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INÊS PEREIRA DE FARIA

WORLD ASSUMPTIONS MEDIATE ASSOCIATIONS BETWEEN POLYTRAUMA WITH PTSD AND PSYCHIATRIC SYMPTOMS IN KENYAN ADOLESCENTS

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Dissertação apresentada à Faculdade de Ciências Sociais e Tecnologia da Universidade Europeia, para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Psicologia Clínica e da Saúde realizada sob a orientação científica do Doutor Paulo Alexandre da Silva Ferrajão,
Professor Auxiliar da *Universidade Europeia.*

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Resumo

Existem evidências na literatura de que a exposição a experiências adversas na infância tem impacto na saúde mental dos adolescentes, aumentando a vulnerabilidade para desenvolvimento de sintomas psiquiátricos e de Perturbação de Stresse Pós-Traumático (PSPT). Os pressupostos básicos (valor do self, benevolência do mundo e significado do mundo) podem influenciar a relação entre a exposição a experiências adversas na infância e os sintomas psiquiátricos e de PSPT. Procedemos à análise da associação entre a exposição direta e indireta a experiências adversas na infância e os sintomas psiquiátricos e de PSPT, explorando o papel mediador dos pressupostos básicos nesta associação. Uma amostra de 477 adolescentes quenianos, com uma média de idade de 16.4 anos (SD=1.4), completou questionários de autorrelato validados. Foram testados modelos de mediação múltipla em série através da realização do modelo de equações estruturais de Preacher e Hayes (2008). Os resultados indicaram que havia diferenças estatisticamente significativas na média de exposição direta e indireta a experiências adversas na infância entre o sexo feminino e o sexo masculino, sendo a média do sexo feminino superior. Não havia diferenças estatisticamente significativas na média dos sintomas psiquiátricos e de PSPT entre o sexo feminino e o sexo masculino. Verificou-se que a exposição indireta a experiências adversas na infância teve apenas um efeito direto nos sintomas psiquiátricos e a exposição direta a experiências adversas na infância teve um efeito direto nos sintomas psiquiátricos e nos sintomas de PSPT. Os resultados indicaram que: o valor do self era mediador da associação entre a exposição direta e indireta a experiências adversas na infância e sintomas psiquiátricos; níveis mais elevados de benevolência do mundo estavam associados a níveis mais reduzidos dos sintomas psiquiátricos e de PSPT; o significado do mundo era mediador da associação entre a exposição indireta a experiências adversas na infância e os sintomas de PSPT.

Palavras-chave: experiências adversas na infância, pressupostos básicos, perturbação psicológica, adolescência, países de baixo rendimento

Abstract

There is evidence in the literature that exposure to adverse childhood experiences (ACEs) impacts on adolescents' mental health, increasing vulnerability to develop psychiatric symptoms and post-traumatic stress disorder (PTSD). World assumptions (worthiness of the self), benevolence of the world and meaningfulness of the world) may influence the relationship between exposure to ACEs and psychiatric and PTSD symptoms. We proceeded to examine the association between direct and indirect exposure to ACEs and psychiatric and PTSD symptoms exploring the mediating role of basic assumptions in this association. A sample of 477 Kenyan adolescents, with a mean age of 16.4 years (SD=1.4), completed validated self-report questionnaires. Serial multiple mediation models were tested by performing the structural equation model of Preacher and Hayes (2008). Results indicated that there were statistically significant differences in mean of direct and indirect exposure to ACEs between females and males, with the female mean being higher. There were no statistically significant differences in mean psychiatric and PTSD symptoms between female and male. Indirect ACEs exposure was found to have only a direct effect on psychiatric symptoms, and direct ACEs exposure was found to have a direct effect on psychiatric symptoms and PTSD symptoms. The results, considering world assumptions, indicated that: worthiness of the self was a mediator of the association between direct and indirect exposure to ACEs and psychiatric symptoms; higher levels of benevolence of the world were associated with lower levels of psychiatric and PTSD symptoms; meaningfulness of the world was a mediator of the association between indirect exposure to ACEs and PTSD symptoms.

Keywords: adverse childhood experiences, world assumptions, psychological distress, adolescence, lower-middle-income countries

Índice

Introdução

A adolescência é um período muito sensível a perturbações e existe um elevado de risco de perturbações no desenvolvimento (Walker et al., 2020). A literatura indica que há uma elevada prevalência de exposição a acontecimentos traumáticos neste período de desenvolvimento (Esaki & Larkin, 2013; Nooner et al., 2012), o que pode ter um grande impacto na saúde mental dos adolescentes (Nadeem et al., 2021). Considerando o impacto referido anteriormente, é necessário entender os fatores que influenciam a associação entre a exposição a acontecimentos traumáticos e os problemas de saúde mental, de modo a prevenir e desenvolver intervenções psicológicas na adolescência.

A maioria das investigações relativamente aos acontecimentos traumáticos, nomeadamente na adolescência, focam apenas num tipo de traumatização (Finkelhor et al., 2011). Existem evidências na literatura que, indivíduos expostos a um tipo de traumatização, têm maior probabilidade de estar expostos a múltiplas formas de traumatização (Finkelhor et al., 2007; Kilpatrick et al., 2013; Saunders, 2003). Os poucos estudos sobre a exposição a múltiplas formas de traumatização e a saúde mental, foram produzidos na sua maioria, em países de alto rendimento socioeconómico, enquanto subsiste a carência de investigação nos países de rendimento socioeconómico médio-baixo (PRSMB).

Nos PRSMB, nomeadamente em países africanos, a experiência da exposição a acontecimentos traumáticos em crianças e adolescentes é um fenómeno comum e pode ser visto como uma "condição" ao longo da vida (Karsberg & Elklit, 2012; Njenga, 2002). Em alguns países africanos, nomeadamente no Quénia, existe um padrão de elevada exposição a acontecimentos traumáticos (Betancourt et al., 2013; Njenga, 2002). Por exemplo, a situação política instável no Quénia em dezembro de 2007, onde ocorreram vários cenários de violência na comunidade, e consequentemente a experiência ou testemunha de múltiplos tipos de experiências adversas na infância.

Apesar da maior parte dos estudos terem analisado o efeito direto de exposição na saúde mental das crianças, alguns estudos evidenciam várias formas de angústia e mal-estar/desajustamento como consequência da exposição direta e indireta aos acontecimentos traumáticos (Bogart et al., 2014; Finkelhor et al., 2013; Hughes et al., 2017; Reijntjes et al., 2010). Neste estudo torna-se relevante, pela pequena quantidade de estudos que referem a

diferença da exposição direta e indireta a experiências adversas na infância, considerar ambas as formas de exposição em amostras de adolescentes africanos, especificamente no Quénia.

A exposição a múltiplas experiências adversas na infância e adolescência aumenta o risco de Perturbação de Stresse Pós-Traumático (PSPT) e outros sintomas psiquiátricos (Felitti et al., 1998; Finkelhor et al., 2013). Muitos estudos indicam que existe uma associação entre a exposição a experiências adversas na infância e os sintomas de PSPT (Breslau et al., 2004; Felitti et al., 1998; Scott, 2007; Thabet et al., 2004) e outros sintomas psiquiátricos (Gloger et al., 2021; Goldenson et al., 2020; Waikamp & Serralta, 2018).

Os processos cognitivos têm um papel muito importante na persistência de consequências pós-traumáticas consecutivas à exposição a acontecimentos traumáticos (Dunmore et al., 2001). Diferentes modelos de traumatização e recuperação referem a associação entre a violação dos esquemas nucleares dos indivíduos após a exposição a experiências adversas na infância e os sintomas psiquiátricos e de PSPT (Cann et al., 2010; Janoff-Bulman, 1992; Park, 2010). O coping dos indivíduos expostos a acontecimentos traumáticos abrange a assimilação ou acomodação da informação relativa à traumatização nos esquemas prévios, incluindo a revisão e reconstrução de novos pressupostos acerca do self e o mundo (Janoff-Bulman, 1989).

De acordo com a teoria dos pressupostos básicos (Janoff-Bulman, 1992), o indivíduo tem um conjunto de pressupostos acerca do self, dos outros e do mundo que lhe transmite segurança, proteção e invulnerabilidade, que se dividem em três grandes domínios: o valor do self, a benevolência do mundo e o significado do mundo. No seguimento desta teoria, sempre que um acontecimento viola ou afeta os pressupostos básicos, torna-se traumático. (Janoff-Bulman, 1992). Esta incongruência entre a informação relacionada com a experiência traumática e os pressupostos básicos anteriores, pode provocar o abandono desses pressupostos através da adoção e reconstrução de novos pressupostos, de forma a coincidir com as experiências traumáticas.

Existe uma lacuna na investigação na associação entre a exposição a experiências adversas na infância e os pressupostos básicos. Num estudo anterior, observou-se que níveis elevados de exposição a acontecimentos traumáticos na infância estavam associados com níveis mais baixos de valor do self e de benevolência do mundo em pacientes clínicos (Giesen-Bloo & Arntz, 2005). Alguns estudos propuseram que indivíduos expostos a diversos acontecimentos

traumáticos poderiam apresentar pressupostos básicos mais negativos (Attin, 2002; Elklit et al., 2007; Janoff-Bulman, 1992; Magwaza, 1999).

Apesar de existirem evidências de que, as variáveis acima mencionadas (exposição direta e indireta a experiências adversas na infância, pressupostos básicos, sintomas psiquiátricos e sintomas de PTSD) estão associados entre si, de acordo com nosso melhor conhecimento, nenhum estudo analisou estas variáveis em simultâneo no mesmo estudo. Considerando as lacunas existentes na investigação em adolescentes quenianos, é relevante analisar o papel dos pressupostos básicos (valor do self; benevolência do mundo; significado do mundo) como mediadores da associação entre a exposição direta e indireta a experiências adversas na infância e os sintomas psiquiátricos e de PSPT.

Esta dissertação contém um estudo empírico, no qual foram analisadas as associações entre a exposição direta e indireta a experiências adversas na infância e os sintomas de PSPT e sintomas psiquiátricos em adolescentes quenianos, analisando o papel mediador dos pressupostos básicos (valor do self; benevolência do mundo; significado do mundo) na associação entre a exposição direta e a exposição indireta a experiências adversas na infância e os sintomas psiquiátricos e de PSPT. Por último, é apresentada uma discussão, uma reflexão crítica dos objetivos do estudo, das hipóteses, assim como das limitações do estudo, sugestões para a investigação futura, implicações para a prática clínica, intervenção na comunidade e avaliação psicológica.

World Assumptions Mediate Associations Between Polytraumatization with PTSD and Psychiatric Symptoms in Kenyan Adolescents

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Abstract

There is evidence in the literature that exposure to adverse childhood experiences (ACEs) impacts on adolescents' mental health, increasing vulnerability to develop psychiatric symptoms and post-traumatic stress disorder (PTSD). Word assumptions (worthiness of the self, benevolence of the world and meaningfulness of the world) may influence the relationship between exposure to ACEs and psychiatric and PTSD symptoms. We proceeded to examine the association between direct and indirect exposure to ACEs and psychiatric and PTSD symptoms exploring the mediating role of world assumptions in this association. A sample of 477 Kenyan adolescents, with a mean age of 16.4 years (SD=1.4), completed validated self-report questionnaires. Serial multiple mediation models were tested by performing the structural equation model of Preacher and Hayes (2008). Results indicated that there were statistically significant differences in mean of direct and indirect exposure to ACEs between females and males, with the female mean being higher. There were no statistically significant differences in mean psychiatric and PTSD symptoms between female and male. Indirect ACEs exposure was found to have only a direct effect on psychiatric symptoms, and direct ACEs exposure was found to have a direct effect on psychiatric symptoms and PTSD symptoms. The results, considering world assumptions, indicated that: worthiness of the self was a mediator of the association between direct and indirect exposure to ACEs and psychiatric symptoms; higher levels of benevolence of the world were associated with lower levels of psychiatric and PTSD symptoms; meaningfulness of the world was a mediator of the association between indirect exposure to ACEs and PTSD symptoms.

Keywords: adverse childhood experiences, world assumptions, psychological distress, adolescence, lower-middle-income countries

World Assumptions Mediate Associations Between Polytraumatization with PTSD and Psychiatric Symptoms in Kenyan Adolescents

Adverse childhood experiences (ACEs) consist of a range of early-life challenges and traumatic events (e.g., accidents, physical abuse, death of a family member) that occur in childhood and adolescence (before age 18) and may worsen the likelihood of negative outcomes throughout the life course (Betancourt et al., 2012; Contractor et al., 2018; Felitti et al., 1998; Finkelhor et al., 2007). In this regard, adolescents are more vulnerable to being exposed to ACEs (Breslau et al., 2014; Waikamp et al., 2021; Ward et al., 2018). Adolescence is a very sensitive period to disorders and there is a high risk of developmental disruptions (Walker et al., 2020). There is evidence in the literature that exposure to traumatic events impacts on adolescent mental health (Nadeem et al., 2021). Therefore, understanding the factors that influence the association between exposure to ACEs and mental health problems is vital for designing policies for prevention and psychological intervention in adolescence.

Meanwhile, research on the psychological impact of exposure to ACEs has mainly addressed the effect of singular adversities, such as childhood sexual abuse or neglect, that highlights the contribution of a single type of victimization to mental health problems but underestimating the impact of exposure to multiple adverse or traumatic events on individuals' mental health. Multiple exposure to various types of traumatic events can directly increase the probability of psychological distress, especially for people in a context of extreme violence (McMullen et al., 2012). This is particularly relevant since there is evidence that individuals exposed to one type of trauma are particularly likely of being exposed to additional forms of trauma (Finkelhor et al., 2007; Kilpatrick et al., 2013; Saunders, 2003). Moreover, whereas adolescents have a higher prevalence of exposure to traumatic events (Esaki & Larkin, 2013; Nooner et al., 2012), thus making a remarkable proportion of adolescents more vulnerable to being exposed to multiple ACEs (Contractor et al., 2018; Copeland et al., 2007).

Adolescents can be exposed to ACEs either directly or indirectly. Direct exposure to ACEs encompasses the personal experience of being exposed to adverse experiences. On the other hand, indirect exposure to ACEs encompasses covers the witnessing, first- or second-hand, the experience of adversity suffered by another person (Zimmerman & Posick, 2016). Although most studies have analyzed the effect of direct exposure on children's mental health, some studies noticed various forms of distress and maladjustment because of both direct and indirect

exposure to ACEs (Bogart et al., 2014; Finkelhor et al., 2013; Hughes et al., 2017; Reijntjes et al., 2010). In fact, a few studies observed different consequences associated with direct and indirect exposure to ACEs (Bajo et al., 2018; Ferrajão et al., 2022).

Despite several studies in Western adolescent samples have shown that a high proportion of adolescents have been exposed to multiple ACEs (Appleyard et al., 2005; Buehler & Gerard, 2013; Nooner et al., 2012; Bussemakers et al., 2019), the risk of exposure to ACEs appears to be higher in adolescents from Low- and Lower-Middle-Income Countries (LALMIC), particularly African adolescents. This view is corroborated by several studies that found higher prevalence of exposure to ACEs among African children and adolescents, particularly in Kenya, compared to European and Asian countries, and United States (Betancourt et al., 2013; Le et al., 2018; Tsehay et al., 2020; Ferrajão & Elklit, 2021).

The risk of higher exposure to ACEs in African adolescents may be largely due to the environment of economic precarity, lack of resources, generalized community violence that characterizes many African countries (Gelkopf, 2018; Tsehay et al., 2020). This context of widespread poverty and adversity in conjunction with increasingly independent interaction with peers increase the risk of being exposed to violent events (Ward et al., 2018) has led some authors to define the African children and adolescents' experience of exposure to ACEs as common phenomenon which seems to be more a "condition" throughout their life history (Karsberg & Elklit, 2012; Njenga, 2002).

Exposure to community violence is common in African regions. Some of these regions are experiencing repercussions from recent civil wars involving the recruitment of young soldiers (Foster & Brooks-Gunn, 2015). In some African countries such as Kenya, this pattern of chronic exposure to ACEs is very noticeable (Betancourt et al., 2013; Njenga, 2002). Because of the contested presidential election in Kenya in December 2007, abrupt war-like violence within their community occurred for over a month. For instance, in Nairobi very high levels of violence ensued in which burning stores and homes, murder, forced circumcision and rape were committed in large number. Consequently, many Kenyan children and adolescents experienced or witnessed multiple types of ACEs. However, there is a paucity of studies on the differential effect of direct and indirect exposure to ACEs in adolescents, particularly in Kenyan samples.

The exposure to multiple ACEs during childhood and adolescence increases the risk of post-traumatic stress disorder (PTSD) and other psychiatric symptoms (Felitti et al., 1998;

Finkelhor et al., 2013). Several studies noticed a positive association between the number of adverse experiences with higher severity of PTSD symptoms (PTSS) (Breslau et al., 2004; Felitti et al., 1998; Scott, 2007; Thabet et al., 2004) and other psychiatric symptoms (Gloger et al., 2021; Goldenson et al., 2020; Waikamp & Serralta, 2018) adolescents and young adults.

Adverse Childhood Experiences and World Assumptions

Traumatic experiences may trigger several changes in individuals' cognitions (Kaźmierczak et al., 2016). According to Dunmore (2001), cognitive processes play a relevant role in the persistence of post-traumatic consequences following exposure to traumatic events. The development of distorted cognitions about the self and others may increase vulnerability for other traumatizations, which in turn are key factors for the development and maintenance of psychological distress (Brewin & Holmes, 2003; Cromer & Smyth, 2010; DePrince et al., 2011; Foa et al., 1999).

Different models of trauma and recovery share the assumption that violation of individuals ‘core schemas following adverse or traumatic experiences generate and maintain PTSS and other psychiatric symptoms (Cann et al., 2010; Janoff-Bulman, 1992; Park, 2010). Specifically, schemas, such as core beliefs and goals, possessed by individuals to make sense of themselves and their lives are violated by traumatic events, thereby, leading to the development of psychological distress (Janoff-Bulman, 1992). One of the consequences of exposure to traumatic events is the negative and permanent changes in cognitions about the self, others, and the world (Brewin & Holmes, 2003). Consequently, one of the main coping tasks of individuals exposed to traumatic events is the assimilation or accommodation of trauma-related information into previous schemas. This process includes the revision or reconstruction of new assumptions about the self and the world (Janoff-Bulman, 1989).

Lerner (1980), in just world belief theory refers assumptions about the relationship between people and the world, where the world is just given that it's malleable and predictable. Janoff-Bulman (1989) amplified this concept and proposed assumptions about the benevolence of the world. According to the assumptive world theory (Janoff-Bulman, 1992), people have a stable set of assumptions concerning themselves, others, and the world providing a healthy illusion of security, protection, and invulnerability. Hence, world assumptions are strongly and stable held expectations about the self, others, and the world that organize people’s experiences and direct their behaviors. Janoff-Bulman (1989, 1992) categorized world assumptions into three

domains with eight world assumptions. The first domain focuses on the self-related to the worthiness of the self and is represented by three basic assumptions: self-worth (people believe that they are good and worthy human beings), self-controllability (engaging in appropriate behaviors enables to control outcomes), and luck (people are protected from ill fortune). The second domain concerns core beliefs regarding the benevolence/malevolence of the environment, and it is represented by two basic assumptions e benevolence of the impersonal world (the world is a good and just place) and the benevolence of people (people are caring and decent). The third domain concerns the meaningfulness of the world that refers to distributional principles of events and outcomes, and it includes three basic assumptions: justice (people get what they deserve), controllability (people have control over their lives and outcomes), and randomness (events make sense and are not random).

According to this theoretical framework, whenever an event violates or shatters previous world assumptions it becomes traumatic (Janoff-Bulman, 1992). Consequently, the incongruence between the trauma-related information and the previous assumptions can lead to the abandonment of these assumptions through adoption or rebuilding of new assumptions in ways that coincide with their traumatic experiences. People rather than believing that the world is benevolent, they appraise the world as a dangerous place and other people as unkind; rather than believing in the meaningfulness of the world, they perceive a world as an unjust and uncontrollable place in which events happen by chance; and, rather than believing in the worthiness of the self, individuals view themselves as bad and immoral (Janoff-Bulman, 1989, 1992). After exposure to traumatic events, the individual may have a sense of present threat such as overgeneralizing the event and therefore coming to regard several normal activities as more dangerous than they are or exaggerating the likelihood of other catastrophic events occurring (Ehlers & Clark, 2000).

There is a gap in research on the association between exposure to ACEs and world assumptions. It was observed that higher exposure to stressful and traumatic life events were associated with negative world as assumptions in Israeli adolescents (Solomon & Laufer, 2005). Giesen-Bloo and Arntz (2005) found that higher experience of childhood trauma was negatively associated with lower scores on the worthiness of the self and the benevolence of the world in clinical patients. Meanwhile, several studies have documented the endorsement of more negative

world assumptions in people exposed to diverse traumatic events (Attin, 2002; Elklit et al. 2007; Janoff-Bulman, 1992; Magwaza, 1999).

However, other studies noticed that only assumptions about the worthiness of the self and benevolence of the world were different between non-victims and non-victims of bereavement (Currier et al., 2009) and childhood sexual abuse (Owens and Chard, 2001). The endorsement of negative post-trauma world assumptions was found to be positively associated with higher PTSS severity (Chung & Freh, 2019; Dekel et al., 2004; Lilly et al., 2015; Mancini et al., 2011) and other psychiatric symptoms (Barr, 2014; Chung & Freh, 2019; Grills-Taquechel et al., 2011; Lilly & Hong, 2013; Mancini et al., 2011). These results suggest that higher exposure to ACEs may have a detrimental effect on adolescents' world assumptions.

The impact of world assumptions on mental health has received substantial attention in trauma psychology, particularly in studies with adult populations. However, there are few studies on adolescence. For example, Bègue & Muller (2006) analyzed the protective effect of belief in a just world on hostile attributional bias in a sample of adolescents (aged 10-16 years). The authors verified that the belief that the personal world is fair acts as a protector against negative and stressful experiences. In another study, Sarriera et al. (2012) analyzed the association between world assumptions and well-being in Brazilian adolescents. The authors observed that world assumptions about the worthiness of the self were positively associated with well-being (Sarriera et al., 2012). These findings indicate that world assumptions may be risk or protective factors in the development of psychological distress following exposure to ACEs or traumatic events among adolescents.

This lack of research is most evident in the analysis of the relationship between ACEs, world assumptions, and PTSS and psychiatric symptoms. A few studies suggest that world assumptions may mediate the association between exposure to traumatic events with PTSS and other psychiatric symptoms. Two studies observed that world assumptions mediated the relationship between the level of trauma exposure and PTSS severity in civilians living in a warfare environment (Chung & Freh, 2019) and depression severity in victims of intimate partner violence (Lilly et al., 2011). Additionally, Lilly (2011) observed that world assumptions about the worthiness of the world and the benevolence of the world partially mediated the relationship between both total trauma exposure and dissociation as well as the relationship between interpersonal trauma exposure and dissociation in undergraduate students. It can be

proposed that world assumptions, namely world assumptions about the worthiness of the self and the benevolence of the world, mediate the association between exposure to ACEs with PTSS and other psychiatric symptoms.

There is a lack of research on the risk or protective role of world assumptions in adolescents exposed to multiple ACEs, namely in African adolescents. This is highly surprising considering that world assumptions are developed in early childhood through interaction with the environment (Janoff-Bulman, 1992). Moreover, the cultural context may influence the core beliefs about the self and the world because of the exposure to multiple ACEs (Pérez-Pedrogo et al., 2018). The context of widespread community violence and poverty that characteristic of many African countries, namely Kenya, may have an impact on the development of more negative world assumptions among Kenyan adolescents (Giesen-Blooa & Arntz, 2005). Therefore, a better understanding of cognitive distortion in the onset and maintenance of both PTSS and other psychiatric symptoms in those populations is highly needed. The present study aims to analyze the effect of direct and indirect exposure to ACEs on both PTSS and other psychiatric symptoms trough the mediation of world assumptions in a sample of Kenyan adolescents.

Based on previous findings described above, the following hypothesis were proposed:

1. Higher direct and indirect exposure to ACEs are associated with higher levels of psychiatric symptoms and PTSS.
2. Higher direct and indirect exposure to ACEs are associated with lower levels of world assumptions about the worthiness of the self and the benevolence of the world.
3. Higher levels of world assumptions about the worthiness of the self, and benevolence of the world are associated with lower levels of psychiatric symptoms.
4. Serial multiple mediation models will reveal that direct exposure to multiple ACEs is associated with lower levels of world assumptions about the worthiness of the self, benevolence of the world and meaningfulness of the world, that will relate to higher levels of PTTS and psychiatric symptoms.

Method

Participants

As can be seen in Table 1, sample included 477 Kenyan school children with a mean age around 16 years old (age range: 13-22 years old), predominantly female, and the majority lived with one of their parents. Around half of the children's parents (both mothers and fathers) had no education and only a minority had college or university education.

Table 1

Sample Demographic Characteristics

	Total (N = 477)
Age	
Mean	16.4 (SD=1.4)
Minimum	13
Maximum	22
Sex	
Females	316 (66.2%)
Males	161 (33.8%)
Living with	
Both parents	143 (30.0%)
One of their parents	290 (60.8%)
Other arrangements (uncles, siblings, grandparents, or other relatives)	44 (9.2%)

Father education	
No education	235 (49.3%)
Primary school	85 (17.8%)
Six years of education	79 (16.6%)
High school	45 (9.4%)
College	14 (2.9%)
University	19 (4.0%)
Mother education	
No education	243 (50.9%)
Primary school	107 (22.4%)
Six years of education	89 (18.7%)
High school	26 (5.5%)
College	11 (2.3%)
University	1 (0.2%)

Procedure

The main goal of the current study was to gather data about previous trauma exposure and trauma reactions among Kenyan adolescents.

All participants were recruited from three boarding schools located in central and northern Kenya in the towns of Dol Dol and Archer's Post. Two provincial schools in Dol Dol were selected (St. Francis Girls and Dol Dol Boys) which means that a certain academic level is required to be accepted. It was also selected the Uaso Boys' School in Archer's Post that is a district school, the lowest academic level in Kenyan secondary schools. The physical and environmental conditions of these three schools were considered quite typical for the larger part of the schools in Kenya. We acknowledge that there are schools in the bigger cities of Kenya

with higher standards both academically and resource-wise. The schools were selected on a convenience basis and by the choice of the towns as common provincial schools.

The institutional review board of the Assistant District Education Officer of Laikipia North District and the headmasters of the three boarding schools reviewed and approved the study. Following the World Medical Association Declaration of Helsinki's guidelines, detailed information about the study aims, procedures and the role of the participant was provided to all participants. The participation was voluntary and those accepting to participate, gave their informed consent directly. All the questionnaires were in English which is the official language of the Kenya school system.

A pilot study was first conducted with seven respondents at the age of 13-14 years from the city of Nanyuki. It was observed that students evidenced some language difficulties, especially in the questions to be answered by scales. In Likert scale-type questions, students showed a strong tendency to answer in the extremes. Consequently, the authors made a great effort of explaining the system of the scales and to create a classroom atmosphere, where there were no such thing as stupid questions. Additionally, the researcher requested that the headmaster of all three schools would spare one or more teachers for each class so that they would be able to answer and explain the questions that the researcher was not able to and indeed the teachers were very helpful with this. Besides, the procedures were changed accordingly to observation made in the pilot study, and time was spent to create a relaxed atmosphere. Part of the procedures included informal teaching about relativity in feelings, symptoms and attitudes illustrated by means of a ruler, a pair of scales, and a thermometer to set the minds of the students in the direction of weighting and grading their responses. There were a few students in each class that had difficult in understanding some of the questions and needed teacher assistance. This would not be a surprise when one considers the age range which is quite large. Several students stay in the same class for two or more years until they pass the exam and are allowed to go to the next grade. It is in no way a description of the students' understanding of the questions and their engagement which was high. Participants filled out a questionnaire package containing questions concerning demographic variables, and exposure to traumatic events along with the psychological impact of these events. The questionnaires were filled out in the classroom. An average of 15-20 minutes was spent on introduction and explanation before the

participants were asked to fill out the questionnaires. Participants spent approximately one and a half hour filling out the questionnaires.

Measures

The first part of the questionnaire package included questions concerning sociodemographic data. Specifically, information on gender, age, highest level of parental education and living arrangements was collected.

The second part of the questionnaire contained 20 questions about adverse childhood experiences, and it was asked which events they had experienced directly and indirectly. This questionnaire was developed based on empirical and clinical literature, and participants were asked whether, or not, they had been exposed directly or indirectly to life-threatening experiences (e.g., rape) and stressful family conditions (e.g., neglect). This measure was developed by Bödvarsdóttir and Elklit (2007) who selected the list of events from scientific literature and clinical experience. This measure has been widely applied cross-culturally (e.g., Ferrajão & Elklit, 2021).

The third part of the questionnaire included the Harvard Trauma Questionnaire, the Trauma Symptom Checklist, and the World Assumption Scale.

The Harvard Trauma Questionnaire: Part IV (HTQ: Mollica et al., 1992) was used to assess PTSS. It is a self-report measure that contains 30 items, 16 corresponding directly to DSM-IV-TR PTSD symptoms (APA, 2000), in which participants are invited to rate their experience of symptoms following most distressing event on a 4-point Likert scale (1 = not present, 4 = very often present). The total HTQ score provide a PTSS severity index. This measure also provides a PTSD diagnosis according to the DSM-IV criteria. Individuals meet PTSD criteria if they score three or four re-experiencing symptoms, three avoidance symptoms and two arousal symptoms. The remaining 14 items cover PTSD-like states such as negative changes in mood and cognitions (e.g., I blame myself for what happened). The cross-cultural validity of HTQ Part IV has been tested in at least two African settings; West Africa and South Africa (Kleijn et al., 2001; Renner et al., 2006). The reliability of the HTQ scale (Cronbach's alpha =.85) was satisfactory.

The Trauma Symptom Checklist (TSC: Briere & Runtz, 1989) is a measure that overlaps highly with other clinical scales, such as the Symptom Checklist (SCL-90; Derogatis, 1977) and the Hopkins Symptom Checklist (HSCL; Derogatis et al., 1974), and it was used in the current

study to assess general psychiatric symptoms. The TSC-33 includes 33 items rated on a 4-point Likert scale from “never” to “very often” with reference to the previous month. The total sum of TSC-33 in the present study served as a general psychological distress index. The reliability of the TSC scale (Cronbach’s alpha =.84) was satisfactory.

The World Assumption Scale (WAS; Janoff-Bulman, 1992) is a 32-item checklist of world assumptions that are answered on a 6-point Likert Scale, ranging from “*strongly disagree*” to “*strongly agree*” the degree to which they consider a certain statement appropriate. The WAS includes three higher order scales each one including subsidiary subscales: 1) Benevolence of the World involving the extent to which people view the world and other people positively or negatively, and includes two subscales: Benevolence of the impersonal world and Benevolence of people; 2) Meaningfulness of the World involves people's assumptions about the controllability of outcomes, and includes three subscales: (a) Justice, Controllability, and Randomness; and, 3) Worthiness of the Self involves beliefs about oneself, and includes three subscales: Self-worth, Self-controllability, and Luck. In this study, the total scores on the Worthiness of the Self, Benevolence of the world, and Meaningfulness of the world were analyzed. Higher scores in the scales refer to more positive world assumptions. The reliability of the Worthiness of the self-scale (Cronbach’s alpha =.78), the Benevolence of the world scale (Cronbach’s alpha =.81), and the Meaningfulness of the world scale (Cronbach’s alpha =.81) was satisfactory to good.

Data Analysis

Multiple Pearson correlation analyses were conducted to test bi-variate relationships between the study variables. If the coefficient value lies between ± 0.50 and ± 1, then it is said to be a strong correlation. If the value lies between ± 0.30 and ± 0.49, then it is said to be a medium correlation. When the value lies below + 0. 29, then it is said to be a small correlation (Cohen, 1988). A t-test was conducted to compare the mean of direct and indirect exposure to traumatic events, world assumptions, and PTSD and psychiatric symptoms between the females and males with a Bonferroni correction.

To test our hypothesis of serial mediation, it was employed multiple step mediation methodology, with a bootstrapped confidence interval for indirect effects (Model 6; Hayes, 2013). Specifically, the following was examined: (a) if direct and indirect exposure to traumatic events were directly linked to PTSS and psychiatric symptoms; (b) if direct and indirect exposure

to traumatic events were directly linked to levels of world assumptions; (c) if levels of world assumptions were directly linked to PTSS and psychiatric symptoms; (d) if direct and indirect exposure to traumatic events were indirectly linked to PTSS and psychiatric symptoms through world assumptions. Although world assumptions about the meaningfulness of the world were not considered in our hypotheses, they were introduced in our analysis as well. This procedure was adopted because most studies on the topic were performed in western samples, and there is an absence of studies on the relationship between these variables in Kenyan adolescents. For this reason, although we did not expect world assumptions about the meaningfulness of the world to be associated with PTSS and psychiatric symptoms, the former were introduced into the model.

Missing data analysis was conducted before executing analyses. Proportion of missing values in the tested variables ranged from 1.9 to 5.4%. Missing data occurred because some participants did not respond to all items. Little's Missing Completely at Random (MCAR) was performed which indicated that data were missing completely at random, $\chi 2\ (8) = 3.87$, $p = .87$. Imputation of missing data was conducted by performing the maximum likelihood (ML) module. Specifically, each case of available data was used to compute ML estimates. The ML estimate of a parameter was the value of the parameter that was most likely to have resulted in the observed data. The likelihood was computed independently for those cases with complete data on some variables and those with complete data on all variables. These two likelihoods were then maximized together to find the estimates.

To test the serial mediation model, a structural equation modeling (Hoyle & Smith, 1994) strategy utilizing AMOS software (Version 26; Arbuckle, 2012) and the ML method was employed. The following criteria for SEM models fit were adopted: (a) a $\chi 2$ test, (b) the root mean square error of approximation (RMSEA), (c) the comparative fit index (CFI), (d) the normed fit index (NFI), (e) Tucker Lewis Index (TLI), and (f) standardized root mean square residual (SRMR). The following criteria for each model fit were adopted: chi-square value should be non-significant, CFI, TLI and NFI > 0.95, and the RMSEA and SRMR should range from 0.00 to 0.08. Only participants who had undergone at least one traumatic event were included in the analyses. A bootstrapped confidence interval for the ab indirect effect, employing Preacher and Hayes' procedures (2008), was adopted to assess significance of indirect paths. A total of 5,000 bootstrapped samples were obtained to estimate indirect effects of each mediator. We computed bias corrected, accelerated 95% confidence intervals (CIs) to measure statistical

significance for each mediator's "ab" paths and the two-step mediation. A Confidence Interval that does not include zero reflects evidence of a significant indirect effect or significant mediation.

Results

Prevalence of exposure to traumatic events

As can be seen in Table 2, females reported higher exposure to both direct and indirect ACEs compared to males. The most reported event was direct exposure to serious illness by both females and males, followed by direct exposure to the death of someone close and indirect exposure to traffic accident. More than half of the participants reported both direct and indirect exposure to serious illness and death of someone close. Direct exposure to rape and pregnancy/abortion in males were the least prevalent events, followed by direct exposure to traffic accidents and attempted suicide also in males.

Table 2

Potential Trauma Events and Life Events according to Exposure and Sex

	Direct exposure		Indirect exposure	
	Female (n=315) Count (%)	Male (n=160) Count (%)	Female (n=315) Count (%)	Male (n=160) Count (%)
Traffic accident	72 (22.9%)	19 (11.1%)	154 (48.9%)	86 (53.8%)
Other serious accidents	75 (23.8%)	24 (15.0%)	129 (41.0%)	58 (36.3%)
Physical assault	75 (23.8%)	32 (20.0%)	84 (26.7%)	37 (23.1%)
Rape	36 (11.4%)	11 (6.9%)	108 (34.3%)	38 (23.8%)
Witnessed other people injured or killed	145 (46.0%)	39 (24.4%)	156 (49.5%)	55 (34.4%)

Came close to being injured or killed	138 (43.8%)	42 (26.3%)	133 (43.2%)	46 (28.7%)
Threats of violence	112 (35.6%)	50 (31.3%)	123 (39.0%)	39 (24.4%)
Near-drowning	87 (27.6%)	23 (14.4%)	98 (31.1%)	37 (23.1%)
Attempted suicide	55 (17.5%)	18 (11.3%)	114 (36.2%)	46 (28.7%)
Robbery/theft	114 (36.2%)	48 (30.0%)	160 (50.8%)	69 (43.1%)
Pregnancy /abortion	49 (15.6%)	17 (10.6%)	136 (43.2%)	52 (32.5%)
Serious illness	182 (57.8%)	80 (50.0%)	173 (54.9%)	83 (51.9%)
Death of someone close	175 (55.6%)	84 (52.5%)	172 (54.6%)	81 (50.6%)
Divorce	101 (32.1%)	39 (24.4%)	134 (42.5%)	57 (35.6%)
Sexual abuse	75 (23.8%)	20 (12.5%)	114 (36.2%)	38 (23.8%)
Physical abuse	96 (30.5%)	36 (22.5%)	105 (33.3%)	36 (22.5%)
Severe childhood neglect	97 (30.8%)	24 (14.0%)	109 (34.6%)	44 (27.5%)
Humiliation or persecution (bullying)	109 (34.6%)	45 (28.1%)	116 (36.8%)	48 (30.0%)
Absence of a parent	123 (39.0%)	55 (34.4%)	122 (38.7%)	53 (33.1%)
Miscellaneous	35 (11.1%)	7 (4.4%)	42 (13.3%)	8 (5.0%)

Only 25 participants (5.2%) did not report at least one traumatic event (direct or indirect exposure). Specifically, 12 females and 13 males did not report at least one traumatic event. These participants were excluded from subsequent analyzes. The average number of exposures to direct traumatic events in the total sample per participant was 5.6 (SD = 4.3; range 0-20). The average number of ACEs per participant was 12.9 (SD = 8.3; range 0-39). A *t*-test was conducted to compare the mean of direct and indirect exposure to ACEs between the females and males. All

data were tested for normality prior to the analyses using Kolmogorov-Smirnov test, as well as Levene's test for the homogeneity of the variance, and both assumptions were met. There were statistically significant differences between both groups in the number of direct exposure to ACEs ($t(448) = 3.83$; $p < .001$) and the number of indirect exposure to ACEs ($t(448) = 2.50$; $p < .01$). The mean of direct exposure to ACEs was higher in females (M = 6.3; SD = 4.3; 95% IC: 5.9–6.9) compared to males (M = 4.9; SD = 3.6; 95% IC: 4.3–5.4). Likewise, the mean of indirect exposure to ACEs was higher in females (M = 8.2; SD = 5.6; 95% IC: 7.6–8.8) compared to males (M = 6.9; SD = 4.5; 95% IC: 6.1–7.5).

Intercorrelations between study variables

As can be seen in Table 3, the direct exposure to traumatic events presented a medium positive correlation with the indirect exposure to traumatic events and a small positive correlation with both PTSD symptoms and psychiatric symptoms; direct exposure to traumatic events presented a small negative correlation with Worthiness of the self. The indirect exposure to traumatic events presented a small negative correlation with Worthiness of the self, and small negative correlations with both PTSD symptoms and psychiatric symptoms. Worthiness of the self-presented medium positive association with both Benevolence of the world and Meaningfulness of the world; the variable presented a medium negative correlation with psychiatric symptoms and a small negative correlation with PTSD symptoms. Benevolence of the world presented small negative correlation with both PTSD and psychiatric symptoms, and it presented a small positive association with Meaningfulness of the world. Meaningfulness of the world presented a small negative correlation with PTSD symptoms. PTSD symptoms presented a strong positive correlation with psychiatric symptoms. All the remaining association were non-significant.

Table 3

Correlation Matrix of Study Variables

Variables	1	2	3	4	5	6	7
1. Direct exposure to traumatic events	-	.41***	-.15**	-.07	-.05	.26***	.28***
2. Indirect exposure to traumatic events		-	-.15**	-.02	-.09*	.15***	.23***
3. Worthiness of the Self			-	.32***	.38***	-.13**	-.36***
4. Benevolence of the world				-	.10*	-.24***	-.23***
5. Meaningfulness of the world					-	.09*	.07
6. PTSD symptoms						-	.51***
7. Psychiatric symptoms							-

*$p < .05$. **$p < .01$. ***$p < .001$.

Mean comparisons between males and females

A t-test was conducted to compare the mean of PTSS, psychiatric symptoms, and world assumptions between the females and males. All data were tested for normality prior to the analyses using Kolmogorov-Smirnov test, as well as Levene's test for the homogeneity of the variance, and both assumptions were met. As can be seen in Table 4, there were no statistically

significant differences between females and males on psychiatric symptoms. However, there were statistically significant differences between both groups in the remaining variables. Females presented higher levels of Benevolence of the world, and males presented higher levels in the remaining variables.

Table 4

Means, standard deviations and mean differences between females and males on psychiatric symptoms and world assumptions

	Females (*n*=304)		Males (*n*=148)			
	M	*SD*	*M*	*SD*	*t*	*d*
PTSD symptoms	34.23	7.12	36.09	7.42	-2.57*	.26
Psychiatric symptoms	57.62	10.96	57.68	11.04	.96	-
Worthiness of the self	54.02	8.35	57.80	8.37	-4.51***	.45
Benevolence of the world	32.14	6.64	29.22	7.18	4.28***	.43
Meaningfulness of the world	50.42	8.77	53.06	7.83	-3.11**	.31

*$p < .05$. **$p < .01$. ***$p < .001$.

Analysis of serial mediation

Test of models showed a similar solution in both sexes with similar magnitudes between the variables analyzed in the model. Furthermore, the model with the complete sample showed a better fit to the data. For this reason, all analyses were performed including females and males together. However, considering that there were differences between males and females in the number of direct and indirect exposure to traumatic events, sex was controlled for all analyses.

Sex was introduced as moderator of the effect of direct and indirect exposure to traumatic events on other variables. As mentioned above, despite world assumptions about the meaningfulness of the world were not proposed as mediators to the association between ACEs and PTSS and psychiatric symptoms in our hypotheses, they were introduced in the models considering the lack of previous studies on the relationship between the study variables in Kenyan adolescents.

First, it was tested the existence of significant direct relations between the sum of direct and indirect exposure to traumatic events with both PTSS and psychiatric symptoms. This model fits the observed data well (χ^2 (1) =1.60, p = .21; NFI= .99; CFI =1.0; TLI = .99; RMSEA =.04; SMSR =.02). Direct exposure to traumatic events was associated significantly with levels of both PTSS (b = .40, p <.01, 95% CI, .23, .57) and psychiatric symptoms (b = .59, p <.01, 95% CI, .34, .84). Thus, higher levels of direct exposure to traumatic events were associated with higher levels of both PTSS and psychiatric symptoms. Indirect exposure to traumatic events was associated significantly with levels of psychiatric symptoms (b = .28, p <.05, 95% CI, .08, .48), but not with levels of PTSS (b = .09, p =.21, 95% CI, -.05, .24). The results indicated that higher levels of indirect exposure to traumatic events were associated with higher levels of psychiatric symptoms.

Next, we specified a model in which direct and indirect exposure to traumatic events had direct paths to world assumptions. This model fits the observed data well (χ^2 (3) =4.78, p = .19; NFI= .98; CFI =.99; TLI = .97; RMSEA =.04; SMSR =.03). The results indicated that direct exposure to traumatic events (b = -.22, p <.05, 95% CI, -.42, -.02) and indirect exposure to traumatic events (b = -.17, p <.05, 95% CI, -.33, -.01) were associated with levels of Worthiness of the self. Thus, higher levels of both direct and indirect exposure to traumatic events were associated with lower levels of Worthiness of the self. Indirect exposure to traumatic events was also associated with levels of Meaningfulness of the world (b = -.16, p <.05, 95% CI, -.31, -.01). The results indicated that higher levels of indirect exposure to traumatic events were associated with lower levels of Meaningfulness of the world. The associations between direct exposure to traumatic events with Benevolence of the world (b = -.12, p =.17, 95% CI, -.28, .05) and Meaningfulness of the word (b = -.02, p =.82, 95% CI, -.23, .19) were non-significant. Likewise, the associations between direct exposure to traumatic events with Benevolence of the world (b = .01, p =.87, 95% CI, -.12, .14) was non-significant.

Next, we specified a model in which the mediators – world assumptions - had direct paths to PTSS and psychiatric symptoms. The model fits the observed data well (χ^2 (2) = 2.35, p = .25; NFI= .98; CFI = .99; TLI = .95; RMSEA =.05; SMSR =.04). Worthiness of the self was associated with levels of both PTSS (b = -.09, p <.05, 95% CI, -.17, -.01) and psychiatric symptoms (b = -.45, p <.01, 95% CI, -.57, -.33). The results indicated that higher levels of Worthiness of the self were associated with lower levels of both PTSS and psychiatric symptoms. Benevolence of the world was associated with levels of both PTSS (b = -.23, p <.05, 95% CI, -.33, -.13) and psychiatric symptoms (b = -.20, p <.01, 95% CI, -.34, -.06). Thus, higher levels of Benevolence of the world were associated with lower levels of both PTSS and psychiatric symptoms. Meaningfulness was associated with levels of PTSS (b = .10, p <.05, 95% CI, .02, .18), but not with levels of psychiatric symptoms (b = .10, p =.10, 95% CI, -.02, .22). thus, higher levels of Meaningfulness of the world were associated with higher levels of PTSS.

Finally, a model was specified in which direct exposure to traumatic events had direct paths to PTSS psychiatric symptoms; and one-step indirect paths through the basic assumptions included in the model. Unstandardized coefficients and bootstrap solutions are presented in Table 5. The observed data fit the mediational model well (χ^2 (3) = 4.78, p = .19; NFI= .99; CFI =1.0; TLI = .97; RMSEA =.04; SMSR =.02). Although magnitude was attenuated the direct paths from direct exposure to traumatic events to both PTSS and psychiatric symptoms, and the direct path from indirect exposure to traumatic events to psychiatric symptoms remained significant when the model included all mediators.

The indirect paths for predicting PTSS by sums of indirect exposure to traumatic events through world assumptions about the meaningfulness of the world were significant. Therefore, the results indicated that higher levels of indirect exposure to traumatic events were associated with lower levels of Meaningfulness of the world, which in turn were associated with lower levels of PTSS. However, the indirect paths for predicting PTSS by sums of direct exposure to traumatic events through assumptions about the Worthiness of the self, Benevolence of the world and Meaningfulness of the world were all non-significant. Likewise, the indirect paths for predicting PTSS by sums of indirect exposure to traumatic events through assumptions about the Worthiness of the self and Benevolence of the world were non-significant.

The indirect paths for predicting psychiatric symptoms by sums of both direct and indirect exposure to traumatic events through world assumptions about the Worthiness of the self

were significant. Therefore, the results indicated that higher levels of both direct and indirect exposure to traumatic events were associated with lower levels of Worthiness of the self, which in turn were associated with higher levels of both psychiatric symptoms. However, the indirect paths for predicting psychiatric symptoms by sums of both direct and indirect exposure to traumatic events through world assumptions about the Benevolence of the world and Meaningfulness of the world were all non-significant.

Finally, it was also observed that the direct paths from Benevolence of the world to both PTSS and psychiatric symptoms were significant. The results indicated that higher levels of world assumptions about the Benevolence of the world were associated with lower levels of both PTSS psychiatric symptoms.

Table 5

Bootstrapped Point Estimate for Direct and Indirect Effects and 95% Confidence Intervals for predicting PTSD and Psychiatric Symptoms by Sums of Direct and Indirect Exposure to Traumatic Events through World Assumptions

	Point estimate	SE	BCa 95% CI (lower, upper)
PTSD symptoms			
Direct effect of direct exposure	.37	.08	(.20, .54)***
Direct effect of indirect exposure	.10	.07	(-.03, .23)
Indirect effect of direct exposure via Worthiness of the self	-.05	.04	(-.14, .04)
Indirect effect of indirect exposure via Worthiness of the self	-.06	.08	(-.22, .10)
Indirect effect of direct exposure via Benevolence of the world	-.12	.09	(-.28, .04)

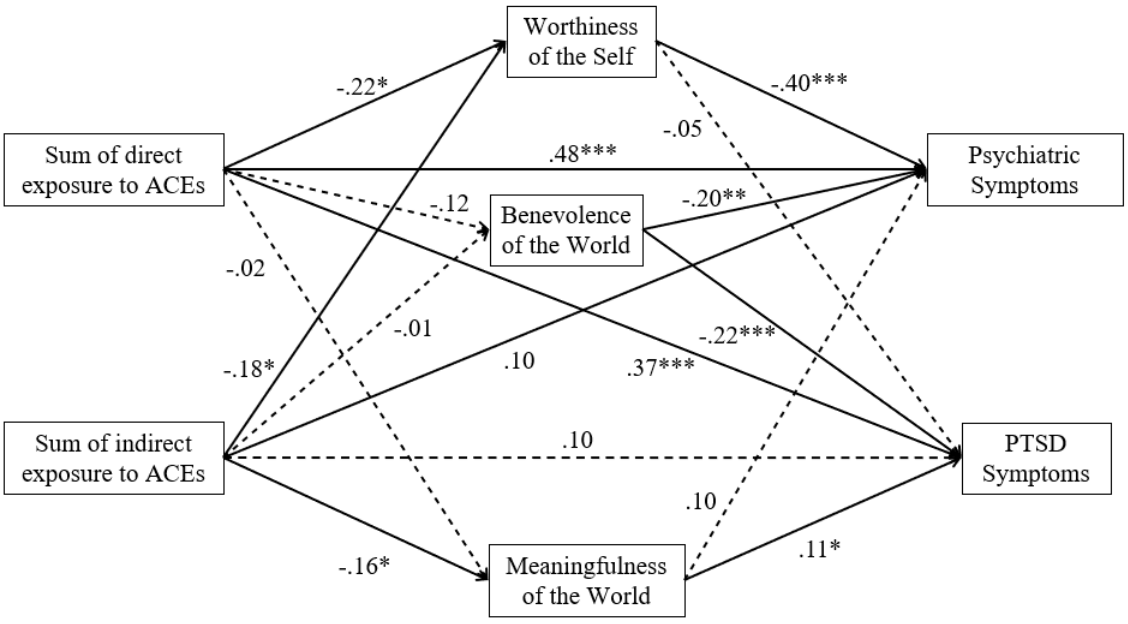
Indirect effect of indirect exposure via Benevolence of the world	.01	.07	(-.12, .14)
Indirect effect of direct exposure via Meaningfulness of the world	-.02	.10	(-.23, .18)
Indirect effect of indirect exposure via Meaningfulness of the world	.10	.04	(.02, .18)*
Psychiatric symptoms			
Direct effect of direct exposure	.48	.12	(.24, .72)***
Direct effect of indirect exposure	.23	.10	(.04, .42)*
Indirect effect of direct exposure via Worthiness of the self	-.22	.10	(-.42, -.02)*
Indirect effect of indirect exposure via Worthiness of the self	-.18	.08	(-.34, -.02)*
Indirect effect of direct exposure via Benevolence of the world	-.07	.09	(-.24, .10)
Indirect effect of indirect exposure via Benevolence of the world	.01	.05	(-.08, .10)
Indirect effect of direct exposure via Meaningfulness of the world	.10	.06	(-.01, .21)
Indirect effect of indirect exposure via Meaningfulness of the world	-.14	.08	(-.30, .02)

Note. BCa = bias corrected and accelerated; CI = confidence intervals; Confidence intervals that do not include 0 (null association) are significant. *$p < .05$. **$p < .01$. ***$p < .001$

After omitting non-significant paths (i.e., exposure to traumatic events → worthiness of the self; exposure to traumatic events → benevolence of the world; exposure to traumatic events → meaningfulness of the world; meaningfulness of the world → psychiatric symptoms) our final model fit the observed data well (χ^2 (7) = 12.91, p = .07; NFI=. .97; CFI =.99; TLI = .96; RMSEA =.04; SMSR =.03). Unstandardized results of this model are presented in Figure 1.

Figure 1

A Serial Mediational Integrated Model for Psychiatric Symptoms and PTSD Symptoms by World Assumptions



Note. Rectangles indicate measured variables. Unidirectional arrows depict hypothesized directional links. Standardized maximum likelihood parameters are used. Bold line estimates are statistically significant and dashed lines are insignificant. N =451; *p <.05, **p <.01, ***p <.001.

Discussion

The aim of this study was to examine the direct and indirect effect of exposure to ACEs on psychiatric symptoms and PTSS through the mediation of basic assumptions (worthiness of the self, benevolence of the self and meaningfulness of the world) in a sample of Kenyan adolescents. The main results indicated that indirect exposure to ACEs had only a direct effect on psychiatric symptoms and direct exposure to ACEs had a direct effect on both psychiatric symptoms and PTSS. The results indicated that worthiness of the self mediated the association between direct and indirect exposure ACEs with psychiatric symptoms. Higher levels of both direct and indirect exposure to ACEs were associated with lower levels of worthiness of the self, which in turn were associated with higher levels of psychiatric symptoms. Meaningfulness of the world mediated the association between indirect exposure to ACEs and PTSS. Higher levels of indirect exposure to ACEs were associated with lower levels of meaningfulness of the world, which in turn were associated with PTSS. Despite the hypothesis regarding the role of benevolence of the world as a mediator was not supported, higher levels of benevolence of the world were associated with lower levels of both PTSS and psychiatric symptoms. The relevance of this study lies in the analysis of the direct and indirect effect of exposure to ACEs in a sample of adolescents from LALMIC. Our hypotheses will be discussed below.

There is a high level of traumatization in African adolescents (Betancourt et al., 2013; Le et al., 2018; Tsehay et al., 2020; Ferrajão & Elklit, 2021), which is also confirmed in this study. The most common types of exposure to ACEs observed in this study are direct exposure to serious illness, direct exposure to the death of someone close, and indirect exposure to road accident. The results indicate that the average number of exposures to ACEs is 12.9 in the total sample, per participant, and the average number of direct exposures to ACEs is 5.6. In other words, there is not just one form of traumatization, but several types of traumatization of direct and indirect exposure, per individual. It was also observed that there were statistically significant differences in the mean direct and indirect exposure to ACEs between females and males. The mean of direct and indirect exposure to ACEs was higher in females compared to males. Future studies should examine the differences in direct and indirect exposure to ACEs in males and females in a sample of adolescents. These findings are in accordance with previous studies that noticed that being a female can be a risk factor for high exposure to traumatic events, namely in

several studies in other samples from African countries (Clarke et al., 2016; Asnakew et al., 2019; Jenkins et al., 2015).

Our first hypothesis was that higher direct and indirect exposure to ACEs was associated with higher levels of psychiatric symptoms and PTSS. This hypothesis was partially supported. It was observed a direct effect of direct exposure to ACEs on PTSS, and a direct effect of both direct and indirect exposure to ACEs on psychiatric symptoms. However, a direct effect of indirect exposure to ACEs on PTSS was not observed. These results are in accordance with the literature (Gloger et al., 2021; Goldenson et al., 2020; Waikamp & Serralta, 2018). Only direct exposure to ACEs seems to enhance such feelings of threat and vulnerability, which is not the case with indirect exposure to ACEs. It may be proposed that indirect exposure to ACEs is such a common phenomenon in this context that it may have a different impact on PTSS as direct exposure to ACEs (Karsberg & Elklit, 2012; Njenga, 2002).

The second hypothesis was that higher direct and indirect exposure to ACEs was associated with lower levels of both worthiness of the self and benevolence of the world. This hypothesis was partially verified. Direct and indirect exposure to ACEs had a direct effect on worthiness of the self but had no direct effect on benevolence of the world. According to the results, higher direct and indirect exposure to ACEs was associated with lower levels of worthiness of the self, which is in line with the literature (Giesen-Blooa & Arntz, 2005; Attin, 2002; Elklit et al. 2007; Janoff-Bulman, 1992; Magwaza, 1999). Although we did not include meaningfulness of the world in our hypotheses, we found that higher indirect exposure to ACEs was associated with lower levels of meaningfulness of the world. Witnessing other people' experiences is associated with less sense of control over outcomes, less sense of justice and consequently events seem more random.

The third hypothesis is that higher levels of worthiness of the self, meaningfulness of the world, benevolence of the world are associated with lower levels of both psychiatric symptoms and PTSS. This hypothesis was partially verified. Higher levels of worthiness of the self were associated with lower levels of psychiatric symptoms but with PTSS. It seems that a more negative self-image is associated with psychiatric symptoms rather than PTSS. It may manifest in other disorders such as dissociation (Lilly et al., 2011). Future studies should assess the relationship between the worthiness of the self and psychiatric symptoms in samples of adolescents. The results also indicate that higher levels of benevolence of the world were

associated with lower levels of psychiatric symptoms and PTSS, which is in line with the literature (Chung & Freh, 2019; Lilly et al., 2011). It was also observed that higher levels of meaningfulness of the world were associated with higher levels of PTSS, although the effect was weak. A possible explanation would be that traumatization is such a common phenomenon in Kenyan adolescents (Karsberg & Elklit, 2012; Njenga, 2002), which increases the perception that that something terrible will happen at any moment with them. This feeling of constant threat is typical of PTSS. In this sample, higher levels of meaningfulness of the world may result in greater vulnerability and that in turn may increase PTSS.

Our final hypothesis was that serial multiple mediation models would indicate that direct exposure to multiple ACEs were associated with lower levels of basic assumptions, namely worthiness of the self and benevolence of the world, which were associated with higher levels of both psychiatric symptoms and PTSS. This hypothesis was partially verified. It was found that higher levels of direct and indirect exposure to ACEs were associated with lower levels of worthiness of the self, which in turn were associated with higher levels of psychiatric symptoms but not PTSS. Contrary to our hypothesis, the meaningfulness of the world mediated the association between indirect exposure to ACEs and PTSS. That is, higher levels of indirect exposure to ACEs were associated with lower levels of meaningfulness of the world, which in turn related to lower levels of PTSS. Higher indirect exposure to ACEs, being such a common phenomenon (Karsberg & Elklit, 2012; Njenga, 2002), seems to be a protective factor regarding the meaning assigned to the world. In other words, higher levels of indirect exposure to ACEs (witnessing the experience of others) had a direct effect on world assumptions about the meaningfulness of the world (lack of justice, randomness, and less control of outcomes), this being more realistic, that is, a less discrepant, assumption about the meaningfulness of the world in the context of widespread community violence in Kenya. Finally, benevolence of the world did not mediate the relationship between exposure to ACEs and psychological distress. The results indicated that higher levels of benevolence of the world were associated with lower levels of both psychiatric symptoms and PTSS. The current results are in accordance with previous studies (Chung & Freh, 2019; Dekel et al., 2004; Grills-Taquechel et al., 2011; Lilly & Hong, 2013; Mancini et al., 2011).

The present study has several limitations that should be mentioned. First, the cross-sectional design forecloses the causality of the relationships between the study variables. Future

studies should analyze the relationship between both direct and indirect effect of exposure to ACEs on psychiatric symptoms and PTSS through the mediation of basic assumptions using a longitudinal design. Secondly, in this study data were collected through self-report. We suggest that future studies adopt other types of instruments such as interviews. Third, the reporting of the data on the traumatic event was performed retrospectively, based only on the participants' fallible memory. In the fourth limitation, we found that it was not possible to identify whether a specific event occurred more than once to one participant (repeated traumatization). Fifth, o World Assumption Scale has not been validated yet to Kenya population. Sixth, the Harvard Trauma Questionnaire was mainly used to measure PTSS and not PTSD. Lastly, the Trauma Symptom Checklist was mainly used to measure general psychiatric symptoms. Future studies should be conducted using measures of DSM-5 criteria. Also, upcoming studies should attempt to replicate this mediation hypothesis among other groups of adolescents in a different cultural context, following exposure to traumatic events.

Our results indicate not only high levels of exposure to traumatic events but several types of direct and indirect exposure to traumatic events in Kenyan adolescents, which may indicate that this is a high-risk period in this population. Our study also suggests that multiple exposure to traumatic events may increase the risk of PTSS and psychiatric symptoms, compromising the mental health among adolescents. Considering that the adolescents in our study were exposed to high levels of direct and indirect exposure to traumatic events and that both direct exposure and indirect exposure to traumatic events have consequences at the level of PTSS (direct effect of direct exposure) and psychiatric symptoms (direct effect of direct and indirect exposure), it is recommended that future studies analyze not only direct but also indirect exposure and its consequences on mental health in other samples of adolescents. Moreover, our results indicate that lower levels of meaningfulness of the world were related to lower levels of PTSS, in the context of the study. These findings suggest that mental health professionals should pay attention to the evaluation of world assumptions, especially the dimension of meaningfulness of the world. Aiming at the development of more realistic beliefs of meaningfulness of the world (feeling of control of outcomes, randomness, and sense of justice), acting as a protective factor against PTSS. Future studies should analyze the world assumptions, specifically the beliefs of meaningfulness of world, as a possible protective factor of PTSS, in another sample of adolescents at a different cultural context. Professionals of mental health must also pay attention

to the other two dimensions of world assumptions such as worthiness of the self and benevolence of the world since they also are partially associated with lower levels of PTSS (direct effect of benevolence of the world) and psychiatric symptoms (direct effect of worthiness of the self and benevolence of the world) in our sample.

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Discussão geral

Discussão

Objetivo do Estudo e Hipóteses

O Estudo Empírico apresentado nesta dissertação abordou os principais objetivos do nosso estudo. Primeiramente a análise da associação entre a exposição direta e indireta a experiências adversas na infância e os sintomas psiquiátricos e de Perturbação de Stresse Pós-Traumático (PSPT). De seguida, a análise da associação entre os pressupostos básicos (valor do self, benevolência do mundo e significado do mundo) e os sintomas psiquiátricos e de PSPT. E o nosso objetivo geral debruçava-se na análise do papel dos pressupostos básicos como mediadores da associação entre a exposição direta e indireta a experiências adversas na infância e os sintomas psiquiátricos e de PSPT numa amostra de adolescentes quenianos. Os nossos resultados sugerem que o valor do self é mediador da associação entre a exposição direta e indireta a experiências adversas na infância e os sintomas psiquiátricos. A benevolência do mundo estava associada aos sintomas psiquiátricos e de PSPT. Estes resultados estão em conformidade com a literatura (Chung & Freh, 2019; Dekel et al., 2004; Grills-Taquechel et al., 2011; Lilly & Hong, 2013; Mancini et al., 2011). O significado do mundo, contrariamente às nossas hipóteses, mediou a relação entre a exposição a experiências adversas na infância e os sintomas de PSPT.

O nosso estudo verificou a vulnerabilidade dos adolescentes quenianos face à exposição a experiências adversas na infância, ou seja, a prevalência da traumatização nos adolescentes proposta em estudos anteriores de amostras de países africanos (Betancourt et al., 2013; Le et al., 2018; Tsehay et al., 2020; Ferrajão & Elklit, 2021). Os nossos resultados sugerem que a exposição a acontecimentos traumáticos nos adolescentes, nomeadamente a exposição direta a doenças graves ou a morte de alguém próximo, se tornem comuns no contexto de violência e adversidade que caracteriza muitos países africanos, incluindo o Quénia (Karsberg & Elklit, 2012; Njenga, 2002).

Neste estudo foi efetuada uma análise das médias da soma total de exposições direta e indireta a experiências adversas na infância e participantes do sexo feminino comparativamente ao sexo masculino. Os nossos resultados indicaram a presença de diferenças estatisticamente significativas na média de exposição direta e indireta a experiências adversas na infância entre participantes do sexo feminino e masculino. A média de exposição direta e indireta a experiências adversas na infância foi superior no sexo feminino comparativamente com sexo masculino. Estudos anteriores indicam que existem diferenças estatisticamente significativas na

exposição a experiências adversas na infância entre indíviduos do sexo feminino comparativamente ao sexo masculino (Clarke et al., 2016; Asnakew et al., 2019; Jenkins et al., 2015). Estudos futuros deverão examinar as diferenças na exposição direta e indireta aos ACEs entre indivíduos do sexo feminino e do sexo masculino em outras amostras de adolescentes.

De igual forma foi efetuada a análise das médias dos níveis de sintomas psiquiátricos e de PTSD no sexo feminino comparativamente ao sexo masculino. Neste âmbito não foram encontradas diferenças estatisticamente significativas nos níveis de sintomas psiquiátricos entre participantes do sexo feminino e o de sexo masculino. Os nossos resultados indicaram apenas diferenças significativas nos níveis de sintomas de PTSD, uma vez que os participantes do sexo masculino apresentavam níveis superiores de sintomas de PTSD comparativamente a participantes do sexo feminino. É de salientar que os participantes do sexo feminino, neste estudo, apresentavam maior exposição a experiências adversas na infância.

Embora os resultados da nossa amostra indicarem, que os participantes do sexo feminino tinham maior exposição a experiências adversas na infância, os participantes do sexo masculino apresentaram níveis mais elevados de sintomas de PTSD. A experiências adversas na infância que apresentavam maior percentagem no sexo masculino eram, nomeadamente, a exposição direta a doença grave e a morte de alguém próximo. As nossas hipóteses serão discutidas a seguir.

Na nossa primeira hipótese propusemos que uma maior exposição direta e indireta a experiências adversas na infância estava associada a níveis mais elevados de sintomas psiquiátricos e sintomas de PSPT. Esta hipótese foi parcialmente verificada, uma vez que existe um efeito direto da exposição direta a experiências adversas na infância sobre os sintomas de PSPT, um efeito direto da exposição direta e indireta a experiências adversas na infância sobre os sintomas psiquiátricos. Contudo, não foi observado um efeito direto da exposição indireta a ACEs sobre os sintomas de PSPT. Os nossos resultados indicavam que existe um efeito direto da exposição a ACEs nos sintomas psiquiátricos estão de acordo com a literatura (Gloger et al., 2021; Goldenson et al., 2020; Waikamp & Serralta, 2018). Apenas a exposição direta a experiências adversas na infância parece aumentar tais sentimentos de ameaça e vulnerabilidade, o que não é o caso da exposição indireta a experiências adversas na infância. Propomos então que a exposição indireta a experiências adversas na infância é um fenómeno tão comum neste

contexto que pode ter um impacto diferenciador da exposição direta a experiências adversas na infância sobre os sintomas de PSPT (Karsberg & Elklit, 2012; Njenga, 2002).

A segunda hipótese era que uma maior exposição direta e indireta a experiências adversas na infância estava associada a níveis mais baixos de valor do self e de benevolência do mundo. Esta hipótese foi parcialmente verificada. A exposição direta e indireta a experiências adversas na infância teve um efeito direto sobre o valor do self, mas não teve efeito direto sobre a benevolência do mundo. De acordo com os resultados, uma maior exposição direta e indireta a experiências adversas na infância foi associada a níveis mais baixos de valor do self, o que está em conformidade com a literatura (Giesen-Blooa & Arntz, 2005; Attin, 2002; Elklit et al. 2007; Janoff-Bulman, 1992; Magwaza, 1999). De acordo com o nosso conhecimento, este é o primeiro estudo a analisar a associação entre a exposição a ACEs e os pressupostos básicos numa amostra de adolescentes africanos altamente expostos a eventos traumáticos. Embora não tenhamos incluído o significado do mundo nas nossas hipóteses, porque não há evidência anterior na literatura sobre a associação entre a exposição a experiências adversas na infância e o significado do mundo, descobrimos que uma maior exposição indireta a experiências adversas na infância estava associada a níveis mais baixos de significado do mundo. Testemunhar as experiências de outras pessoas está associado a menos sentimento de controlo sobre os resultados, menos sentimento de justiça e, consequentemente, os acontecimentos são percecionados como mais aleatórios (Cann et al., 2010; Janoff-Bulman).

Na terceira hipótese propusemos que níveis mais elevados de valor do self, significado do mundo e benevolência do mundo estavam associados a níveis mais baixos de sintomas psiquiátricos e sintomas de PSPT. Esta hipótese foi parcialmente verificada. Níveis mais elevados de valor do self estavam associados a níveis mais baixos de sintomas psiquiátricos, mas não estavam associados ao nível de sintomas de PSPT. Estes resultados indicam que uma autoimagem mais negativa está mais associada a sintomas psiquiátricos do que a sintomas de PSPT, podendo manifestar-se noutras perturbações, como a dissociação (Lilly et al., 2011). Estudos futuros devem avaliar a associação entre o valor do self e os sintomas psiquiátricos noutras amostras de adolescentes. Os resultados indicaram também que níveis mais elevados de benevolência do mundo estavam associados a níveis mais baixos de sintomas psiquiátricos e de PSPT, o que está de acordo com a literatura (Chung & Freh, 2019; Lilly et al., 2011). Foi também possível verificar que níveis mais elevados de significado do mundo estavam associados

a níveis mais elevados de sintomas de PSPT, embora o efeito fosse fraco. De acordo com estes resultados, propomos que o contexto de elevada violência comunitária que carateriza o Quénia, suscita a perceção da traumatização, fenómeno tão comum nestes adolescentes (Karsberg & Elklit, 2012; Njenga, 2002), agravando a perceção que algo malévolo irá ocorrer com eles. Esta crença na previsibilidade destas experiências ameaçadoras poderão aumentar o risco de sintomas de PSPT. Estudos futuros deverão testar esta hipótese noutras amostras de adolescentes.

Na quarta e última hipótese propusemos que os modelos de mediação múltipla em série indicariam que a exposição direta a múltiplas experiências adversas na infância estava associada a níveis mais baixos de pressupostos básicos, nomeadamente o valor do self e a benevolência do mundo, que, por sua vez estavam associados a níveis mais elevados tanto de sintomas psiquiátricos como sintomas de PSPT. Esta hipótese foi parcialmente verificada. Verificou-se que níveis mais elevados de exposição direta e indireta a experiências adversas na infância estavam associados a níveis mais baixos de valor do self, que por sua vez estavam associados a níveis mais elevados de sintomas psiquiátricos, mas não de sintomas de PSPT. Ao contrário da nossa hipótese, o significado do mundo mediou a associação entre a exposição indireta a experiências adversas na infância e os sintomas de PSPT. Ou seja, níveis mais elevados de exposição indireta a experiências adversas na infância estavam associados a níveis mais baixos de significado do mundo, que por sua vez estavam relacionados com níveis mais baixos de sintomas de PSPT. A maior exposição indireta a experiências adversas na infância, sendo um fenómeno tão comum (Karsberg & Elklit, 2012; Njenga, 2002), parece ser um fator protetor relativamente ao significado atribuído ao mundo, relativamente aos sintomas de PSPT. Por outras palavras, níveis elevados de exposição indireta a experiências adversas na infância (testemunho da experiência de outros) tiveram um efeito direto nos pressupostos básicos sobre o significado do mundo (falta de justiça, aleatoriedade, e menor controlo dos resultados), resultando num significado do mundo mais realista, ou seja, menos discrepante do contexto de violência comunitária generalizada no Quénia. Os resultados indicaram que níveis elevados de benevolência do mundo foram associados a níveis mais baixos tanto de sintomas psiquiátricos como de sintomas de PSPT. Os resultados deste estudo estão de acordo com estudos anteriores (Chung & Freh, 2019; Dekel et al., 2004; Grills-Taquechel et al., 2011; Lilly & Hong, 2013; Mancini et al., 2011).

Os nossos resultados indicavam não só níveis elevados de exposição a eventos traumáticos, mas também vários tipos de exposição direta e indireta a eventos traumáticos em adolescentes quenianos. Em conformidade com as nossas evidências, propomos que a adolescência é um período de alto risco nesta população. O nosso estudo também sugere que a exposição múltipla a eventos traumáticos pode aumentar o risco de sintomas psiquiátricos e de PSPT, comprometendo a saúde mental entre adolescentes. Considerando que os adolescentes do nosso estudo foram expostos a níveis elevados de exposição direta e indireta a eventos traumáticos e que tanto a exposição direta como a indireta a eventos traumáticos têm consequências ao nível dos sintomas de PSPT (efeito direto da exposição direta) e sintomas psiquiátricos (efeito direto da exposição direta e indireta), recomenda-se que estudos futuros analisem não só a exposição direta mas também indireta e as suas consequências sobre a saúde mental noutras amostras de adolescentes. Além disso, os nossos resultados indicam que níveis mais baixos de significância do mundo estavam relacionados com níveis mais baixos de sintomas de PSPT, no contexto do estudo. Estes resultados sugerem que os profissionais da saúde mental devem considerar a avaliação dos pressupostos básicos, especialmente a dimensão de significância do mundo. Visando o desenvolvimento de crenças mais realistas sobre o significado do mundo (sentimento de controlo dos resultados, aleatoriedade, e sentido de justiça), atuando como fator de protetor contra os sintomas de PSPT. Estudos futuros devem analisar os pressupostos básicos, especificamente as crenças do significado do mundo, como um possível fator protetor contra os sintomas de PSPT, noutras amostras de adolescentes num contexto cultural diferente. Os profissionais da saúde mental devem também considerar as outras duas dimensões dos pressupostos básicos, tais como o valor do self e a benevolência do mundo, uma vez que também estão parcialmente associados a níveis inferiores de sintomas de PSPT (efeito direto da benevolência do mundo) e sintomas psiquiátricos (efeito direto do valor do self e da benevolência do mundo) na nossa amostra.

Limitações

O presente estudo tem várias limitações que devem ser mencionadas. Em primeiro lugar, o desenho transversal não permite inferir a causalidade das relações entre as variáveis do estudo. Estudos futuros devem analisar a relação entre o efeito direto e indireto da exposição a experiências adversas na infância e os sintomas psiquiátricos e de PSPT, através da mediação de pressupostos básicos utilizando um desenho longitudinal. Em segundo lugar, neste estudo, os

dados foram recolhidos através de autorrelato. Sugerimos que estudos futuros adotem outros tipos de instrumentos, tais como entrevistas semi-estruturadas. Em terceiro lugar, o relato dos dados sobre o evento traumático foi realizado retrospetivamente, apenas com base na memória falível dos participantes. Na quarta limitação, descobrimos que não foi possível identificar se um evento específico ocorreu mais de uma vez a um participante (traumatização repetida). A quinta, o World Assumption Scale ainda não foi validado para a população do Quénia. Sexto, o Harvard Trauma Questionnaire foi utilizado principalmente para medir os sintomas de PSPT e não o PSPT. Finalmente, o Trauma Symptom Checklist foi principalmente utilizado para medir sintomas psiquiátricos gerais. Futuros estudos devem ser conduzidos utilizando medidas de acordo com os critérios da quinta edição do Diagnostic and Statistical Manual of Mental Health Disorders (American Psychiatric Association, 2013). Além disso, os próximos estudos devem tentar replicar esta hipótese de mediação noutras amostras de adolescentes num contexto cultural diferente, na sequência da exposição a eventos traumáticos.

Implicações para a Investigação

Este estudo indica diferenças estatisticamente significativas na exposição a experiências adversas na infância entre indivíduos do sexo feminino comparativamente ao sexo masculino. Estes resultados estão em conformidade com estudos anteriores em amostras de países africanos (Clarke et al., 2016; Asnakew et al., 2019; Jenkins et al., 2015). Estudos futuros deverão examinar as diferenças na exposição direta e indireta a experiências adversas na infância, entre indivíduos do sexo feminino e do sexo masculino, noutras amostras de adolescentes.

Verificámos, na amostra deste estudo, que a exposição indireta a eventos traumáticos está associada aos sintomas psiquiátricos, e que a exposição direta está associada aos sintomas psiquiátricos e de PSPT. Sugerimos que estudos futuros efetuem a análise não só da exposição direta, mas também da exposição indireta, e as suas consequências na saúde mental, noutras amostras de adolescentes.

No âmbito da análise da associação dos pressupostos básicos e os sintomas psiquiátricos e de PSPT, este estudo indicou que o valor do self não estava associado aos sintomas de PSPT, mas estava associado negativamente a sintomas psiquiátricos, podendo manifestar-se noutras perturbações como a dissociação (Lilly et al., 2011). A investigação futura deve avaliar a associação entre o valor do self e os sintomas psiquiátricos, em amostras de adolescentes. Nesta amostra, os resultados indicaram uma associação positiva entre o significado do mundo e os

sintomas de PSPT, apesar do efeito ser fraco. Propusemos então que a crença na previsibilidade de experiências ameaçadoras poderão aumentar o risco de sintomas de PSPT. A fim de analisar a associação entre estas variáveis, futuros estudos deverão testar esta hipótese noutras amostras de adolescentes. Recomendamos que a investigação futura proceda à análise dos pressupostos básicos, especificamente as crenças do significado do mundo, como um possível fator protetor contra os sintomas de PSPT, noutra amostra de adolescentes, num contexto cultural diferente.

A investigação que abrange a traumatização, em crianças e adolescentes dos PRSMB, é essencial. Sugerimos a análise da relação entre o efeito direto e indireto da exposição a experiências adversas na infância e os sintomas psiquiátricos e de PSPT, pela mediação de pressupostos básicos utilizando um desenho longitudinal. Futuramente, os estudos deverão ser conduzidos utilizando medidas de acordo com os critérios da quinta edição do Diagnostic and Statistical Manual of Mental Health Disorders (American Psychiatric Association, 2013).

Implicações para a Prática Clínica

Os resultados deste estudo fornecem indicações úteis para a intervenção com estes adolescentes. A avaliação dos pressupostos básicos pode ser um bom indicador de consequências pós-traumáticas. Deve ser considerado por exemplo, o significado do mundo, uma vez que na amostra deste estudo, níveis mais baixos do significado do mundo (menor sentimento de controlo, menor sentimento de justiça, maior aleatoriedade dos resultados) estavam relacionados com níveis mais baixos de sintomas de PSPT. Indivíduos expostos a acontecimentos traumáticos realizam o coping através da assimilação e acomodação da informação relativa ao trauma nos esquemas prévios, este processo inclui a revisão e a reconstrução de novos pressupostos básicos acerca do self e do mundo (Janoff-Bulman, 1989). Esta incongruência entre a informação relativa ao trauma e os pressupostos básicos prévios pode provocar o abandono deste pressuposto e a adoção ou a reconstrução de novos pressupostos que coincidem com a experiência traumática. Na intervenção clínica, podem ser criadas condições para o desenvolvimento de crenças mais realistas sobre o significado do mundo face ao contexto. Se este pressuposto nomeadamente, o significado do mundo, for mais realista de acordo com o contexto do indivíduo, pode atuar como fator protetor nos sintomas de PSPT. Neste estudo também verificámos que níveis elevados de benevolência do mundo estavam associados a níveis mais baixos de sintomas psiquiátricos e de PSPT e que níveis elevados de valor do self estavam associados a níveis mais baixos de sintomas psiquiátricos. Estas duas dimensões dos

pressupostos básicos, nomeadamente, a benevolência do mundo e o valor do self também devem ser avaliadas no contexto da intervenção clínica tendo em conta os sintomas psiquiátricos e de PSPT.

Implicações preventivas (sociais e comunitárias)

O contexto de violência comunitária generalizada do Quénia pode representar o contexto de outros países de rendimento socioeconómico médio-baixo, nomeadamente, outros países africanos. A exposição a acontecimentos traumáticos é prevalente neste contexto, como podemos verificar neste estudo, e a informação sobre a saúde mental nestes países é limitada (Schwartz et al., 2021). Este estudo pode então contribuir para a investigação destes países e também para a intervenção comunitária, especificamente no Quénia. É necessário o desenvolvimento de programas de prevenção não só para a consciencialização da comunidade acerca deste problema, mas também para criar condições de resolução das necessidades destes adolescentes.

Avaliação Psicológica

Este estudo indica que a exposição indireta a experiências adversas na infância está associada positivamente com os sintomas psiquiátricos, nesta amostra, e de acordo com as evidências na literatura (Bogart et al., 2014; Finkelhor et al., 2013; Hughes et al., 2017; Reijntjes et al., 2010). Os profissionais de saúde devem então avaliar a história de exposição a acontecimentos traumáticos, tanto diretos como indiretos e não apenas acontecimentos traumáticos mais relevantes como por exemplo, a violência. Neste estudo e pelo contexto de violência comunitária, a exposição indireta a experiências adversas na infância é muito elevada e deve ser considerada na avaliação psicológica.

Os pressupostos básicos, nomeadamente, o valor do self (valor próprio, sentimento de controlo no self e a sorte), a benevolência do mundo (benevolência do mundo impessoal e benevolência das pessoas) e o significado do mundo (sentimento de controlo, sentimento de justiça e a aleatoriedade) também devem ser avaliados na medida em que estão associados à exposição a acontecimentos traumáticos e aos sintomas psiquiátricos e de PSPT, nesta amostra. Como referido anteriormente, os nossos resultados indicavam que o valor do self era mediador da exposição direta e indireta às experiências adversas na infância e os sintomas psiquiátricos, a benevolência do mundo tinha um papel moderador nos sintomas psiquiátricos e de PSPT, e por último, o significado do mundo mediou a associação entre a exposição indireta a experiências adversas na infância e os sintomas da PSPT. Por fim, é importante avaliar não só os sintomas de

PSPT, mas também os sintomas psiquiátricos gerais. Nesta amostra, por exemplo, os sintomas psiquiátricos estavam associados com a exposição direta e indireta a experiências adversas na infância.

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