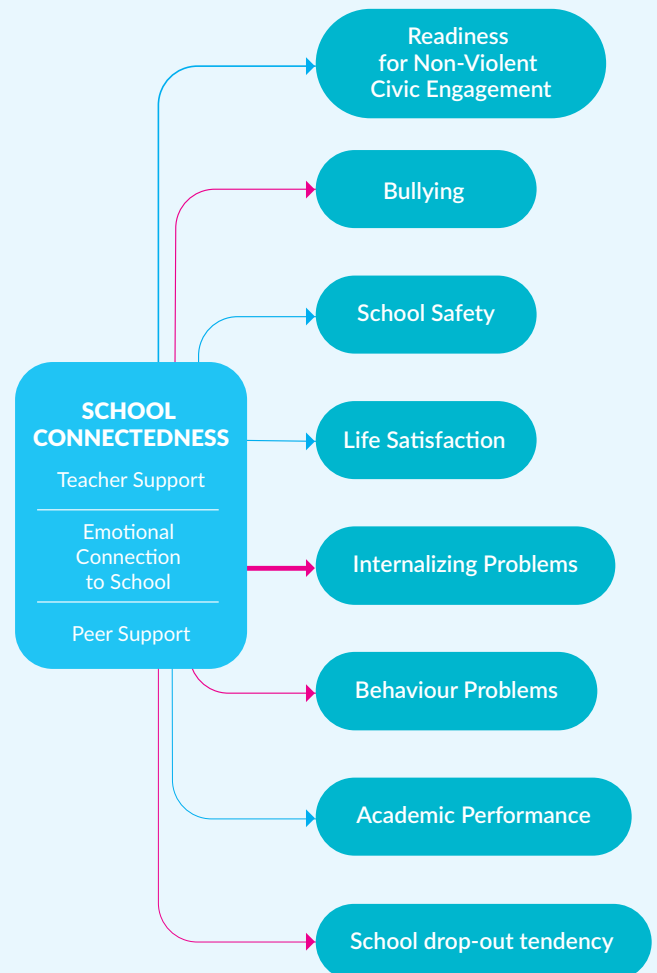
The empirically validated model reveals that school connectedness has numerous positive outcomes, broadly in line with global findings. Specifically, these outcomes are:

1. Improved academic performance and reduced dropout tendency. A possible explanation for this association is that school connectedness engenders commitment to school life and school values, which in turn enhances performance and inhibits tendencies to abandon the school community.
2. Increased school safety and increased protection against becoming victim of bullying. Feeling close to other students and to teachers naturally engenders a sense of safety in the school environment, while creating a protective social network that reduces the risk of victimization.
3. Reduced risk of adolescents becoming perpetrators of bullying. A possible explanation for this finding is that connected adolescents assign greater value to their interpersonal relationships, develop respect towards their peers and therefore experience stronger inhibition when tempted to engage in bullying against others.
4. Reduced risks of internalising (anxiety, depression, post-traumatic stress, suicidality & self-harm) mental health pathologies and reduced risk of developing behavioural problems (physical aggression, substance abuse, unsafe sexual behaviour, delinquency). Connected adolescents experience greater psychological well-being, which relieves the negative emotionality that underlies both internalizing and externalizing mental health problems.
5. Increased levels of readiness for non-violent civic participation. In this regard, school life can be considered a microcosm of life in the community more broadly. If adolescents experience their school as connected and mutually supportive, they are better prepared to work for — and expect — social cohesion in their wider community.
6. Increased levels of reported life satisfaction. Adolescents find the experience of being connected to their peers and teachers at school to be rewarding, inherently adding quality to their lives.

The results show that, by nurturing connectedness, the education system can make a very strong contribution towards the attainment of positive development outcomes for adolescents.

Diagram 4

Main outcomes of school connectedness



↑ Positive Relationships

↓ Inverse Relationships

Thicker arrows signify a stronger pathway

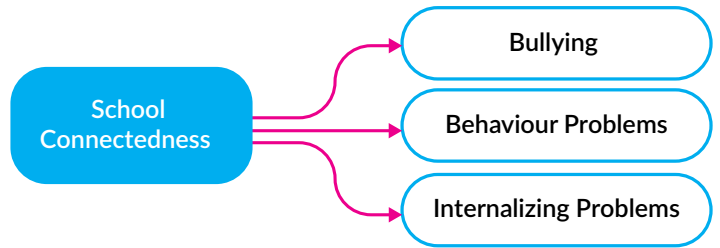
7.1.2 Gender and proximity to the contact line analysis

The majority of school connectedness outcomes are gender sensitive in so far that they are statistically more significant for either boys or girls. For boys, school connectedness acts as a stronger motivator to engage in curricular activities resulting in stronger positive impact on academic achievements; while for girls, school connectedness is particularly protective against mental health difficulties. Furthermore, while boys and girls show similar levels of life satisfaction overall, the impact of School Connectedness on life satisfaction is stronger among boys.

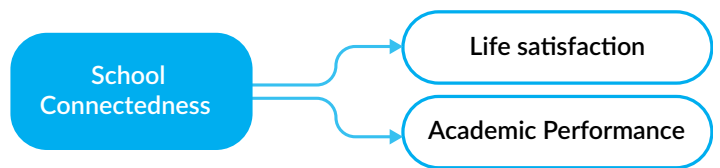
School connectedness impacts adolescents who live near the contact line differently than those in the remainder of the oblasts. While levels of School Connectedness are lower in areas near the contact line, its influence on the protective nature of schools is stronger. Indeed, for this group of adolescents, school connectedness has a significantly stronger mitigation effect on the risks of developing internalising and externalising mental health problems as well as on the risks of becoming a victim or perpetrator of bullying. While adolescents near the contact line report significantly lower levels of life satisfaction, School Connectedness has a stronger positive effect on increased quality of life for them showing that the role of schools is far more central in conflict affected areas.



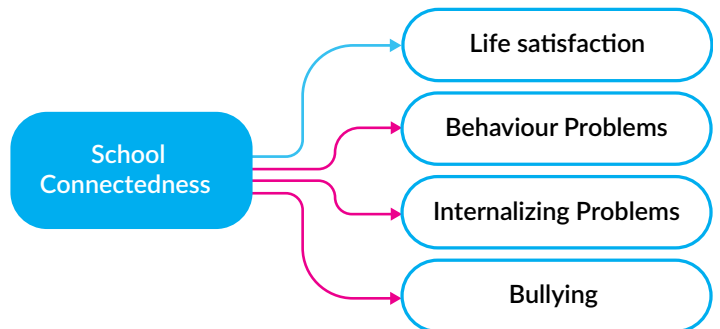
Pathways stronger for Girls



Pathways stronger for Boys



Pathways stronger in areas near the contact line



7.2 Main drivers of school connectedness

As shown above, school connectedness is pivotal to multiple beneficial outcomes. This raises the question on how to promote school connectedness as a quantifiable programmatic and policy objective designed to support the attainment of these positive outcomes.

Given the beneficial outcomes, the most obvious interventions would focus on the constituent components of school connectedness, i.e. peer support, teacher support and connection to the school, all of which are included as priority areas within the Ministry of Education and Science education reform strategy.

However, to ensure the effectiveness of school connectedness interventions, it is important to be mindful of which factors contribute to — or undermine — the experience of a connected school. Adolescents that are subject to extraneous risk factors might not respond as well to direct programming

for school connectedness if the challenges they face are not understood and addressed, leading to inequality in developmental outcomes. For instance, a teacher may decide to implement team-oriented activities in the classroom as a direct method to promote peer support and connectedness. However, students who lack interpersonal skills, or who are distracted due to experiences of abuse at home, might not find a way to effectively engage with the team-oriented activities in the classroom. As the more skilful and better adjusted students benefit from these activities and achieve developmental outcomes, those adolescents that most needed the positive benefits of school connectedness might be left behind. It is for such reasons that it is essential to understand and then nurture the factors which underlie the experience of school connectedness in adolescents, particularly amongst those students at greatest risk.

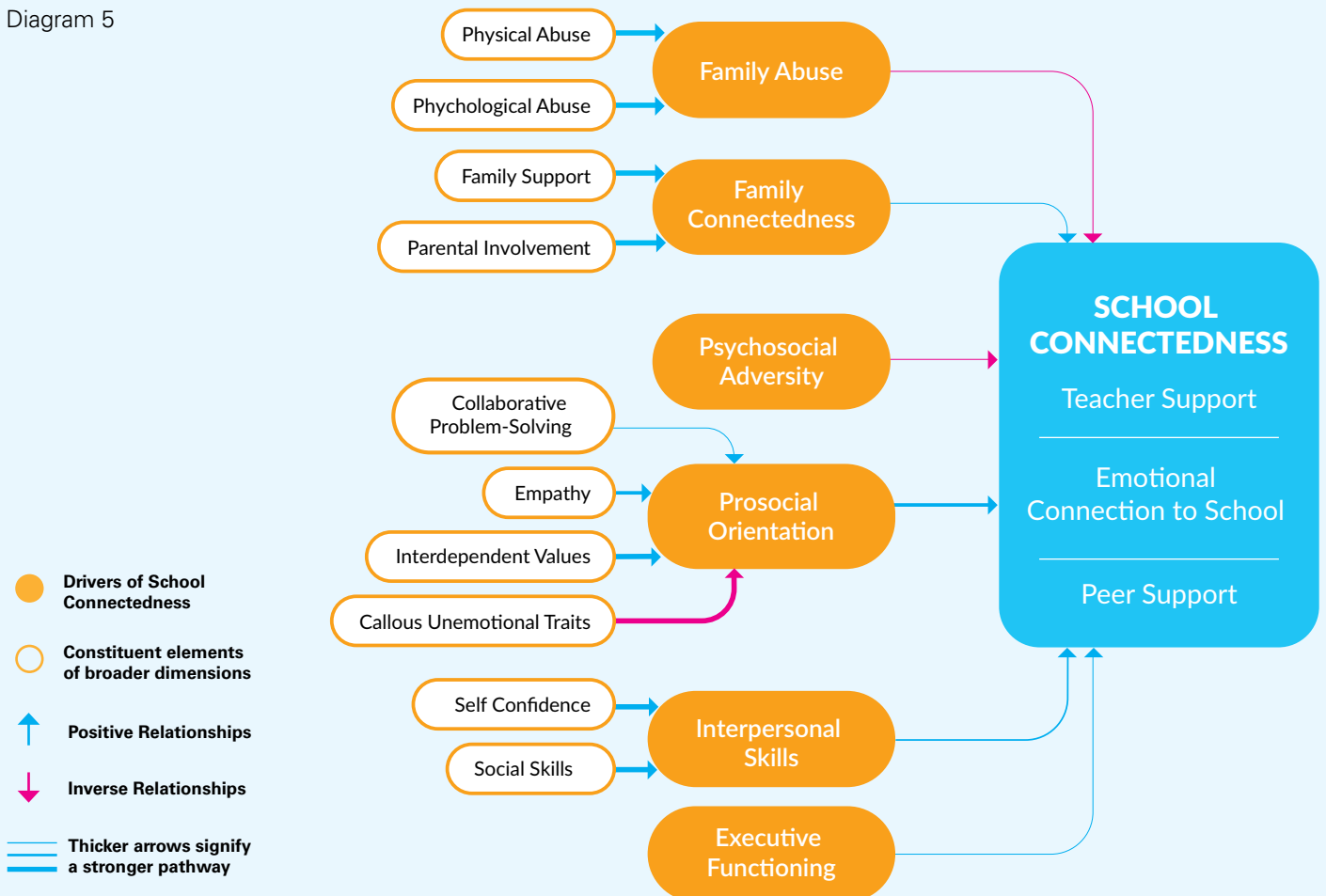
Factors promoting school connectedness, as assessed through the eastern Ukraine adolescent study, fall broadly in two categories, environmental and individual.

From an environmental standpoint, family dynamics were found, unsurprisingly, to play a central role in the levels of school connectedness of adolescents in line with academic literature. On the one hand, connected families with positive, supporting relationships provide a model for adolescents which is transferred to the school environment and, in turn, supports higher levels of school connectedness. On the other hand, family abuse, be it psychological and/or physical, negatively affects the levels of School Connectedness of adolescents. While family abuse negatively affects school connectedness across the board, a closer examination on how it is affected reveals a pattern where all elements of school connectedness are impacted with different intensity, with emotional connection to the school affected the most, followed by teacher support, and then peer support. In other words, adolescents who experience an abusive environment at home have more difficulties creating social and emotional connections in other areas of their lives which, in turn, decreases their overall protective environment by depriving them of social support mechanisms. This finding is relevant to the school reform process, in that it demonstrates the inter-connections between family life and school life. The specific social

and emotional challenges of adolescents from troubled families need to be considered in the context of the school reform, if we wish to ensure equal developmental outcomes.

Turning to individual traits, the study results show that pro-social orientation, interpersonal skills and executive functioning skills each uniquely contribute to school connectedness. The distinction between pro-social orientation and interpersonal skills is subtle but important. While interpersonal skill refers to the ability to confidently handle social situations, it does not in itself imply that the adolescent necessarily cares about others, displays empathy, or wishes to find common ground with others when conflict occurs. In contrast, pro-social orientation, understood as the ability to care, does not necessarily imply that the caring adolescent has the social skills to confidently handle interpersonal situations and therefore actually have pro-social impact in the school setting. The eastern Ukraine adolescent study findings show that it is the joint influence of pro-social orientation and interpersonal skills that contributes to school connectedness. Executive functioning is another significant predictor of school connectedness and shows that adolescents with better impulse control, emotion regulation skills and planning skills are in a better position to effectively engage with their peers and teachers, as well as draw meaning from their everyday life at school. It is worth noting that executive functioning not only contributes to school

Diagram 5



connectedness but has also been found in the study to be a direct protective factor against internalizing problems, behaviour problems and victimization. All of the individual traits that have been found to contribute to school connectedness in this study — social skills, pro-social orientation and executive skills — can be nurtured in adolescents through a life skills — oriented education within the context of the school reform process.

Callous unemotional traits

Special reference should be made at this point to one of the constituting elements of pro-social orientation, namely callous unemotional traits. These are defined as a consistent disregard for the feelings and needs of other people, lack of remorse after hurting others, and a lack of interest to perform well at school. Their presence has been found in the developmental psychology literature to carry high risks of developing a host of persistent social, emotional, and behavioural problems in adulthood such as anti-social behaviour with associated high costs for the community they live in.

The eastern Ukraine adolescent study's findings show an elevated risk of callous unemotional traits amongst adolescents living near the contact line, suggesting that callous unemotionality may develop in conflict-exposed adolescents as a way to cope with the traumas of conflict. This increase in callous unemotionality traits amongst conflict-exposed adolescents is alarming, in that such traits in turn undermine motivation and capability for school connectedness, therefore exposing adolescents to additional risks. The prevalence of callous unemotional traits was found to be at 12% for adolescents in eastern Ukraine, but with significant gender and conflict exposure differences: 15% in boys compared to 9% in girls, and 14% in schools near the contact line compared to 12% elsewhere. These percentages are higher compared to other countries²⁰, especially when considering the high societal costs, economic impact, and negative developmental outcomes associated with these individual characteristics.

A cross-national study comparing adolescents in several European countries, suggested that the prevalence of callous-unemotional traits in Belgium was 6%, 7% in Germany, and 10% in Cyprus²¹. A recent study collecting data from adolescents in Moldova, which was designed by SeeD, suggested that the prevalence of callous-unemotional traits was 7%, which is similar to the percentages identified in Belgium and Germany. Similar percentages were also identified in several community studies in Sweden, Portugal, and the USA. In combination, these findings provide evidence for a higher percentage of adolescents in eastern Ukraine being at risk for callous-unemotional traits, followed by adolescents in Cyprus. Similar to Ukraine, Cyprus is a conflict-affected country, pointing

Callous-unemotional traits impair the child's or adolescent's ability to function in social settings, resulting in school failure, poor relationships with peers and family members, sexually transmitted disorders, legal problems, and substance abuse

to the possibility that exposure to conflict might be a risk factor for the development of callous-unemotional traits. This interpretation of cross-national findings is consistent with the within-Ukraine finding that adolescents near the contact line display higher levels of callous unemotional traits compared to adolescents further from the contact line.

Callous-unemotional traits impair the child's or adolescent's ability to function in social settings, resulting in school failure, poor relationships with peers and family members, sexually transmitted disorders, legal problems, and substance abuse. Furthermore, Callous Unemotional traits is one of the most important risk factors for conduct disorder (i.e., repetitive and persistent pattern of behavior lasting at least 12 months that violates the rights of others or major age-appropriate societal norms or rules), which is a major public health issue with lifetime individual costs estimated at two to three million euro in several European countries and the USA. Importantly, callous-unemotional traits are related with more severe and violent conduct disorder behaviors. In fact, conduct disorder in combination with callous-unemotional traits is associated with a 70 fold increased risk of being imprisoned before the age of 25. These findings highlight the need for the development of effective treatment programs. The average potential savings from such programs exceed the average costs of group and individual interventions by a factor of 8 to 1. However, the level of effectiveness of established intervention programs and treatments is highly variable across adolescents with conduct disorder, with those characterized by callous-unemotional traits being less likely to respond to traditional treatments.

As a result, it is important to develop novel interventions for adolescents with callous-unemotional traits to prevent the development of antisocial behaviors. Recent work in Cyprus suggested that prevention efforts within the school setting focusing on enhancing emotion recognition, prosocial interactions, communication, and emotional control, resulted in decreases in both symptoms of callous-unemotional traits and conduct disorder, indicating that school-based prevention programs can be effective even among this high-risk

20 Fanti, K. A., Lordos, A., Sullivan, E., A., & Kosson, D. S. (2018). Cultural and Ethnic Variations in Psychopathy. In C. Patrick (Ed.). *Handbook of Psychopathy* (pp. 529-569).

21 Kimonis, E. R., Fanti, K. A., Frick, P. J., Moffitt, T., Essau, C., Bittjebier, P., & Marsee, M. A. (2015). Using self-reported callous-unemotional traits to cross-nationally assess the DSM-5 "With Limited Prosocial Emotions" specifier. *Journal of Child Psychology and Psychiatry*, 56(11), 1249-1261. DOI: 10.1111/jcpp.12357

population²². Additional interventions that focused on the specific characteristics of children with callous-unemotional traits, such as empathic emotion recognition, were also successful in reducing their behavioral problems²³. In contrast, similar efforts among adults with callous-unemotional traits in several countries were not successful²⁴, suggesting that prevention, intervention, and treatment programs need to start early in life.

Overall, boys and girls experience similar levels of school connectedness which is not to say that it is gender neutral. In the same manner that school connectedness influences specific pathways differently across the gender line, both environmental and individual factors have different influences on how boys and girls experience school connectedness. Specifically, boys enjoy significantly lower levels of family support and parental involvement when compared to girls. While they experience less family connectedness, the family environment was found to have a greater influence on school connectedness amongst boys.

On the other hand, girls not only have higher overall levels of pro-social orientation but its impact on school connectedness is also stronger than for boys and it is therefore not surprising that they experience higher levels of peer support as well. These findings suggest a need to prioritize the family-to-school nexus, for instance through programming that enhances parental involvement, to support positive developmental outcomes particularly in boys who are experiencing difficulties with academic performance, emotional problems or behavioral problems.

Once again, the data highlights substantial differences in the dynamics in areas near the contact line with most of the drivers of School Connectedness impacting adolescents differently. Specifically, prosocial orientation and executive functioning have a stronger positive influence while family abuse, when it occurs, is more likely to negatively influence school connectedness. In the more challenging and charged everyday environment of proximity to the contact line, a supportive family, self-control and a caring mindset are particularly important in ensuring that adolescents remain connected to their school community. Seen from this perspective, family-to-school programming and life skills education are especially important, and should be prioritized through the school reform process, for adolescents at schools near the contact line.

It is particularly important to understand the extent of the protective environment provided by schools, the outcomes it supports and through which mechanisms these are supported. While this is true for any context, it is particularly important in the context of eastern Ukraine where communities, including children and adolescents, continue to be subjected

Drivers of School Connectedness by gender



Pathways stronger for Girls

Prosocial Orientation

School Connectedness



Pathways stronger for Boys

Family Connectedness

Interpersonal skills

School Connectedness

Drivers of School Connectedness by proximity to the contact line



Pathways stronger in areas near the contact line

Family Abuse

Prosocial Orientation

Executive Functioning

School Connectedness

to regular and sustained hardships of the ongoing conflict. Understanding how these dynamics are expressed in different demographic groups is also essential to the design of effective interventions supporting positive adolescent development outcomes. These findings have particularly strong policy implications for areas near the contact line. Indeed, with schools' stronger protective influence for this at-risk group, specifically in mitigating the risks of development of mental health problems and in reducing violence among peers, the education system is likely to be the most effective modality to provide support to adolescents at scale in these areas.

²² Kyranides, M.N., Fanti, K.A., Katsimicha, E., & Georgiou, G. (2018). Preventing conduct disorder and callous unemotional traits: Preliminary results of a school based pilot training program. *Journal of Abnormal Child Psychology*, 46(2), 291-303.

²³ Dadds, Cauchi, Wimalaweera, Hawes, & Brennan, 2012

²⁴ Fanti, K. A., Lordos, A., Sullivan, E., A., & Kosson, D. S. (2018). Cultural and Ethnic Variations in Psychopathy. In C. Patrick (Ed.). *Handbook of Psychopathy* (pp. 529-569).

8. SPECIAL THEMATIC SECTIONS

8.1 Violence among peers in schools: an in-depth view of victimization

School is an important experience for all students in defining their personalities and plays a significant role in shaping their lives. For many children and adolescents, being exposed to bullying and violence is, unfortunately, an integral part of this experience. While bullying is a well-documented problem in Ukraine, the eastern Ukraine adolescent study focuses on exploring the effects of bullying on adolescents and its impact on how they experience the school environment. The study assessed both traditional forms of bullying and violence within schools, specifically physical, relational, and verbal, as well as more recent phenomenon of cyber-violence, from both the point of view of the victim (i.e. victimisation) as well as that of the perpetrator (i.e. bullying).

As shown in table 3 here, relational and verbal victimization severely affect approximately 15 per cent of adolescents, while physical and cyber victimization severely affect approximately 5 per cent of adolescents. The most frequently reported victimization experiences, include other adolescents saying mean things about them, spreading rumours about them, calling them names, ignoring them, or excluding them from social interactions or events. Importantly, more than one in two students reported moderate to severe levels of relational and verbal victimization, and approximately 40% experienced moderate to severe physical victimization. An interesting finding is the relatively low percentage of adolescents exposed to cyber-bullying in comparison to other European countries.

Table 3

Victimization in Eastern Ukraine

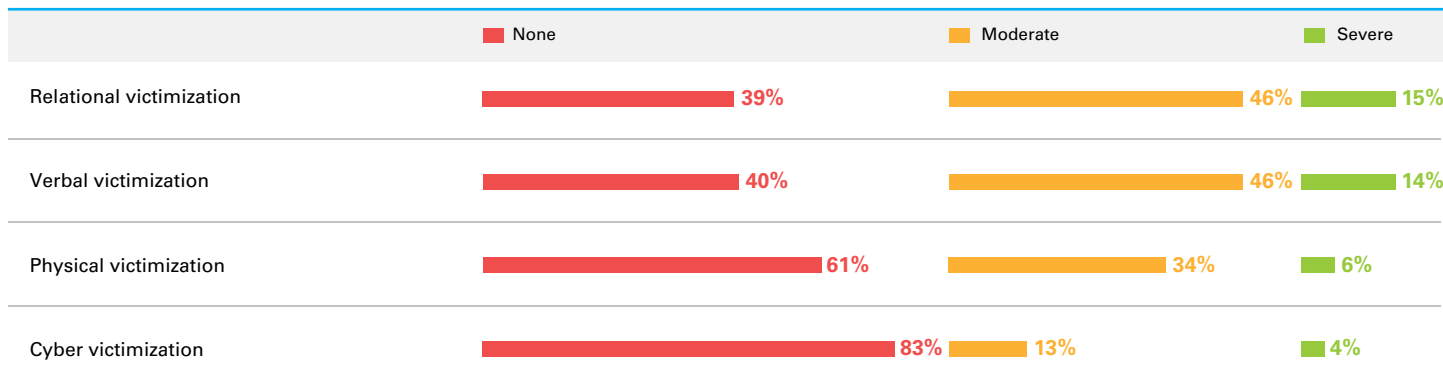
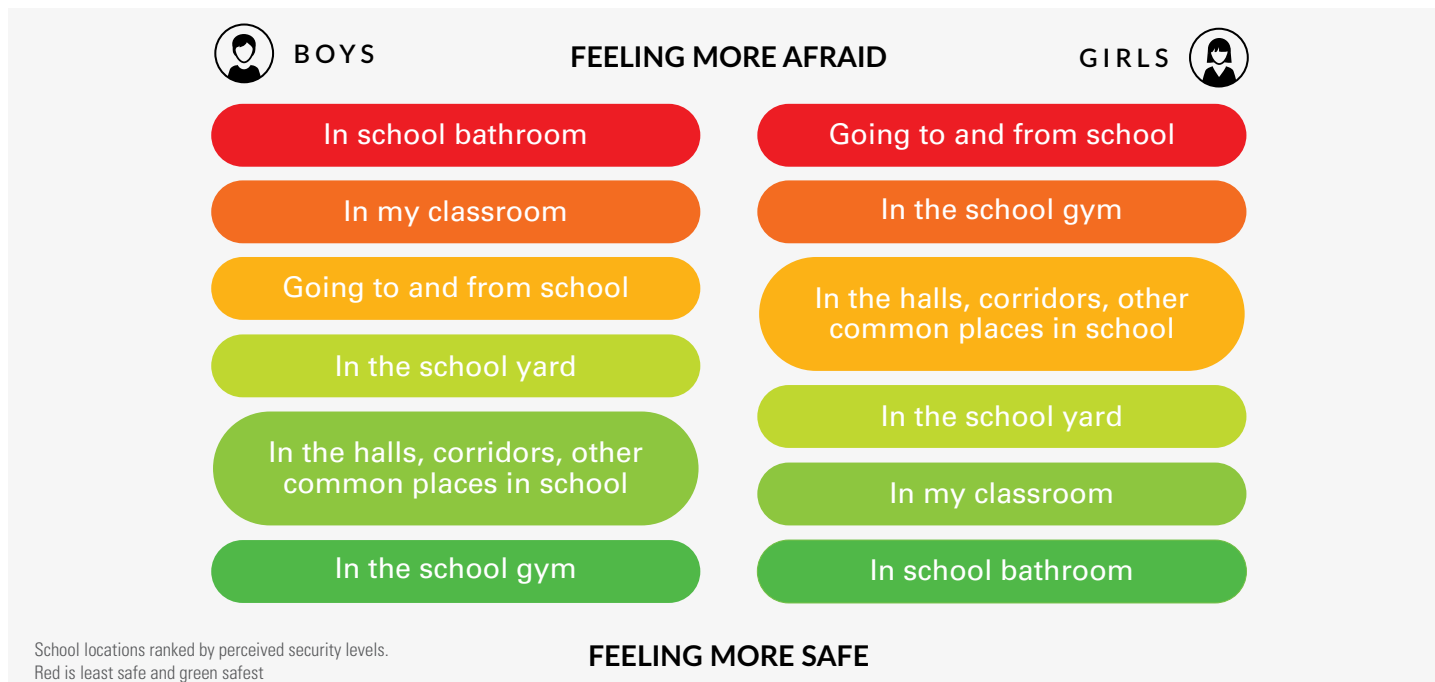


Table 4



In this study, it was found that a major risk factor for adolescents becoming victims of bullying is being already victim of physical and/or psychological abuse in the home. Furthermore, lower levels of executive functioning skills were found to increase the risk for victimization. This is not surprising, insofar as executive functioning provides a toolkit for managing everyday threatening situations, through planning, decision making and self-management capacities. Therefore, its absence makes it harder for adolescents to invoke problem-solving capacities to address the threat of bullying.

Finally, school connectedness is itself a protective factor against victimization. In the eastern Ukraine adolescent study, we found that the effect of school connectedness on victimization is explained through the contribution of school connectedness on school safety. Connected adolescents feel they are amongst friends, positive role models and mentors, thus feel safer at school and know where they can ask for help if anyone attempts to bully them.

With this in mind, it is important to understand in which contexts adolescents feel safe and in which they do not. As shown in table 4, experienced school safety is a gendered phenomenon. Boys report greater insecurity in the school bathroom and the classroom, while feeling safer in the school gym. In contrast, girls report insecurity when going to and from school as well as in the school gym, and instead report feeling safer in the classroom and the school bathroom.

Regarding the reasons why specific adolescents become victims of bullying, the eastern Ukraine adolescent study found that, in Donetsk and Luhansk oblasts, being an IDP is not considered by adolescents to be a main cause of victimization. In fact, one's IDP status was found to be the lowest driver of all 16 characteristics considered. What seems

to drive victimization targeting is appearance, most notably being obese or looking dirty, and socioeconomic status. This does not necessarily contradict reports that IDPs are more likely to be victims of bullying at school. However, if IDP are more frequently victims of bullying than their peers, the study results show that it is not linked to their status as a displaced person and suggests that it is most likely due to lower levels of income and/or being new to the community.

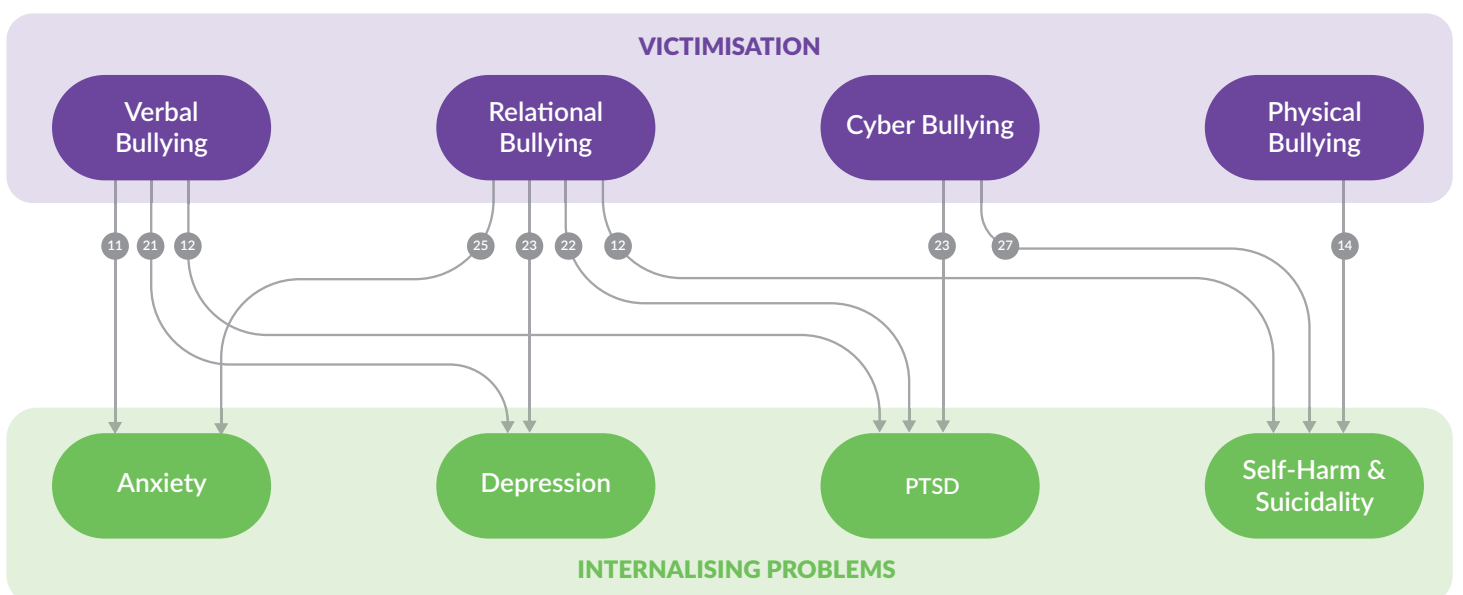
The study's findings also show that victimization is associated with increased levels of internalizing problems such as anxiety and depression and increased risk of the victim becoming a perpetrator. This is not surprising in and of itself, but the study helps develop a deeper understanding of the underlying processes, such as, which types of victimization (i.e. physical, verbal, relational, cyber) lead to which consequences for victims. The different pathways are illustrated below and show some overall trends. Particularly noteworthy is the high impact of cyber bullying on both internalising and externalising problems. The results are in line with international research and show broadly that cyber bullying is experienced as a high impact traumatic event by the victim.

In the victimization-to-internalizing pathway, verbal and relational victimization have cross-cutting impact on all forms of internalizing problems, with the effect being strongest for relational victimization. Cyber victimization appears to be relevant to internalizing in the sense that it has a traumatic impact, while physical victimization is not directly related to internalizing problems but does contribute to self-harm and suicidality.

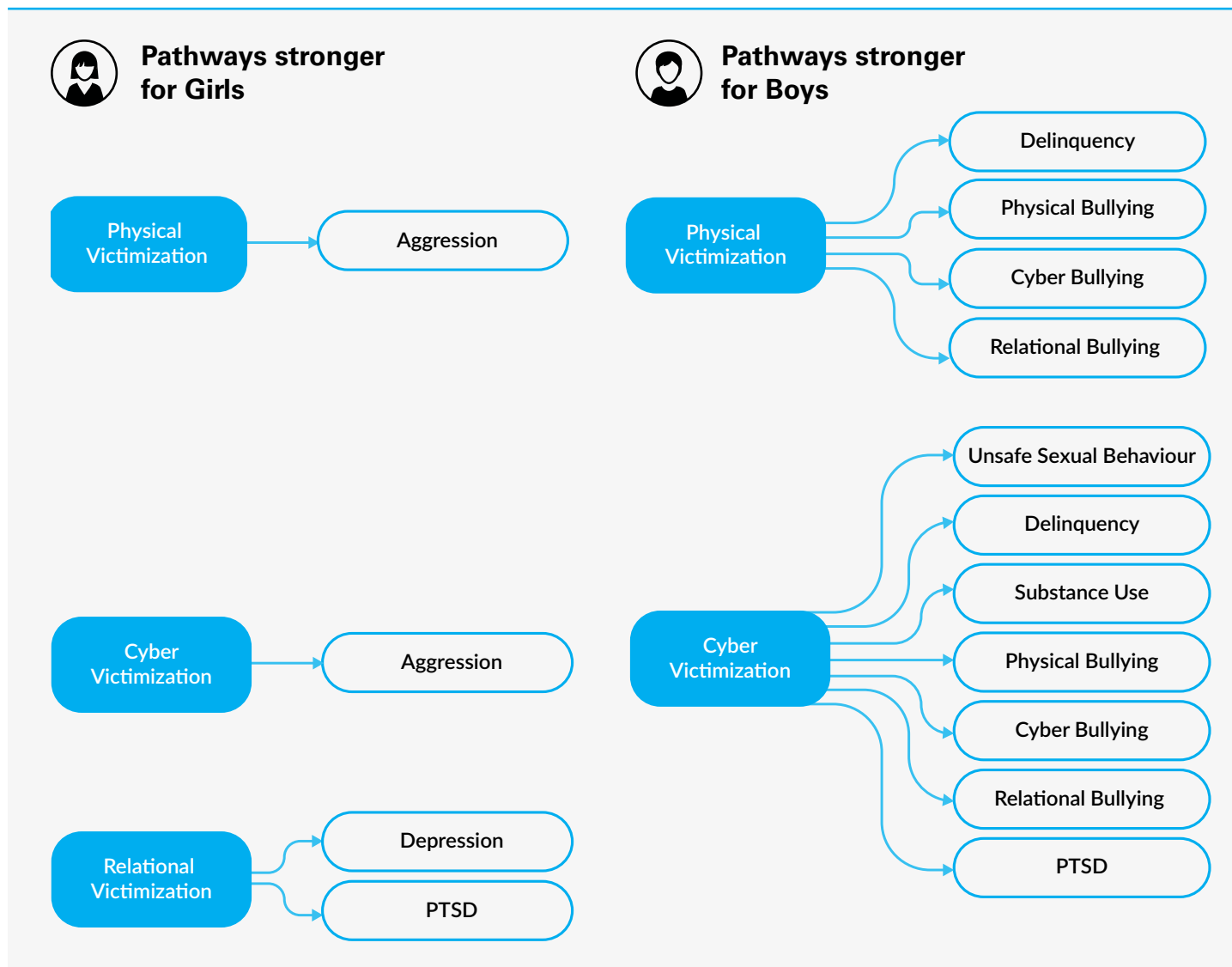
The effects of victimization on externalizing problems shows distinct dynamics driven exclusively by physical and cyber victimization which have a cross-cutting impact on all forms of externalizing problems. Of particular interest is that physical

Diagram 6

Victimization-to-internalizing pathway



Victimization



and cyber violence have similar effects on adolescents with the exception of substance abuse for which exposure to cyber violence has a substantially more important impact.

The risks of transition from victim to perpetrator were particularly strong for physical and cyber victimization, the victims of which are more likely to display bullying behaviour of all types. This suggests that physical and cyber victimization are more likely to provoke an overall raise in levels of aggression. In contrast, verbal and relational victimization only seem to provoke a direct retaliatory tit-for-tat bullying of the same type, in other words verbal victimization leading to verbal bullying, and relational victimization leading to relational bullying.

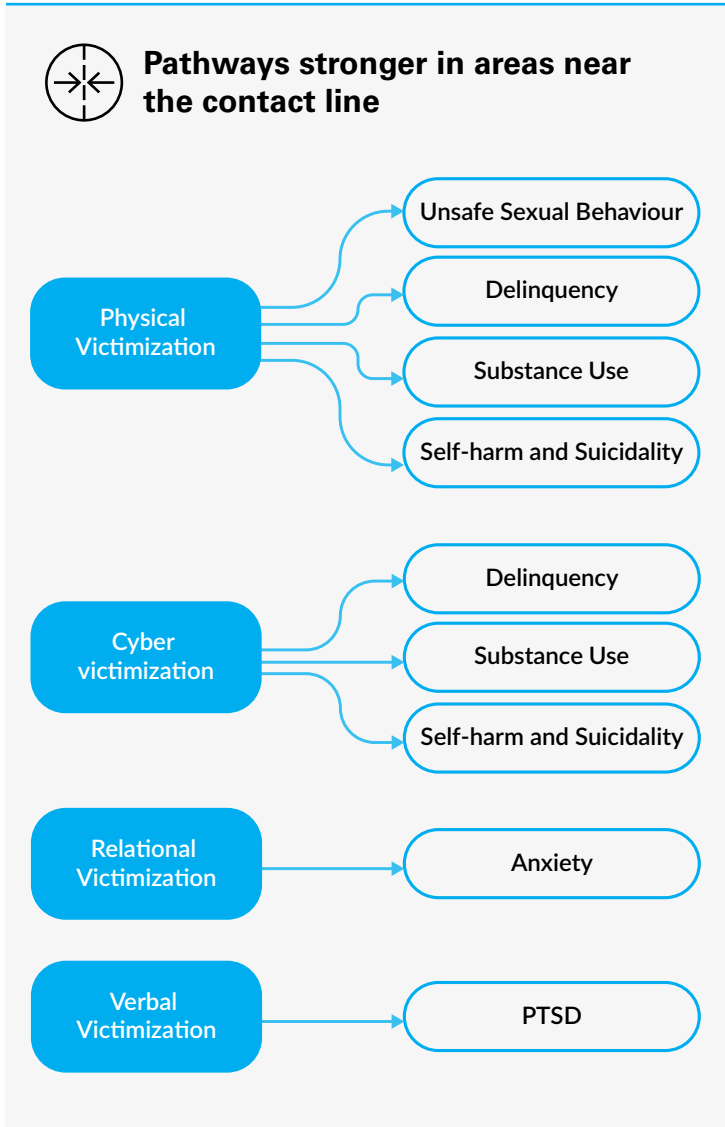
Disaggregating these findings by gender, physical and cyber victimization are more likely to impact boys, specifically in predicting risks of substance abuse, unsafe sex, and delinquency

as well as the transition from victim to perpetrator of bullying. However, the data also shows a pathway from physical and cyber victimization to increased physical aggression behaviours in girls.

Relational victimization is more likely to impact girls, specifically in increasing risk on all forms of internalizing problems.

In areas near the contact line, we see particular strength in pathways from victimization to substance abuse, unsafe sex and delinquency; in pathways from relational victimization to anxiety; and in pathways from cyber victimization to suicidality & self-harm. The transition from victimization to bullying is generally less prevalent in schools near the contact line. The overall picture that emerges is that adolescents near the contact line are more likely to absorb the violence that they

Victimization



are subjected to and therefore manifest anxiety and different forms of self-harming behaviour, but are less likely to retaliate through aggression.

The findings of this section suggest several entry points to protect adolescents from being victimized at school, and to deal with the diverse consequences experienced by those adolescents that have been victimized. While school connectedness and family connectedness both have a role to play in preventing victimization, individual life skills, most notably executive functioning, can also play a preventive role. As to its consequences, the study has found that verbal and relational victimization are more likely to contribute to internalizing problems, while physical and cyber victimization are more likely to contribute to behaviour problems and aggression. Physical appearance (e.g. being overweight or looking dirty) is reported as the most common trigger for victimization, while boys

The findings of this section suggest several entry points to protect adolescents from being victimized at school, and to deal with the diverse consequences experienced by those adolescents that have been victimized.

and girls differ as to the physical spaces in which they feel most vulnerable: For boys, the most unsafe spaces appear to be the school bathroom and the classroom; whereas for girls, the most unsafe spaces are the school gym, and the walk to and from school. These findings can be used to develop both proactive strategies (i.e. creating a safer and more supportive school culture where victimization is less likely to occur) as well as reactive strategies (i.e. working with victims and perpetrators to prevent re-occurrence of victimization events).

Proactive strategies could include developing a culture of positive peer support and respect amongst students, with a focus on acceptance of different types of body image and on enhancing the safety of specific spaces at the school which boys and girls currently experience as most threatening. Reactive strategies could include group-based work with victims, by-standers and perpetrators, to discuss the impact which victimization experiences have had on the victims in terms of internalizing problems and behaviour problems, while encouraging perpetrators to talk about their own victimization experiences, which contributed to their transition to bullying. Such discussions can help to raise awareness about the detrimental impact of bullying, increase empathy amongst perpetrators and therefore inhibit future acts of peer-oriented aggression.

8.2 Civic engagement

Non-violent civic engagement, as assessed in the study, is a combination of readiness to participate in civic initiatives such as youth forums, along with opposition to the notion of exercising violence to achieve political goals. While development of non-violent civic skills so that young people can play a constructive role in society is an important milestone of adolescence everywhere, in areas affected by conflict such as Eastern Ukraine, choices regarding civic orientation can have direct impact on the safety of adolescents as well as in ensuring the social cohesion and resilience of local communities.

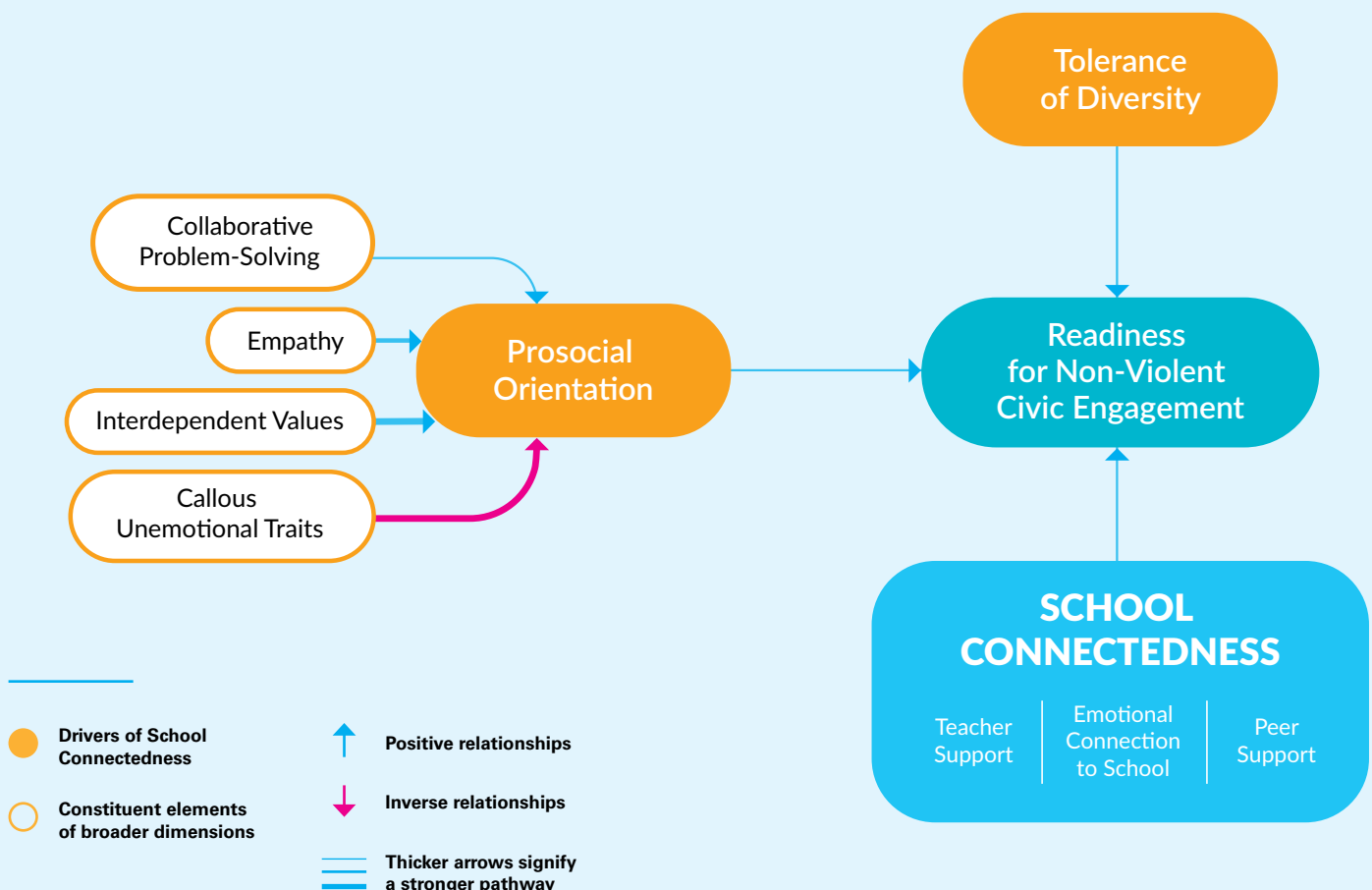
In this regard, the eastern Ukraine adolescent study results have identified three specific entry points to non-violent civic engagement, as shown in the diagram 7 below.

Firstly, as already discussed, school connectedness is a key driver of non-violent civic engagement. A connected school provides a formative experience and serves as a template for a connected life in the wider community. As adolescents learn to support one another and accept guidance from their teachers at school, so they become ready to negotiate the challenges of responsible citizenship and interact constructively with leaders in their communities.

Secondly, pro-social orientation is an important entry point for non-violent civic engagement. Developing a capacity to care for others is the vital ingredient for building up the motivation for civic responsibility.

Finally, tolerance of diversity was found to be a key motivator for non-violent citizenship. Adolescents who can celebrate diversity intuitively understand the rationale of non-violent engagement, namely to peacefully negotiate differences in perspectives, concerns and priorities between diverse people and groups, for a more cohesive society.

Diagram 7



From a gender perspective, we see that girls not only have higher readiness for non-violent civic engagement, but that they also score higher compared to boys on almost all key predictors, such as tolerance of diversity, collaborative problem-solving, interdependent values and peer connectedness. The study also shows a less pronounced but still concerning effect of a stronger exposure to the conflict on adolescent' overall civic engagement outlook. In areas near the contact line, adolescents show significantly lower levels of readiness for civic engagement combined with significantly higher levels of readiness for political violence. This is underpinned by increased levels of callous unemotional traits and lower experienced teacher support, while the combination of all these traits and characteristics puts adolescents at higher risk of developing polarized and polarizing views of society and politics, as they mature into adult citizens.

Having said that, an encouraging finding is that the positive impact of pro-social values on the levels of readiness for non-violent civic engagement is significantly higher in areas near the contact line. This finding suggests that programs to cultivate a pro-social orientation in schools near the contact line, for instance through training in collaborative skills, nurturing a sense of common humanity, and providing opportunities for community service, can contribute greatly in the development of responsible, non-violent and constructively engaged citizenship.

Table 5

Mean Scores for components of non-Violent Civic Engagement

Disaggregated by Gender	Readiness for Active Civic Participation	Readiness for Political Violence
Boys	5.0	3.2
Girls	5.9	2.4

Disaggregated by Contact Line Proximity	Readiness for Active Civic Participation	Readiness for Political Violence
Within 15 km of contact line	5.1	3.1
Remainder of the oblast (>15Km)	5.5	2.8

Full Population Scores	5.4	2.8
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Note: Component scores that are highlighted with blue signify significantly higher risk than the opposite group

8.3 Gender differences amongst adolescents in Eastern Ukraine

The eastern Ukraine adolescent study has identified pronounced differences between girls and boys in most indicators under study, as indicated in the table below.

Table 6

Much higher mean for girls	Somewhat higher mean for girls	No significant difference in the means	Somewhat higher mean for boys	Much higher mean for boys
Anxiety	Peer support	Family based psychological abuse	Quality of life	Aggression
Readiness for non-violent civic engagement	Post-Traumatic Stress Disorder	Aspiration level*	Entrepreneurial aspirations	Normalization of bullying
Migration Tendency	Interdependent values	School connectedness	Civic optimism	Callouts unemotional traits
Social tolerance	Academic performance	Exposure to conflict	Delinquency	Readiness for political violence
Parental involvement	Independent values	School within 15 km from the contact line	Substance use	Risky sexual behaviour
Empathy	Family support	Age	School safety	Executive functioning skills
Depression	Narcissism	Cyber victimization	Bullying*	Externalizing problems*
Internalizing problems*	Self-harm & Suicidality	Family based psychical abuse	Cyber bullying	Authoritarian problem-solving skills
Exposure to psychosocial adversity	Relational victimization	Life satisfaction	Self-confidence	School dropout tendency
Prosocial orientation*	Social skills	Teacher support	Sociodemographic Status Risk Index	
Family connectedness*	Collaborative problem-solving skills	Verbal victimization	Physical bullying	
	Victimization*	Family abuse*	Relational bullying	
		Interpersonal skills*	Verbal bullying	
		Emotional connection to school	Physical victimization	

* Composite indicators: Internalizing problems (Anxiety, Depression, PTSD, Self-harm & suicidality), Prosocial orientation (Collaborative problem solving skills, Empathy, Interdependent values, Callous unemotional traits (reverse)), Family connectedness (Family support, Parental involvement), Victimization (Physical, Relational, Verbal and Cyber victimization), Aspiration level (Professional and Entrepreneurial aspirations), Family abuse (Family based physical and psychological abuse), Interpersonal skills (Self-confidence, Social skills), Bullying (Physical, Relational, Verbal and Cyber bullying), Externalizing problems (Substance use, Risky sexual behaviour, Delinquency and Aggression)

While boys report somewhat greater self-confidence, optimism and a sense of security in daily life, girls report a stronger values-based orientation, higher readiness for non-violent civic engagement, greater social tolerance, and a greater sense of family connectedness. These findings may interconnect — we know from literature that adolescents who have a positive relationship with micro-systems are more likely to report a healthier progression to other systems. Therefore, it is not surprising that girls who experience greater family connectedness also report greater peer support and higher readiness for non-violent civic engagement. For girls, the combination of readiness for non-violent civic engagement along with collaborative problem-solving, pro-social orientation and social tolerance are important indicators for adaptive civic engagement, and has important policy implications for creating opportunities for girls to participate in civic life, capitalizing on their existing motivation to play a constructive role as well as their superior collaborative skills.

Boys and girls also differ in the life skills which most characterize them, with girls reporting higher social skills, empathy, and collaborative problem-solving skills, while boys report higher executive functioning skills. Furthermore, psychosocial challenges also differ by gender: Girls are at greater risk for internalizing problems, including anxiety, depression and post-traumatic stress (problems that often go unnoticed), and are more likely to report self-harm and suicidal ideation. Boys report a more extensive repertoire of behaviour problems that disrupt the social environment, including physical aggression, delinquency, substance abuse and unsafe sexual behaviour, while being more likely to admit to callous-unemotional traits and authoritarian tendencies. These are very important findings as they correspond both to societal norms about genders but also with evidence from other research. Gender stereotypes dictate that girls empathise and socialize more with other people, or that girls' behaviours should be more ladylike in nature, whereas it is more acceptable for boys to behave in ways that are socially stereotyped as more "masculine." The adolescent study found that certain life skills and psychosocial challenges, as reported by the adolescents themselves, go in line with typical gender stereotypes, for example with girls reporting higher levels of empathy and social skills. Even girls' manifestation of problems tends to be more internalizing in nature, as they reported comparatively higher levels of internalizing problems — a disturbance that does not disrupt the social environment but rather their inner selves. Boys scored higher than girls in measures of behaviour problems — behaviours that even though society mostly denounces, we may also nurture indirectly.

Nevertheless, a closer inspection of the findings helps us develop a better understanding of the processes and drivers behind these behaviours, and this could, potentially, be of importance to the design of prevention and/or intervention programmes. For example, what seems to underlie gender differences in bullying and externalizing behaviours, which as expected are more common in boys, are factors like callous-unemotional traits and authoritarian problem-solving skills, also more common in boys. Understanding that callous unemotionality and authoritarian problem-solving skills are negative skills often utilized by boys where efforts should focus on lessening them, helps in programme design. Furthermore, an unexpected finding was that boys reported much higher scores on executive functioning skills. Representing a set of cognitive processes that relates to self-management and self-regulation, while providing resources towards decision-making and goal-oriented behavior, executive functioning links with academic performance, school connectedness, quality of life, and general psychosocial well-being. In the eastern Ukraine adolescent study, executive functioning skills were found to be protective against victimization, but also acted as a resilience factor against bullying and family abuse.

All in all, the findings suggest the need to increase gender sensitive programming. Specifically, the emphasis with boys should be placed in developing collaborative and social skills and nurturing values-based orientation, with a view to enhancing academic participation and non-violent civic engagement, but also to take advantage of their high executive functioning skills and self-confidence, and use them jointly with collaborative skills and pro-social orientation. The emphasis with girls should be on cultivating executive skills which contribute to emotional regulation and protection from internalizing problems and victimization, while providing them with opportunities for civic inclusion and participation, capitalizing both on their motivation to participate and on their collaborative problem-solving skills.

Finally, significant differences are observed in terms of detrimental civic and developmental outcomes: girls report a higher migration tendency, reflecting dissatisfaction with their current circumstance combined with pessimism over whether they can effectively participate and have their voice heard in their current community. Boys report greater school drop-out tendency as well as readiness for political violence, reflecting their lower levels of collaborative skills and reduced values orientation. Also, an examination of the drivers of school drop-out tendency shows that family abuse has a strong impact on boys' risk to drop out of school. Intervention

programmes working on reducing school drop-out tendencies in boys should focus on capitalizing their self-confidence while nurturing a sense of school connectedness.

Other important findings include the indicators in which no gender differences were found. Girls and boys report similar levels of family-based physical abuse and psychological abuse as well as similar levels of exposure to conflict and cyber victimization. However, exposure to similar levels of these risks contribute to different outcomes for girls and boys. As discussed in earlier sections, girls who experience family abuse are at an increased risk for either behaviour problems or internalizing problems, whereas boys are at a greater risk to drop out of school or have lower levels of life satisfaction. Since usually family abuse is related to parental pathology and not to adolescents' behaviour, adolescents themselves cannot directly compensate for the negative outcomes of physical abuse. So, when adolescents experience familial abuse, they benefit greatly from other protective micro-systems. Teacher support acts as a resilience factor, in that familial abuse has

reduced impact on internalizing problems and life dissatisfaction among adolescents who experience high levels of teacher support.

Similarly, cyber victimization is also experienced at similar levels between girls and boys but, again, are more likely to influence the boys and girls differently. Its impact on boys is stronger in predicting behavioural problems (e.g. substance abuse, unsafe sex practices, and delinquency), bullying behaviours, and PTSD. And again, when adolescents encounter adverse life experiences such as victimization, they turn to adults who can provide a protective and supportive environment. Indeed, victims of bullying are less likely to develop behaviour problems or transition from being victims to become perpetrators themselves when parental involvement and teacher support is high. In effect, this suggests that boys may be more susceptible to suffer from low resilience when faced with victimization experiences.

8.4 Differences by proximity to the contact line

The study identified several important differences in the indicator scores by proximity to the contact line, although these are not as pronounced as gender differences. Specifically, adolescents closer to the contact line report — unsurprisingly — greater exposure to the conflict, but also greater school drop-out tendency, greater readiness for political violence, elevated callous unemotional traits, higher normalization of bullying, lower teacher support, and reduced quality of life. These findings should be taken as a call for action for the protection of adolescents close to the contact line, who are displaying a combination of desensitization to and normalization of violence, along with loss of motivation for academic engagement and reduced life satisfaction.

The elevated callous unemotional traits of adolescents closer to the contact line should be a cause for alarm, given that such characteristics can in time undermine various aspects of social connectedness (e.g. family connectedness, school connectedness), eventually paving the way for either apathy or violence.

As adolescents in Eastern Ukraine continue to be exposed over several years to the harsh conditions of conflict, callous unemotional traits appear to set in as a defensive response. While at the time of the specific data collection, the social connectedness of adolescents near the contact line did not

yet appear to be impaired, it is reasonable to expect that elevated callous unemotional traits will eventually have a negative impact on indicators related to connectedness, tolerance and collaborative skills, further undermining the resilience of conflict-exposed adolescents and enhancing readiness for political violence.

As mentioned earlier in the report, what seems to most contribute to resilience in conflict-exposed adolescents are positive peer relations, healthy self-esteem, interdependent values and emotional connection to their school. Focusing on the cultivation of these traits and experiences through appropriate policies and programmes holds the potential to buffer adolescents near the contact line from the worst consequences of the conflict, while it is still ongoing.

Having said that, the clock on the development of this generation of adolescents is ticking: Until the conflict ends, the psychosocial and sociopolitical development of many conflict-hardened adolescents will inevitably be distorted, with negative long-term consequences in their own lives as well as for their communities.

Table 7

Higher means for those closer to line	No significant difference in the means			Higher means for those further from line
Exposure to conflict	Migration Tendency	Social skills	Interdependent values	Readiness for non-violent civic engagement
Readiness for political violence	Empathy	Social tolerance	Peer support	Life satisfaction
School dropout tendency	Self-confidence	Collaborative problem-solving skills	Family connectedness*	Quality of life
Callous unemotional traits	Internalizing problems*	Authoritarian problem-solving skills	Parental involvement	Interdependent values
Normalization of bullying	Anxiety	Emotional connection to school	Family based physical abuse	Teacher support
	Depression	Academic performance	Family based psychological abuse	
	PTSD	School safety	Exposure to psychosocial adversity	
	Self-harm & Suicidality	Interpersonal skills*	Narcissism	
	Externalizing problems*	Prosocial orientation*		
	Substance use	Family support		
	Risky sexual behaviour	Executive functioning skills		
	Delinquency	Aggression		
	Aggression	Family abuse*		
	Bullying*	Physical, relational and verbal bullying		
	Cyber bullying	Physical, relational and verbal victimization		
	Cyber victimization			

* Composite indicators: Internalizing problems (Anxiety, Depression, PTSD, Self-harm & suicidality), Externalizing problems (Substance use, Risky sexual behaviour, Delinquency and Aggression), Bullying (Physical, Relational, Verbal and Cyber bullying), Interpersonal skills (Self-confidence, Social skills), Prosocial orientation (Collaborative problem solving skills, Empathy, Interdependent values, Callous unemotional traits (reverse)), Family abuse (Family based physical and psychological abuse), Family connectedness (Family support, Parental involvement)

9. SUMMARY OF MAIN FINDINGS

The study investigated the impact of conflict exposure as well as micro-systemic risks on adolescent development, then sought to identify potential sources of resilience that might interrupt pathways from risk exposure to detrimental outcomes of development. Specifically, the main findings of the study are identified below:

1. **Conflict exposure** is associated with a broad range of internalizing and externalizing mental health problems, such as anxiety, depression, substance abuse and aggression, reduced overall quality of life and life satisfaction.
2. **Exposure to violence in the micro-system**, such as in the context of family abuse or school-based victimization, is associated with mental health problems while additionally contributing to school drop-out tendency and reduced readiness for civic participation. In contrast, exposure to socio-demographic risk (e.g. family poverty, single-parent families) is primarily associated with reduced academic achievement.
3. **Collaborative and executive skills, in combination with parent support and teacher support**, greatly contribute to build resilience in adolescents exposed to violence in their microsystem, i.e. at school or at home.
4. **Supportive relationships with peers, emotional connection to the school, inter-dependent values, collaborative problem-solving skills and tolerance of diversity** were skills that were found more in adolescents that are resilient to conflict exposure.
5. **Experience of school connectedness were found to be associated with several developmental outcomes** such as life satisfaction, enhanced academic performance, enhanced sense of school safety, reduced school drop-out tendency, reduced internalizing problems, reduced behaviour problems, reduced likelihood to engage in bullying and increased readiness for non-violent civic engagement.
6. **Factors that can contribute to experiencing school connectedness** were identified in the study at the individual level (pro-social orientation, interpersonal skills and executive functioning) and at the contextual level (experiencing connectedness at home is strongly associated with experiencing connectedness at school).
7. Combination of **school connectedness, pro-social orientation** (i.e. characterized by collaborative skills, inter-dependent values and empathy) and tolerance of diversity most effectively prepare adolescents for constructively engaged and non-violent citizenship.
8. **Significant differences in scores between girls and boys on the study's indicators.** Girls reported higher levels of empathy, social tolerance, family connectedness, peer support, social skills and collaborative skills than boys, while also reporting stronger academic performance and greater readiness for non-violent civic engagement. At the same time,

girls reported higher levels of internalizing problems, such as anxiety, depression and post-traumatic stress, along with increased vulnerability to victimization and a more pronounced migration tendency. Boys, in contrast, report higher levels of executive functioning, higher entrepreneurial aspirations, higher levels of self-confidence, and enhanced sense of school safety as well as perceived quality of life. At the same time, they report a greater likelihood to engage in externalizing behaviours, such as aggression, delinquency, unsafe sexual practices and substance abuse, while also reporting higher levels of callous unemotional traits and authoritarian tendencies. Furthermore, boys report a greater readiness to engage in political violence while displaying a stronger school drop-out tendency.

9. Important differences in the study's indicator scores by **proximity to the contact line**. Specifically, adolescents at schools living in areas near the contact line reported greater school drop-out tendency, greater readiness for political violence, higher normalization of bullying, lower teacher support and reduced quality of life, compared to adolescents elsewhere in the Donbas. Furthermore, adolescents near the contact line reported elevated levels of callous unemotional traits, in what is likely a self-defensive emotional response to the harsh conditions of life as an adolescent amid an active military conflict.

These findings suggest that:

- A. In order to build adolescents' resilience, programmes should reflect and address the nature of risk they are facing, be it micro systemic or conflict exposure;
- B. School connectedness is an intermediate developmental objective that can pave the way to multiple beneficial outcomes, as adolescents with strong interpersonal skills are in a better position to engage with teachers and peers, build positive social networks and experience connectedness, thus highlighting the importance of establishing family-based positive relationships on the path towards school-based positive relationships;
- C. In girls, programmes should aim to cultivate executive skills and mitigate internalizing problems while providing opportunities for civic inclusion and participation. In boys, programmes should focus on building collaborative skills and social skills, nurturing family connectedness, while mitigating callous unemotional traits, preventing externalizing problems and enhancing academic commitment (gender-sensitive programming);
- D. To avoid negative long-term consequences in the socio-emotional development of conflict-exposed adolescents, emphasis must be placed on nurturing their resilience through positive peer relations, interdependent values, healthy self-esteem and emotional connection to their school, while working to restore normality to their communities and in eastern Ukraine more broadly.

10. A NOTE ABOUT USING THE FINDINGS

The study's findings must be considered within the context of methodological strengths and limitations. Strengths of this study included a large and diverse sample of adolescents attending schools in eastern Ukraine. Additionally, this study is unique in offering an ecological approach to investigate the protective processes of several social contexts — such as schools and their role in multiple adolescent outcomes. Also, the regionally representative epidemiological sample allowed for the use of rigorous analysis, such as the structural equation modeling. The large sample of adolescents allowed to compare the results/findings across several groups and to identify significant differences between girls and boys as well as between adolescents living near the contact line and those living in other areas of the region.

In the current study, all constructs were assessed using adolescents' self-report, which may have inflated correlations due to shared method variance or led to possible underreporting of undesirable characteristics and behaviors. However, self-report instruments have the advantage of measuring individual attitudes, emotions and motivations that may not be apparent to other people thus informing us as to what adolescents experience and are capable of from their point of view. Nevertheless, for several measures, most notably those which are relational in nature, self-reporting provides only a partial picture given by a single side in the relationship. In measures related to skills and competencies, self-reporting provides the individual's judgment on whether they possess the skill or competence, which might differ from their actual performance.

Like most adolescent population studies, this study is based on cross-sectional data collection which has several benefits such as allowing for large samples which are necessary to statistically powerful analysis, such as between-group comparisons and complex model-based statistical analysis based on existing literature (e.g. potential association between individual-level indicators, such as life skills, and adolescent outcomes, such as academic performance for instance). Furthermore, such studies allow to control for the extraneous influence of other factors, to determine whether the association between model indicators is genuine or spurious. However, while causal hypotheses can be explored through cross-sectional studies through well-designed structural equation models, findings should be considered suggestive rather than definitive. For instance, associations between a parental behavior and developmental outcomes (e.g. externalizing problem) are bidirectional, pointing to both child and parent effects. A cross-sectional study, by itself, cannot disambiguate such complex bidirectional social interactions.

With these in mind, how should the findings of this study be used?

Overall, this study represents progress in understanding the link between processes of risk exposure and protection mechanisms on the one hand and adolescent development outcomes on the other hand and it does so from an ecological perspective based on a sample that is representative of adolescents in eastern Ukraine. The study's findings can be used to understand heterogeneity within the adolescent population through between-group comparisons, which are valid and informative within such a study design setting.

The findings can also be used to explore the ways in which diverse characteristics, experiences and choices are inter-related, as a first step towards developing an evidence-based theory of change that can inform policy and programmatic choice by suggesting specific entry points that might bring sustainable change. However, due to the cross-sectional nature of the study, such use should be conducted with caution and due diligence, by integrating other sources of evidence that can inform the theory of change. As much as possible, the major findings of the study have been corroborated through partner consultations, through anecdotal evidence and, where possible, with findings of other reports and assessments lending confidence in the conclusions provided in this report. However, additional consultations with experienced field-based practitioners, focus groups, and in-depth interviews with adolescents and their parents or teachers should be considered as strengthening the study's findings.

Some of the above limitations, e.g. the cross-sectional study design, will soon be overcome. Data collection for the second wave was concluded and provision were made for a unique identifier code which will allow a longitudinal follow-up data collection. Finally, pilot interventions, using pre- and post-assessment as well as a control group are being jointly implemented by the Ministry of Education and Science and UNICEF and will be assessed on evidence collected from this study.

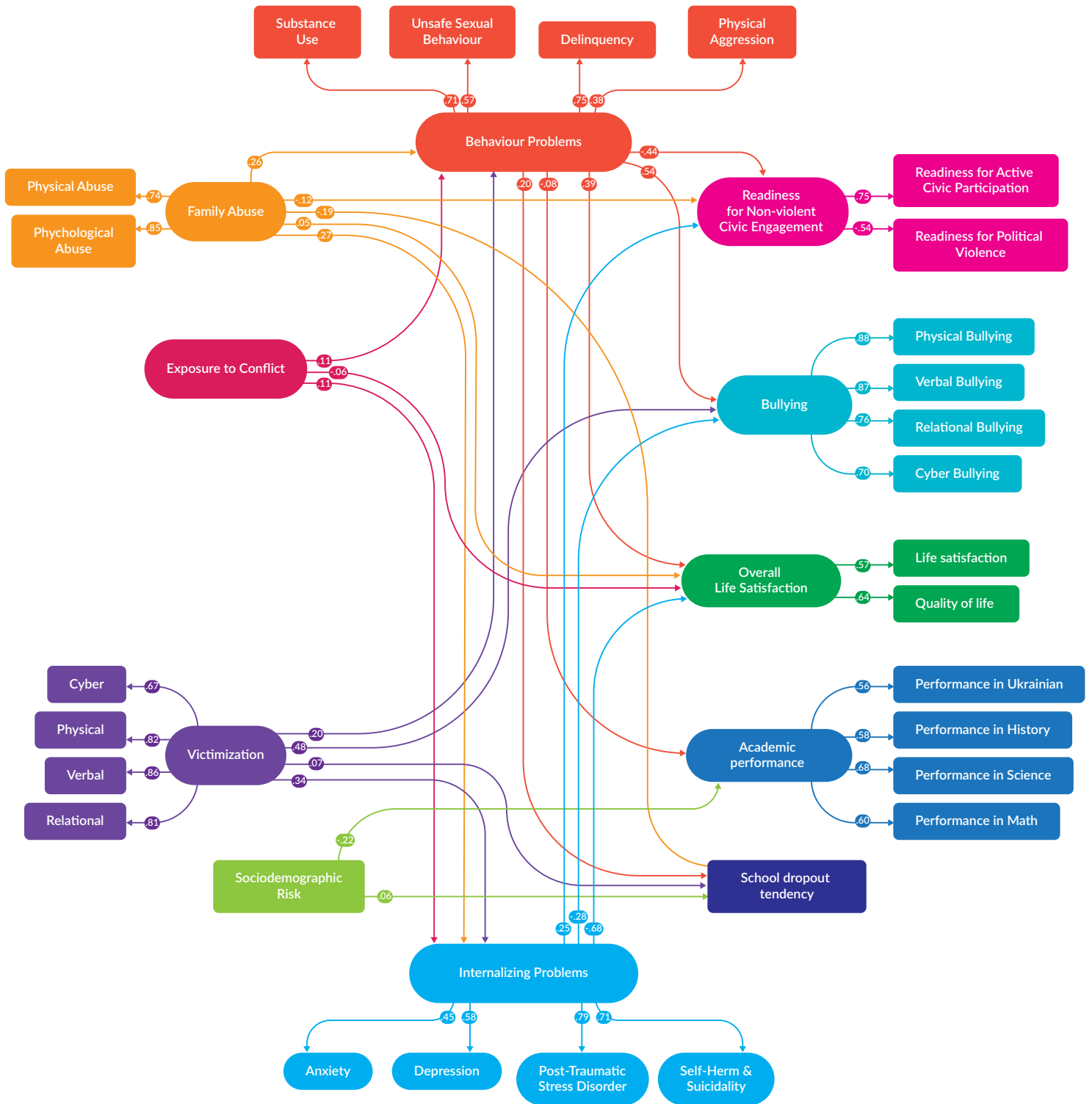
11. RECOMMENDATIONS

Despite limitations discussed in the previous section, certain recommendations can be drawn from the study's findings.

1. Following its decision of June 2018 to adopt the SCORE adolescent tool to measure the impact of pilot interventions within the education reform, the MoES should develop its capacities to analyze SCORE data and further adapt the tool within the context of the education reform.
2. The MoES should expand the use of School Connectedness as a metric to measure the impact of the implementation of the education reform strategy across the country.
3. Links with Ukrainian academic sector should be established to strengthen national capacities to increase the evidence base on the impact of the conflict on adolescent development.
4. Interventions aiming to increase executive problem-solving skills and collaborative problem-solving skills among adolescents should be developed and piloted in eastern Ukraine.
5. The MoES should establish an interdisciplinary group of key partners, psychologists and educational professionals of schools in eastern Ukraine to further corroborate and analyze the extent of the gender differences found in the study and identify approaches supporting the specific needs of boys and girls.
6. The provision of psycho-social assistance to educational professionals in areas near the contact line should be scaled up to increase individual abilities to fulfill their protective role within the education system.
7. The "Safe School" concept piloting key elements of the education reform in eastern Ukraine should be expanded.
8. Interventions strengthening parental involvement should be considered as a priority, particularly supporting boys and adolescents in areas near the contact line.
9. Further qualitative research should be conducted regarding high levels of callous unemotional traits among adolescents in eastern Ukraine, particularly in areas near the contact line.
10. Further qualitative research should be conducted regarding specific dynamics identified in areas near the contact line, specifically as they relate to response mechanisms to violence among peers.
11. The findings regarding mental health risks should be further elaborated and disseminated to educational, health and youth professionals in eastern Ukraine along with a review of the adequacy of the support available.

Appendix 1:

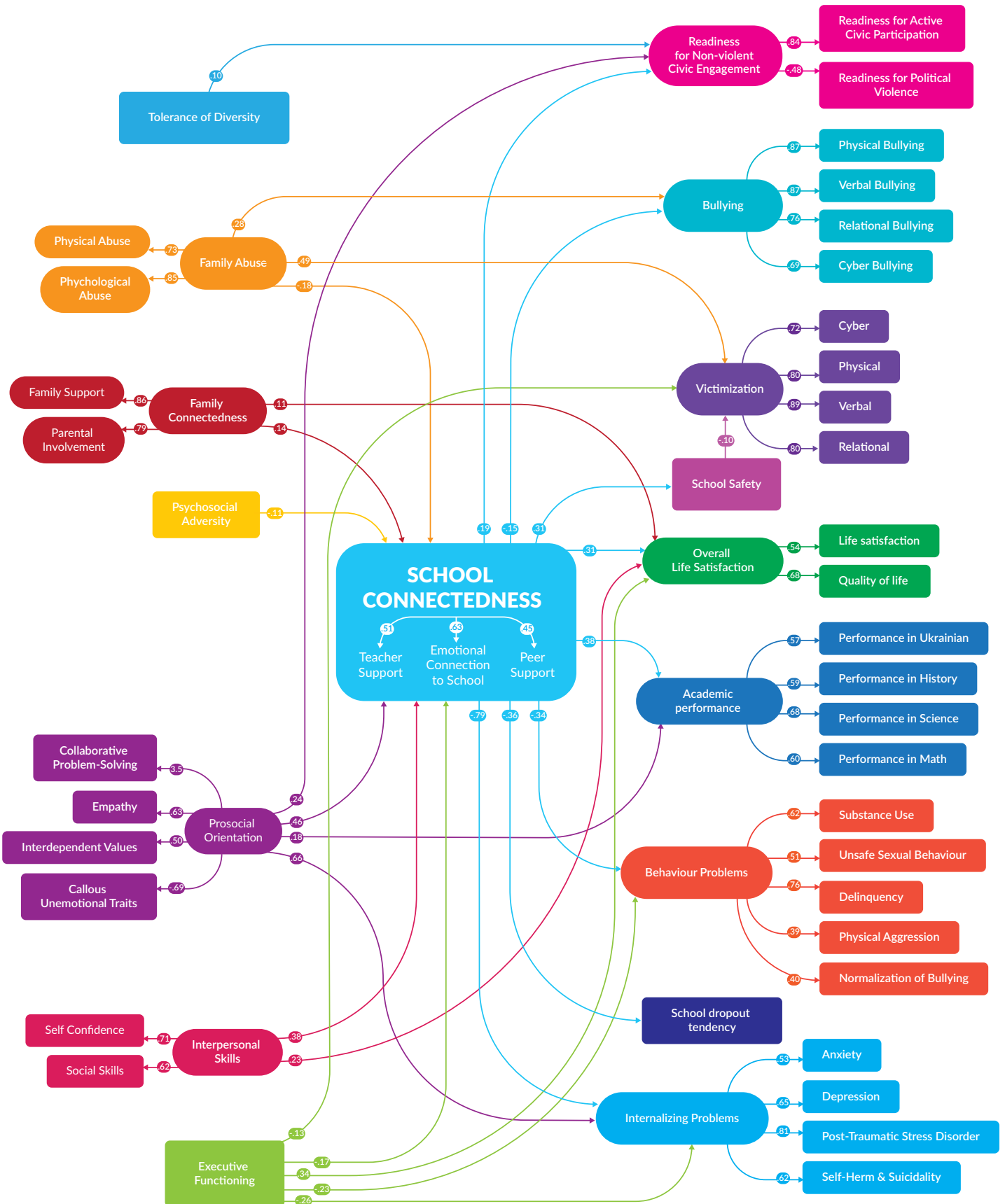
The full Structural Equation Model for Risk and Resilience



Chi Square=3139, d.f.=339, CFI=0.92, RMSEA=0.05, SRMR=0.04; all structural pathways statistically significant; no further modifications suggested by the relevant indices.

Appendix 2:

The Full Structural Equation Model for School Connectedness



Chi Square=5623, d.f.=789, CFI=0.90, RMSEA=0.04, SRMR=0.05; all structural pathways statistically significant; no further modifications suggested by the relevant indices.

Appendix 3: Glossary of Adolescent Study indicators

Indicator	Indicator Description
Academic performance	Evaluation of one's school performance in subjects such as mathematics, history, and science.
Aggression	Extent to which one is aggressive in daily life, such as frequently getting into fights and confrontations.
Anxiety	Degree to which one feels anxious and insecure to an extent that the person finds it hard to stop worrying and relax.
Authoritarian problem-solving skills	Lack of openness to compromise, build consensus and take responsibility for solving problems and easing tensions.
Bullying	Exposure - repeated over a period - to negative behavior by one or other persons including in person or online harassment and physical violence.
Callous unemotional traits	Personality traits associated with lack of empathy, remorse, or guilt and shallow or deficient emotions.
Civic optimism	The extent to which the present generation is believed to be in a better or worse position compared to past or future generations.
Collaborative problem-solving skills	Ability and openness to compromise, build consensus and take responsibility for solving problems and easing tensions.
Delinquency	The extent to which one commits minor, petty crime or breaks the rules (e.g., underage drinking, skipping school, getting into fights).
Depression	The extent to which one feels demotivated or very sad.
Empathy	Degree to which one feels empathetic towards others and shares the feelings of others.
Executive functioning skills	Ability to control impulses, consider consequences of actions, plan tasks, focus attention and multi-task.
Exposure to conflict	Degree to which one feels exposed to the conflict through being close to regions that are subject to shelling, or having family members participating in the conflict, or experiencing family division because of the conflict
Exposure to psychological adversity	Direct or indirect exposure to negative life events, such as bullying, punishment, neglect, etc.
Family support	Relations with family members and relatives, strength of familial ties.
Independent values	Being ambitious and adventurous, preferring to do things in one's own way and showing hedonistic traits.
Interdependent values	Preferring to follow societal norms and traditions and caring for the wellbeing of others.
Migration tendency	The extent to which one is inclined to leave one's region in search for more or better opportunities.
Narcissism	Grandiose self-view and an arrogant and deceitful interpersonal style.
Normalization of bullying	The extent to which the act of bullying is regarded as the 'norm', resulting in the perception that this exercise of violent or deviant behavior over others is acceptable.
Parental involvement	Parental involvement refers to the amount of participation and connection a parent has when it comes to a child's social and academic life.
Peer support	The extent to which one feels supported by and can rely on peers for support.
Family-based physical abuse	Exposure to physical abuse from parent, sibling or caregiver.
Family-based psychological abuse	Exposure to psychological abuse from parent, sibling or caregiver.

Indicator	Indicator Description
Post-Traumatic Stress Disorder	Experiencing persistent mental and emotional stress that is triggered after exposure to a traumatic or dangerous event.
Aspiration level	Professional and entrepreneurial ambitions and career path preferences one wants to follow.
Quality of life	The way a person evaluates different aspects of his/her life in terms of mood, relations with others, and goals and the degree to which a person feels satisfied with his/her life.
Life satisfaction	The degree to which a person feels satisfied with his/her life overall.
Readiness for non-violent civic engagement	Willingness to engage in civic and political matters using non-violent means, and to participate in local youth initiatives to play a role in public affairs relevant to one's interests such as youth councils.
Readiness for political violence	Propensity to the use of violent means to achieve political change.
Risky sexual behavior	Inclination to engage in unprotected sex with multiple partners.
School connectedness	The extent to which one feels connected to peers and teachers in the school context.
School dropout tendency	The extent to which one is inclined to drop-out of school or discontinue their studies.
School safety	The degree to which one feels safe in the school environment.
Self-confidence	Being satisfied with one's self and having confidence in one's abilities.
Self-harm and suicidality	Thoughts of and attempts to injure oneself or commit suicide.
Social skills	Possessing skills that facilitate social interaction and communication with other people.
Social tolerance	The degree to which one is tolerant towards different groups (e.g. Muslims, Jews, Roma) in terms of personal interaction and/or acceptance in the community.
Socio-demographic Risk Index	This is a composite scale that combines demographic indicators that can help identify high-risk groups. This scale combines home over-crowdedness, family income, nuclear family and education of parents.
Substance abuse	Frequency of tobacco, alcohol or drug use.
Victimization	Directly experiencing bullying in the form of repeated physical, verbal or psychological attack or intimidation that is intended to cause fear, distress, or harm.
Composite Indicators	
Internalizing problems	Includes Anxiety, Depression, PTSD, Self-harm & suicidality.
Externalizing problems	Includes Substance use, Risky sexual behaviour, Delinquency and Aggression.
Bullying	Includes Physical, Relational, Verbal and Cyber bullying.
Victimization	Includes Physical, Relational, Verbal and Cyber victimization.
Interpersonal skills	Includes Self-confidence, Social skills.
Prosocial orientation	Includes Collaborative problem-solving skills, Empathy, Interdependent values, Callous unemotional traits (reverse).
Family abuse	Includes Family-based physical and psychological abuse.
Family connectedness	Includes Family support, Parental involvement.

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