ADVERSE OUTCOMES IN CHILDREN AND YOUTH ASSOCIATED WITH PARENTAL MIGRATION IN MOLDOVA: A SOCIO-ECOLOGICAL EXAMINATION

by

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(Under the Direction of Donglan "Stacy" Yang)

ABSTRACT

Violence against children and adverse mental health outcomes are potential results from international parental migration during childhood, have serious short- and long-term impacts on health, and are public health priorities. This dissertation aims to understand associations of parental migration with adverse outcomes in children and youth, including the role of individual, relationship, community, and social factors.

This study examined associations between parental international migration and two sets of potential outcomes: 1) Self-reported experience of emotional, physical or sexual violence before age 18; 2) Self-reported adverse mental health outcomes. This study may inform and guide future research, practice, and policy, and may help protect children with parents living abroad.

The study design is based on secondary analysis of *Violence against Children Survey* (VACS) data previously collected in the Republic of Moldova. The prevalence of socio-demographic variables and the outcomes of interest were described by parental migration status. Logistic regression was used to assess the association between parental migration and the

outcomes of interest, including models adjusted for relevant covariates. All analyses were weighted for the complex survey design.

The prevalence of violence against children is high in Moldova, with up to half of males experiencing physical violence. Mental distress and having been drunk in the last month were reported frequently. Among females, mother's migration was associated with emotional violence (adjusted odds ratio [AOR] = 3.3; 95% confidence interval [CI] 1.3–8.5), ever having considered suicide (AOR = 4.2; 95% CI 1.2–14.3), and having been drunk in the last month (AOR = 3.2; 95% CI 1.4 – 7.2). For males, father's migration was associated with physical violence (AOR = 2.1; 95% CI 1.1–3.9). Results also illustrated that factors from the socio-ecological model were significantly associated with outcomes of interest, particularly violence in and perceived safety of the community.

These results indicate the need in Moldova to protect children from violence and improve the mental health outcomes of those exposed to parental migration and violence. Further, interventions to protect children with parental migration may need to be tailored around key criteria, such as the sex of the migrating parent and the child.

INDEX WORDS: Violence against children, adverse mental health outcomes, parental migration, socio-ecological model

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CHAPTER 1

INTRODUCTION

Background

Migration is an important area for public health research and policy. From 2000 to 2019, international migrants increased from 2.8 percent to 3.5 percent of the world's population (United Nations Department of Economic and Social Affairs, 2019). Migrants leave behind family members, which may impact the experiences, exposure to risk factors, health status, and development of those family members, particularly for children. Since the collapse of the Soviet Union, Moldova has maintained a substantial degree of economic migration, and the migrant population includes similar proportions of males and females. Therefore, there is an interest in how children in Moldova have been impacted by parental migration (Cebotari, Siegel, & Mazzucato, 2018; Nejezchleba, 2013; Vanore, Mazzucato, & Siegel, 2015). For this study, parental migration refers to the migration of a biological parent to another country for at least six months before the child is 18 years old. Parental migration may lead to adverse experiences and outcomes directly and indirectly.

Childhood experience of violence is a public health priority with significant health impacts. A minimum estimate is that half of the world's children experience violence annually, as many as one billion children (S. Hillis, Mercy, Amobi, & Kress, 2016). Moldova is a signatory to the Sustainable Development Goals, which includes addressing violence against children. Sustainable Development Goal Target 16.2 is to "End abuse, exploitation, trafficking

and all forms of violence against and torture of children" (United Nations Department of Economic and Social Affairs, n.d.).

Adverse mental health outcomes are a significant source of global morbidity and mortality, economic costs, and human suffering (Becker & Kleinman, 2013; Vigo, Thornicroft, & Atun, 2016). The Sustainable Development Goals added mental health explicitly in 2015. Goal 3, concerning health, has two relevant targets. Target 3.4 includes "promoting mental health and well-being," and Target 3.5 includes the prevention and treatment of harmful use of alcohol (Votruba & Thornicroft, 2016).

Research Significance and Innovation

This research is significant because it provides estimates for violence against children in Moldova, on which there has been limited nationally representative data. This research is also significant because it investigates the association between parental migration and potential adverse outcomes. Few analyses of the Violence Against Children Surveys (VACS) have reported on parental migration and its association with adverse outcomes. While the Moldova VACS report discusses the prevalence of parental migration, it does not examine potential associations between parental migration and outcomes. No research has been published to date on the Moldova VACS dataset. Therefore, the parental migration analyses conducted in this dissertation have not been analyzed elsewhere.

The impact of parental migration on children in Eastern Europe has not been widely investigated. Studies from Moldova and other countries have established that parental migration may impact health, mental health, schooling, and other outcomes for children (Cebotari, Siegel, & Mazzucato, 2016; Cebotari et al., 2018; Fellmeth et al., 2018; Vanore et al., 2015; Xu, Xu, Simpkins, & Warschauer, 2019). The research in this dissertation is innovative in examining the

role of parental migration in violence against children. Additionally, most research on parental migration has focused on the sociodemographic characteristics of households, parents, and children. The inclusion of socio-ecological factors in modeling the association between parental migration and the outcomes of interest represents an innovation. These factors include relationships with family members and friends, perception and experiences of the community, and relevant knowledge, attitudes, and social norms. Without research investigating the factors that can influence the experience of violence before age 18 and current and lifetime measures of mental health, prevention and response efforts may be ineffective. Understanding the role of parental migration and the additional significant covariates associated with adverse outcomes will strengthen the interventions to improve child and adolescent health in Moldova.

Dissertation Format

This dissertation consists of two separate research papers related to the impact of parental migration on children and youth: the first examining violence against children and the second examining adverse mental health outcomes.

Below are the research questions, specific aims and hypotheses that reflect the exploration of parental migration in Moldova. This dissertation seeks to address one primary research questions in each paper:

Research Paper #1

Research Question 1: Is parental migration (either parent, mother, or father) for six months or more associated with the experience of violence during childhood?

Specific Aim 1: Examine the relationship between parental migration and emotional, physical, and sexual violence experienced in childhood, stratified by the sex of the child and migrating parent.

Approach: The prevalence of outcomes will be compared for those with and without migration. Weighted logistic regression models will be adjusted for relevant covariates, including sociodemographic and socio-ecological factors.

Hypothesis 1: Parental migration is associated with an increased likelihood of violence experiences during childhood, controlling for relevant covariates, because parental migration is associated with a low level of emotional attachment with the children and/or increased children's exposure to violence in the community, and thus it is a risk factor for violence against children.

Research Paper #2

Research Question 2: Is parental migration (ether parent, mother, or father) for six months or more associated with adverse mental health outcomes?

Specific Aim 2: Examine the relationship between parental migration and adverse mental health outcomes experienced in childhood, stratified by the sex of the child and migrating parent.

Approach: The prevalence of outcomes will be compared for those with and without migration. Weighted logistic regression models will be adjusted for relevant covariates, including violence, sociodemographic and socio-ecological factors.

Hypothesis 2: Parental migration is positively associated with adverse mental health outcomes, controlling for relevant covariates, because parental migration might be associated with behavioral and sociopsychological risk factors (i.e. alcohol use) that lead to adverse mental health outcomes in children.

Study Design

The purpose of the two papers in this dissertation is to investigate the outcomes associated with parental migration for children in Moldova. The first paper examines the association between parental migration and the experience of emotional, physical and sexual,

violence before age 18. The second paper examines the association between parental migration and outcomes related to mental health; mental distress, having been drunk, self-harm, and having considered suicide.

Both papers employ the dataset from the Violence Against Children and Youth in the Republic of Moldova, 2019 Survey (International Organization for Migration, IMAS, & Centers for Disease Control and Prevention, 2020). Conducted in 2019 by the International Organization for Migration, IMAS, and the Centers for Disease Control and Prevention, this survey used the standard VACS study design and implementation of a national representative household cluster survey (Nguyen, Kress, Villaveces, & Massetti, 2019). The male and female samples are examined separately because of the assumption that the associations with the outcomes of interest differ by respondents' and parents' sex.

CHAPTER TWO

LITERATURE REVIEW

This chapter includes the literature review for several topics associated with child outcomes of parental migration in Moldova, with a special emphasis on children's and youth's experience of violence before age 18 and mental health. This chapter has eight main sections. The first section provides background and context for migration and childhood in Moldova. The second section covers the role of migration in Moldova and the characteristics of migrants and migrant households. The third section provides an overview of the impacts of parental migration, with a special focus on the country of Moldova. The fourth section examines the impact of violence against children, including the general effects of childhood stress on development and the specific impacts of emotional, physical, and sexual violence. The fifth section provides background on the socio-ecological model and how it can be applied to parental migration, violence against children, and mental health outcomes. The sixth section examines the association between parental migration and childhood violence, which forms the basis for the analysis of paper #1. The seventh section is the association between parental migration and child mental health, which forms the basis for the analysis of paper #2. The final section reviews the literature from studies of child violence and mental health in Moldova and points out the research gaps.

Background Information on Moldova

Moldova is a landlocked country in Eastern Europe bordered by Romania and Ukraine. Two-thirds of the country are ethnic Moldovan, with the next most common ethnicities being

Romanians and Ukrainians. Orthodox Christianity is the most common religion. Moldova is a medium-income country, with a gross domestic product of $13,050 per capita and 7.3% of the population living below the international poverty line (Central Intelligence Agency, 2021). Moldova is the poorest country in Europe, and its GDP ranks 134 in the world. The country has a decreasing population and is characterized by a reduced fertility rate (1.58), relatively low life expectancy for Europe (76.3 years for females and 68.3 years for males at birth) and outmigration (Central Intelligence Agency, 2021). The country's culture holds patriarchal attitudes that may limit women's educational choices and employment options (UN Women, n.d.). The gender pay gap for monthly wages in 2016 was 14.5% (Social Protection and Jobs Global Practice Europe and Central Asia Region, 2018).

Moldova has policies to promote health and to protect children from experiencing violence. The goal of the National Public Health Strategy for 2014–2020 from the Ministry of Health is "sustainable health and wellbeing through enhanced public health capacities and services" (Ciobanu, Habicht, Serbulenco, & Gheorghita, 2018). The National Report on the Implementation of the United Nations Convention on the Rights of the Child for the Republic of Moldova noted a variety of initiatives to support children in Moldova (Office of the United Nations High Commissioner for Human Rights, 2007). There are messaging campaigns against parental child abuse, social assistance programs for children and adolescents at risk, and support for families impacted by labor migration. The latter includes a Directorate to "deal with issues such as a child's reintegration into his biological family, supporting requests for depriving parental rights, participation in a child's up-bringing by parents living separately, the opportunity of establishing/canceling supervision and the need to place a child in a residential care institution" (Office of the United Nations High Commissioner for Human Rights, 2007). Health

care is free in Moldova for women and children under five years old, with children over five and men receiving only certain services for free (MacLehose & McKee). In 2007, Moldova signed the law Preventing and Combating Family Violence to address domestic violence, and the country ratified the Council of Europe Convention on the Protection of Children Against Sexual Exploitation and Sexual Abuse Convention in 2011 (Council of Europe, 2021; UN Women, 2016). The institutionalization of children is a legacy of Moldova's Soviet past, as parents and professionals believe that it would be a better option for children in situations such as single-parent households, poverty, or disability (UNICEF, n.d.). A report by the Commissioner for Human Rights of the Council of Europe noted that after a sustained deinstitutionalization effort, 961 children were in residential institutions as of 2019 (Mijatović, 2020). Her report also noted that bullying in schools is both common and on the rise. By law, the Moldovan state education system is free (CIS Legistation, 1995). Moldova has both a Social Assistance Fund to provide assistance to the needy, and the Social Security Fund for retirement.

Migration from Moldova

Since the collapse of the Soviet Union, many of the post-Soviet states have been shaped by significant economic disruption and migration. As the poorest country in Europe, Moldova has experienced phases of migration of its population abroad in search of economic opportunities since the Soviet breakup. Economic opportunities for women in receiving countries are particularly attractive as in Moldova women are not able to fully participate in the labor market (Vanore & Siegel, 2015). The Moldovan government policy facilitates and encourages labor migration. Moldova participates in a variety of agreements that facilitate international migration, including the Budapest Process, Sederkoping Process, Process of Cooperation in South-Eastern Europe, and the Central-European Initiative. Remittances form an important source of income to

individual families and the economy in Moldova, representing more than 16% of gross domestic product (Arends, Ianachevici, Nemerenco, & Turcan, 2017; Cuc, Lundback, & Ruggiero, 2006).

There are important sociodemographic factors related to migrants and their households. An assessment from UN Women reported that women comprised 34% of migrants, male migrants tended to be younger than female migrants, and female migrants tended to be more highly educated, and to work for longer periods in more formal sectors with a defined contract (UN Women, 2015). Males are more often employed in seasonal labor. The most common recipients of remittances are women, most commonly wives and mothers (UN Women, 2015). An article by Vanore and Siegel explored the gender dynamics of migration from Moldova and Georgia (2015). The nationally representative household survey conducted in Moldova included 12,256 persons, with 7.5% from households with a migrant member, 5.8% including a returned migrant, and 86.6% from households without migration. They found a similar pattern to that in the previous report, with migrant females being, on average, younger than non-migrant females. Migrants were also more educated than non-migrants, and female migrants were more educated than male migrants (Vanore & Siegel, 2015). Of the households with children, 7.6% are currently headed by single parents, although this proportion is higher in urban areas (National Bureau of Statistics, 2021). Rural children are more likely to be separated from a parent than urban children (23% vs. 17% of children) (Arends et al., 2017). Moldova has Law 140 on Special Protection of Children at Risk and of Children Separated from their Parents with articles related to the identification, assessment, assistance, referral, monitoring, and registration of children at risk and those separated from their parents (UNICEF & Ministry of Labor, 2015).

Impacts of Parental Migration

Parental migration offers both benefits and drawbacks for left-behind children. Labor migration can lead to increased access to resources for the left-behind family members, such as through remittances. This increased income may benefit the left-behind family members. Parental migration may also lead to changes in support to the child from the absent parent or the child's decreased attachment to the parent. Parental migration may exert important impacts on childhood development such as health and education outcomes.

There is evidence that remittances from parental migration lead to improved education outcomes for left-behind children, including studies from Vietnam and Mexico (Alcaraz, Chiquiar, & Salcedo, 2012; Binci & Giannelli, 2012). Other studies have shown worse education outcomes with parental migration, including in Mexico and China (McKenzie & Rapoport, 2011; Zhang, Behrman, Fan, Wei, & Zhang, 2014). A nationally representative study of 814 children in Moldova, including 29% from migrating households, explored educational outcomes (Cebotari et al., 2016). Paternal migration, with the mother as caregiver, was associated with increased school performance. Maternal migration with the father as caregiver or parental migration by both parents with the grandparents as caregivers were not associated with a change in school performance. Therefore, the specific parent migrating and caregiver arrangements makes a difference in child outcomes. This may be relevant for the research questions explored in this study.

Parental migration may also impact the health of left-behind children compared to their peers. A nationally representative household survey of 1,601 children in Moldova included a health comparison of children in migrant and non-migrant homes based on caregiver reports (Cebotari et al., 2018). Moldovan children in migrant households were more likely to have better

reported health compared to children in non-migrant households. The child's gender was associated with differences in outcome, as the interaction between the child's gender and living in a migrant household was negatively associated with girls' reported health but not boys' (Cebotari et al., 2018). A systematic review and meta-analysis of 111 studies representing 264,967 children by Fellmeth et al. (2018) identified the health impacts of parental migration on left-behind children and adolescents. Left-behind children experienced increased wasting and stunting as well as worse mental health outcomes, as discussed below. Left-behind children and children in non-migrant households had similar results for nutrition outcomes, unintentional injury, abuse, and diarrhea.

Impact of Violence Against Children

Childhood violence, a form of adverse childhood experience, exerts important impacts on childhood development and health throughout the child's lifetime. These impacts can be explained through the importance of stress and trauma during childhood development. There are specific effects of emotional, physical, and sexual violence in childhood. Experiencing violence can also predispose children to be victims and/or perpetrators of violence in adulthood, known as the cycle of violence.

The role of childhood experiences in adult health outcomes is increasingly recognized in the literature. This influence can occur by various pathways. Childhood experiences can result in accumulating damage over time, or adverse experiences can be biologically embedded during important developmental periods (Shonkoff, Boyce, & McEwen, 2009). Toxic stress can occur from violence in childhood and can disrupt the developing brain architecture and adversely affect the development of other organ systems (Shonkoff et al., 2012). The number of types of adverse childhood experiences makes a difference in the outcome. A greater number of adverse

childhood experiences was associated with an increased risk of depressed affect, suicidal thoughts or attempts, and alcoholism in studies from the United States and Kenya (Dube, Felitti, Dong, Giles, & Anda, 2003; Nguyen, Kegler, Chiang, & Kress, 2019). A greater number of adverse childhood experiences has also been associated with long-term psychosocial outcomes, such as family problems, uncontrollable anger, and stress (S. D. Hillis et al., 2004).

Emotional violence in childhood primarily results in adverse mental health outcomes. A systematic review and meta-analysis found that emotional violence was associated with depressive disorders, anxiety disorders, drug use, suicide attempts, and risky sexual behavior (Norman et al., 2012). An analysis of the Nigeria VACS found that experiencing emotional violence before age 18 was associated with self-harm and risk behaviors (Annor et al., 2020).

Physical violence in childhood leads to important health and development outcomes in adulthood. Exposure to childhood physical abuse is associated with worse educational achievement outcomes (Boden, Horwood, & Fergusson, 2007). Physical violence is also associated with adverse mental health outcomes, including depressive disorders, anxiety disorders, drug use, suicide attempts, and risky sexual behavior (Lindert et al., 2014; Norman et al., 2012).

Childhood sexual abuse is associated with many short- and long-term health impacts. Beitchman, Zucker, Hood, daCosta, & Akman found in a review article that, in the short term, adolescents who experience sexual abuse see impacts on their sexuality, depression and suicidal ideation, as well as an increased risk for revictimization (1991). Victims of child sexual abuse are more likely than nonvictims to come from disturbed families, including those with marital separation, although this trend may have related to the sources for study recruitment (Beitchman et al., 1991). Females may experience sexual dysfunction, depression, and revictimization as

well as anxiety, fear, and suicidal ideas if their abuse involved force or the threat of force (Beitchman et al., 1992). An analysis of the Swaziland VACS found that sexual violence against female children resulted in higher odds of depression and adverse pregnancy outcomes (Reza et al., 2009). A meta-analysis of the long-term effects of child abuse, i.e., abuse occurring before age 18, and effects after age 18 identified mental health outcomes associated with abuse (Hailes, Yu, Danese, & Fazel, 2019). Conversion disorder, borderline personality disorder, anxiety, and depression were most strongly associated with childhood sexual abuse. For both short- and long-term effects, a longer duration of abuse and the use of force are associated with greater impact (Beitchman et al., 1991; Beitchman et al., 1992).

Exposure to violence in childhood is associated with both victimization and the perpetration of violence in adulthood. This cycle of violence can be explained by multiple theoretical mechanisms. According to social learning theory, children acquire behavior through modeling and reinforcement based on social interactions (Bandura, 1973; C. S. Widom & Wilson, 2015). According to attachment theory, child maltreatment from a primary caretaker disrupts attachment and leads to a hostile view of the world and other people that can manifest in aggressive responses (Bowlby, 2008; C. S. Widom & Wilson, 2015). In social information processing theory, physical harm in childhood leads to chronic aggression due to biased social information processing patterns (Dodge, Bates, & Pettit, 1990; C. S. Widom & Wilson, 2015). There are also biological explanations for intergenerational violence. Neurophysiological models postulate that chronic exposure to stresses, such as childhood violence, may prime individuals to act aggressively in stressful situations (De Bellis, 2001; C. S. Widom & Wilson, 2015). Finally, there are genetic explanations for intergenerational violence. In addition to the exposure of violence from parents, children also inherit genes that predispose them to acts of violence in

adulthood (Hines & Saudino, 2002; C. S. Widom & Wilson, 2015). There is evidence for the cyclical nature of victimization and perpetration. A meta-analysis of 142 studies found a modest association of intergenerational child maltreatment in general and evidence for intergenerational physical abuse, emotional abuse, and sexual abuse specifically (Madigan et al., 2019). Analysis of the Kenya VACS found that women who experienced violence during childhood were more likely to experience intimate partner violence in adulthood (Chiang et al., 2018). Adults who experienced child maltreatment have increased odds of perpetration of violence against children and adult intimate partners (Godbout et al., 2017; Whitaker et al., 2008). Analyses of VACS surveys have found that experiences of emotional and physical violence in childhood are associated with the perpetration of such acts as a young adult (Annor et al., 2020; VanderEnde et al., 2016).

Socio-ecological Model, Violence Against Children, and Mental Health

The socio-ecological model of child development was developed by Bronfenbrenner (Bronfenbrenner, 1989). Bronfenbrenner formalized the socio-ecological theory in the 1980s, with continuous updates (Bronfenbrenner, 1989, 1999). The socio-ecological model originally described five levels: the microsystem, mesosystem, exosystem, macrosystem, and chronosystem (Bronfenbrenner, 1989; Kilanowski, 2017). The microsystem includes the interactions and relationships of the child's immediate surroundings. The mesosystem extends beyond the immediate surroundings but still has direct contact with the child, such as work, school, church, and neighborhood. The child does not have direct contact with the exosystem, but it has positive and negative effects on the child through community contexts and social networks. The macrosystem includes societal and cultural influences. Finally, the chronosystem includes time, history, and policy. In the further development of the socio-ecological model and its application

to child violence, these levels are described instead as individual, relationship, community, and societal factors, with similar definitions to the first four levels of the socio-ecological model described above. The socio-ecological model can be used to conceptualize how factors and their interactions at the individual, relationship, community, and societal levels can result in interpersonal violence (World Health Organization, 2021). In applying the socio-ecological model, it is important to note that no single factor explains why some individuals are perpetrators or victims or why violence is more prevalent in some communities (Dahlberg & Krug, 2006). Socio-ecological factors may influence the type and amount of exposure to violence for children with parental migration. Such factors may also influence the adverse mental health outcomes associated with parental migration or that result from adverse childhood experiences. The role of each level of the socio-ecological model is detailed below for these outcomes. Moreover, the factors in the socio-ecological model are interrelated. For example, societal norms about the value of women and girls may be informed by the economic potential of males versus females or by religious beliefs about female fertility and purity (Lilleston, Goldmann, Verma, & McCleary-Sills, 2017). Such socio-ecological factors inform the variables included as covariates in the modeling and the interpretation of significant associations. Socio-ecological factors may be related to the independent variable, parental migration, and both of the dependent variables: violence against children and mental health outcomes.

In the socio-ecological model, the individual factors are personal characteristics, biological factors, behavior, and experiences (Centers for Disease Control and Prevention, n.d.). Factors related to the individual include sex, race, religion, attitudes, beliefs, and behavior that support violence; history of experiencing or witnessing violence; and alcohol and drug use. A meta-analysis of 94 studies of children in low and middle-income counties examined the role of

household wealth, child labor, child gender, education by adults in the household, intimate partner violence experienced by mother, rural or urban residence, and orphan status (Cerna-Turoff et al., 2021). The authors found that emotional violence against children was associated with lower household socioeconomic status, being female, and the education attainment of adults in the household. Sexual violence was associated with the child being female, and none of the factors were associated with physical violence. Consumption of alcohol is a risk factor for perpetrating and experiencing violence (Collins & Messerschmidt, 1993; C. Widom & Hiller-Sturmhöfel, 2001). Alcohol consumption in Moldova by those age 15 and older per year averages 15.1 liters per capita, the highest rate in the world (World Health Organization, 2018). Individual socio-ecological factors also play a role in mental health. Many adverse mental health outcomes differ by sex. For example, depression and anxiety are more common in females than males (Altemus, Sarvaiya, & Neill Epperson, 2014). Suicidal ideation peaks during mid-adolescence for females and slowly increases through late adolescence in males (Boeninger, Masyn, Feldman, & Conger, 2010).

Relationship factors are those that involve interaction between two or more people (Centers for Disease Control and Prevention, n.d.), such as family and peer relationships. Relationships with violent peers and/or a family environment that is not emotionally supportive, that is violent, or that is strongly patriarchal can increase the experience of violence. For example, a child witnessing intimate partner violence between parents is associated with that child experiencing relationship violence later in life (Cannon, Bonomi, Anderson, & Rivara, 2009). Exposure to multiple relationship factors, such as experiencing child maltreatment and witnessing intimate partner violence between parents, has a particularly strong effect (Dahlberg & Potter, 2001). In addition to how relationships indirectly shape the opportunities for violence,

they are also a direct source of violence for children. A pooled analysis from the VACS nationally representative household surveys on violence in Cambodia, Kenya, Tanzania, and Swaziland found that most perpetrators are people in the home or community who are known to the child (Ravi & Ahluwalia, 2017). In a study from Sierra Leone, women were more likely to identify relationship factors as a problem for mental health, while men were likely to identify societal factors (Horn, Arakelyan, Wurie, & Ager, 2021). Witnessing violence in the home, such as against siblings or between parents, can also be a relationship factor. A study using the VACS from Cambodia, Malawi and Nigeria reported that between 22.4% and 34.3% of participants had witnessed violence between their caregivers during childhood (Kieselbach, Kress, MacMillan, & Perneger, 2021). Witnessing intimate partner violence was associated with higher odds of mental distress in Cambodia for females (2.73) and males (2.38), in Malawi for females (2.48) and males (1.66), and in Nigeria for males (2.12).

Community-level factors associated with the experience of violence include tolerance for violence in the community, school, or workplace. One community-level factor related to the high degree of outmigration in Moldova is the role of mobility and community change. Research has found a negative correlation between neighborhood stability and the crimes of homicide, robbery, and aggravated assault and a positive effect of neighborhood mobility and rates of violence in low-income neighborhoods (Roth & Reiss, 1994). Family structure, including female-headed households, can also increase victimization rates (Roth & Reiss, 1994). Female-headed households are common in countries with high labor migration, such as Moldova. Mental health outcomes may be impacted by how people experience or perceive their community. A low perceived level of community safety was a strong factor predicting distress associated with bullying among California adolescents (Rhee, Lee, & Jung, 2017). Multiple factors may lead to

low perceived community safety in Moldova, including the high level of outmigration and the frequency of witnessing violence in the community. Other community factors, such as stigma, may also impact mental health. Stigma is an important factor in mental health outcomes and willingness to seek care (Kousoulis & Goldie, 2021; Reupert, 2017). A study during the COVID-19 pandemic found that higher community stigma towards health care workers resulted in adverse mental health outcomes including alcohol use disorder and posttraumatic stress disorder (Hennein, Mew, & Lowe, 2021). Addressing stigma is an important consideration for country policy response to labor migration.

Societal factors in the socio-ecological model are those that relate to an acceptance of violence or that sustain social inequality (Centers for Disease Control and Prevention, n.d.). Societal factors that may reinforce economic or social inequality include health, educational, economic, and social policies (Brome et al., 2004; Dahlberg & Krug, 2006). Lilleston et al. (2017) described how social norms can influence child violence through social sanctions, desire to win approval, and internalization of behavior. For example, social norms in a particular country or setting may amplify the commonness of child corporal punishment, intimate partner violence, or child abuse (Gilbert, Annor, & Kress, 2020; Lilleston et al., 2017; Vaughan-Eden, Holden, & LeBlanc, 2019). Economic and social policies have been shown to decrease violence (Massetti & David-Ferdon, 2016).

Paper #1: Parental Migration and Violence Against Children

There are direct and indirect pathways between parental migration and emotional, physical, and sexual violence against children. Parental migration may lead directly to abuse from the remaining parent due to the stresses that led to or resulted from migration. Disruption to

the family from migration may lead indirectly to the experience of bullying by peers, violence from intimate partners, or community violence.

Abuse by parents may be more likely in households with migrant parents due to the household composition. Single-parent families, early separation from the mother, and low involvement by the mother or father are all associated with child abuse (J. Brown, Cohen, Johnson, & Salzinger, 1998; Finkelhor & Baron, 1986; Sedlak, 1997). Single or uninvolved parents may result if one or both parents have migrated, thereby leaving the household and being less involved with the children left behind. Parental migration may occur due to economic stress. Economic stress is a risk factor for child abuse as it may manifest in child maltreatment (Steinberg, Catalano, & Dooley, 1981). A study in the United States found that single-parent homes had increased violence compared to dual-parent homes; this result was due to poverty in mother-only homes but was not related to income in father-only homes (Gelles, 1989). Household composition and economic stress are pathways through which factors in the socio-ecological model can interact.

Left-behind children may be at risk of peer bullying, depending on the setting and other contextual factors. Single-parent or no-parent children experience a greater probability and intensity of bullying victimization (Finkelhor, Turner, Hamby, & Ormrod, 2011; Fu, Land, & Lamb, 2013). Parental migration is one possible reason for such parenting arrangements. For parents who are present, parental closeness or involvement is protective against bullying victimization (Flouri & Buchanan, 2002). Bullying may take various forms, with males being more likely to experience physical violence and females being more likely to experience relational bullying (J. Wang, Iannotti, & Nansel, 2009). A study of fifth graders in China found that parental migration by one or both parents was associated with the bullying of male children

(Zhu, Liu, & Liang, 2020). Because current and previous migration were both associated with bullying, the authors speculated that bullying occurs because separation from the parent(s) may hamper the child's emotional, social, physical, and psychological development (Zhu et al., 2020). A study of rural children in China aged 10–16 found that, compared to non-migrant households, parental migration was associated with more physical assault, property crime, child maltreatment, sexual victimization, and family violence for left-behind children (M. Chen & Chan, 2016). Bullying has also been linked to child sexual abuse among Chinese left-behind children (Yan et al., 2018).

The absence of a parent may influence children's romantic relationships and dating violence experiences. The type of absence makes a difference to the timing of life-history events in females, particularly for females with absent fathers (Anderson, 2017; Shenk et al., 2013; Snopkowski & Ziker, 2020). This differentiation may indicate that single-parent households may exert different impacts that result from different contexts. Parental absence may lead to the experience of intimate partner violence or dating violence. These experiences may occur because of the protective role of the parents against perpetrators or because of the absence of the parental relationship and the consequent impact on the child's development. One study found that adolescent females aged 13–21 with uninvolved fathers were more likely to experience dating violence (Alleyne-Green, Grinnell-Davis, Clark, & Cryer-Coupet, 2015). In another study, father absence was associated with early sexual activity and adolescent pregnancy (Ellis et al., 2003).

Parental migration may also be associated with child sexual abuse. The majority of the literature directly examining this link is from China. China has one of the highest rates of labor migration in the world due to the movement of workers from rural to urban areas (International Labour Organization, n.d.). While this is internal migration within China, it nonetheless has

similar characteristics to international migration from Moldova to nearby countries. The parents may end up more than 1,000 miles away from their children in rural China. The majority of both maternal and paternal migrants are away from their families for more than one year (Guang et al., 2017). Phone calls are the primary form of communication with left-behind children, and visits home can be infrequent (Pan et al., 2013; F. Wang et al., 2019). This internal migration has created concern regarding the development and well-being of the left-behind children in this environment of high parental absence. A representative study of middle-school students was conducted in rural China to understand whether parental migration increases children's likelihood of sexual victimization in rural areas and, if so, the possible social mechanisms underlying this relationship (X. Chen, Wu, & Qu, 2021). The authors found that maternal migration and both-parent migration directly increased left-behind children's experience of sexual abuse. Paternal migration was also found to increase left-behind children's experience of sexual abuse, but indirectly, through the lack of parental monitoring and the children's exposure to general victimization. These findings illustrate the differences in the experience of violence depending on the sex of the migrating parent. They also illustrate the direct and indirect pathways through which parental migration can increase violence. The sexual abuse of left-behind children in China has been examined through the lens of ritualized law and the powerlessness of the state in rural China (C. Wang, Tang, & Liu, 2020). Left-behind children face stigma due to family separation. When sexual abuse occurs, victims and their families may remain silent because of traditional norms that give precedence to social relationships over the judicial system. In a study pooling data on female adolescents aged 15–17 years old from 13 countries in sub-Saharan Africa, paternal absence was associated with experiencing sexual violence, with the partner being the most common perpetrator (Kidman & Palermo, 2016).

Absent parents are not associated with violence in some settings or for some types of violence. A study in Malaysia found that while low-quality parent–child relationships were associated with sexual victimization, parental divorce or single parents were not (Choo, Dunne, Marret, Fleming, & Wong, 2011). An analysis of six VACS from Africa, Asia, and Latin America found that not residing with the biological father was a risk factor for sexual violence among females but not among males (Palermo et al., 2019). They also found that school enrollment was protective in some countries but increased the risk for violence in others. The authors believed that school enrollment could increase risk of violence due to perpetration by peers and teachers, although school may also be protective by providing a form of supervision. The number of household members, wealth, and urban residence were not associated with sexual violence or polyvictimization.

Community violence may be experienced after parental migration due to the disruption in parental attachment or the lack of parental monitoring. One study found that parental monitoring was a buffer against victimization among fifth- to seventh-grade students in the United States who were exposed to community violence by decreasing involvement with deviant behavior and deviant peers (Low & Espelage, 2014).

Paper #2: Parental Migration and Child Mental Health

Parental migration is associated with varied mental health outcomes compared to children from non-migrant households. There is Moldova-specific literature as well as information from other contexts on how parental migration can impact children's mental health, risky behaviors, self-harm behavior, and suicidal behavior. Parental migration represents a type of ambiguous loss for children, which is often accompanied by concrete stressors such as financial challenges (Solheim & Ballard, 2016).

Parental migration is associated with a variety of mental health outcomes. In a meta-analysis of studies from around the world, Fellmeth et al. (2018) found that left-behind children had increased risk of depression (relative risk 1.52), anxiety (relative risk 1.85), and conduct disorder (standardized mean difference 0.16). A systematic review by Antia et al. focused on the mental health and well-being of left-behind children due to labor migration globally (2020). The authors reported that mental health outcomes may be negative, neutral, or positive, depending on the age and gender of the left-behind children, gender of the migrating parent, family norms, and caregiving practice. A meta-analysis including 32 studies representing 28,629 participants from China used the Mental Health Test as the outcome, which measures learning anxiety, interpersonal anxiety, loneliness tendency, self-blame tendency, oversensitivity tendency, physical symptoms, panic tendency, and impulsive tendency (Zhao & Yu, 2016; Zhou, 1991). The authors found that left-behind children reported worse mental health measures than non-left-behind children. Furthermore, younger left-behind children in primary school and junior high school reported more mental health problems than left-behind children in high school. Left-behind children caring for themselves reported more serious mental health outcomes than children with grandparents, other relatives, or single-parent caregivers. Zhao and Yu (2016) also performed a sub-analysis of gender differences in 22 studies representing 8,634 participants. The authors found that left-behind females reported worse mental health measures than left-behind males. A study of Chinese children that used the Kessler 6 scale reported that psychological distress had a prevalence of 16.1% among left-behind children and was higher among males and primary-school-aged children compared to counterparts without parental migration (Man & Cao, 2020). Higher levels of self-esteem, academic performance, interpersonal relationships, positive

parenting, and a higher maternal level of education were protective factors for psychological distress.

Parental migration has also been associated with self-harm and suicide, although this evidence is primarily based on left-behind children from internal migration in China. A study of 1,110 children in Hunan Province reported that among children with no parental migration, the rate of self-injury was 30.7%, which was similar to that with one parent migrating (30.6%) but far less than that with both parents migrating, which reached 43.6% (Y. Wang, Zhang, & Chen, 2019). A study of 2,898 left-behind children in Yunnan Province with one or both parents having migrated reported a self-harm prevalence of 48.8%, with this figure increasing with lower levels of resilience (Tian et al., 2019). Parental separation, in general, is a risk factor for suicidal behavior in adolescents (Hawton, Saunders, & O'Connor, 2012). Parental migration specifically is a risk factor for suicidal behavior. A meta-analysis of left-behind children in China found that suicidal ideation was increased compared to non-left-behind children, with an odds ratio of 1.26, while differences by suicidal plan and suicidal attempt were not statistically significant (Qu et al., 2021). A global meta-analysis found that suicidal ideation was increased in left-behind children (relative risk 1.7) (Fellmeth et al., 2018).

A nationally representative household study of 1979 children in Moldova compared left-behind children to counterparts without parental migration (Vanore et al., 2015). They reported that parental migration was not associated with adverse psychosocial outcomes for female children. Among males, paternal migration led to an 11% higher probability of an abnormal conduct problems score ($p < 0.01$) (Vanore et al., 2015). A qualitative study of children in detention in Moldova reported that some children view parental migration as a form of

abandonment (Sulima, 2019). Other children reported that the separation from a parent who was abusive was a positive development.

Adverse Outcomes in Children and Youth in Moldova and Post-Soviet Countries

There is limited data on the prevalence of adverse outcomes in Moldova and Post-Soviet countries, including violence against children and mental health in children and youth in much of the world. An estimated 55 million children experience child maltreatment annually in the WHO European Region (Sethi et al., 2018), yet only a few studies have documented the prevalence of adverse childhood experiences and the mental health status of children and youth in Moldova and the European region.

Although a few studies have provided data on the prevalence of violence against children in Moldova, none have examined the relationship between parental migration and violence against children. A series of surveys regarding adverse childhood experiences have been conducted in European countries. In Moldova, a cross-sectional, retrospective self-report study was conducted in 14 higher education institutions (Leșco et al., 2018). A total of 1,534 respondents aged 18–27 were asked about their experiences before age 18 as well as about their current status and habits. This study found that 59.6% of respondents had had one or more adverse childhood experiences, and 12.5% reported four or more. The most common types of adverse childhood experiences were corporal punishment (20.2%), which is a form of physical abuse, and emotional abuse (15.1%) and emotional neglect (13%), which are forms of emotional abuse. The number of adverse childhood experiences was positively associated with depression, self-reported alcoholism, illicit drug use, panic, sleep problems, and anxiety. A study of children aged 10–14 included 246 children in Moldova. In Moldova, 40% of children reported some form of abuse, and one-third reported emotional (32%) and physical abuse (30%) (Sebre et al., 2004).

Among the four countries included in the survey, the prevalence of physical abuse was highest in Moldova. The number of registered cases of sexual abuse against children in Moldova increased from 218 in 2014 to 332 in 2015 (Arends et al., 2017). Nonetheless, this number is likely an underestimate as it only includes reports to the police.

The mental health of children and youth in Moldova has been captured in a few studies. In a study of 1,979 children aged 4–14, including 76.2% without parental migration, abnormal scores for emotional problems were between 10.8% and 13.9% for males and between 13.5% and 20.5% for females, with the highest scores from those children with both parents abroad (Vanore et al., 2015). A study using medical facility data in Moldova in 2006 estimated a prevalence of mental and behavioral disorders among young people under age 18 of 602.86 per 100,000 (Calmic et al., 2007). There is very limited data on the risk factors for adverse mental health outcomes in Moldova.

Conclusion

Migration is an important component of the public health and policy context in Moldova. There is significant international migration from Moldova resulting in separation of family members. Parental migration is known to be associated with adverse outcomes in children related to the separation from children during an important period of development. Violence against children has serious and life-long consequences and is a global public health priority. Adverse mental health outcomes are a significant source of morbidity and mortality that may result from parental migration or the associated outcomes, such as childhood violence. There are research gaps on the outcomes associated with parental migration in Moldova, particularly for the experience of violence during childhood.

CHAPTER THREE

ASSOCIATION OF PARENTAL MIGRATION AND VIOLENCE AGAINST CHILREN IN MOLDOVA: A SOCIO-ECOLOGICAL ANALYSIS

Introduction

Since the collapse of the Soviet Union, the post-Soviet states have experienced significant economic disruption and migration. Government policy facilitates and encourages labor migration. Moldova participates in a variety of agreements, including the Budapest Process, Sederkoping Process, Process of Cooperation in the South-Eastern Europe, and the Central-European Initiative, that facilitate international migration. Remittances are an important source of income to individual families and the economy in Moldova, representing more than 16% of gross domestic product (Arends et al., 2017; Cuc et al., 2006). An assessment from UN Women (2015) reported that women were 34% of migrants, male migrants tended to be younger than female migrants, and female migrants tended to be more highly educated, and to work for longer periods in more formal sectors of the economy with a defined contract. In contrast, males are more often employed in short-term, seasonal labor. An article by Vanore and Siegel (2015) explored the gender dynamics of migration from Moldova and Georgia. They found a similar pattern to the previous report in Moldova, with migrant females being younger than non-migrant females. Migrants were also more educated than non-migrants, and female migrants were more educated than male migrants (Vanore & Siegel, 2015). Parental migration may pose both benefits and drawbacks for left-behind children. Labor migration can lead to increased access to resources for the left-behind family members, such as through remittances. Parental migration

may also lead to decreased support to the child from the absent parent or the child's decreased attachment to the parent. Parental migration may exert important impacts on childhood health and development, including the experience of violence.

Moldova Background

Moldova is located in Eastern Europe and bordered by Romania and Ukraine. Two-thirds of the country are ethnic Moldovan, followed by Romanian and Ukrainian. Orthodox Christianity is the most common religion. Moldova is a middle-income country, with a gross domestic product of $13,050 per capita and 7.3% of the population lives below the international poverty line (Central Intelligence Agency, 2021). The country has a decreasing population, migration to nearby countries, relatively low life expectancy and fertility rate for Europe. Life expectancy at birth is 76.3 for females and 68.3 years for males, and the total fertility rate is 1.58 children born per woman (Central Intelligence Agency, 2021).

Violence Against Children in Moldova

There is limited data on the prevalence of violence against children in Moldova. A cross-sectional, retrospective self-report study was conducted in 14 higher education institutions (Leșco et al., 2018). A total of 1,534 respondents aged 18–27 were asked about adverse childhood experiences before age 18. They found that 59.6% of respondents had had one or more adverse childhood experiences. The most common types of adverse childhood experiences were corporal punishment (20.2%), emotional abuse (15.1%), and emotional neglect (13%). A multinational survey of emotional and physical abuse experiences of primary school students aged 10–14 included 246 children in Moldova (Sebre et al., 2004), where 40% of children reported having experienced some form of abuse, and one-third reported experiencing emotional (32%) or physical abuse (30%).

Literature Review

Impact of Violence Against Children

Childhood violence, a form of adverse childhood experience, exerts important impacts on childhood development and health throughout the child's lifetime. Such impacts can occur via two potential pathways. Childhood experiences can result in accumulating damage over time, or adverse experiences can be biologically embedded during important developmental periods (Shonkoff et al., 2009). Stress, which can occur from violence in childhood, can disrupt the developing brain and adversely affect the development of other organ systems (Shonkoff et al., 2012). A greater number of adverse childhood experiences has been found to be associated with an increased risk of depressed affect, suicidal thoughts or attempts, alcoholism, and other long-term psychosocial outcomes (Dube et al., 2003; S. D. Hillis et al., 2004; Nguyen, Kegler, et al., 2019).

Emotional violence primarily results in adverse mental health outcomes. A systematic review and meta-analysis found that emotional violence was associated with depressive disorders, anxiety disorders, drug use, suicide attempts, and risky sexual behavior (Norman et al., 2012). Exposure to childhood physical abuse is associated with worse educational achievement outcomes (Boden et al., 2007). Physical violence is associated with depressive disorders, anxiety disorders, drug use, suicide attempts, and risky sexual behavior (Lindert et al., 2014; Norman et al., 2012). Childhood sexual abuse is associated with many short- and long-term health impacts. Beitchman et al. found in a review article that, in the short term, adolescents who experienced sexual abuse experience impacts on their sexuality, depression and suicidal ideation, and an increased risk for revictimization (1991). Sexual violence against female children resulted in higher odds of depression (Reza et al., 2009).

Exposure to violence in childhood is associated with both victimization and perpetration of violence in adulthood. A meta-analysis of 142 studies found a modest association of intergenerational child maltreatment in general and evidence for intergenerational physical abuse, emotional abuse, and sexual abuse specifically (Madigan et al., 2019). Adults who experienced child maltreatment have increased odds of perpetration of violence against children and adult intimate partners (Godbout et al., 2017; Whitaker et al., 2008).

Socio-ecological Factors Associated with Violence

The socio-ecological model can be used to conceptualize how individual, relationship, community, societal levels factors, and their interactions can result in interpersonal violence (World Health Organization, 2021). Bronfenbrenner formalized the socio-ecological theory since the 1980s (Bronfenbrenner, 1989, 1999). In the modeling of associations between parental migration and outcomes of interest in this study, socio-ecological factors were included as covariates. These variables may help to explain what leads to violence in the homes and communities in which migration is happening in Moldova.

In the socio-ecological model, individual factors are personal characteristics, biological factors, behavior, and experiences (National Center for Injury Prevention and Control, n.d.). Factors related to the individual include sex, race, religion, attitudes, beliefs, and behavior that supports violence; a history of experiencing or witnessing violence; and alcohol and drug use. Individual factors that may be associated with violence include sex, socioeconomic status, and consumption of alcohol (Cerna-Turoff et al., 2021; Collins & Messerschmidt, 1993; C. Widom & Hiller-Sturmhöfel, 2001).

Relationship factors are those that involve the interaction between two or more people, such as family and peer relationships (National Center for Injury Prevention and Control, n.d.).

Relationships with violent peers and a family environment that is not emotionally supportive, that is violent, or that is patriarchal can increase the experience of violence (Cannon et al., 2009; Schreck & Fisher, 2004). Exposure to multiple relationship factors, such as experiencing child maltreatment and witnessing violence between parents, has a particularly strong effect (Dahlberg & Potter, 2001).

Community-level factors are associated with the experience of violence, including tolerance for violence in the community, and the setting of violence, such as the school and workplace. One community-level factor related to the high degree of outmigration in Moldova is the role of mobility and community change. Research has found a negative correlation between neighborhood stability and the crimes of homicide, robbery, and aggravated assault and a positive effect of neighborhood mobility and rates of violence in low-income neighborhoods (Roth & Reiss, 1994). Family structure, including the female-headed households that could result from paternal migration, can also impact victimization rates (Roth & Reiss, 1994).

Societal factors in the socio-ecological model are those that relate to an acceptance of violence or that sustain social inequality (Centers for Disease Control and Prevention, n.d.). Societal factors that may reinforce economic or social inequality include health, educational, economic, and social policies (Brome et al., 2004; Dahlberg & Krug, 2006; Gilbert et al., 2020; Lilleston et al., 2017; Vaughan-Eden et al., 2019). Economic and social policies that protect children's rights have been shown to decrease violence (Massetti & David-Ferdon, 2016).

Migration and Violence Against Children

Parental migration may be related to the experience of childhood violence. There are direct and indirect pathways between parental migration and emotional, physical, and sexual violence against children. Parental migration may lead directly to child abuse, as the remaining

parent may suffer from the stresses that led to or have resulted from migration (Gelles, 1989; Ammerman & Patz, 1996). Single-parent families, early separation from the mother, and low involvement by the mother or father are all associated with child abuse (J. Brown et al., 1998; Finkelhor & Baron, 1986; Sedlak, 1997). Parental migration may occur due to financial stress, a potential risk factor for child abuse (Steinberg et al., 1981).

Left-behind children may also be at risk for peer violence, depending on the setting and other contextual factors. Single-parent or no-parent children experience a greater probability and intensity of bullying victimization (Finkelhor et al., 2011; Fu et al., 2013). For parents who are present, closeness or involvement is protective against bullying victimization (Flouri & Buchanan, 2002). Bullying may take various forms, with males being more likely to experience physical violence and females being more likely to experience relational bullying (J. Wang et al., 2009). A study of rural children in China aged 10–16 found that parental migration was associated with more physical assault, property crime, child maltreatment, sexual victimization, and family violence than children without parental migration (M. Chen & Chan, 2016).

The absence of a parent may influence children's future romantic relationships and dating violence experiences, particularly for females with absent fathers. The type of absence makes a difference to the timing of life-history events in females (Anderson, 2017; Shenk et al., 2013; Snopkowski & Ziker, 2020). Intimate partner violence, dating violence, or sexual abuse may occur because of the loss of the parents' protective role against perpetrators or because of the absence of the parental relationship. One study found that adolescent females aged 13–21 with uninvolved fathers were more likely to experience dating violence (Alleyne-Green et al., 2015).

Parental migration may also be associated with child sexual abuse. The majority of the literature directly examining this link is from China. A representative study of middle school

students was conducted in rural China to understand whether parental migration increased children's likelihood of sexual victimization in rural areas and, if so, the possible social mechanisms underlying this relationship (X. Chen et al., 2021). The authors found that maternal migration and both-parent migration directly increased left-behind children's likelihood of experiencing sexual abuse. In a study pooling data on female adolescents aged 15–17 years old from 13 countries in sub-Saharan Africa, paternal absence was associated with experiencing sexual violence, with the partner being the most common perpetrator (Kidman & Palermo, 2016). An analysis of six Violence Against Children and Youth Surveys (VACS) from Africa, Asia, and Latin America found that not residing with the biological father was a risk factor for sexual violence among females but not among males (Palermo et al., 2019).

Community violence may be experienced after parental migration due to the disruption in parental attachment or the lack of parental monitoring. One study found that parental monitoring was a buffer against victimization among fifth- to seventh-grade students in the United States who were exposed to community violence by decreasing involvement with deviant behavior and deviant peers (Low & Espelage, 2014).

This analysis was conducted to investigate the associations between parental migration and violence against children. In Moldova, no representative studies have been conducted to explore the association between parental migration and violence against children and youth.

Methods

Data from the Republic of Moldova Violence Against Children and Youth (VACS) Survey, 2019 was used for this analysis. Details of the VACS methods have been previously reported (Nguyen, Kress, et al., 2019). The 2019 Moldova VACS was a household survey of males and females aged 13–24 to produce nationally representative data on different types of

childhood violence and its contexts, risk and protective factors, and health consequences (International Organization for Migration et al., 2020).

The survey sample was stratified by sex with separate samples drawn for males and females based on required sample size and expected response rates. The Republic of Moldova VACS used the 2014 census and data from the 2016 elections as the sample frame to obtain a nationally representative sample. The survey used cluster sampling design with four stages. The sample was based on 93 localities selected from the 897 localities in the sample frame, with 64 female primary sampling units and 64 male primary sampling in the second stage. In the third stage, 25 eligible households were randomly selected among each primary sampling unit from a list of all eligible households. A household was eligible if it included at least one 13–24-year-old. During fieldwork, there was a lower-than-anticipated number of completed interviews, due mostly to lower-than-anticipated household response rates, particularly in urban areas. To adapt to the low household response rates, the cluster size was increased to 50 households in the urban primary sampling units, and an additional 30 female primary sampling units and 30 male primary sampling units were added to the sample. The additional primary sampling units were randomly selected within the 93 localities selected during the first stage of the sample. In the fourth stage, one eligible 13–24-year-old participant was selected from each household. Weighting details can be found in Nguyen et al (2019).

In the female sample, 1,226 households were surveyed, and 1,021 females completed the participant questionnaire. The female household response rate was 56.8%, and the individual response rate was 83.4%, for an overall response rate of 47.3%. In the male sample, 1,197 households were surveyed, with 978 males completing the participant questionnaire. The male

household response rate was 55.6%, and the individual response rate was 81.7%, for an overall response rate of 45.5%.

Ethical Approval

The CDC Institutional Review Board and a group of experts from the Republic of Moldova approved the 2019 Moldova VACS study protocol. The head of household provided consent for the head-of-household questionnaire and the participation of household members in the survey. The respondents provided assent or consent to the female and male questionnaire, depending on whether they were a minor or adult. Safety measures for privacy and a response plan were in place. The University of Georgia Institutional Review Board approved this secondary analysis of the dataset (ID: PROJECT00003757).

Variables

Independent Variables

Analysis was conducted for three independent variables. The first analysis considered the migration of either the mother or father, but not both, before the child turned 18. The second analysis considered the migration of the mother before the child turned 18 as the independent variable. The third analysis considered the migration of the father before the child turned 18 as the independent variable.. Migration by both parents was considered, but there were insufficient study participants in this category for analysis. In all cases, international parental migration was based on questions that asked if the biological mother or father had been separated for six months or more starting before the child turned 18, if this separation was ongoing, and if the separated parent was in another country. Responses of Yes to all questions indicated parental migration. Due to survey skip patterns, parental separation due to international migration was

known only if it was currently occurring but not if a period of separation had occurred but the parent had returned to the household by the time of the survey.

Dependent Variables

The analysis considered three outcome variables of violence in childhood (before age 18). Childhood emotional violence was defined as the child being told by a parent, adult caregiver, or other adult relative that they were unloved or did not deserve to be loved, being told that someone wished they were dead or had never been born, or being ridiculed, put down, or insulted by a parent, adult caregiver, or other adult relative. Childhood physical violence was defined as slapping, pushing, shoving, having something intentionally thrown at them to hurt, punching, kicking, whipping, beating with an object, choking, suffocating, attempting to drown or burn intentionally, or using or being threatened with a knife, gun or other weapon by a partner, peer, parent, adult caregiver, other adult relatives, or adult in the community. Childhood sexual violence was defined as unwanted sexual touching, unwanted attempted sex, physically forced sex, and pressured sex (through harassment or threats) by any perpetrator.

Covariates

The analysis was adjusted for demographic and socio-ecological variables (Table 3.1). The demographic variables were age, working in the previous year, food insecurity, and disability. The socio-ecological covariates were attitude toward gender and attitude toward physical abuse at the individual level; friendships, attitude toward mother, attitude toward father, witnessing parent violence, and witnessing sibling violence at the relationship level; and being taught about anger and violence, community fears, community safety, and attacks in the community at the community level. Level of education was considered as a demographic

covariate but excluded because persons aged 13–17 would not be expected to have finished secondary education, and education was not associated with violence in the older age cohort.

Statistical Analysis

The analysis was conducted with SAS (version 9.4), accounting for the complex survey design (the survey weight, strata, and cluster) of the 2019 Moldova VACS. Sample weights were created and applied to each individual record to adjust for the probability of selection, differential nonresponse, and calibration to the census population. Unweighted counts representing the number of responses and weighted population percentages are reported. The male and female samples were analyzed separately due to the association between sex and the types of violence experienced. The 13–17 and 18–24 age groups were combined to increase power. Both age groups provided data on the experience of violence before age 18. Differences were compared with a chi square test. The threshold for significance was at the $p < 0.05$ level. Multivariate logistic regression analysis was conducted to generate odds ratios, 95% confidence intervals, and p-values for the relationship between parental migration and each violence category. Odds ratios were adjusted in models 2 and 3 as described below.

A hierarchical regression technique was used for model building. Successive logistic regression models, each adding more predictors, were performed. Three models were performed: Model 1 concerned the unadjusted relationship between parental migration and each violence type, model 2 adjusted for demographic variables often associated with childhood violence described above, and model 3 adjusted for covariates in model 2 as well as covariates related to violence in the socio-ecological model described above. For the third model, backward selection was used to identify significant contributing covariates to the relationship between parental migration and the experience of violence. Backward selection started with all predictors in the

model and removed the least contributive predictors one by one. The model includes all predictors that were statistically significant at the $p < 0.05$ level.

Results

Table 3.2 compares sample counts and weighted population percentages for females and males by parental migration status. Based on the complex survey design, the female survey participants represent a population of 253,703 persons, and the male survey participants represent a population of 254,028 persons. These estimates are consistent with Moldova's census data for the population aged 13–24 (United Nations, Department of Economic and Social Affairs, 2015). In the female sample, 10.4% had maternal migration and 15.7% had paternal migration, and in the male sample, 13.3% had maternal migration and 12.6% had paternal migration. The most frequent reasons for maternal migration were for work (85.0%) and remarrying (4.6%) and for paternal migration were for work (68.1%) and getting divorced/separated (14.1%).

The three types of violence were explored with bivariate and multivariate analysis. The first section presents bivariate relationships that demonstrate the association between predictor variables (parental migration types) and prevalence of outcomes (emotional, physical, sexual violence). The second section shows odds ratios resulting from the multivariate analysis of predictor variables and outcomes with adjustment for covariates.

Bivariate Relationships

The bivariate relationships test the hypotheses that types of parental migration are significantly associated with children experiencing violence. Bivariate analysis was conducted to investigate the existence of significant associations between the predictor variables and the outcomes. Covariates were also tested for association with parental migration.

Single Parent Migration

The bivariate relationships for migration by one parent are included in Table 3.3. Among females, single parent migration was associated with receiving remittances ($p < 0.001$) and less closeness with mother ($p = 0.006$). Among males, single parent migration was associated with receiving remittances ($p < 0.001$) and less closeness with mother ($p < 0.001$) and father ($p = 0.004$).

The prevalence of violence types by single-parent migration are included in Table 3.4. Single-parent migration was associated with females experiencing physical violence (35.8% vs. 19.9%, $p < 0.001$). Single-parent migration was associated with males experiencing physical violence (41.0% vs. 29.4%, $p = 0.006$).

Maternal Migration

The bivariate relationships for maternal migration and covariates are included in Table 3.3. Among females, maternal migration was associated with having been drunk ($p < 0.001$), receiving remittances ($p < 0.001$), less closeness with mother ($p = 0.008$) and father ($p = 0.007$), and witnessing violence in the home (0.037). Among males, maternal migration was associated with receiving remittances ($p < 0.001$) and less closeness with mother ($p < 0.001$). The prevalence of violence types by maternal migration are included in Table 3.3. Physical violence was the most common type of violence experienced with maternal migration by females (with migration, 23.4%; without migration, 22.7%) and males (with migration, 40.8%; without migration, 32.2%). These differences were not statistically significant. Maternal migration was associated with females experiencing emotional violence (13.8% vs. 6.7%, $p = 0.040$). Males did not have any significant relationships between maternal migration and violence.

Paternal Migration

The bivariate relationships for paternal migration are included in Table 3.3. Among females, paternal migration was associated with receiving remittances ($p < 0.001$). Among males, paternal migration was associated with receiving remittances ($p < 0.001$) and less closeness with mother ($p = 0.016$) and father ($p < 0.001$).

The prevalence of violence types by paternal migration are included in Table 3.3. Physical violence was the most common type of violence experienced with paternal migration by females (with migration, 28.1%; without migration, 21.1%) and males (with migration, 47.1%; without migration, 30.5%; $p = 0.005$). Females did not have any significant relationships between paternal migration and violence. Paternal migration was associated with males experiencing emotional violence (12.4% vs. 5.4%, $p = 0.019$).

Multivariate Relationships

The multivariate relationships test the hypotheses that types of parental migration are significantly associated with children experiencing violence after controlling for relevant covariates. Table 3.4 provides the results from logistic regression of three models; model 1 presented the unadjusted odds ratio (OR) for each type of violence and parental migration, model 2 incorporated the adjusted odds ratio (AOR) including demographic covariates, and model 3 included the adjusted odds ratio after backwards selection for significant demographic and socio-ecological covariates.

Model 1

Model 1 is the unadjusted odds ratio for the association between parental migration and violence against children. With either the mother or father having migrated, in females, the association with emotional violence (1 OR 2.1) and physical violence (OR 2.2) was significant

and in males, physical violence in model 1 was significant (OR 1.7). With maternal migration, the association with emotional violence was significant for females for model 1 (OR 2.2). With paternal migration, emotional violence (OR 2.5) and physical violence (OR 2.0) was significant for males.

Model 2

Model 2 is the odds ratio for the association between parental migration and violence against children, adjusting for socio-demographic variables. With maternal migration, the association with emotional violence was significant for females (AOR 3.3). For males, paternal migration was associated with physical violence (AOR 2.1).

Model 3

Model 2 is the odds ratio for the association between parental migration and violence against children, adjusting for socio-demographic variables and socio-ecological covariates after backward selection. In females, either the mother or father having migrated, was associated with physical violence (OR 1.8), and paternal migration was associated with physical violence females (AOR 2.0).

The variables that appeared most frequently in model 3 after backwards selection were witnessing an attack in the community, witnessing violence at home, and closeness with biological mother was included in eight models .

Discussion

Violence against children is common in Moldova. Childhood physical violence was the most common type of violence, occurring in more than 20% of females and more than 30% of males, followed by emotional violence. Such findings are consistent with the study of adverse childhood experiences in Moldova university students (Leșco et al., 2018). Overall, there were a

few significant associations between parental migration and childhood violence. Such findings are consistent with the literature for parental migration, which has shown that impacts are not always negative but may be neutral or positive, depending on the outcome and context. There were no cases where parental migration was associated with a lower prevalence of experiencing violence. While parental migration was associated with receiving remittances, this may not have been sufficient to prevent adverse outcomes such as childhood violence.

Migration

There are few differences between children with and without maternal migration. In both female and male children, this migration results in less closeness with their mother, which would reflect a relationship factor in the socio-ecological model. Maternal migration is associated with increased prevalence of emotional violence among girls. Similarly, there are few differences between children with and without paternal migration. While there was no difference in closeness with their father, again, both females and males were less close with their mother with paternal migration. Three models have a significant association between paternal migration and violence, more than occurred with maternal migration. This finding is consistent with that from Vanore et al. (Vanore et al., 2015) that paternal migration exerted greater impacts than maternal migration, although their study measured mental health outcomes rather than violence. Single-parent migration, which may represent the absence of either the mother or the father, was associated with physical violence in both girls and boys but not with other types of violence.

Socio-ecological Factors

The socio-ecological factors that appeared most frequently in models after backward selection were witnessing an attack in the community, witnessing violence at home, and closeness with mother. The presence of two socio-ecological factors representing having

witnessed violence may have two explanations. First, these factors may indicate that children live in a violent home and/or community, which also results in their own experience of violence. Second, these factors may also indicate the importance of community-level factors in fostering the experience of violence. While there are many efforts to support children in Moldova, including education and health care, it is also the poorest country in Europe and experiences significant societal disruption due to outmigration. In such a setting, systems aimed at protecting children from violence may lack capacity, and social cohesion may be low. Witnessing violence in the community, which is relatively common in Moldova, may result in community-level factors that are unable to prevent violence against children.

The child's closeness with his/her mother represents an important relationship factor in the socio-ecological model. For example, the mother's knowledge of her child's whereabouts during childhood is associated with a decreased risk of the child later experiencing dating violence (East & Hokoda, 2015). The child's closeness to his/her father was not significant in model 3 for any of the parental migration and child violence categories.

In two cases, migration was significantly associated with a type of violence after controlling for demographic factors (model 2) but not after controlling for demographic and socio-ecological factors (model 3). This difference may indicate the potential mediation or moderating effect of socio-ecological factors in experiencing childhood violence. For example, the relevant aspect of parental migration for certain outcomes may be also measured by relationship or community socio-ecological factors. Also, households that have migration by family members may differ in ways captured by socio-ecological variables or in ways not measured in this survey. There may also have been insufficient sample size to capture associations with parental migration, as this was a relatively rare event.

Limitations

There are important limitations in this study to consider. The sample size may not have been sufficient to detect true differences in the population. While migration is relatively common in Moldova, experiencing violence is uncommon for all but physical violence. That element may make models 2 and 3 underpowered to detect the relationship between migration and violence.

A second limitation was the use of cross-sectional data to measure predictors and outcomes that may not be associated in the assumed temporal or causal direction. The violence outcomes may have occurred before the parental migration. The covariates may have had different values at the time of parental migration or when violence was experienced. The relationship between violence and parental migration may also capture the changes in households that are planning to migrate or experiencing economic stress that leads to migration. For covariates, there is an assumption that measures at the time of the survey will represent the child's lifetime, as we do not have data on some items from earlier in the life.

Another limitation is the potential for types of bias. Underreporting is more likely than overreporting for violence, the outcome variables (Schwartz, 2000). Therefore, the prevalence is likely to be an underestimate. The aims of this study were not known by participants so there is unlikely to be differential reporting of violence based on parental migration. The age range of the VACS minimizes the chance of recall bias as the older respondents are age 24. The study outcomes were ever experiencing violence before age 18. As study participants were aged 13–24, some younger persons may not have experienced violence at the time of the study but may have this experience before reaching age 18. If there were systematic differences between study participants who experienced violence at a younger versus older age, this could bias the results.

Parental migration status was only known at the time of the survey. There could have been parents who migrated but had returned to Moldova when the survey took place. In this situation they would be reported as non-migrant households, although the left behind children would have had the experience of parental migration.

Finally, the caregiver arrangements for left-behind children were not captured in the survey. The caregiver may be the left-behind parent, but it also may be another relative or an unrelated caregiver. This unknown element may impact how the parental migration effects the child (Vanore et al., 2015). The majority of caregiver arrangements are either father abroad with the mother as caregiver or vice versa (Cebotari et al., 2018).

Conclusion

Physical violence is common in Moldova and is associated with paternal migration for males. Maternal migration is associated with emotional violence for females. Interventions and should be based on these sex differences in how violence against children occurs in Moldova and the importance of the sex of the migration parent in violence types. Further research is needed on the association between parental migration and violence against children. Longitudinal studies could be used to establish the causal links.

Tables

Table 3.1

Demographic and Socio-Ecological Variables Included in Modeling

Variable	Definition	Coding	Relationship
Demographic adjustment covariates			
Age	Age at the time of the survey	Numeric	With increasing age there is increasing opportunity to experience violence.
Level of education	Grade completed or attending at the time of the survey	Dichotomized -Completed secondary or less -Completed more than secondary	Education represents socioeconomic status (SES). Generally, lower socioeconomic status is associated with high polyvictimization (Finkelhor, Ormrod, & Turner, 2007). The Nigeria VACS found that high SES (and education level) was associated with sexual, emotional, and physical violence (Miller, Chiang, & Hollis, 2018).
Working in the previous year	Any time during the past 12 months engaged in any work as an employee, or self-employed individual	Yes/No	Working represents SES, and lower SES is associated with high polyvictimization (all types of violence) (Finkelhor et al., 2007).

Food insecurity	Think the household has enough money for food	Yes/No	Food insecurity represents SES, and lower SES is associated with high polyvictimization (Finkelhor et al., 2007).
Disability	Having deafness or serious difficulty hearing; blindness or serious difficulty seeing, even when wearing glasses; or serious difficulty concentrating, remembering, or making decisions because of a physical, mental, or emotional condition	Yes/No	Disability is associated with child abuse and sexual violence in adults (Basile, Breiding, & Smith, 2016; Stalker & McArthur, 2012).
Drunk	Having been drunk in the last 30 days (four or more drinks in a row)	Yes/No	Drinking is associated with experiencing violence (Collins & Messerschmidt, 1993; C. Widom & Hiller-Sturmhöfel, 2001).
Remittances	Received money or goods from other countries in the last three years	Yes/No	Remittances can increase SES. Remittances are associated with decreased violence (Hassan & Faria, 2015).
Socio-ecological covariates			
Attitude toward gender	Answered yes to one or more of the following; Only men, not women, should decide when to have sex? If someone insults a boy or man, he should	Yes/No	Inequitable gender norms associated with IPV (Gilbert et al., 2020; Heise & Kotsadam, 2015).

	defend his reputation with force if he needs to? There are times when a woman should be beaten? Women who carry condoms have sex with a lot of men? A woman should tolerate violence to keep her family together?		
Attitude toward physical abuse	Answered yes to one or more following; In your opinion, is a husband justified in hitting or beating his wife in the following situations: If she goes out without telling him? If she neglects the children? If she argues with him? If she refuses to have sex with him? If she burns the food?	Yes/No	Attitude toward physical abuse associated with IPV (Schuster & Tomaszewska, 2021).
Friendships	How much they talk to friends about important things: a lot, some, not very much, not at all	Dichotomized - A lot, some - Not very much, not at all	Low friendship quality related to victimization (Bollmer, Milich, Harris, & Maras, 2005).
Attitude toward mother	How close do/did you feel to your biological mother?	Dichotomized - Very close, close -Not close, no relationship	Close parent relationship decreases violence (Smith, Flay, Bell, & Weissberg, 2001), increases well-being (Amato, 1994).
Attitude toward father	How close do/did you feel to your biological father?	Dichotomized - Very close, close	Close parent relationship decreases violence

		-Not close, no relationship	(Smith et al., 2001), increases well-being (Amato, 1994).
Witnessing violence in the home	Saw or heard mother or stepmother being hit, punched, kicked or beaten by father or stepfather or saw or heard sibling hit, punched, kicked or beaten by parent	Yes/No	Witnessing IPV associated with violence (Cannon et al., 2009; Kieselbach et al., 2021).
Being taught about anger, violence, and mockery	Taught in any classes (one or more) about managing anger, avoiding fights, and defending against mockery	Yes/No	Teaching practices reduce peer violence (Valdés-Cuervo, Martínez-Ferrer, & Carlos-Martínez, 2018), victimization (Hoglund, Hosan, & Leadbeater, 2012).
Community fears	Ever miss school or not leave your home because of fear of violence in the community?	Yes/No	The socio-ecological model predicts seeing violence in the community would be a risk factor for violence. College students with less sense of community are more likely to have experienced sexual assault (Herres, Wang, Bobchin, & Draper, 2018).
Attacks in the community	Outside of your home and family environment, ever seen anyone get attacked	Yes/No	The socio-ecological model predicts that seeing violence in the community would be a risk factor for violence.

Table 3.2

Demographic Indicators and Maternal or Paternal Migration for 6 or More Months Among 13–24-Year-Olds - Moldova, Violence Against Children Survey (VACS), 2019

	Female					**Male**				
	Parent migrated		**Parent did not migrate**			**Parent migrated**		**Parent did not migrate**		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
One parent migrated Educational attainment or current level of schooling										
-Completed secondary or less	30	71.8 (52.8-90.8)	506	75.9 (69.6-82.2)	0.82	22	68.5 (47.3-89.7)	581	86.8 (83.6-90.0)	0.12
-Completed more than secondary	26	21.9 (13.7-30.0)	144	24.1 (17.8-30.4)	0.82	18	16.7 (6.5-27.0)	81	13.2 (10.0-16.4)	0.12
Worked in last year	34	27.7 (18.8-36.5)	180	30.0 (24.1-35.9)	0.29	54	38.4 (25.2-51.5)	255	38.7 (33.0-44.4)	0.56
Food insecurity	14	8.8 (2.5-15.1)	78	11.4 (6.9-16.0)	0.51	11	8.8 (2.3-15.3)	48	6.7 (3.5-9.9)	0.79
Any functional disability	34	21.8 (14.0-29.6)	156	23.3 (17.5-29.1)	0.55	23	11.4 (4.7-18.2)	113	18.5 (13.8-23.2)	0.35
Drunk in the last 30 days	19	19.5 (9.2-29.8)	71	10.8 (7.3-14.2)	0.16	36	22.3 (12.3-32.3)	152	26.6 (21.2-31.9)	0.38
Received remittances	67	51.4 (40.6-62.2)	150	**25.9 (20.4-31.4)**	**< 0.001**	80	62.4 (50.4-74.4)	139	22.8 (18.8-26.8)	**< 0.001**
Endorsement of one or more beliefs about gender, sexual practices, and intimate partner violence	18	11.9 (4.9-19.0)	74	8.7 (5.8-11.7)	0.50	24	14.3 (6.9-21.7)	77	11.5 (7.9-15.1)	0.23

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
Attitudes about the acceptance of domestic violence	46	35.5 (23.9-47.2)	177	26.0 (21.8-30.2)	0.20	67	43.8 (35.0-52.7)	296	45.3 (39.7-51.0)	0.96
Talk to friends about important things	89	65.5 (55.5-75.5)	418	65.5 (60.2-70.8)	0.16	92	66.0 (57.4-74.7)	437	66.4 (61.1-71.7)	0.15
Closeness to mother	121	86.2 (77.3-95.0)	612	95.1 (92.7-97.5)	**0.006**	129	87.8 (80.3-95.2)	636	97.1 (95.4-98.9)	< **0.001**
Closeness to father	87	76.7 (69.2-84.1)	540	86.0 (82.4-89.7)	0.14	107	84.5 (77.3-91.8)	598	92.7 (90.1-95.3)	**0.003**
Witnessing violence in home	39	34.1 (25.5-42.7)	185	31.3 (23.9-38.7)	0.70	33	23.5 (12.7-34.2)	130	24.1 (18.7-29.5)	0.54
Taught in any classes (one or more) about managing anger, avoiding fights, and defending against mockery	90	78.5 (66.0-91.0)	410	81.0 (76.3-85.6)	0.79	88	77.4 (68.0-86.8)	414	80.7 (74.7-86.8)	0.77
Ever miss school or not leave home because of fear of violence in the community	4	2.2 (0.0-4.9)	22	4.0 (1.8-6.2)	-	1	0.2 (0.0-0.5)	12	2.2 (0.7-3.6)	**0.007**
Ever seen anyone get attacked outside of the home	84	68.6 (58.4-78.9)	316	51.6 (43.5-59.8)	0.53	84	59.4 (48.8-70.0)	387	65.6 (59.0-72.1)	0.99
Mother migrated										
Educational attainment or current level of schooling										
-Completed secondary or less	90	74.9 (62.6-87.2)	670	77.1 (71.6-82.7)	0.73	96	80.4 (70.2-90.6)	722	87.0 (84.4-89.6)	0.12

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
-Completed more than secondary	21	25.1 (12.8-37.4)	181	22.9 (17.3-28.4)	0.73	18	19.6 (9.4-29.8)	99	13.0 (10.4-15.6)	0.12
Worked in last year	32	40.7 (25.8-55.5)	245	30.8 (25.7-35.9)	0.14	35	33.1 (19.4-46.7)	329	40.1 (35.5-44.8)	0.31
Food insecurity	12	13.6 (4.9-22.3)	109	11.2 (7.3-15.1)	0.59	7	11.6 (3.5-19.8)	64	7.0 (4.2-9.7)	0.22
Any functional disability	25	24.3 (13.1-35.4)	201	22.9 (18.0-27.8)	0.81	19	14.9 (7.5-22.3)	148	18.2 (14.2-22.2)	0.46
HOH age, mean (SD)	103	36.6 (18.1)	750	39 (13.8)	0.30	93	42.8 (19.2)	721	40.2 (12.2)	0.24
Drunk in the last 30 days	18	31.7 (17.9-45.5)	89	11.0 (7.7-14.3)	< **0.001**	32	22.1 (11.6-32.6)	194	26.3 (21.1-31.6)	0.45
Received remittances	79	74.3 (61.1-87.4)	227	29.1 (24.1-34.1)	< **0.001**	87	74.2 (64.3-84.2)	206	26.6 (22.7-30.5)	< **0.001**
Endorsement of one or more beliefs about gender, sexual practices, and intimate partner violence	17	15.3 (6.0-24.6)	103	9.7 (6.6-12.8)	0.12	14	11.7 (4.3-19.1)	99	11.3 (8.0-14.6)	0.91
Attitudes about the acceptance of domestic violence	34	29.9 (18.8-41.1)	244	27.5 (22.9-32.1)	0.66	57	45.4 (35.1-55.6)	361	44.4 (39.1-49.7)	0.85
Talk to friends about important things	72	58.0 (47.0-69.0)	528	62.5 (57.7-67.4)	0.42	71	57.5 (43.2-71.9)	536	65.4 (60.9-69.8)	0.27
Closeness to mother	94	82.2 (72.0-92.3)	785	93.0 (89.9-96.2)	**0.008**	98	82.0 (72.7-91.3)	782	95.5 (93.2-97.8)	< **0.001**
Closeness to father	57	69.0 (54.5-83.4)	641	85.2 (82.0-88.4)	**0.007**	80	83.4 (73.0-93.8)	677	90.8 (88.2-93.3)	0.11

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
Witnessing violence in home	33	48.3 (32.7-63.9)	250	32.7 (26.8-38.7)	**0.037**	21	16.0 (7.4-24.5)	169	25.1 (19.9-30.4)	0.093
Taught in any classes one or more of managing anger, avoiding fights, and defending against mockery	70	76.1 (64.3-87.9)	514	80.4 (76.1-84.7)	0.46	73	87.3 (77.4-97.1)	504	79.7 (74.3-85.2)	0.18
Ever miss school or not leave home because of fear of violence in the community	7	8.3 (1.4-15.2)	31	4.2 (2.4-6.0)	0.16	2	0.8 (0.0-2.0)	20	2.9 (1.1-4.6)	0.096
Ever seen anyone get attacked outside of the home	60	59.6 (44.2-75.1)	427	54.3 (46.7-61.9)	0.53	69	65.9 (54.4-77.4)	483	65.9 (59.2-72.7)	0.99
Father migrated										
Educational attainment or current level of schooling										
-Completed secondary or less	106	76.7 (67.5-85.9)	566	75.6 (69.9-81.2)	0.85	94	78.1 (64.4-91.8)	654	86.9 (83.9-89.9)	0.14
-Completed more than secondary	28	23.3 (14.1-32.5)	162	24.4 (18.8-30.1)	0.85	20	21.9 (8.2-35.6)	88	13.1 (10.1-16.1)	0.14
Worked in last year	39	35.4 (26.0-44.7)	206	31.4 (25.2-37.6)	0.51	44	36.9 (23.7-50.1)	288	39.3 (33.7-44.9)	0.74
Food insecurity	12	9.4 (2.6-16.3)	93	12.1 (7.6-16.5)	0.59	7	5.6 (0.0-11.9)	61	7.8 (4.6-11.1)	0.22
Any functional disability	31	25.6 (14.9-36.2)	178	23.1 (17.4-28.7)	0.69	22	14.1 (5.9-22.3)	123	17.5 (13.2-21.9)	0.49
HOH age, mean (SD)	121	37.6 (15.7)	635	39 (13.4)	0.30	95	45 (18.4)	648	39.8 (11.9)	0.24

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
Drunk in the last 30 days	12	15.0 (6.3-23.7)	85	12.3 (8.8-15.9)	0.50	26	20.9 (8.7-33.2)	178	26.6 (21.4-31.7)	0.37
Received remittances	72	53.3 (42.3-64.2)	189	29.1 (23.9-34.3)	< **0.001**	70	64.8 (52.5-77.1)	181	26.8 (23.0-30.6)	< **0.001**
Endorsement of one or more beliefs about gender, sexual practices, and intimate partner violence	15	9.7 (4.2-15.2)	87	9.3 (6.3-12.3)	0.87	16	10.5 (3.3-17.7)	92	12.2 (8.4-16.0)	0.68
Attitudes about the acceptance of domestic violence	37	29.3 (17.5-41.1)	206	26.7 (22.4-30.9)	0.63	49	43.7 (29.7-57.7)	340	45.6 (40.0-51.1)	0.81
Talk to friends about important things	82	59.1 (48.2-70.0)	464	64.1 (59.3-69.0)	0.38	73	61.8 (50.8-72.7)	481	65.4 (60.2-70.7)	0.55
Closeness to mother	122	89.6 (81.2-98.0)	667	94.5 (92.1-96.8)	0.13	103	87.9 (78.2-97.5)	702	96.2 (94.2-98.1)	**0.016**
Closeness to father	92	80.4 (71.0-89.9)	586	84.3 (80.6-88.1)	0.44	84	76.0 (66.4-85.6)	662	92.3 (90.0-94.6)	< **0.001**
Witnessing violence in home	32	32.1 (21.4-42.7)	214	33.1 (25.7-40.5)	0.87	25	26.7 (14.0-39.4)	145	22.8 (17.9-27.8)	0.52
Taught in any classes (one or more) about managing anger, avoiding fights, and defending against mockery	86	81.1 (70.2-92.0)	452	80.1 (74.9-85.4)	0.87	71	70.1 (55.9-84.3)	457	81.4 (75.3-87.5)	0.11
Ever miss school or not leave home because of fear of violence in the community	-	-	30	5.1 (2.6-7.7)	-	2	0.5 (0.0-1.2)	12	1.9 (0.6-3.2)	0.062

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
Ever seen anyone get attacked outside of the home	71	60.8 (49.3-72.4)	363	52.5 (45.1-59.9)	0.18	73	72.2 (59.9-84.5)	429	63.8 (57.7-69.9)	0.17

Table 3.3

Maternal or Paternal Migration for 6 or More Months and Childhood Prevalence by Types of Violence Among 13–24-Year-Olds - Moldova, Violence Against Children Survey (VACS), 2019

Variable	Female, % (95% CI)			Male, % (95% CI)		
	Parent migrated	**Parent did not migrate**	**p value**	**Parent migrated**	**Parent did not migrate**	**p value**
One parent migrated						
Childhood physical violence	35.8 (25.1-46.4)	19.9 (15.4-24.4)	**< 0.001**	41.0 (32.2-49.8)	29.4 (23.2-35.6)	**0.006**
Childhood sexual violence	10.7 (5.2-16.2)	11.6 (8.0-15.2)	0.89	6.7 (2.0-11.5)	4.9 (2.9-6.9)	0.48
Childhood emotional violence	12.2 (6.4-18.1)	6.1 (3.4-8.9)	0.077	7.4 (2.4-12.5)	5.7 (2.9-8.4)	0.12
Mother migrated						
Childhood physical violence	23.4 (13.0-33.9)	22.7 (18.3-27.0)	0.89	40.8 (30.4-51.2)	32.2 (26.1-38.3)	0.078
Childhood sexual violence	14.3 (5.9-22.7)	12.2 (9.1-15.2)	0.61	8.3 (1.7-14.9)	5.1 (3.2-7.0)	0.29
Childhood emotional violence	13.8 (6.5-21.0)	6.7 (4.2-9.2)	**0.040**	7.1 (0.6-13.5)	7.4 (4.5-10.3)	0.92
Father migrated						
Childhood physical violence	28.1 (17.8-38.4)	21.1 (16.5-25.7)	0.18	47.1 (34.8-59.3)	30.5 (24.6-36.3)	**0.005**
Childhood sexual violence	8.9 (3.9-13.9)	12.6 (9.1-16.2)	0.21	8.6 (1.7-15.5)	5.1 (3.2-7.0)	0.24
Childhood emotional violence	8.2 (3.3-13.0)	7.7 (5.2-10.3)	0.85	12.4 (3.9-20.9)	5.4 (2.8-8.0)	**0.019**

Table 3.4

Parental Migration for 6 or More Months and Odds Ratio of Childhood Exposures by Types of Violence Among 13–24-Year-Olds - Moldova, Violence Against Children Survey (VACS), 2019

Variable	Female population			Male population		
	Model 1 (OR)	**Model 2 (AOR)**	**Model 3 (AOR)**	**Model 1 (OR)**	**Model 2 (AOR)**	**Model 3 (AOR)**
One parent migrated						
Emotional violence	**2.1 (1.1 - 4.1)**	0.5 (0.2 - 1.0)	1.7 (0.8 - 3.4)	1.3 (0.6 - 2.9)	0.9 (0.4 - 2.2)	1.6 (0.7 - 3.4)
Physical violence	**2.2 (1.4 - 3.6)**	0.4 (0.3 - 0.7)	**1.8 (1.0 - 3.0)**	**1.7 (1.2 - 2.3)**	0.7 (0.4 - 1.1)	1.4 (0.9 - 2.1)
Sexual violence	0.9 (0.5 - 1.8)	1.4 (0.6 - 3.1)	0.9 (0.4 - 1.7)	1.4 (0.6 - 3.4)	0.7 (0.3 - 1.6)	1.2 (0.4 - 3.2)
Mother migrated						
Emotional violence	**2.2 (1.0 - 4.9)**	**3.3 (1.3 - 8.5)**	1.6 (0.5 - 4.8)	1.0 (0.4 - 2.5)	0.6 (0.2 - 2.5)	0.8 (0.2 - 3.3)
Physical violence	1.0 (0.6 - 2.0)	1.5 (0.7 - 3.4)	1.1 (0.5 - 2.5)	1.5 (0.9 - 2.2)	1.1 (0.5 - 2.4)	1.3 (0.5 - 3.5)
Sexual violence	1.2 (0.6 - 2.5)	1.4 (0.4 - 4.8)	1.1 (0.4 - 3.0)	1.7 (0.6 - 4.6)	1.3 (0.3 - 5.5)	1.1 (0.3 - 4.3)
Father migrated						
Emotional violence	1.1 (0.5 - 2.1)	1.4 (0.6 - 3.1)	1.7 (0.6 - 4.8)	**2.5 (1.1 - 5.3)**	1.6 (0.5 - 5.7)	2.1 (0.8 - 5.3)
Physical violence	1.5 (0.8 - 2.6)	1.5 (0.8 - 2.8)	**2.0 (1.2 - 3.4)**	**2.0 (1.2 - 3.4)**	**2.1 (1.1 - 3.9)**	1.4 (0.6 - 3.0)
Sexual violence	0.7 (0.4 - 1.3)	0.5 (0.2 - 1.3)	0.7 (0.3 - 1.9)	1.8 (0.7 - 4.7)	1.4 (0.5 - 4.0)	1.2 (0.4 - 3.4)

OR = Odds ratio

AOR = Adjusted odds ratio

Model 1 is the unadjusted odds ratio.

Model 2 is the adjusted odds ratio including demographic covariates (age, working in the previous year, no food insecurity, no disability, not drunk, and receiving remittances).

Model 3 is the adjusted odds ratio. The model includes the migration type (maternal, paternal, and by one parent) and the significant demographic and socio-ecological covariates after backwards selection.

CHAPTER FOUR

ASSOCIATION OF PARENTAL MIGRATION AND ADVERSE MENTAL HEALTH OUTCOMES IN MOLDOVA: A SOCIO-ECOLOGICAL ANALYSIS

Introduction

Moldova is a former Soviet country in Eastern Europe bordered by Romania and Ukraine. Two-thirds of the country are ethnic Moldovan, with the next most common ethnicities being Romanian and Ukrainian. Moldova is a middle-income country globally and the poorest country in Europe. The gross domestic product is $13,050 per capita, and 7.3% of the population lives below the international poverty line (Central Intelligence Agency, 2021). The country has a decreasing population for multiple reasons, including a reduced fertility rate (1.58 children born per woman), relatively low life expectancy for Europe (76.3 for females and 68.3 years for males), and migration abroad (Central Intelligence Agency, 2021).

Migration in Moldova

Moldova has an extremely high level of migration abroad, which is driven by economic and other factors. Since the dissolution of the Soviet Union in the early 1990s, there have been multiple waves of migration from Moldova due to better economic opportunities in nearby countries. Moldova participates in a variety of international agreements that facilitate migration to nearby countries, including the Budapest Process, Sederkoping Process, Process of Cooperation in the South-Eastern Europe, and the Central-European Initiative. Approximately 24% of the population of Moldova lives in other countries (Ratha, Eigen-Zucchi, & Plaza, 2016, p. 184). Remittances are an important source of income representing more than 16% of gross

domestic product (Arends et al., 2017; Cuc et al., 2006). An assessment from United Nations Women reported that women comprised 34% of international migrants from Moldova; female migrants tended to be older, better educated, and to work for longer periods in more formal sectors with a defined contract (UN Women, 2015). In contrast, male migrants are more often employed in seasonal labor. The most common recipients for remittances in Moldova are women, mostly wives and mothers of migrants (UN Women, 2015). An article by Vanore and Siegel (2015) explored the gender dynamics of migrants from Moldova and Georgia through a nationally representative household survey that included 12,256 persons in Moldova, with 7.5% from households with a migrant member, 5.8% with a returned migrant in the household, and 86.6% from households without migration. They found that female migrants were younger than female non-migrants. Migrants were more educated than non-migrants, and female migrants were more educated than male migrants (Vanore & Siegel, 2015). Of the households in Moldova with children, 7.6% are currently headed by single parents due to parental migration or other reasons, with this proportion higher in urban areas (National Bureau of Statistics, 2021).

Adverse Mental Health Outcomes in Moldova

Mental disorders are one of the leading causes of disease burden in Europe by measures such as years of life lost and disability-adjusted life years (Baranne & Falissard, 2018). There is limited data on the prevalence of adverse mental health outcomes in Moldova. A cross-sectional, retrospective self-reported study was conducted in 14 higher education institutions (Leșco et al., 2018). A total of 1,534 respondents aged 18-27 were asked about mental health and risky behavior, with results stratified by number of adverse childhood experiences (ACEs) from zero to four or more. Prevalence of depression ranged from 21.7% to 48.3%, panic from 20% to 39.2%, anxiety/nervousness from 17% to 45.5%, and a suicidal attempt from 0.83% to 14%.

Alcohol use ranged from 22.3% to 33.3% and drug use from 0.76% to 17.7%. There was a positive association between the number of ACEs and worse outcomes for both mental health and risky behaviors. Another study found that the adolescent suicide rate in Moldova was 8.9 per 100,000 and 12.8 per 100,000 for the 15–19 and 20–24 age groups, respectively (Gagauz & Pahomii, 2017). The suicide rate in Moldova is higher than the average in Europe (World Bank, 2021). A nationally representative household study of 1,979 children aged 4–17 in Moldova compared the psychosocial health of left-behind children to their counterparts without parental migration (Vanore et al., 2015). The study used two measures of child psychosocial health: the emotional symptoms and conduct problems subscales of the Strengths and Difficulties Questionnaire, representing internalizing and externalizing problems, respectively. For males, single-parent migration (maternal or paternal) corresponded to a 9% higher probability of an abnormal conduct problems score, but the emotional symptoms scale score did not differ. Single-parent migration did not correspond to differences in either subscale for female children. For males, paternal migration corresponded to an 11% higher probability of an abnormal conduct problems score. The other relationships for males with maternal migration and females with maternal or paternal migration were not significant.

Alcohol consumption, and negative health effects from this consumption, are very high in Moldova. Alcohol consumption in Moldova by those aged 15 and older is 15.1 liters per capita, the highest rate in the world (World Health Organization, 2018). The legal drinking age in Moldova is 18 years old. The rate of alcohol use among adolescents aged 15–19 is 51.3% for males and 45.6% for females (Gagauz & Pahomii, 2017). Penina (2017) analyzed drinking patterns and alcohol-related causes of death in Moldova. She found that the standardized death

rate from liver cirrhosis increased five-fold in Moldova from 1965 to 2013, and the prevalence of liver cirrhosis in females is particularly high in Moldova compared to Russia and Ukraine.

This analysis was conducted to investigate the associations between parental migration and mental health outcomes among children and youth. In Moldova, no study has been conducted that used household-based representative surveys and included self-report questions about parental migration and mental health outcomes among children and youth.

Literature Review

Impact of Adverse Mental Health Outcomes

Mental health and risky behaviors are the cause of significant morbidity and mortality. The leading causes of disability worldwide include unipolar major depression (first) and alcohol use (fourth) (Lopez & Murray, 1998). In the European Region, suicide is the leading cause of death among adolescents (10–19 years old) in low- and middle-income countries in Europe (World Health Organization Regional Office for Europe, 2021). Self-harm is a key risk factor for suicide, with the risk for suicide being the highest in the six months following the initial self-harm episode (Cooper et al., 2005). These items may be correlated rather than causal, as self-harm and suicide share many risk factors (Hawton et al., 2012). Self-harm thus represents an important avenue for suicide prevention efforts.

Consumption of alcohol is associated with adverse health consequences, including injuries, digestive diseases, and cardiovascular diseases, and with violence. In 2016, 3 million deaths worldwide were attributable to alcohol, making it responsible for 5.3% of all deaths, and this burden is the highest in Eastern Europe and sub-Saharan Africa (Park & Kim, 2020). Consumption of alcohol is a risk factor for both perpetrating and experiencing violence. For example, the husband or wife being drunk is a factor for male violence against partners (Collins

& Messerschmidt, 1993). Parental drinking may be associated with the physical or sexual child abuse as well (C. Widom & Hiller-Sturmhöfel, 2001).

Experience of childhood violence is a contributor to the adverse mental health outcomes captured in the VACS. Emotional violence primarily results in poor mental health outcomes. A systematic review and meta-analysis found that emotional violence was associated with depressive disorders, anxiety disorders, drug use, suicide attempts, and risky sexual behavior (Norman et al., 2012). Physical violence has been associated with depressive disorders, anxiety disorders, drug use, suicide attempts, and risky sexual behavior (Lindert et al., 2014; Norman et al., 2012). Sexual violence has been associated with depression, anxiety, and suicidal ideation (Beitchman et al., 1991).

Migration and Mental Health Outcomes

Parental migration may be associated with adverse mental health outcomes. Fellmeth et al. found that left-behind children had increased risk of depression (relative risk 1.52), anxiety (relative risk 1.85), and conduct disorder (standardized mean difference 0.16). A systematic review by Antia et al. (2020) focused on the mental health and well-being of left-behind children due to labor migration. They reported that mental health outcomes may be negative, neutral, or positive, depending on the age and gender of the left-behind children, gender of the migrating parent, family norms, and caregiving practices. A meta-analysis study including 32 studies representing 28,629 participants from China used the Mental Health Test as the outcome, which measures learning anxiety, interpersonal anxiety, loneliness tendency, self-blame tendency, over-sensitivity tendency, physical symptoms, panic tendency, and impulsive tendency (Zhao & Yu, 2016; Zhou, 1991). The authors found that left-behind children reported worse mental health measures than non-left-behind children. They also performed a subanalysis of gender differences

for 22 of the studies, representing 8,634 participants (Zhao & Yu, 2016). The authors found that left-behind females reported worse mental health measures than left-behind males. A study of Chinese children that used the Kessler 6 scale reported that psychological distress had a prevalence of 16.1% among left-behind children and was higher among males and primary school-aged children compared to their counterparts without parental migration (Man & Cao, 2020). Higher levels of self-esteem, academic performance, interpersonal relationships, positive parenting, and a higher level of education for the mother were protective factors for psychological distress.

Parental migration has been associated with self-harm and suicide as well, although this evidence is primarily based on left-behind children in China. A study of 1,110 children in Hunan Province reported that with no parental migration, self-injury was 30.7%, a rate similar to that with one parent migrating (30.6%) but far lower than that with both parents migrating (43.6%) (Y. Wang et al., 2019). A study of 2,898 left-behind children in Yunnan Province with one or both parents having migrated reported a self-harm prevalence of 48.8%, with this rate increasing with lower levels of resilience (Tian et al., 2019). Parental separation, in general, is a risk factor for suicidal behavior in adolescents (Hawton et al., 2012). Parental migration specifically is a risk factor for suicidal behavior. A meta-analysis of left-behind children in China found that suicidal ideation increased compared to non-left-behind children with an odds ratio of 1.26, while differences by suicidal plan and suicidal attempt were not statistically significant (Qu et al., 2021). A meta-analysis found that suicidal ideation increased in left-behind children (relative risk 1.7) (Fellmeth et al., 2018).

A qualitative study of children in detention in Moldova reported that some children thought of parental migration as a form of abandonment, while other children reported that the separation from a parent who was abusive was a positive development (Sulima, 2019).

Methods

Data from the Republic of Moldova Violence Against Children and Youth (VACS) Survey, 2019 was used for this analysis. Details of the VACS methods have been previously reported (Nguyen, Kress, et al., 2019). The 2019 Moldova VACS was a household survey of males and females aged 13–24 designed to produce nationally representative data on different types of childhood violence and its contexts, risk and protective factors, and health consequences (International Organization for Migration et al., 2020).

The survey sample was stratified by sex, with separate samples drawn for males and females based on required sample size and consideration of response rates. The Republic of Moldova VACS used the 2014 census and data from the 2016 elections as the sample frame to obtain a nationally representative sample. The survey used a four-stage cluster sampling design. The sample was based on 93 localities selected from the 897 localities in the sample frame, with 64 female primary sampling units and 64 male primary sampling units in the second stage. In the third stage, 25 eligible households were randomly selected in each primary sampling unit from a list of all eligible households. A household was eligible if it included at least one 13–24-year-old. During fieldwork, there was a lower-than-anticipated number of completed interviews, due mostly to lower-than-anticipated household response rates, particularly in urban areas. To adapt to these low household response rates, the cluster size was increased to 50 households in the urban primary sampling units, and an additional 30 female primary sampling units and 30 male primary sampling units were added to the sample. The additional primary sampling units were

randomly selected within the 93 localities selected during the first stage of the sample. In the fourth stage, one eligible 13–24-year-old participant was selected from each household. Weighting details can be found in Nguyen et al (2019).

In the female sample, 1,226 households were surveyed, and 1,021 females completed the participant questionnaire. The female household response rate was 56.8%, and the individual response rate was 83.4%, for an overall response rate of 47.3%. In the male sample, 1,197 households were surveyed, with 978 males completing the participant questionnaire. The male household response rate was 55.6%, and the individual response rate was 81.7%, for an overall response rate of 45.5%.

Ethical Approval

The CDC Institutional Review Board and a group of experts from the Republic of Moldova approved the 2019 Moldova VACS study protocol. The head of household provided consent for the head-of-household questionnaire and the participation of household members in the survey. The respondents provided assent or consent to the female and male questionnaire. Safety measures for privacy and a response plan were in place. The University of Georgia Institutional Review Board approved this secondary analysis of the dataset (ID: PROJECT00003757).

Variables

Independent Variables

Analysis was conducted for three independent variables. The first analysis considered the migration of either the mother or father before the child turned 18 as the independent variable. The second analysis considered the migration of the mother before the child turned 18 as the independent variable. The third analysis considered the migration of father before the child

turned 18. In all cases, international parental migration was based on questions that asked if the biological mother or father had been separated for six months or more starting before the child turned 18, if this separation was ongoing, and if the separated parent was in another country. *Yes* responses to all questions indicated parental migration. Due to survey skip patterns, parental separation due to international migration was known only if it was currently occurring but not if a period of separation had occurred and the parent had returned to the household by the time of the survey.

Dependent Variables

There are four mental health indicators used as dependent variables in the analysis: mental distress in the last 30 days, ever having self-harmed, ever considering suicide, and having been drunk in the last 30 days. Mental distress was indicated as moderate (score 5 to 12) or severe (score 13 or higher) mental disorder on the Kessler 6 scale within the last 30 days. Self-harm represented respondents ever having intentionally hurt themselves in any way. Considering suicide indicated that participants have seriously considered ending their life at any point. Having been drunk is having had four or more drinks at once in the last 30 days. Attempted suicide and drug use were considered as dependent variables, but there was insufficient sample size for analysis.

Covariates

The analysis was adjusted for experience of violence, demographic, and socio-ecological variables. Experience of childhood violence was captured by a polyvictimization variable summing the number of types of violence from zero to four. The four types were witnessing violence, experiencing emotional violence, experiencing physical violence, and experiencing sexual violence and are defined in Chapter 3. The demographic variables were age, working in

the previous year, food insecurity, disability, and having been drunk in the last 30 days. Having been drunk was not used as a covariate in the models with drinking as the dependent variable. The socio-ecological covariates were attitude toward gender and attitude toward physical abuse at the individual level; friendships, attitude toward mother, attitude toward father, witnessing parent violence, and witnessing sibling violence at the relationship level; and being taught about anger and violence, community fears, community safety, and attacks in the community at the community level.

Results

Table 4.2 compares sample counts and weighted population percentages for females and males by parental migration status. Based on the complex survey design, the female survey participants represent a population of 253,703 persons, and the male survey participants represent a population of 254,028 persons. These estimates are consistent with Moldova's census data for the population aged 13–24 (United Nations Department of Economic and Social Affairs, 2015). In the female sample, 10.4% had experienced maternal migration, and 15.7% had experienced paternal migration, and in the male sample, 13.3% had experienced maternal migration, and 12.6% had experienced paternal migration. The most frequent reasons for maternal migration were for work (85.0%) and remarrying (4.6%) and for paternal migration were for work (68.1%) and getting divorced/separated (14.1%).

The four mental health outcomes were explored with bivariate and multivariate analysis. The first section concerns bivariate relationships, which demonstrate the association between predictor variables (parental migration types) and the outcomes (mental distress, self-harm, suicidal thoughts, and drinking). The second section shows findings resulting from the multivariate analysis of predictor variables and outcomes with adjustment for covariates.

Bivariate Relationships

Bivariate relationships test the hypotheses that types of parental migration are significantly associated with mental health outcomes. Covariates were also tested for association with parental migration.

Single-Parent Migration

The bivariate relationships for migration by one parent are included in Table 4.2. Among females, single-parent migration was associated with receiving remittances ($p < 0.001$) and less closeness with the mother ($p = 0.006$). Among males, single-parent migration was associated with receiving remittances ($p < 0.001$) and less closeness with the mother ($p < 0.001$) and father ($p = 0.004$).

The prevalence of mental health outcomes by single parent migration are included in Table 4.3. Single-parent migration was associated with females ever having considered suicide (with migration, 11.2%; without migration, 5.9%; $p = 0.028$). Single-parent migration was not associated with males experiencing any mental health outcomes.

Maternal Migration

The bivariate relationships for maternal migration and covariates are included in Table 4.2. Among females, maternal migration was associated with having been drunk ($p < 0.001$), receiving remittances ($p < 0.001$), less closeness with the mother ($p = 0.008$), more closeness with the father ($p = 0.007$), and witnessing violence in the home (0.037). Among males, maternal migration is associated with receiving remittances ($p < 0.001$) and less closeness with the mother ($p < 0.001$)

The prevalence of mental health outcomes by maternal migration are included in Table 4.3. Mental distress was the most common outcome experienced with maternal migration by

females (with migration, 56.5%; without migration, 48.4%) and males (with migration, 41.7%; without migration, 35.2%). Maternal migration was associated with females ever having considered suicide (18.2% vs 6.9%, $p = 0.008$) and having been drunk in the last 30 days (31.7% vs 11.0%, $p < 0.001$). Males did not have any significant relationships between maternal migration and mental health outcomes.

Paternal Migration

The bivariate relationships for paternal migration and covariates are included in Table 4.2. Among females, paternal migration was associated with receiving remittances ($p < 0.001$). Among males, paternal migration was associated with receiving remittances ($p < 0.001$), less closeness with the mother ($p = 0.0.016$), and more closeness with the father ($p <0.001$).

The prevalence of mental health outcomes by paternal migration are included in Table 4.3. Mental distress was the most common outcome experienced with paternal migration by females (with migration, 50.1%; without migration, 47.8%) and males (with migration, 38.9%; without migration, 35.6%). None of the mental health outcomes were associated with paternal migration for females or males.

Multivariate Relationships

The multivariate relationships test the hypotheses that types of parental migration are significantly associated with mental health outcomes after controlling for relevant covariates. Table 4.4 provides results from the logistic regression of three models: model 1 involves the unadjusted odds ratio for each mental health outcome and parental migration, model 2 includes the adjusted odds ratio including demographic covariates, and model 3 incorporates the adjusted odds ratio after backwards selection for significant demographic and socio-ecological covariates.

Model 1

Model 1 is the unadjusted odds ratio for the association between parental migration and violence against children. For females, migration by either parent was significant for both ever having considered suicide (OR 2.0) and having been drunk in the last 30 days (OR 2.0).For females, maternal migration is associated with ever having considered suicide (OR 3.0) and having been drunk in the last 30 days was significant for model 1 (OR 3.8).

Model 2

Model 2 is the odds ratio for the association between parental migration and violence against children, adjusting for socio-demographic variables. For females, maternal migration was associated with ever having self-harmed is significant for model 2 (AOR 2.7), ever having considered suicide (AOR 3.5).

Model 3

Model 3 is the odds ratio for the association between parental migration and violence against children, adjusting for violence, socio-demographic variables, and socio-ecological covariates after backward selection. For females, maternal migration was associated with having considered suicide (AOR 4.2) and having been drunk in the last 30 days (AOR 3.2).

The variables that appeared most frequently in model 3 after backwards selection were fear of community violence, witnessing violence in the home, witnessing community violence, and the sum of childhood violence types.

Discussion

Mental distress was the most common adverse mental health outcome, reported by more than 47% of females and 35% of males in a representative sample of children and youth in Moldova. These rates are within the range of the prevalence of mental health outcomes reported

by university students in Moldova (Lesco, 2018). There are differences between the two studies, as Leșco et al. (2018) measured depression and anxiety/nervous problems, whereas this study measured mental distress with the Kessler 6 scale (Andrews & Slade, 2001). The higher prevalence observed in females is consistent for other studies for internalizing mental health measures. However, this study did not measure externalizing outcomes in males as several other studies have found (Moylan et al., 2010; Rosenfield, 2000).

The next most common outcome was having been drunk in the last 30 days, reported by between 20% and 41.7% of males and between 11.0% and 31.7% of females, depending on parental migration. Alcohol consumption represents a health risk as well as contributing to the experience of violence. A study of adolescent drinking in the United Kingdom found that a lack of parental attachment, measured with the Inventory of Parent and Peer Attachment-Revised, was significant in the comparison between moderate and problematic drinkers (McKay, 2015). This analysis did observe a difference in closeness with mother and father based on parental migration, although this result was deduced from a single question in the VACS. The control measures to prevent excess drinking must address the role of mothers in preventing female youth drinking in Moldova. Further research should examine the link between parental migration and drinking among females to determine what strategies would best address this issue.

Females ever having considered suicide with maternal migration was the most consistent finding. Models 1,2 and 3 showed significant associations between maternal migration and having considered suicide among females, with the odds ratio ranging from 3.0 to 4.2. While it did not use parental migration as a measure, a study of university students in Moldova found that suicide attempts were associated with emotional neglect (OR 5.98, $p < 0.001$) and divorced parents (OR 2.16, $p < 0.001$) (Leșco et al., 2018). Parental migration may result in similar

pathways to increasing suicidal thoughts or behavior in children as emotional neglect and divorce, particularly because of the association between parental migration and less closeness. Health care practitioners and public health programming should note the increased risk of suicidality in females with maternal migration.

Migration

The more frequent association of adverse mental health outcomes with maternal than paternal migration may indicate the more important role of the presence of the mother compared to the father in psychosocial health, particularly for females. This finding is consistent with studies that have found that maternal migration may result in increased incidence of psychological disturbance or children being less likely to report they are happy (Jordan & Graham, 2012; Parreñas, 2005). This finding is in contrast to that from Vanore et al. that boys' psychosocial health is more sensitive to parental migration (2015). This difference may be due to the use of an externalizing measure in their analysis, conduct problems, which was significant for males. With paternal migration, no bivariate relationships with mental health outcomes were significant, and no models were significant after adjusting for covariates.

Socio-ecological Factors

The socio-ecological factors that appeared most frequently in models after backward selection were fear of community violence, witnessing violence in the home, and witnessing community violence. This trend may also indicate the importance of socio-ecological factors at the relationship and community levels in mental health outcomes. Moreover, these measures may indicate the importance of witnessing violence compared to socio-ecological covariates that measured attitudes or relationships with friends and family members. This study may not have

measured sufficient individual and societal factors for them to be represented in the socio-ecological model.

Closeness with the mother and closeness with the father had significant bivariate relationships with parental migration and were the next most frequent in models after the socio-ecological factors detailed above. Of note, closeness with the mother was included in model 3 for the association of maternal migration and drinking in females. This result may indicate the importance of the socio-ecological relationship factor between females and their mothers in moderating mental health outcomes.

For drunkenness in the last 30 days, model 1 and model 3 were significant for maternal migration, while model 2 was not. This difference may have been due to the lack of sample size to detect an association, as the adjusted odds ratio in model 2 was 2.7, with a confidence interval ranging from 0.9–7.7.

Limitations

There are important limitations in this study to consider. The sample size may not have been sufficient to detect true differences in the population. While migration is relatively common in Moldova, self-harm and suicidal thoughts were rarely reported. Such underreporting may make models 2 and 3 underpowered to detect the relationship between migration and mental health outcomes.

A second limitation was the use of cross-sectional data to measure predictors and outcomes that may not be associated in the assumed temporal or causal direction. The adverse mental health outcomes may have occurred before the parental migration. Self-harm and suicidal thoughts were measures of ever having experienced them in one's lifetime. While mental distress and drinking were current measures, these experiences could have begun before the parental

migration happened. The covariates may have had different values at the time of parental migration. The relationship between parental migration and outcomes may also capture the changes in households that are planning to migrate or experiencing economic stress that leads to migration. For covariates, there is an assumption that measures at the time of the survey will represent the child's lifetime as we do not have data on some items from earlier in the child's life.

Another limitation is that parental migration status was only known at the time of the survey. There could have been parents who migrated but had returned to Moldova by the time the survey took place. In this situation, they would be reported as non-migrant households, although the left-behind children would have had the experience of parental migration.

There is the potential for bias in the study results. Because of the tendency to overreport psychological well-being, the prevalence of adverse mental health outcomes are likely to be minimum estimates (Brown, Harris, Srivastava, & Taylor, 2018). Survey participants may have been hesitant to report risky behaviors due to social desirability.

Finally, the caregiver arrangements for left-behind children were not captured in the survey. The caregiver may be the left-behind parent but may also be another relative or an unrelated caregiver. This characteristic may impact how parental migration effects the child (Vanore et al., 2015). In Moldova, the majority of caregiver arrangements are either father abroad with the mother as caregiver or vice versa (Cebotari et al., 2018).

Conclusion

Adverse mental health outcomes are common in Moldova in both females and males. Mental distress, having been drunk, and having considered suicide, occur in between one quarter and one half of the respondents. This represents major sources of morbidity and mortality and

there is an urgent need to prevent these outcomes. Two important public health issues, suicidal thoughts and drinking, had increased odds in females in Moldova with single-parent migration or maternal migration. The single-parent association is based on the strength of the maternal migration as the paternal migration is not significant. Further research should address these issues. The VACS has limited psychosocial items and future surveys should incorporate more context and measures of outcomes. Otherwise, females and males with parental migration were similar to their counterparts. No outcomes were improved with parental migration. While in some settings, remittances may improve the health status of left-behind family members, this is not the case for mental health outcomes in Moldova.

Tables

Table 4.1

Demographic and Socio-Ecological Variables Included in Modeling

Variable	Definition	Coding	Relationship
Demographic adjustment covariates			
Age	Age at the time of the survey	Numeric	With increasing age, there is increasing opportunity to experience violence.
Level of education	Grade completed or attending at the time of the survey	Dichotomized -Completed secondary or less -Completed more than secondary	Education represents socio-economic status (SES), and generally, lower SES is associated with high polyvictimization (Finkelhor et al., 2007). The Nigeria VACS found that high SES (and education level) was associated with sexual, emotional, and physical violence (Miller et al., 2018).
Working in the previous year	Any time during the past 12 months engaged in any work as an employee, or self-employed individual	Yes / No	Working represents SES, and lower SES is associated with high polyvictimization (all types of violence) (Finkelhor et al., 2007).

Food insecurity	Think the household has enough money for food	Yes/No	Food insecurity represents SES, and lower SES is associated with high polyvictimization (Finkelhor et al., 2007).
Disability	Having deafness or serious difficulty hearing; blindness or serious difficulty seeing, even when wearing glasses; or serious difficulty concentrating, remembering, or making decisions because of a physical, mental, or emotional condition	Yes/No	Disability is associated with child abuse and sexual violence in adults (Basile et al., 2016; Stalker & McArthur, 2012).
Drunk	Having been drunk in the last 30 days (four or more drinks in a row)	Yes/No	Drinking is associated with experiencing violence (Collins & Messerschmidt, 1993; C. Widom & Hiller-Sturmhöfel, 2001).
Remittances	Received money or goods from other countries in the last three years	Yes/No	Remittances can increase SES. Remittances are associated with decreased violence (Hassan & Faria, 2015).
Socio-ecological covariates			

Attitude toward gender	Answered yes to one or more of the following; Only men, not women, should decide when to have sex? If someone insults a boy or man, he should defend his reputation with force if he needs to? There are times when a woman should be beaten? Women who carry condoms have sex with a lot of men? A woman should tolerate violence to keep her family together?	Yes/No	Inequitable gender norms associated with intimate partner violence (IPV) (Gilbert et al., 2020; Heise & Kotsadam, 2015).
Attitude toward physical abuse	Answered yes to one or more of the following: In your opinion, is a husband justified in hitting or beating his wife in the following situations: If she goes out without telling him? If she neglects the children? f she argues with him? If she refuses to have sex with him? If she burns the food?	Yes/No	Attitude toward physical abuse associated with IPV (Schuster & Tomaszewska, 2021).
Friendships	How much they talk to friends about important things: a lot, some, not very much, not at all	Dichotomized - A lot, some - Not very much, not at all	Low friendship quality related to victimization (Bollmer et al., 2005)
Attitude toward mother	How close do/did you feel to your biological mother?	Dichotomized - Very close, close -Not close, no relationship	Close parent relationship decreases violence (Smith et al., 2001),

			increases well-being (Amato, 1994).
Attitude toward father	How close do/did you feel to your biological father?	Dichotomized - Very close, close -Not close, no relationship	Close parent relationship decreases violence (Smith et al., 2001), increases well-being (Amato, 1994).
Witnessing violence in the home	Saw or heard mother or stepmother being hit, punched, kicked or beaten by father or stepfather or saw or heard sibling hit, punched, kicked or beaten by parent	Yes/No	Witnessing IPV associated with violence (Cannon et al., 2009; Kieselbach et al., 2021)
Being taught about anger, violence, and mockery	Taught in any classes one or more: managing anger, avoiding fights, and defending against mockery	Yes/No	Teaching practices reduce peer violence (Valdés-Cuervo et al., 2018), victimization (Hoglund et al., 2012).
Community fears	Ever miss school or not leave your home because of fear of violence in the community?	Yes/No	The socio-ecological model predicts that seeing violence in the community would be a risk factor for violence. College students with less sense of community are more likely to have experienced sexual assault (Herres et al., 2018).
Attacks in the community	Outside of your home and family environment, ever	Yes/No	The socio-ecological model predicts that

	seen anyone get attacked?	seeing violence in the community would be a risk factor for violence.

Table 4.2

Demographic Indicators and Maternal or Paternal Migration for 6 or More Months Among 13–24-Year-Olds - Moldova, Violence Against Children Survey (VACS), 2019

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
One parent migrated Educational attainment or current level of schooling										
-Completed secondary or less	30	71.8 (52.8-90.8)	506	75.9 (69.6-82.2)	0.82	22	68.5 (47.3-89.7)	581	86.8 (83.6-90.0)	0.12
-Completed more than secondary	26	21.9 (13.7-30.0)	144	24.1 (17.8-30.4)	0.82	18	16.7 (6.5-27.0)	81	13.2 (10.0-16.4)	0.12
Worked in last year	34	27.7 (18.8-36.5)	180	30.0 (24.1-35.9)	0.29	54	38.4 (25.2-51.5)	255	38.7 (33.0-44.4)	0.56
Food insecurity	14	8.8 (2.5-15.1)	78	11.4 (6.9-16.0)	0.51	11	8.8 (2.3-15.3)	48	6.7 (3.5-9.9)	0.79
Any functional disability	34	21.8 (14.0-29.6)	156	23.3 (17.5-29.1)	0.55	23	11.4 (4.7-18.2)	113	18.5 (13.8-23.2)	0.35
Drunk in the last 30 days	19	19.5 (9.2-29.8)	71	10.8 (7.3-14.2)	0.16	36	22.3 (12.3-32.3)	152	26.6 (21.2-31.9)	0.38
Received remittances	67	51.4 (40.6-62.2)	150	25.9 (20.4-31.4)	< 0.001	80	62.4 (50.4-74.4)	139	22.8 (18.8-26.8)	< 0.001
Endorsement of one or more beliefs about gender, sexual practices, and intimate partner violence	18	11.9 (4.9-19.0)	74	8.7 (5.8-11.7)	0.50	24	14.3 (6.9-21.7)	77	11.5 (7.9-15.1)	0.23

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
Attitudes about the acceptance of domestic violence	46	35.5 (23.9-47.2)	177	26.0 (21.8-30.2)	0.20	67	43.8 (35.0-52.7)	296	45.3 (39.7-51.0)	0.96
Talk to friends about important things	89	65.5 (55.5-75.5)	418	65.5 (60.2-70.8)	0.16	92	66.0 (57.4-74.7)	437	66.4 (61.1-71.7)	0.15
Closeness to mother	121	86.2 (77.3-95.0)	612	95.1 (92.7-97.5)	0.006	129	87.8 (80.3-95.2)	636	97.1 (95.4-98.9)	< 0.001
Closeness to father	87	76.7 (69.2-84.1)	540	86.0 (82.4-89.7)	0.14	107	84.5 (77.3-91.8)	598	92.7 (90.1-95.3)	0.003
Witnessing violence in home	39	34.1 (25.5-42.7)	185	31.3 (23.9-38.7)	0.70	33	23.5 (12.7-34.2)	130	24.1 (18.7-29.5)	0.54
Taught in any classes one or more: managing anger, avoiding fights, and defending against mockery	90	78.5 (66.0-91.0)	410	81.0 (76.3-85.6)	0.79	88	77.4 (68.0-86.8)	414	80.7 (74.7-86.8)	0.77
Ever miss school or not leave home because of fear of violence in the community	4	2.2 (0.0-4.9)	22	4.0 (1.8-6.2)	99.00	1	0.2 (0.0-0.5)	12	2.2 (0.7-3.6)	0.007
Ever seen anyone get attacked outside of the home	84	68.6 (58.4-78.9)	316	51.6 (43.5-59.8)	0.53	84	59.4 (48.8-70.0)	387	65.6 (59.0-72.1)	0.99
Mother migrated										
Educational attainment or current level of schooling										
-Completed secondary or less	90	74.9 (62.6-87.2)	670	77.1 (71.6-82.7)	0.73	96	80.4 (70.2-90.6)	722	87.0 (84.4-89.6)	0.12

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
-Completed more than secondary	21	25.1 (12.8-37.4)	181	22.9 (17.3-28.4)	0.73	18	19.6 (9.4-29.8)	99	13.0 (10.4-15.6)	0.12
Worked in last year	32	40.7 (25.8-55.5)	245	30.8 (25.7-35.9)	0.14	35	33.1 (19.4-46.7)	329	40.1 (35.5-44.8)	0.31
Food insecurity	12	13.6 (4.9-22.3)	109	11.2 (7.3-15.1)	0.59	7	11.6 (3.5-19.8)	64	7.0 (4.2-9.7)	0.22
Any functional disability	25	24.3 (13.1-35.4)	201	22.9 (18.0-27.8)	0.81	19	14.9 (7.5-22.3)	148	18.2 (14.2-22.2)	0.46
HOH age, mean (SD)	103	36.6 (18.1)	750	39 (13.8)	0.30	93	42.8 (19.2)	721	40.2 (12.2)	0.24
Drunk in the last 30 days	18	31.7 (17.9-45.5)	89	11.0 (7.7-14.3)	< 0.001	32	22.1 (11.6-32.6)	194	26.3 (21.1-31.6)	0.45
Received remittances	79	74.3 (61.1-87.4)	227	29.1 (24.1-34.1)	< 0.001	87	74.2 (64.3-84.2)	206	26.6 (22.7-30.5)	< 0.001
Endorsement of one or more beliefs about gender, sexual practices, and intimate partner violence	17	15.3 (6.0-24.6)	103	9.7 (6.6-12.8)	0.12	14	11.7 (4.3-19.1)	99	11.3 (8.0-14.6)	0.91
Attitudes about the acceptance of domestic violence	34	29.9 (18.8-41.1)	244	27.5 (22.9-32.1)	0.66	57	45.4 (35.1-55.6)	361	44.4 (39.1-49.7)	0.85
Talk to friends about important things	72	58.0 (47.0-69.0)	528	62.5 (57.7-67.4)	0.42	71	57.5 (43.2-71.9)	536	65.4 (60.9-69.8)	0.27
Closeness to mother	94	82.2 (72.0-92.3)	785	93.0 (89.9-96.2)	0.008	98	82.0 (72.7-91.3)	782	95.5 (93.2-97.8)	< 0.001
Closeness to father	57	69.0 (54.5-83.4)	641	85.2 (82.0-88.4)	0.007	80	83.4 (73.0-93.8)	677	90.8 (88.2-93.3)	0.11

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
Witnessing violence in home	33	48.3 (32.7-63.9)	250	32.7 (26.8-38.7)	0.037	21	16.0 (7.4-24.5)	169	25.1 (19.9-30.4)	0.093
Taught in any classes one or more: managing anger, avoiding fights, and defending against mockery	70	76.1 (64.3-87.9)	514	80.4 (76.1-84.7)	0.46	73	87.3 (77.4-97.1)	504	79.7 (74.3-85.2)	0.18
Ever miss school or not leave home because of fear of violence in the community	7	8.3 (1.4-15.2)	31	4.2 (2.4-6.0)	0.16	2	0.8 (0.0-2.0)	20	2.9 (1.1-4.6)	0.096
Ever seen anyone get attacked outside of the home	60	59.6 (44.2-75.1)	427	54.3 (46.7-61.9)	0.53	69	65.9 (54.4-77.4)	483	65.9 (59.2-72.7)	0.99
Father migrated										
Educational attainment or current level of schooling										
-Completed secondary or less	106	76.7 (67.5-85.9)	566	75.6 (69.9-81.2)	0.85	94	78.1 (64.4-91.8)	654	86.9 (83.9-89.9)	0.14
-Completed more than secondary	28	23.3 (14.1-32.5)	162	24.4 (18.8-30.1)	0.85	20	21.9 (8.2-35.6)	88	13.1 (10.1-16.1)	0.14
Worked in last year	39	35.4 (26.0-44.7)	206	31.4 (25.2-37.6)	0.51	44	36.9 (23.7-50.1)	288	39.3 (33.7-44.9)	0.74
Food insecurity	12	9.4 (2.6-16.3)	93	12.1 (7.6-16.5)	0.59	7	5.6 (0.0-11.9)	61	7.8 (4.6-11.1)	0.22
Any functional disability	31	25.6 (14.9-36.2)	178	23.1 (17.4-28.7)	0.69	22	14.1 (5.9-22.3)	123	17.5 (13.2-21.9)	0.49
HOH age, mean (SD)	121	37.6 (15.7)	635	39 (13.4)	0.30	95	45 (18.4)	648	39.8 (11.9)	0.24

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	n	% (95% CI)	n	% (95% CI)	p value	n	% (95% CI)	n	% (95% CI)	p value
Drunk in the last 30 days	12	15.0 (6.3-23.7)	85	12.3 (8.8-15.9)	0.50	26	20.9 (8.7-33.2)	178	26.6 (21.4-31.7)	0.37
Received remittances	72	53.3 (42.3-64.2)	189	29.1 (23.9-34.3)	< 0.001	70	64.8 (52.5-77.1)	181	26.8 (23.0-30.6)	< 0.001
Endorsement of one or more beliefs about gender, sexual practices, and intimate partner violence	15	9.7 (4.2-15.2)	87	9.3 (6.3-12.3)	0.87	16	10.5 (3.3-17.7)	92	12.2 (8.4-16.0)	0.68
Attitudes about the acceptance of domestic violence	37	29.3 (17.5-41.1)	206	26.7 (22.4-30.9)	0.63	49	43.7 (29.7-57.7)	340	45.6 (40.0-51.1)	0.81
Talk to friends about important things	82	59.1 (48.2-70.0)	464	64.1 (59.3-69.0)	0.38	73	61.8 (50.8-72.7)	481	65.4 (60.2-70.7)	0.55
Closeness to mother	122	89.6 (81.2-98.0)	667	94.5 (92.1-96.8)	0.13	103	87.9 (78.2-97.5)	702	96.2 (94.2-98.1)	0.016
Closeness to father	92	80.4 (71.0-89.9)	586	84.3 (80.6-88.1)	0.44	84	76.0 (66.4-85.6)	662	92.3 (90.0-94.6)	< 0.001
Witnessing violence in home	32	32.1 (21.4-42.7)	214	33.1 (25.7-40.5)	0.87	25	26.7 (14.0-39.4)	145	22.8 (17.9-27.8)	0.52
Taught in any classes one or more: managing anger, avoiding fights, and defending against mockery	86	81.1 (70.2-92.0)	452	80.1 (74.9-85.4)	0.87	71	70.1 (55.9-84.3)	457	81.4 (75.3-87.5)	0.11
Ever miss school or not leave home because of fear of violence in the community	0	NA (NA-NA)	30	5.1 (2.6-7.7)	99.00	2	0.5 (0.0-1.2)	12	1.9 (0.6-3.2)	0.062

	Female					Male				
	Parent migrated		Parent did not migrate			Parent migrated		Parent did not migrate		
Variable	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**	**n**	**% (95% CI)**	**n**	**% (95% CI)**	**p value**
Ever seen anyone get attacked outside of the home	71	60.8 (49.3-72.4)	363	52.5 (45.1-59.9)	0.18	73	72.2 (59.9-84.5)	429	63.8 (57.7-69.9)	0.17

Table 4.3

Maternal or Paternal Migration for 6 or More Months and Mental Health Outcomes Among 13–24-Year-Olds - Moldova, Violence Against Children Survey (VACS), 2019

Variable	Female, % (95% CI)			Male, % (95% CI)		
	Parent migrated	**Parent did not migrate**	**p value**	**Parent migrated**	**Parent did not migrate**	**p value**
One parent migrated						
Mental distress in the last 30 days	48.6 (37.9-59.3)	47.6 (40.6-54.6)	0.94	34.4 (20.3-48.4)	34.9 (28.8-41.0)	0.30
Ever self-harm	9.7 (4.3-15.2)	7.4 (4.2-10.7)	0.69	10.9 (4.4-17.3)	6.8 (4.0-9.6)	0.29
Ever considered suicide	**11.2 (4.9-17.4)**	**5.9 (3.4-8.5)**	**0.028**	3.7 (0.0-8.0)	2.2 (0.9-3.5)	0.61
Drunk in the last 30 days	19.5 (9.2-29.8)	10.8 (7.3-14.2)	0.16	22.3 (12.3-32.3)	26.6 (21.2-31.9)	0.38
Mother migrated						
Mental distress in the last 30 days	56.5 (44.8-68.1)	48.4 (42.0-54.7)	0.21	41.7 (29.4-54.1)	35.2 (28.9-41.4)	0.27
Ever self-harm	11.8 (2.8-20.7)	7.9 (5.2-10.6)	0.33	9.8 (2.1-17.5)	6.8 (4.5-9.1)	0.37
Ever considered suicide	**18.2 (7.8-28.6)**	**6.9 (4.5-9.3)**	**0.008**	3.0 (0.0-6.4)	3.1 (1.6-4.6)	0.96
Drunk in the last 30 days	**31.7 (17.9-45.5)**	**11.0 (7.7-14.3)**	**< 0.001**	22.1 (11.6-32.6)	26.3 (21.1-31.6)	0.45
Father migrated						
Mental distress in the last 30 days	50.1 (38.7-61.5)	47.8 (41.2-54.5)	0.73	38.9 (24.0-53.8)	35.6 (29.6-41.5)	0.67
Ever self-harm	7.7 (2.8-12.6)	8.3 (5.1-11.5)	0.83	7.5 (0.8-14.2)	7.2 (4.2-10.1)	0.93
Ever considered suicide	11.4 (4.4-18.5)	7.7 (5.2-10.2)	0.27	4.9 (0.0-10.2)	2.2 (1.0-3.5)	0.20
Drunk in the last 30 days	15.0 (6.3-23.7)	12.3 (8.8-15.9)	0.50	20.9 (8.7-33.2)	26.6 (21.4-31.7)	0.37

Table 4.4

Parental Migration for 6 or More Months and Odds Ratio of Mental Health Outcomes Among 13–24-Year-Olds - Moldova, Violence Against Children Survey (VACS), 2019

Variable	Female population			Male population		
	Model 1 (OR)	**Model 2 (AOR)**	**Model 3 (AOR)**	**Model 1 (OR)**	**Model 2 (AOR)**	**Model 3 (AOR)**
One parent migrated						
Drunk in the last 30 days	1.3 (0.6 - 2.5)	1.2 (0.5 - 3.0)	1.2 (0.4 - 3.2)	0.7 (0.4 - 1.5)	1.0 (0.4 - 2.5)	0.7 (0.3 - 1.5)
Mental distress in the last 30 days	1.0 (0.6 - 1.7)	1.5 (0.8 - 2.5)	0.7 (0.4 - 1.3)	1.0 (0.5 - 1.8)	1.1 (0.6 - 2.1)	0.9 (0.5 - 1.7)
Ever self-harm	1.3 (0.6 - 2.8)	0.7 (0.4 - 1.3)	1.1 (0.5 - 2.7)	1.7 (0.8 - 3.5)	0.6 (0.3 - 1.5)	1.9 (0.9 - 3.8)
Ever considered suicide	2.0 (1.0 - 4.0)	0.5 (0.2 - 1.0)	2.4 (0.7 - 7.8)	1.7 (0.4 - 6.6)	0.5 (0.1 - 2.1)	2.9 (0.7 - 12.2)
Drunk in the last 30 days	2.0 (1.0 - 4.2)	0.6 (0.2 - 1.4)	1.9 (0.8 - 4.6)	0.8 (0.4 - 1.5)	1.3 (0.6 - 2.9)	0.8 (0.4 - 1.6)
Mental distress in the last 30 days	1.4 (0.8 - 2.3)	0.7 (0.3 - 1.6)	0.6 (0.3 - 1.6)	1.3 (0.8 - 2.2)	1.2 (0.5 - 2.9)	1.2 (0.5 - 2.9)
Ever self-harm	1.6 (0.6 - 3.8)	2.7 (1.1 - 6.7)	1.3 (0.4 - 4.5)	1.5 (0.6 - 3.5)	1.7 (0.5 - 5.4)	2.3 (0.8 - 6.2)
Ever considered suicide	3.0 (1.3 - 7.2)	3.5 (1.3 - 9.3)	4.2 (1.2 - 14.3)	1.0 (0.3 - 3.2)	0.5 (0.0 - 5.5)	0.8 (0.1 - 7.1)
Drunk in the last 30 days	3.8 (1.9 - 7.6)	2.7 (0.9 - 7.7)	3.2 (1.4 - 7.2)	0.8 (0.4 - 1.5)	0.6 (0.2 - 2.2)	0.9 (0.4 - 1.8)
Father migrated						
Mental distress in the last 30 days	1.1 (0.6 - 1.9)	0.7 (0.4 - 1.3)	0.8 (0.4 - 1.4)	1.2 (0.6 - 2.2)	0.7 (0.4 - 1.5)	0.7 (0.4 - 1.4)

Variable	Female population			Male population		
	Model 1 (OR)	**Model 2 (AOR)**	**Model 3 (AOR)**	**Model 1 (OR)**	**Model 2 (AOR)**	**Model 3 (AOR)**
Ever self-harm	0.9 (0.4 - 2.0)	1.0 (0.4 - 2.4)	1.0 (0.3 - 2.9)	1.0 (0.4 - 3.1)	1.2 (0.4 - 3.8)	1.2 (0.4 - 3.8)
Ever considered suicide	1.6 (0.7 - 3.5)	1.2 (0.5 - 3.3)	1.3 (0.3 - 5.8)	2.3 (0.6 - 8.3)	3.3 (0.7 - 15.2)	4.4 (0.9 - 22.1)

OR = Odds ratio

AOR = Adjusted odds ratio

Model 1 is the unadjusted odds ratio.

Model 2 is the adjusted odds ratio including demographic covariates (age, working in the previous year, no food insecurity, no disability, not drunk, and receiving remittances).

Model 3 is the adjusted odds ratio. The model includes the migration type (maternal, paternal, and by one parent) and the significant demographic and socio-ecological covariates after backwards selection.

CHAPTER FIVE

RESULTS AND RECOMMENDATIONS

The purpose of this study was to identify the associations between parental migration and two potential outcomes: violence against children and adverse mental health outcomes. This study advances the scientific understanding of the health status of children and the impacts of parental migration in Moldova. A major finding was that parental migration was associated with specific types of childhood violence and adverse mental health outcomes. This finding has implications for further research, practice, and policy. A second finding is that violence against children and adverse mental health outcomes are commonly reported in Moldova. This chapter is organized into three sections: Childhood Violence and Mental Health in Moldova, Parental Migration and Socio-ecological Factors, and Preventing Adverse Outcomes Associated with Parental Migration.

Childhood Violence and Mental Health in Moldova

Childhood violence has significant consequences, and the prevention of childhood violence prevention is a public health priority. Experiencing violence is common for children in Moldova, as reported in Chapter 3 of this dissertation and other studies (Leșco et al., 2018; Sebre et al., 2004). This analysis found that physical violence was the most common form of childhood violence for both females and males. Approximately one-quarter of females and between one-third and almost half of males had experienced physical violence, depending on parental migration status. Whether emotional or sexual violence was the next most prevalent varied depending on the sex of the migrating parent and child. There were large increases in the

experience of violence associated with parental migration. The prevalence of emotional violence doubled in females with maternal migration and increased by fifty percent for physical violence in males with paternal migration. Experiencing violence is associated with long-term health problems, health-harming behaviors, and the cycle of violence (Dodge, Bates, & Pettit, 1990; Dube, Felitti, Dong, Giles, & Anda, 2003; Hughes et al., 2019).

The mental health outcomes reported in Chapter 4 represent a significant source of global morbidity and mortality. Mental distress was commonly reported, with more than one-third of males and approximately one-quarter of females experiencing mental distress as measured by the Kessler 6 scale. The next most common outcome, having been drunk in the last 30 days, was reported by up to one-third of females and one-quarter of males, depending on parental migration. The mental health of children in Moldova is of concern to policymakers, and this study illustrates the high prevalence of adverse outcomes (Calmic et al., 2001; Leșco et al., 2018). There were large increases in the adverse mental health outcomes in females associated with maternal migration, for whom the prevalence of ever having considered suicide and having been drunk in the last 30 days were three-fold higher compared to those without maternal migration.

It is important to consider the intersection of violence and mental health, as parental migration is associated with both as outcomes. This intersection can occur because adverse mental health outcomes are both caused by and a consequence of violence, including self-directed violence (i.e., suicidal thoughts) (Mercy et al., 2003). The adverse mental health outcomes associations with parental migration reported in Chapter 4 were significant after including victimization in the model (ever having considered suicide OR 3.5 and drunk in the last 30 days OR 2.7), indicating that victimization is not the sole cause of such adverse

outcomes. In Moldova, child maltreatment is recognized as a risk factor for health risk behaviors at the subnational but not the national policy level (World Health Organization Regional Office for Europe, 2013).

Further data and research are needed on the prevalence of childhood violence and adverse mental health outcomes in Moldova. Vital registration and official statistics need to be improved to assess and monitor the scale of the problems of childhood violence and adverse mental health outcomes in children and adolescents in Moldova. Research studies can further examine the causes and consequences of these experiences. The VACS is only the second national study in Moldova to directly ask study participants about emotional, physical, and sexual violence and other adverse childhood experiences (International Organization for Migration et al., 2020; Leșco et al., 2018). There have been limited studies on mental distress, suicide, and drinking in children and youth in Moldova. This study had an insufficient sample size to detect differences in drug use and suicide attempts by parental migration, avenues that may warrant further research.

The outcomes of interest in these analyses could be impacted by measurement error. The violence prevalence reported in the two papers is likely to represent minimum estimates, as underreporting is more likely than overreporting (Schwartz, 2000). Similarly, adverse mental health outcomes are likely to be minimum estimates, as there is a tendency to overreport psychological well-being (S. Brown, Harris, Srivastava, & Taylor, 2018). Social desirability bias, i.e., not reporting risky behaviors, may also have affected the results.

Parental Migration and Socio-ecological Factors

Parental migration is common in Moldova, leading to many children living in households without the biological mother or father present. A total of 10.4% of females and 13.3% of males

had experienced maternal migration, while 15.7% of females and 12.6% of males had experienced paternal migration. These children were similar to their counterparts on most measures, with a few notable exceptions. Maternal and paternal migration resulted in both female and male children being more likely to have received remittances. While remittances should support the household's socioeconomic status, no differences were reported in other socioeconomic variables. Female and male children did not differ on educational level, working in the last year, or experiencing food insecurity by parental migration status. This similarity is different from some previous findings from Moldova. Cebotari et al. (2016) found that paternal migration, when mothers are caregivers, was associated with increased school performance. This discrepancy may be due to the differences in measures of education. This analysis used educational attainment or current level of schooling. Cebotari et al. (2016) used a self-report indicating that respondents were one of the best students, above average, average, below average, or one of the worst students. They also included the caregiving circumstances of the left-behind children in their analysis. Migration resulted in less reported closeness between the respondent and the migrating parent. Other studies in Moldova have not measured the relationship with the migrating parent but have asked about the relationship with the present parent/caregiver. Vanore et al. (Vanore et al., 2015) measured the amount of caregiver and child interaction and distant relationship with parent/caregiver, both reported by the parent/caregiver. The amount of caregiver-child interaction was significantly associated with conduct problems in females.

Chapter 3 assessed the relationship between parental migration and experiencing childhood violence. Parental migration was associated with respondents experiencing childhood emotional and physical violence but not sexual violence. This finding supports the hypothesized

association between parental migration and childhood violence. Differences were observed for females and males in outcomes in the analyses in this chapter. Notably, in adjusted models, maternal migration was associated with emotional violence in females (AOR 3.3), and paternal migration was associated with physical violence in males (AOR 2.1).

Chapter 4 assessed the relationship between parental migration and adverse mental health outcomes. Parental migration was associated with female participants experiencing suicidal thoughts and drunkenness. This finding supports the hypothesized association between parental migration and adverse mental health outcomes, but only in females. In females, maternal migration was associated with having been drunk in the last 30 days (AOR 3.2) and thoughts of suicide (AOR 4.2) in adjusted models. This result differs from the findings of Vanore et al. (2015) that females with maternal migration do not experience emotional symptoms or conduct problems. These differences may relate to the specific mental health outcomes that were measured. Cebotari et al. (2018) found that females with paternal migration and who were cared for by mothers in Moldova were more likely to have poorer health relative to peers as reported by caregivers, although they did not measure mental health specifically. Cebotari et al. (2018) suspected that this difference was due to the gender norms in Moldova that favor males and the additional household labor that falls to female children after parental migration.

In Chapters 3 and 4, socio-ecological factors included in the logistic regression models were explored. In both analyses, witnessing an attack in the community and witnessing violence at home were frequently included in adjusted models as covariates. The mental health models frequently included fear of community violence as a covariate as well. This result may indicate the importance of community factors in the study outcomes in a high outmigration society such as Moldova. The socio-ecological community factors may have been important to adjust for

because of the lack of community covariates included in this dataset. The survey did not collect measurements about the community other than those related to violence. Data on the community's socioeconomic status, the amount of outmigration, and other relevant factors might have further informed the analysis. The closeness to the biological mother was decreased in females and males with maternal migration. This factor was also frequently included in models in Chapter 3. Therefore, closeness to the mother is an important socio-ecological factor to consider in the association of parental migration and childhood violence.

Further data is needed on the context and impact of parental migration in Moldova. The VACS does not collect data on caregiver arrangements, and such data may be particularly important in the case of children with parental migration, as noted in other studies (Cebotari et al., 2018; Vanore, 2016; Vanore et al., 2015). As a cross-sectional study, the VACS is not able to measure changes over time. It would be valuable to know if the outcomes reported in Chapters 3 and 4 change over time from the period immediately after the parental separation occurs through longer periods of separation.

Preventing Adverse Outcomes Associated with Parental Migration

Preventing adverse outcomes associated with parental migration can be targeted at each level of the socio-ecological model through individual, relationship, community, and societal factors. Options for preventing violence and improving mental health outcomes can be found in existing research, the INSPIRE package from the World Health Organization, and other public health recommendations (World Health Organization, 2016). While there are many potential interventions to prevent violence and improve mental health, this section focuses on those interventions related to parental migration in the context of Moldova.

At the individual level, prevention efforts should consider factors such as the child's sex, alcohol and substance use, and experience of violence. As detailed above, the child's sex is an important factor for which types of violence and which adverse mental health outcomes are associated with parental migration. Alcohol use and the experience of violence are both commonly reported in Moldova and are associated with parental migration. Therefore, medical and public health practitioners should be aware of this context. Improving education and life skills represent an intervention in the INSPIRE package to decrease the experience of childhood violence (World Health Organization, 2016). More than 75% of children have reported having been taught about anger, avoiding fights, or defending against mockery, and this figure did not differ by parental migration status. Such education is an intervention recommended by the CDC to prevent youth violence (David-Ferdon et al., 2016) and is particularly important in Moldova for males with parental migration, as the prevalence of physical violence among this group affected nearly half of the survey respondents. Universal school-based programs can enhance interpersonal and emotional skills in childhood and adolescence to reduce perpetration and victimization (David-Ferdon et al., 2016).

At the relationship level, prevention efforts should include the importance of the relationships between the child and parent. This relationship was impacted by parental migration in this study, both through parental absence from the household and through the closeness of the parent-child relationship, as noted above. Parent and caregiver support can be delivered through home visits, in groups in community settings, or through comprehensive programs (World Health Organization, 2016). Prevention efforts should also include reducing the possibility of witnessing violence in the household, in intimate partner relationships or directed at siblings, as witnessing violence is common in Moldova. One potential intervention at the relationship level

from the INSPIRE package is parent and caregiver support with the objective of reducing harsh parenting practices and creating positive parent-child relationships (World Health Organization, 2016). This intervention can work in multiple ways to prevent adverse outcomes associated with parental migration. Not only can the positive parent-child relationship directly prevent childhood abuse from the parent, it can also mitigate adverse mental health outcomes associated with parental migration. Positive family functioning and a positive parent-child relationship were both associated with decreased loneliness in left-behind children in China (Chai, Du, Li, Su, & Lin, 2019). It is also important to note that multiple relationship factors that impact children and youth in Moldova can be present simultaneously. For example, children may witness violence in their home between adults, between an adult and their sibling(s), or experience violence themselves. An ecological study of socio-ecological factors related to adolescent suicidal ideation found that relationship factors can be cumulative in explaining the risk of suicidal thoughts (Orpinas & Horne, 2015).

Community interventions should focus on preventing the witnessing and experience of violence in the community and address underlying conditions that lead to violence. More than half of the survey participants reported having seen someone attacked in the community. Witnessing violence could increase perpetration and victimization by normalizing violence (Dodge et al., 1990; C. S. Widom & Wilson, 2015). Witnessing violence outside of the home can also lead to adverse mental health outcomes (Flannery, Wester, & Singer, 2004). The large degree of outmigration in Moldova can disrupt communities, so community-based interventions may be particularly valuable in that setting. One relevant intervention from INSPIRE is to create safe environments where children and youth can gather and spend time to prevent violence by modifying communities' social and physical environments (World Health Organization, 2016).

The main objective of this intervention is to prevent the direct experience of violence, and it should also work to decrease witnessing violence.

Societal interventions should address social and cultural norms and health, economic, educational, and social policies to prevent adverse outcomes associated with parental migration. Societal stigma towards migrants and the left-behind children in Moldova should be addressed. Stigma may be particularly pronounced for female migrants (International Organization for Migration, 2019; Peleah, 2007). Social norms and values about violence are a strategy in the INSPIRE package (World Health Organization, 2016). The social services sector in Moldova considers eliminating restrictive and harmful gender norms to be a priority (International Organization for Migration et al., 2020). In addition to the targeted educational programs to prevent childhood violence noted above, increasing the population's educational attainment can be a strategy to decrease childhood violence (World Health Organization Regional Office for Europe, 2013). Reducing economic inequality and poverty at the societal level is another strategy to reduce the adverse outcomes associated with parental migration, including violence and suicidal behavior. Inequality and violent crime rates are positively correlated within countries, even after controlling for other crime determinants in a study of 39 countries from 1965–95 (Fajnzylber, Lederman, & Loayza, 2002). A systematic review of studies conducted in Europe found an association between economic disadvantage and suicidal behavior in 25 of 27 included articles (Cairns, Graham, & Bambra, 2017). Finally, policy efforts should be crafted to include single-parent households due to the common situation in which one parent migrates and the other remains as a caregiver.

In addition to the prevention strategies highlighted above, response and support services should be available for children who experience violence or adverse mental health outcomes

associated with parental migration. Response and support services can include counseling and therapeutic approaches, screening combined with interventions, treatment programs, and foster care interventions (World Health Organization, 2016). For children and adolescents who experience violence, trauma-focused cognitive behavioral therapy can reduce trauma symptoms and negative psychological and emotional outcomes (King et al., 2000; Wethington et al., 2008).

Thoughts of suicide were one of the adverse mental health outcomes associated with parental migration. Effective prevention strategies can be targeted at public school staff, peer helpers, clinicians, or the community (Fountoulakis, Gonda, & Rihmer, 2011; Isaac et al., 2009; Kalafat & Elias, 1994). Mental health care in Moldova is largely institutionalized, and reform is needed to improve the accessibility and quality of services (de Vetten-Mc Mahon, Shields-Zeeman, Petrea, & Klazinga, 2019).

Excessive drinking was also associated with parental migration. Reducing excessive alcohol use among 13–17-year-olds is a priority for multilateral and bilateral agencies and the health and justice sectors in Moldova (International Organization for Migration et al., 2020). Effective strategies to reduce alcohol consumption include increasing the price of alcohol, restricting the days of sale and limiting the clustering of outlets selling alcohol (Fitterer, Nelson, & Stockwell, 2015). Interventions aimed at parents may be particularly beneficial in the context of parental migration and decreased parental monitoring from the absent parent. Characteristics of effective interventions include setting rules against underage substance use, improving communication between the parent and child, and monitoring the child's activities when not under parental supervision (Kuntsche & Kuntsche, 2016).

Conclusion

The present study adds to the limited literature on the prevalence of childhood violence and adverse mental health outcomes in Moldova and their association with parental migration. No prior studies in Moldova have examined the association of parental migration and violence, and there has been limited examination of the association of parental migration and mental health outcomes. This study adds to the growing literature about migration from Eastern Europe. The results from this study provide insight for prevention and response to outcomes associated with parental migration. Parental migration was associated with childhood emotional violence, thoughts of suicide, and having been drunk in females and with physical violence in males. Because the outcomes vary by the sex of the migrating parent and child, interventions need to be appropriately targeted.

REFERENCES

Alcaraz, C., Chiquiar, D., & Salcedo, A. (2012). Remittances, schooling, and child labor in Mexico. *Journal of Development Economics, 97*(1), 156-165.

Alleyne-Green, B., Grinnell-Davis, C., Clark, T. T., & Cryer-Coupet, Q. R. (2015). The role of fathers in reducing dating violence victimization and sexual risk behaviors among a national sample of Black adolescents. *Children and Youth Services Review, 55*, 48-55. https://doi.org/10.1016/j.childyouth.2015.04.005

Altemus, M., Sarvaiya, N., & Neill Epperson, C. (2014). Sex differences in anxiety and depression clinical perspectives. *Frontiers in Neuroendocrinology, 35*(3), 320-330. https://doi.org/10.1016/j.yfrne.2014.05.004

Andrews, G., & Slade, T. (2001). Interpreting scores on the Kessler Psychological Distress Scale (K10). *Australian and New Zealand Journal of Public Health, 25*(6), 494-497. https://doi.org/10.1111/j.1467-842X.2001.tb00310.x

Amato, P. R. (1994). Father-child relations, mother-child relations, and offspring psychological well-being in early adulthood. *Journal of Marriage and Family, 56*(4), 1031-1042. https://doi.org/10.2307/353611

Ammerman, R. T., & Patz, R. J. (1996). Determinants of child abuse potential: Contribution of parent and child factors. *Journal of Clinical Child Psychology, 25*(3), 300-307. https://doi.org/10.1207/s15374424jccp2503_6

Anderson, K. G. (2017). Adverse childhood environment: Relationship with sexual risk behaviors and marital status in a large American sample. *Evolutionary Psychology, 15*(2), 1474704917710115. https://doi.org/10.1177/1474704917710115

Annor, F. B., Gilbert, L. K., Davila, E. P., Massetti, G. M., Kress, H., Onotu, D., & Ogbanufe, O. (2020). Emotional violence in childhood and health conditions, risk-taking behaviors, and violence perpetration among young adults in Nigeria. *Child Abuse & Neglect, 106*, 104510. https://doi.org/10.1016/j.chiabu.2020.104510

Antia, K., Boucsein, J., Deckert, A., Dambach, P., Račaitė, J., Šurkienė, G., Jaenisch, T., Horstick, O., & Winkler, V. (2020). Effects of international labour migration on the mental health and well-being of left-behind children: A systematic literature review. *International Journal of Environmental Research and Public Health, 17*(12), 4335. https://doi.org/10.3390/ijerph17124335

Arends, D., Ianachevici, M., Nemerenco, A., & Turcan, A. (2017). *Children in the Republic Of Moldova: Situation Analysis 2016*. United Nations Children's Fund (UNICEF). https://www.unicef.org/moldova/media/861/file/SitAn-2016-EN.pdf

Aruta, J. J. B. R. (2021). Socio-ecological determinants of distress in Filipino adults during COVID-19 crisis. *Current Psychology*, 1-11. https://doi.org/10.1007/s12144-020-01322-x

Bandura, A. (1973). *Aggression: A social learning analysis.* Prentice-Hall.

Baranne, M. L., & Falissard, B. (2018). Global burden of mental disorders among children aged 5–14 years. C*hild and Adolescent Psychiatry and Mental Health, 12*(1), 19. https://doi.org/10.1186/s13034-018-0225-4

Basile, K. C., Breiding, M. J., & Smith, S. G. (2016). Disability and risk of recent sexual violence in the United States. *American Journal of Public Health, 106*(5), 928–933. https://doi.org/10.2105/AJPH.2015.303004

Becker, A. E., & Kleinman, A. (2013). Mental health and the global agenda. *New England Journal of Medicine, 369*(1), 66–73. https://doi.org/10.1056/NEJMra1110827

Beitchman, J. H., Zucker, K. J., Hood, J. E., daCosta, G. A., & Akman, D. (1991). A review of the short-term effects of child sexual abuse. *Child Abuse & Neglect, 15*(4), 537–556. https://doi.org/10.1016/0145-2134(91)90038-F

Beitchman, J. H., Zucker, K. J., Hood, J. E., DaCosta, G. A., Akman, D., & Cassavia, E. (1992). A review of the long-term effects of child sexual abuse. *Child Abuse & Neglect, 16*(1), 101-118. https://doi.org/10.1016/0145-2134(92)90011-F

Binci, M., & Giannelli, G. C. (2012). *Internal vs. international migration: Impacts of remittances on child well-being in Vietnam*. IZA discussion paper 6523. http://ftp.iza.org/dp6523.pdf

Boden, J. M., Horwood, L. J., & Fergusson, D. M. (2007). Exposure to childhood sexual and physical abuse and subsequent educational achievement outcomes. *Child Abuse & Neglect, 31*(10), 1101-1114. https://doi.org/10.1016/j.chiabu.2007.03.022

Boeninger, D. K., Masyn, K. E., Feldman, B. J., & Conger, R. D. (2010). Sex differences in developmental trends of suicide ideation, plans, and attempts among European American adolescents. *Suicide and Life-Threatening Behavior, 40*(5), 451–464. https://doi.org/10.1521/suli.2010.40.5.451

Bollmer, J. M., Milich, R., Harris, M. J., & Maras, M. A. (2005). A friend in need: The role of friendship quality as a protective factor in peer victimization and bullying. *Journal of Interpersonal Violence, 20*(6), 701-712. doi:10.1177/0886260504272897

Bowlby, J. (2008). *Attachment* (2nd ed.). Basic Books.

Brome, M., Saul, J., Lang, K., Lee-Pethel, R., Rainford, N., & Wheaton, J. (2004). *Sexual violence prevention: Beginning the dialogue.* Centers for Disease Control and Prevention (CDC). https://www.cdc.gov/violenceprevention/pdf/SVPrevention-a.pdf

Bronfenbrenner, U. (1989). Ecological systems theory. In R. Vasta (Ed.), *Annals of child development: Six theories of child development* (Vol. 6, pp. 1–60). JAI Press.

Bronfenbrenner, U. (1999). Environments in developmental perspective: Theoretical and operational models. In S. L. Friedman & T. D. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 3–28). American Psychological Association.

Brown, J., Cohen, P., Johnson, J. G., & Salzinger, S. (1998). A longitudinal analysis of risk factors for child maltreatment: Findings of a 17-year prospective study of officially recorded and self-reported child abuse and neglect. *Child Abuse & Neglect, 22*(11), 1065–1078. https://doi.org/10.1016/S0145-2134(98)00087-8

Brown, S., Harris, M. N., Srivastava, P., & Taylor, K. (2018). *Mental health and reporting bias: Analysis of the GHQ-12.* IZA discussion paper 11771. http://ftp.iza.org/dp11771.pdf

Cairns, J.-M., Graham, E., & Bambra, C. (2017). Area-level socioeconomic disadvantage and suicidal behaviour in Europe: A systematic review. *Social Science & Medicine, 192*, 102–111. https://doi.org/10.1016/j.socscimed.2017.09.034

Calmic, V., Cunicovschi, L., Lesco, G., Nacu, A., Vasiliev, T., Vovc, L., Tarus, M., & Vomisescu, A. (2001). *Republic of Moldova: Adolescent mental well-being–current situation and future trends.* World Health Organization (WHO). https://www.euro.who.int/__data/assets/pdf_file/0008/74771/Hbsc_Forum_2007_republic_of_moldova.pdf

Cannon, E. A., Bonomi, A. E., Anderson, M. L., & Rivara, F. P. (2009). The intergenerational transmission of witnessing intimate partner violence. *Archives of Pediatrics & Adolescent Medicine, 163*(8), 706–708. https://doi.org/10.1001/archpediatrics.2009.91

Cebotari, V., Siegel, M., & Mazzucato, V. (2016). Migration and the education of children who stay behind in Moldova and Georgia. *International Journal of Educational Development, 51*, 96–107. https://doi.org/10.1016/j.ijedudev.2016.09.002

Cebotari, V., Siegel, M., & Mazzucato, V. (2018). Migration and child health in Moldova and Georgia. *Comparative Migration Studies, 6*(1), 3. https://doi.org/10.1186/s40878-017-0068-9

Central Intelligence Agency. (2021). *The world factbook: Moldova*. https://www.cia.gov/the-world-factbook/countries/moldova/

Cerna-Turoff, I., Fang, Z., Meierkord, A., Wu, Z., Yanguela, J., Bangirana, C. A., & Meinck, F. (2021). Factors associated with violence against children in low- and middle-income countries: A systematic review and meta-regression of nationally representative data. *Trauma, Violence, & Abuse*, *22*(2), 219-232. https://doi.org/10.1177/1524838020985532

Chai, X., Du, H., Li, X., Su, S., & Lin, D. (2019). What really matters for loneliness among left-behind children in rural China: A meta-analytic review. *Frontiers in Psychology, 10*(774). https://doi.org/10.3389/fpsyg.2019.00774

Chen, M., & Chan, K. L. (2016). Parental absence, child victimization, and psychological well-being in rural China. C*hild Abuse & Neglect, 59,* 45-54. https://doi.org/10.1016/j.chiabu.2016.07.009

Chen, X., Wu, Y., & Qu, J. (2021). Parental Migration and Risk of Sexual Assault Against Children in Rural China. *Crime & Delinquency*, 0011128721989072. https://doi.org/10.1177/0011128721989072

Chiang, L., Howard, A., Gleckel, J., Ogoti, C., Karlsson, J., Hynes, M., & Mwangi, M. (2018). Cycle of violence among young Kenyan women: The link between childhood violence and adult physical intimate partner violence in a population-based survey. *Child Abuse & Neglect, 84,* 45-52. https://doi.org/10.1016/j.chiabu.2018.07.010

Choo, W.-Y., Dunne, M. P., Marret, M. J., Fleming, M., & Wong, Y.-L. (2011). Victimization experiences of adolescents in Malaysia. *Journal of Adolescent Health, 49*(6), 627-634. https://doi.org/10.1016/j.jadohealth.2011.04.020

Ciobanu, A., Habicht, J., Serbulenco, A., & Gheorghita, S. (2018). Republic of Moldova. In B. Rechel, A. Maresso, A. Sagan, C. Hernández-Quevedo, G. Williams, E. Richardson, E. Jakubowski, & E. Nolte (Eds.), *Organization and financing of public health services in Europe: Country reports* (pp. 67-80). European Observatory on Health Systems and Policies.

CIS Legislation. (1995). Law of The Republic of Moldova: About education. https://cis-legislation.com/document.fwx?rgn=3340

Collins, J. J., & Messerschmidt, P. M. (1993). Epidemiology of alcohol-related violence. *Alcohol Health and Research World, 17*(2), 93–100.

Cooper, J., Kapur, N., Webb, R., Lawlor, M., Guthrie, E., Mackway-Jones, K., & Appleby, L. (2005). Suicide after deliberate self-harm: A 4-year cohort study. *American Journal of Psychiatry, 162*(2), 297-303. https://doi.org/10.1176/appi.ajp.162.2.297

Council of Europe. (2021). Complete list of the Council of Europe's treaties. https://www.coe.int/en/web/conventions/full-list/-/conventions/treaty/201/signatures

Cuc, M. M., Lundback, M. E. J., & Ruggiero, M. E. (2006). *Migration and remittances in Moldova*. International Monetary Fund.

Dahlberg, L., & Krug, E. (2006). Violence: A global public health problem. *Ciência & Saúde Coletiva, 11*, 1163-1178.

Dahlberg, L., & Potter, L. (2001). Youth violence: Developmental pathways and prevention challenges. *American Journal of Preventive Medicine, 20*(1, Supplement 1), 3-14. https://doi.org/10.1016/S0749-3797(00)00268-3

David-Ferdon, C., Vivolo-Kantor, A. M., Dahlberg, L. L., Marshall, K. J., Rainford, N., & Hall, J. E. (2016). *A comprehensive technical package for the prevention of youth violence and associated risk behaviors*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. https://stacks.cdc.gov/view/cdc/43085

De Bellis, M. D. (2001). Developmental traumatology: The psychobiological development of maltreated children and its implications for research, treatment, and policy. *Development and Psychopathology, 13*(3), 539-564. https://doi.org/10.1017/S0954579401003078

de Vetten-Mc Mahon, M., Shields-Zeeman, L. S., Petrea, I., & Klazinga, N. S. (2019). Assessing the need for a mental health services reform in Moldova: A situation analysis. *International Journal of Mental Health Systems, 13*(1), 45. https://doi.org/10.1186/s13033-019-0292-9

Dodge, K. A., Bates, J. E., & Pettit, G. S. (1990). Mechanisms in the cycle of violence. *Science, 250*(4988), 1678. https://doi.org/10.1126/science.2270481

Dube, S. R., Felitti, V. J., Dong, M., Giles, W. H., & Anda, R. F. (2003). The impact of adverse childhood experiences on health problems: Evidence from four birth cohorts dating back to 1900. *Preventive Medicine, 37*(3), 268-277. https://doi.org/10.1016/S0091-7435(03)00123-3

East, P. L., & Hokoda, A. (2015). Risk and protective factors for sexual and dating violence victimization: A longitudinal, prospective study of Latino and African American adolescents. *Journal of Youth and Adolescence, 44*(6), 1288-1300.

Ellis, B. J., Bates, J. E., Dodge, K. A., Fergusson, D. M., John Horwood, L., Pettit, G. S., & Woodward, L. (2003). Does father absence place daughters at special risk for early sexual activity and teenage pregnancy? *Child Development, 74*(3), 801-821. https://doi.org/10.1111/1467-8624.00569

Fajnzylber, P., Lederman, D., & Loayza, N. (2002). Inequality and violent crime. *The Journal of Law and Economics, 45*(1), 1-39. https://doi.org/10.1086/338347

Fellmeth, G., Rose-Clarke, K., Zhao, C., Busert, L. K., Zheng, Y., Massazza, A., Sonmez, H., Eder, B., Blewitt, A., Lertgrai, W., Orcutt, M., Ricci, K., Mohamed-Ahmed, O., Burns, R., Knipe, D., Hargreaves, S., Hesketh, T., Opondo, C., & Devakumar, D. (2018). Health impacts of parental migration on left-behind children and adolescents: a systematic review and meta-analysis. *The Lancet, 392*(10164), 2567–2582. https://doi.org/10.1016/S0140-6736(18)32558-3

Finkelhor, D., & Baron, L. (1986). Risk factors for child sexual abuse. *Journal of Interpersonal Violence, 1*(1), 43-71. doi:10.1177/088626086001001004

Finkelhor, D., Ormrod, R. K., & Turner, H. A. (2007). Poly-victimization: A neglected component in child victimization. *Child Abuse & Neglect, 31*(1), 7-26. https://doi.org/10.1016/j.chiabu.2006.06.008

Finkelhor, D., Turner, H., Hamby, S. L., & Ormrod, R. (2011). Polyvictimization: Children's exposure to multiple types of violence, crime, and abuse. Office of Juvenile Justice and Delinquency Prevention. https://ojjdp.ojp.gov/library/publications/polyvictimization-childrens-exposure-multiple-types-violence-crime-and-abuse

Fitterer, J. L., Nelson, T. A., & Stockwell, T. (2015). A review of existing studies reporting the negative effects of alcohol access and positive effects of alcohol control policies on interpersonal violence. *Frontiers in Public Health, 3*(253). https://doi.org/10.3389/fpubh.2015.00253

Flannery, D. J., Wester, K. L., & Singer, M. I. (2004). Impact of exposure to violence in school on child and adolescent mental health and behavior. *Journal of Community Psychology, 32*(5), 559-573. https://doi.org/10.1002/jcop.20019

Flouri, E., & Buchanan, A. (2002). Life satisfaction in teenage boys: The moderating role of father involvement and bullying. *Aggressive Behavior, 28,* 126-133.

Fountoulakis, K. N., Gonda, X., & Rihmer, Z. (2011). Suicide prevention programs through community intervention. *Journal of Affective Disorders, 130*(1), 10-16. https://doi.org/10.1016/j.jad.2010.06.009

Fu, Q., Land, K. C., & Lamb, V. L. (2013). Bullying victimization, socioeconomic status and behavioral characteristics of 12th graders in the United States, 1989 to 2009: Repetitive trends and persistent risk differentials. *Child Indicators Research, 6*(1), 1-21. https://doi.org/10.1007/s12187-012-9152-8

Gagauz, O., & Pahomii, I. (2017). Youth health and health-risk behaviour. *Economy and Sociology, 4*. https://economy-sociology.ince.md/?edmc=1065

Gelles, R. J. (1989). Child abuse and violence in single-parent families: Parent absence and economic deprivation. *American Journal of Orthopsychiatry, 59*(4), 492-501. https://doi.org/10.1111/j.1939-0025.1989.tb02738.x

Gilbert, L. K., Annor, F. B., & Kress, H. (2020). Associations between endorsement of inequitable gender norms and intimate partner violence and sexual risk behaviors among youth in Nigeria: Violence Against Children Survey, 2014. *Journal of Interpersonal Violence*, 0886260520978196. https://doi.org/10.1177/0886260520978196

Godbout, N., Vaillancourt-Morel, M.-P., Bigras, N., Briere, J., Hébert, M., Runtz, M., & Sabourin, S. (2017). Intimate partner violence in male survivors of child maltreatment: A meta-analysis. *Trauma, Violence, & Abuse, 20*(1), 99-113. https://doi.org/10.1177/1524838017692382

Guang, Y., Feng, Z., Yang, G., Yang, Y., Wang, L., Dai, Q., Hu, C., Liu, K., Zhang, R., Xia, F., & Zhao, M. (2017). Depressive symptoms and negative life events: What psycho-social factors protect or harm left-behind children in China? *BMC Psychiatry, 17*(1), 402. https://doi.org/10.1186/s12888-017-1554-1

Hailes, H. P., Yu, R., Danese, A., & Fazel, S. (2019). Long-term outcomes of childhood sexual abuse: An umbrella review. *Lancet Psychiatry, 6*(10), 830-839. https://doi.org/10.1016/s2215-0366(19)30286-x

Hassan, G., & Faria, J. R. (2015). Do remittances diminish social violence? *The Journal of Development Studies, 51*(10), 1309-1325. https://doi.org/10.1080/00220388.2015.1036039

Hawton, K., Saunders, K. E. A., & O'Connor, R. C. (2012). Self-harm and suicide in adolescents. *The Lancet, 379*(9834), 2373-2382. https://doi.org/10.1016/S0140-6736(12)60322-5

Heise, L. L., & Kotsadam, A. (2015). Cross-national and multilevel correlates of partner violence: An analysis of data from population-based surveys. *The Lancet Global Health, 3*(6), e332-e340. doi:10.1016/S2214-109X(15)00013-3

Hennein, R., Mew, E. J., & Lowe, S. R. (2021). Socio-ecological predictors of mental health outcomes among healthcare workers during the COVID-19 pandemic in the United States. *PLoS ONE, 16*(2), e0246602. https://doi.org/10.1371/journal.pone.0246602

Herres, J., Wang, S. B., Bobchin, K., & Draper, J. (2018). A socio-ecological model of risk associated with campus sexual assault in a representative sample of liberal arts college students. *Journal of Interpersonal Violence, 36*(7-8), NP4208-NP4229. https://doi.org/10.1177/0886260518785376

Hillis, S., Mercy, J., Amobi, A., & Kress, H. (2016). Global prevalence of past-year violence against children: A systematic review and minimum estimates. *Pediatrics, 137*(3), e20154079. https://doi.org/10.1542/peds.2015-4079

Hillis, S. D., Anda, R. F., Dube, S. R., Felitti, V. J., Marchbanks, P. A., & Marks, J. S. (2004). The association between adverse childhood experiences and adolescent pregnancy, long-term psychosocial consequences, and fetal death. *Pediatrics, 113*(2), 320. https://doi.org/10.1542/peds.113.2.320

Hines, D. A., & Saudino, K. J. (2002). Intergenerational transmission of intimate partner violence: A behavioral genetic perspective. *Trauma, Violence, & Abuse, 3*(3), 210-225. https://doi.org/10.1177/15248380020033004

Hoglund, W. L. G., Hosan, N. E., & Leadbeater, B. J. (2012). Using your WITS: A 6-year follow-up of a peer victimization prevention program. *School Psychology Review, 41*(2), 193-214. https://doi.org/10.1080/02796015.2012.12087520

Horn, R., Arakelyan, S., Wurie, H., & Ager, A. (2021). Factors contributing to emotional distress in Sierra Leone: A socio-ecological analysis. *International Journal of Mental Health Systems, 15*(1), 58. https://doi.org/10.1186/s13033-021-00474-y

International Labour Organization. (n.d.). *Labour migration in China and Mongolia.* https://www.ilo.org/beijing/areas-of-work/labour-migration/lang--en/index.htm

International Organization for Migration. (2019). *World migration report 2020.* https://www.un.org/sites/un2.un.org/files/wmr_2020.pdf

International Organization for Migration, IMAS, & Centers for Disease Control and Prevention. (2020). *Violence against children and youth in the Republic of Moldova: Findings from a national survey, 2019*. Together for Girls. https://www.togetherforgirls.org/wp-content/uploads/Moldova-VACS-report_English.pdf

Isaac, M., Elias, B., Katz, L. Y., Belik, S.-L., Deane, F. P., Enns, M. W., & Sareen, J. (2009). Gatekeeper training as a preventative intervention for suicide: A systematic review. *The Canadian Journal of Psychiatry, 54*(4), 260-268. https://doi.org/10.1177/070674370905400407

Jordan, L. P., & Graham, E. (2012). Resilience and well-being among children of migrant parents in South-East Asia. *Child Development, 83*(5), 1672-1688. https://doi.org/10.1111/j.1467-8624.2012.01810.x

Kalafat, J., & Elias, M. (1994). An evaluation of a school-based suicide awareness intervention. *Suicide and Life-Threatening Behavior, 24*(3), 224-233. https://doi.org/10.1111/j.1943-278X.1994.tb00747.x

Kidman, R., & Palermo, T. (2016). The relationship between parental presence and child sexual violence: Evidence from thirteen countries in sub-Saharan Africa. *Child Abuse & Neglect, 51,* 172-180. https://doi.org/10.1016/j.chiabu.2015.10.018

Kieselbach, B., Kress, H., MacMillan, H., & Perneger, T. (2021). Prevalence of childhood exposure to intimate partner violence and associations with mental distress in Cambodia, Malawi and Nigeria: A cross-sectional study. *Child Abuse & Neglect, 111,* 104807. https://doi.org/10.1016/j.chiabu.2020.104807

Kilanowski, J. F. (2017). Breadth of the socio-ecological model. J*ournal of Agromedicine, 22*(4), 295-297. https://doi.org/10.1080/1059924X.2017.1358971

King, N. J., Tonge, B. J., Mullen, P., Myerson, N., Heyne, D., Rollings, S., Martin, R., & Ollendick, T. H. (2000). Treating sexually abused children with posttraumatic stress symptoms: A randomized clinical trial. *Journal of the American Academy of Child & Adolescent Psychiatry*, *39*(11), 1347–1355. https://doi.org/10.1097/00004583-200011000-00008

Kousoulis, A. A., & Goldie, I. (2021). A visualization of a socio-ecological model for urban public mental health approaches. *Frontiers in Public Health, 9*, 654011. https://doi.org/10.3389/fpubh.2021.654011

Kuntsche, S., & Kuntsche, E. (2016). Parent-based interventions for preventing or reducing adolescent substance use: A systematic literature review. *Clinical Psychology Review, 45*, 89-101. https://doi.org/10.1016/j.cpr.2016.02.004

Leșco, G., Baban, A., Sethi, D., Boderscova, L., Chihai, J., & Luchian, A. (2018). Adverse childhood experiences and associated health-risk behaviours in University students from the Republic of Moldova. World Health Organization. https://www.euro.who.int/__data/assets/pdf_file/0007/373381/mda-ace-report-eng.pdf

Lilleston, P. S., Goldmann, L., Verma, R. K., & McCleary-Sills, J. (2017). Understanding social norms and violence in childhood: Theoretical underpinnings and strategies for intervention. *Psychology, Health & Medicine, 22*(Supplement 1), 122-134. https://doi.org/10.1080/13548506.2016.1271954

Lindert, J., von Ehrenstein, O. S., Grashow, R., Gal, G., Braehler, E., & Weisskopf, M. G. (2014). Sexual and physical abuse in childhood is associated with depression and anxiety over the life course: Systematic review and meta-analysis. *International Journal of Public Health, 59*(2), 359-372. https://doi.org/10.1007/s00038-013-0519-5

Lopez, A. D., & Murray, C. C. J. L. (1998). The global burden of disease, 1990–2020. *Nature Medicine, 4*(11), 1241-1243. https://doi.org/10.1038/3218

Low, S., & Espelage, D. (2014). Conduits from community violence exposure to peer aggression and victimization: Contributions of parental monitoring, impulsivity, and deviancy. *Journal of Counseling Psychology, 61*(2), 221–231. https://doi.org/10.1037/a0035207

MacLehose, L., & McKee, M. Health care systems in transition: Republic of Moldova. World Health Organization. https://apps.who.int/iris/handle/10665/107507

Madigan, S., Cyr, C., Eirich, R., Fearon, R. M. P., Ly, A., Rash, C., Poole, J. C., & Alink, L. R. A. (2019). Testing the cycle of maltreatment hypothesis: Meta-analytic evidence of the intergenerational transmission of child maltreatment. *Development and Psychopathology, 31*(1), 23–51. https://doi.org/10.1017/S0954579418001700

Man, X., & Cao, H. (2020). Prevalence and protective factors of psychological distress among left-behind children in rural China: A study based on national data. *Journal of Child and Family Studies, 29*(5), 1274-1283. https://doi.org/10.1007/s10826-020-01703-7

Massetti, G. M., & David-Ferdon, C. (2016). Preventing violence among high-risk youth and communities with economic, policy, and structural strategies. *Morbidity and Mortality Weekly Report Supplements, 65*(1), 57–60. https://doi.org/10.15585/mmwr.su6501a9

McKay, M. T. (2015). Parental rules, parent and peer attachment, and adolescent drinking behaviors. *Substance Use & Misuse, 50*(2), 184-188. https://doi.org/10.3109/10826084.2014.962053

McKenzie, D., & Rapoport, H. (2011). Can migration reduce educational attainment? Evidence from Mexico. *Journal of Population Economics, 24*(4), 1331-1358. https://doi.org/10.1007/s00148-010-0316-x

Mercy, J. A., Butchart, A., Dahlberg, L. L. Zwi, A. B., & Krug, E. G. (2003). Violence and mental health: Perspectives from the World Health Organization's "World Report on Violence and Health". *International Journal of Mental Health, 32*(1), 20-35. https://www.jstor.org/stable/41345043

Mijatović, D. (2020). *Commissioner for Human Rights of The Council Of Europe: Report following her visit to The Republic of Moldova from 9 To 13 March 2020*. Council of Europe. https://rm.coe.int/report-on-the-visit-to-moldova-from-9-to-13-march-2020-by-dunja-mijato/16809ed0e4

Miller, G. F., Chiang, L., & Hollis, N. (2018). Economics and violence against children, findings from the Violence Against Children Survey in Nigeria. *Child Abuse & Neglect, 85*, 9-16. https://doi.org/10.1016/j.chiabu.2018.08.021

Moylan, C. A., Herrenkohl, T. I., Sousa, C., Tajima, E. A., Herrenkohl, R. C., & Russo, M. J. (2010). The effects of child abuse and exposure to domestic violence on adolescent internalizing and externalizing behavior problems. *Journal of Family Violence, 25*(1), 53-63. https://doi.org/10.1007/s10896-009-9269-9

National Bureau of Statistics (Statistica Moldovei). (2021). *Analysis of monetary poverty and wellbeing of households with children, based on 2019 Household Budget Survey results.* UNICEF. https://www.unicef.org/moldova/en/reports/analysis-monetary-poverty-and-wellbeing-households-children-2019

National Center for Injury Prevention and Control. (n.d.). *The social-ecological model: A framework for violence prevention.* Centers for Disease Control and Prevention. https://www.cdc.gov/violenceprevention/pdf/sem_framewrk-a.pdf

Nejezchleba, M. (2013, April 12). The plight of Europe's 'euro orphans'. *Deutsche Welle.* https://www.dw.com/en/the-plight-of-europes-euro-orphans/a-17268091

Nguyen, K. H., Kegler, S. R., Chiang, L., & Kress, H. (2019). Effects of poly-victimization before age 18 on health outcomes in young Kenyan adults: Violence Against Children Survey. *Violence and Victims, 34*(2), 229–242. https://doi.org/10.1891/0886-6708.Vv-d-17-00182

Nguyen, K. H., Kress, H., Villaveces, A., & Massetti, G. M. (2019). Sampling design and methodology of the Violence Against Children and Youth Surveys. *Injury Prevention, 25*(4), 321-327. https://doi.org/10.1136/injuryprev-2018-042916

Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The long-term health consequences of child physical abuse, emotional abuse, and neglect: A systematic

review and meta-analysis. *PLoS Medicine, 9*(11), e1001349. https://doi.org/10.1371/journal.pmed.1001349

Office of the United Nations High Commissioner for Human Rights. (2007). National report on the implementation of the United Nations Convention on the Rights of the Child for the United Nations Committee on the Rights of the Child, Republic of Moldova. https://www2.ohchr.org/english/bodies/crc/docs/AdvanceVersions/CRC.C.MDA.1.pdf

Orpinas, P., & Horne, A. M. (2015). Suicidal ideation and bullying: An ecological examination of community impact. In P. Goldblum, D. L. Espelage, J. Chu, & B. Bongar (Eds.), *Youth suicide and bullying: Challenges and strategies for prevention and intervention* (pp. 50-62). Oxford University Press.

Palermo, T., Pereira, A., Neijhoft, N., Bello, G., Buluma, R., Diem, P., Daban, R. A., Kaloga, I. F., Islam, A., Kheam, T., Lund-Henriksen, B., Maksud, N., Maternowska, M. C., Potts, A., Rottanak, C., Samnang, C., Shawa, M., Yoshikawa, M., & Peterman, A. (2019). Risk factors for childhood violence and polyvictimization: A cross-country analysis from three regions. *Child Abuse & Neglect, 88*, 348–361. https://doi.org/10.1016/j.chiabu.2018.10.012

Pan, L., Tian, F., Lu, F., Zhang, X., Liu, Y., Feng, W., Dai, G., & Wang, H. (2013). An exploration on long-distance communications between left-behind children and their parents in China. *CSCW '13: Proceedings of the 2013 conference on computer supported cooperative work*, 1147–1156. https://doi.org/10.1145/2441776.2441906

Park, S. H., & Kim, D. J. (2020). Global and regional impacts of alcohol use on public health: Emphasis on alcohol policies. *Clinical and Molecular Hepatology*, *26*(4), 652-661. https://doi.org/10.3350/cmh.2020.0160

Parreñas, R. S. (2005). *Children of global migration: Transnational families and gendered woes.* Stanford University Press.

Peleah, M. (2007). The impact of migration on gender roles in Moldova. *Development Transition, 8,* 14-17.

Penina, O. (2017). Alcohol-related causes of death and drinking patterns in Moldova as compared to Russia and Ukraine. *European Journal of Population, 33*(5), 679-700. https://doi.org10.1007/s10680-017-9450-4

Qu, G., Shu, L., Zhang, J., Wu, Y., Ma, S., Han, T., Zhang, H., Wang, J., & Sun, Y. (2021). Suicide ideation, suicide plan, and suicide attempt among left-behind children and adolescents: A systematic review and meta-analysis. *Suicide and Life-Threatening Behavior, 51*(3), 515–527. https://doi.org/10.1111/sltb.12731

Ratha, D., Eigen-Zucchi, C., & Plaza, S. (2016). *Migration and remittances factbook 2016.* World Bank Publications.

Ravi, S., & Ahluwalia, R. (2017). What explains childhood violence? Micro correlates from VACS surveys. *Psychology, Health & Medicine, 22*(Supplement 1), 17-30. https://doi.org/10.1080/13548506.2017.1282162

Reupert, A. (2017). A socio-ecological framework for mental health and well-being. *Advances in Mental Health, 15*(2), 105-107. https://doi.org/10.1080/18387357.2017.1342902

Reza, A., Breiding, M. J., Gulaid, J., Mercy, J. A., Blanton, C., Mthethwa, Z., Bamrah, S., Dahlberg, L., & Anderson, M. (2009). Sexual violence and its health consequences for female children in Swaziland: A cluster survey study. *The Lancet, 373*(9679), 1966–1972. https://doi.org/10.1016/S0140-6736(09)60247-6

Rhee, S., Lee, S.-Y., & Jung, S.-H. (2017). Ethnic differences in bullying victimization and psychological distress: A test of an ecological model. *Journal of Adolescence, 60*, 155-160. https://doi.org/10.1016/j.adolescence.2017.07.013

Rosenfield, S. (2000). *Gender and dimensions of the self: Implications for internalizing and externalizing behavior*. American Psychiatric Publishing.

Roth, J. A., & Reiss, A. J. (1994). *Understanding and preventing violence* (Vol. 3). National Academies Press.

Schreck, C. J., & Fisher, B. S. (2004). Specifying the influence of family and peers on violent victimization: Extending routine activities and lifestyles theories. *Journal of Interpersonal Violence, 19*(9), 1021-1041. https://doi.org/10.1177/0886260504268002

Schuster, I., & Tomaszewska, P. (2021). Pathways from child sexual and physical abuse to sexual and physical intimate partner violence victimization through attitudes toward intimate partner violence. *Journal of Family Violence, 36*(4), 443-453. https://doi.org/10.1007/s10896-020-00180-2

Schwartz, M. D. (2000). Methodological issues in the use of survey data for measuring and characterizing violence against women. *Violence Against Women, 6*(8), 815-838. https://doi.org/10.1177/10778010022182164

Sebre, S., Sprugevica, I., Novotni, A., Bonevski, D., Pakalniskiene, V., Popescu, D., Turchina, T., Friedrich, W., & Lewis, O. (2004). Cross-cultural comparisons of child-reported emotional and physical abuse: rates, risk factors and psychosocial symptoms. *Child Abuse & Neglect, 28*(1), 113–127. https://doi.org/10.1016/j.chiabu.2003.06.004

Sedlak, A. J. (1997). Risk factors for the occurrence of child abuse and neglect. *Journal of Aggression, Maltreatment & Trauma, 1*(1), 149-186. https://doi.org/10.1300/J146v01n01_09

Sethi, D., Yon, Y., Parekh, N., Anderson, T., Huber, J., Rakovac, I., & Meinck, F. (2018). *European status report on preventing child maltreatment*. World Health Organization. https://www.euro.who.int/__data/assets/pdf_file/0017/381140/wh12-ecm-rep-eng.pdf

Shenk, M. K., Starkweather, K., Kress, H. C., & Alam, N. (2013). Does absence matter? A comparison of three types of father absence in rural Bangladesh. *Human Nature, 24*(1), 76–110. https://doi.org/10.1007/s12110-013-9160-5

Shonkoff, J. P., Boyce, W. T., & McEwen, B. S. (2009). Neuroscience, molecular biology, and the childhood roots of health disparities: Building a new framework for health promotion and disease prevention. *Journal of the American Medical Association, 301*(21), 2252–2259. https://doi.org/10.1001/jama.2009.754

Shonkoff, J. P., Garner, A. S., The Committee On Psychosocial Aspects of Child and Family Health, Committee on Early Childhood, Adoption, and Dependent Care, Section on Developmental and Behavioral Pediatrics, Siegel, B. S., Dobbins, M. I., Earls, M. F., Garner, A. S., McGuinn, L., Pascoe, J., & Wood, D. L. (2012). The lifelong effects of early childhood adversity and toxic stress. *Pediatrics, 129*(1), e232. https://doi.org/10.1542/peds.2011-2663

Snopkowski, K., & Ziker, J. P. (2020). Sexual initiation among Canadian youth: A model comparison approach of evolutionary hypotheses shows greatest support for extrinsic mortality cues, intergenerational conflict, and early life psychosocial stressors. *Evolution*

and Human Behavior, 41(2), 105-116. https://doi.org/10.1016/j.evolhumbehav.2019.08.003

Smith, P., Flay, B. R., Bell, C. C., & Weissberg, R. P. (2001). The protective influence of parents and peers in violence avoidance among African-American youth. *Maternal and Child Health Journal, 5*(4), 245-252. https://doi.org/10.1023/A:1013080822309

Social Protection and Jobs Global Practice, Europe and Central Asia Region. (2018). *Gender inequalities in Moldova's labor market*. World Bank Group. https://documents1.worldbank.org/curated/pt/199821547611783415/Gender-Inequalities-in-Moldova-s-Labor-Market.docx

Solheim, C. A., & Ballard, J. (2016). Ambiguous loss due to separation in voluntary transnational families. *Journal of Family Theory & Review, 8*(3), 341-359. https://doi.org/10.1111/jftr.12160

Stalker, K., & McArthur, K. (2012). Child abuse, child protection and disabled children: A review of recent research. *Child Abuse Review, 21*(1), 24-40. https://doi.org/10.1002/car.1154

Steinberg, L. D., Catalano, R., & Dooley, D. (1981). Economic antecedents of child abuse and neglect. *Child Development, 52*(3), 975-985. https://doi.org/10.2307/1129102

Sulima, S. (2019). Parental migration as neglect: The negative impact of missing parents on the behaviour of children left behind in Moldova. *Research and Science Today, 17*(1), 9–23.

Tian, X., Chang, W., Meng, Q., Chen, Y., Yu, Z., He, L., & Xiao, Y. (2019). Resilience and self-harm among left-behind children in Yunnan, China: A community-based survey. *BMC Public Health, 19*(1), 1728. https://doi.org/10.1186/s12889-019-8075-4

Ţîrdea, M., Ciobanu, A., Vasiliev, T., & Buzdugan, L. (2011). Reducing harmful use of alcohol: Cost-effectiveness of alcohol control strategies in the Republic of Moldova. World Health Organization. https://apps.who.int/iris/bitstream/handle/10665/107298/e96177.pdf

UNICEF. (n.d.). *Child protection.* https://www.unicef.org/moldova/en/child-protection

UNICEF, & Ministry of Labor, Social Protection and Family of the Republic of Moldova. (2015). *Children without adequate parental care.* UNICEF. https://www.unicef.org/moldova/media/836/file/Children-without-adequate-parental-care-EN.pdf

United Nations Department of Economic and Social Affairs. (2019). *International Migrant Stock 2019.* https://www.un.org/en/development/desa/population/migration/publications/migrationreport/docs/MigrationStock2019_TenKeyFindings.pdf

United Nations Department of Economic and Social Affairs. (n.d.). *Goal 16.* https://sdgs.un.org/goals/goal16

UN Women. (2015). *Analysis of tendencies, causes, risks, vulnerabilities and capabilities regarding women migrating for work*. https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2015/23-analysis-of-tendencies-causes-risks-vulnerabilities-and-capabilities-regarding-women-migrating-for-work-2015-en.pdf?la=en&vs=3117

UN Women. (n.d.). Gender equality in Moldova. Retrieved from https://moldova.unwomen.org/en/munca-noastra/gender-equality-in-moldova

UN Women. (2016). Law No. 45-Xvi on Preventing and Combating Family Violence. https://evaw-global-database.unwomen.org/fr/countries/europe/republic-of-moldova/2007/law-no-45-xvi-of-2007-on-preventing-and-combating-family-violence

Valdés-Cuervo, Á.-A., Martínez-Ferrer, B., & Carlos-Martínez, E.-A. (2018). The role of teaching practices in the prevention of school violence among peers. *Revista de Psicodidáctica (English edition), 23*(1), 33–38. https://doi.org/10.1016/j.psicoe.2017.05.007

VanderEnde, K., Mercy, J., Shawa, M., Kalanda, M., Hamela, J., Maksud, N., Ross, B., Gupta, S., Wadonda-Kabondo, N., & Hillis, S. (2016). Violent experiences in childhood are associated with men's perpetration of intimate partner violence as a young adult: A multistage cluster survey in Malawi. *Annals of Epidemiology, 26*(10), 723–728. https://doi.org/10.1016/j.annepidem.2016.08.007

Vanore, M. (2016). All in the family: Family-member migration and the psychosocial health of children in Georgia. *Migration Studies, 4*(3), 309-330. https://doi.org/10.1093/migration/mnw014

Vanore, M., Mazzucato, V., & Siegel, M. (2015). 'Left behind' but not left alone: Parental migration & the psychosocial health of children in Moldova. *Social Science & Medicine, 132*, 252-260. https://doi.org/10.1016/j.socscimed.2014.08.040

Vanore, M., & Siegel, M. (2015). The evolution of gendered migration trajectories from Moldova & Georgia. *Comparative Migration Studies, 3*(1), 4. https://doi.org/10.1007/s40878-015-0001-z

Vaughan-Eden, V., Holden, G. W., & LeBlanc, S. S. (2019). Commentary: Changing the social norm about corporal punishment. *Child and Adolescent Social Work Journal, 36*(1), 43-48. https://doi.org/10.1007/s10560-018-0592-y

Vigo, D., Thornicroft, G., & Atun, R. (2016). Estimating the true global burden of mental illness. *The Lancet Psychiatry, 3*(2), 171-178. https://doi.org/10.1016/S2215-0366(15)00505-2

Votruba, N., & Thornicroft, G. (2016). Sustainable development goals and mental health: Learnings from the contribution of the FundaMentalSDG global initiative. *Global Mental Health, 3*, e26. https://doi.org/10.1017/gmh.2016.20

Wang, C., Tang, J., & Liu, T. (2020). The sexual abuse and neglect of "left-behind" children in rural China. *Journal of Child Sexual Abuse, 29*(5), 586-605. https://doi.org/10.1080/10538712.2020.1733159

Wang, F., Lin, L., Xu, M., Li, L., Lu, J., & Zhou, X. (2019). Mental health among left-behind children in rural China in relation to parent-child communication. *International Journal of Environmental Research and Public Health, 16*(10). https://doi.org/10.3390/ijerph16101855

Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health, 45*(4), 368-375. https://doi.org/10.1016/j.jadohealth.2009.03.021

Wang, Y., Zhang, M., & Chen, H. (2019). Self-injury among left-behind adolescents in rural China: The role of parental migration and parent–child attachment. *Frontiers in Psychology, 9*(2672). https://doi.org/10.3389/fpsyg.2018.02672

Wethington, H. R., Hahn, R. A., Fuqua-Whitley, D. S., Sipe, T. A., Crosby, A. E., Johnson, R. L., Liberman, A. M., Móscicki, E., Price, L. N., Tuma, F. K., Kalra, G., Chattopadhyay,

S. K., & Task Force on Community Preventive Services (2008). The effectiveness of interventions to reduce psychological harm from traumatic events among children and adolescents: A systematic review. *American Journal of Preventive Medicine, 35*(3), 287–313. https://doi.org/10.1016/j.amepre.2008.06.024

Whitaker, D. J., Le, B., Karl Hanson, R., Baker, C. K., McMahon, P. M., Ryan, G., Klein, A., & Rice, D. D. (2008). Risk factors for the perpetration of child sexual abuse: A review and meta-analysis. *Child Abuse & Neglect, 32*(5), 529–548. https://doi.org/10.1016/j.chiabu.2007.08.005

Widom, C., & Hiller-Sturmhöfel, S. (2001). Alcohol abuse as a risk factor for and consequence of child abuse. *Alcohol Research & Health: The journal of the National Institute on Alcohol Abuse and Alcoholism, 25*(1), 52-57.

Widom, C. S., & Wilson, H. W. (2015). Intergenerational transmission of violence. In J. Lindert & I. Levav (Eds.), *Violence and mental health: Its manifold faces* (pp. 27-45). Springer Science + Business Media.

World Bank. (2021). *Suicide mortality rate (per 100,000 population).* https://data.worldbank.org/indicator/SH.STA.SUIC.P5

World Health Organization. (2018). *Global status report on alcohol and health 2018.* http://apps.who.int/iris/bitstream/handle/10665/274603/9789241565639-eng.pdf?ua=1&ua=1

World Health Organization. (2016). *INSPIRE: Seven strategies for ending violence against children.*

World Health Organization. (2021). *The ecological framework.* https://www.who.int/violenceprevention/approach/ecology/en/

World Health Organization Regional Office for Europe. (2013). *European report on preventing child maltreatment.* https://www.euro.who.int/__data/assets/pdf_file/0019/217018/European-Report-on-Preventing-Child-Maltreatment.pdf

World Health Organization Regional Office for Europe. (2021). *Suicide.* https://www.euro.who.int/en/health-topics/noncommunicable-diseases/mental-health/areas-of-work/suicide

Xu, Y., Xu, D., Simpkins, S., & Warschauer, M. (2019). Does it matter which parent is absent? Labor migration, parenting, and adolescent development in China. *Journal of Child and Family Studies, 28*(6), 1635-1649. https://doi.org/10.1007/s10826-019-01382-z

Yan, L., Zhu, Q., Tu, X., Zuo, X., Yu, C., Lou, C., & Lian, Q. (2018). Bullying victimization and child sexual abuse among left-behind and non-left-behind children in China. *PeerJ, 6,* e4865. https://doi.org/10.7717/peerj.4865

Zhang, H., Behrman, J. R., Fan, C. S., Wei, X., & Zhang, J. (2014). Does parental absence reduce cognitive achievements? Evidence from rural China. *Journal of Development Economics, 111,* 181-195. https://doi.org/10.1016/j.jdeveco.2014.09.004

Zhao, F., & Yu, G. (2016). Parental migration and rural left-behind children's mental health in China: A meta-analysis based on mental health test. *Journal of Child and Family Studies, 25*(12), 3462-3472. https://doi.org/10.1007/s10826-016-0517-3

Zhou, B. (1991). *Mental health test.* East China Normal University Press.

Zhu, X., Liu, J., & Liang, Z. (2020). Are left-behind children more likely to be bullied? Empirical evidence from rural schools in Shaanxi province. *Chinese Sociological Review, 52*(4), 411-437. https://doi.org/10.1080/21620555.2020.1776603