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Trauma exposure as a predictor of general health outcomes and trauma-related beliefs among older adults living in an adverse environment

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ABSTRACT

Objectives: Older adults living in adverse environments such as crime-heavy areas within South African townships are often exposed to potentially traumatic and violent circumstances. Research has not sufficiently explored the relationship between trauma exposure and general health outcomes or trauma-related beliefs among older adults living in adverse environments. This study addresses this gap in literature.

Method: This study used a quantitative approach with a cross-sectional design. 195 participants completed the Life Adversities Screener (LADS), the General Health Questionnaire-28 (GHQ-28), and the Trauma Belief Inventory (TBI).

Results: Explorative analyses showed that anxiety and insomnia were associated with female sex, discrimination, injury, family violence, and interpersonal violence. Moreover, four of the five trauma types were associated with self-perception, worth, and mistrust.

Conclusion: In later life and in circumstances where trauma exposure is common, trauma remains associated with detrimental health effects, self-perception, mistrust, and a negative worldview. These findings argue for the prevention and treatment of trauma-related pathologies across the lifespan.

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Introduction

South African townships are low-resource, underdeveloped communities that tend to border the periphery of urban areas. They are a legacy of apartheid-era policies and are, among other things, characterized by their underdeveloped infrastructure. These communities, which house nearly half of the nation's population (Rogerwilco, 2023), have become synonymous with systemic inequality, limited access to essential services, and disproportionately high rates of violent crimes, such as murder and rape (Mahope, 2024; Makhetha, 2019; Theron et al., 2023; Tshishonga, 2019), hence they are considered adverse environments. Pervasive violence and health disparities, coupled with the ongoing socioeconomic challenges faced by township residents, create an environment where exposure to trauma is a common and often cumulative experience. Older adults (aged 60 years and above) residing in these settings are particularly vulnerable to the adverse general health consequences of trauma (Kelly et al., 2019; Knight et al., 2018; Rosen et al., 2019). Not only do they carry a burden of trauma from their own lived experiences, but they may also bear witnesses to the traumatic events impacting their families and communities. Limited access to health care, including mental health services, further exacerbates the challenges faced by older adults in townships (Kelly et al., 2019; Knight et al., 2018; Rosen et al., 2019; Smith & Johnson, 2020).

The effects of trauma exposure, combined with systemic barriers to care, can lead to a range of negative health outcomes, including an increased risk of mental health disorders, chronic physical conditions, and accelerated frailty (Atwoli et al., 2013; Maschi et al., 2013). While research on trauma among older adults in South Africa is still evolving, studies in the general population have revealed a high prevalence of trauma, with early life experiences having lasting consequences on both mental and physical health (Atwoli et al., 2013; Payne et al., 2020). Exposure to trauma, such as the unexpected loss of loved ones and witnessing traumatic events happening to other people, was prevalent, as noted by Williams et al. (2007), Atwoli et al. (2013), and Payne et al. (2020). However, the specific trauma types and their impacts on older adults residing in townships remain largely under-researched despite the unique challenges they face. Trauma exposure in older adults is associated with a range of general health outcomes that affect

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both physical and mental wellbeing (Loeb et al., 2018; López-Martínez et al., 2018). General health outcomes in this study refer to a wide range of indications, including somatic symptoms, anxiety, insomnia, social dysfunction, depression, and suicide (Goldberg & Hillier, 1979).

Somatic symptoms refer to diverse physical sensations such as pain, fatigue, and discomfort (Goldberg & Hillier, 1979; Li et al., 2023). These symptoms are prevalent in older adults in South Africa, and can be influenced by mental health, trauma, and environmental factors (Peltzer & Phaswana-Mafuya, 2013). The relationship between trauma exposure and general health, particularly chronic pain, has been highlighted in research linking interpersonal trauma to the increased severity of somatic symptoms (McCall-Hosenfeld et al., 2014).

Comorbid anxiety and insomnia have also been observed in this regard, with trauma exposure playing a significant role (Kutzer et al., 2024; Nguyen et al., 2019). Specific traumas, such as sexual assault, witnessing traumatic events, and community violence (Payne et al., 2020), are independently linked to heightened sleep and anxiety problems, particularly when exposure to trauma is chronic or early-onset (Calvo-Schimmel et al., 2023).

Furthermore, trauma can lead to social dysfunction, impacting relationships, community engagement, and overall well-being (Lewis et al., 2021). Specific traumas, such as sexual assault and community violence, can exacerbate social dysfunction by impacting individuals' ability to trust others, feel safe in social settings, and meaningfully engage with their communities (Békés et al., 2023). Trauma can have profound lasting effects on social functioning, leading to isolation, withdrawal, and challenges in seeking or accepting support from others. While some individuals recover from traumatic events, many experience lasting impairments in their social functioning (Békés et al., 2023).

Moreover, studies by Nöthling et al. (2019), Payne et al. (2020), Nöthling et al. (2022), and Mhlongo et al. (2023) have described associations between trauma exposure and the development of anxiety and depressive disorders. For instance, the authors found that women developed depressive symptoms post-rape. The nuanced symptoms of depression that appear as somatic symptoms complicate this process. For example, in a study among Sesotho-speaking individuals with severe depression, participants were described as primarily presenting with somatic or cognitive disturbances, which could potentially be overlooked by healthcare professionals (Tadi et al., 2022) therefore overshadowing underlying mental health impacts, hindering accurate diagnosis and treatment (Sui & Padmanabhanunni, 2016).

Trauma-related beliefs are cognitive disturbances arising from traumatic experiences. They have become a focal point in psychological research owing to their profound impact on mental health (Cooper et al., 2017). These beliefs are crucial for psychological functioning (Cole et al., 2024) and can manifest negatively as diminished self-worth, distrust, and feelings of lost opportunities (Hazzard, 1993). These negative cognitions contribute to psychological distress and avoidance behaviors (Foa & Kozak, 1986), potentially progressing over time and leading to disorders, such as PTSD (Ehlers & Clark, 2000; Foa & Rauch, 2004).

Frequent exposure to discrimination, for instance, correlates with diminished self-worth, a pessimistic outlook on life, and negative self-perceptions (Sheikh et al., 2022), contributing to poorer mental health (Bergeron et al., 2020). Life-threatening events, family violence, and intimate partner violence (IPV) are significant predictors of trauma-related beliefs (Ben-Ezra et al., 2010; Békés et al., 2023). Moreover, the persistence of negative beliefs years after the initial trauma illustrates the enduring impact of these experiences (Cole et al., 2024).

While there are a significant number of international studies focusing on research related to trauma-related beliefs (Békés et al., 2023; Ben-Ezra et al., 2010; Cole et al., 2024) local literature on this phenomenon, specifically regarding older adults living in South African townships, remains limited. This gap is crucial because these beliefs may shape self-worth, distrust, and feelings of lost opportunities, thereby influencing self-perception, emotional regulation, and social reconstruction processes (Ali et al., 2002; Biruški et al., 2014; Edmondson et al., 2011; Hardy et al., 2016). Understanding the unique manifestations and consequences of trauma-related beliefs is crucial for developing culturally relevant interventions and support systems.

Age and gender considerations

The intersection of age and gender has implications for trauma exposure, general health outcomes, and trauma-related beliefs. This study conceptualized age as a categorical variable, dividing participants into three distinct groups: young-old (60–69 years), middle-old (70–79 years), and oldest-old (80+ years). This approach allows for the examination of potential differences in traumatic exposure and outcomes across various stages of life. Research suggests that older adults may be more vulnerable to the negative consequences of trauma exposure due to age-related factors such as decreased physiological resilience, anxiety, heightened social isolation, and potential cognitive decline (Bosch et al., 2020). Moreover, older

adults may have experienced multiple adverse events throughout their lives, leading to a higher burden of cumulative trauma (Petkus et al., 2018) and thereby influencing trauma-related beliefs and general health outcomes.

Gender also significantly influenced the experience of trauma and subsequent outcomes. Women are disproportionately affected by certain types of trauma such as IPV and sexual assault, which can increase their risk of developing trauma-related beliefs and adverse general health outcomes (Bosch et al., 2020; Petkus et al., 2018). This association has been observed in various populations, including trauma survivors, where females with trauma histories tend to report higher rates of general health concerns such as anxiety, depression, somatic complaints, and low self-worth than males with similar backgrounds (Grazzani et al., 2022; Werner et al., 2021).

The current study

In South Africa, the impact of trauma exposure on the general health and beliefs of older adults remains understudied. This is a significant concern, given the historical marginalization of these communities and the potential for healthcare disparities. Recognizing the role of trauma exposure in general health outcomes and trauma-related beliefs is crucial for accurate diagnosis and effective intervention (Sui & Padmanabhanunni, 2016; Tadi et al., 2022). Therefore, the primary objective of the present study was to examine the association of overall trauma exposure, age, and gender with general health outcomes and trauma-related beliefs. Second, we explored whether these associations differed between the different types of trauma exposure and the domains of general health outcomes and trauma-related beliefs.

Materials and methods

This study employed a quantitative research approach with a cross-sectional design. Trained mental health interviewers administered the Life Adversities Screener (LADS) (Liu et al., 2015), the General Health Questionnaire-28 (GHQ-28) (Goldberg & Hillier, 1979), and the Trauma Belief Inventory (TBI) (Scott & Stradling, 1994).

This study utilized a convenience sampling method to recruit 217 community-dwelling older adults from community organizations between September 2022 and April 2023. Recruitment efforts involved distributing flyers and word-of-mouth to reach potential participants, who then contacted a mental health interviewer to express their interest in participating in the study. Mental health interviewers provided detailed information about the study's purposes and procedures. The 'Decision-Making Capacity Assessment Tool' was employed to assess the cognitive capacity of the potential participants and ensure their ability to provide written informed consent. Only three individuals were deemed ineligible for the study because of their inability to comprehend the study details. Additionally, 19 participants had incomplete data and were excluded from the data analysis, resulting in a final sample size of 195 participants.

The study cohort consisted of both male (27.8%) and female (71.4%) participants, with a mean age of 67.2 years and an age range of 60 to 90 years. Most participants were identified as black (96.9%), followed by white (1.5%), unspecified (1.0%), and coloured (0.5%). A significant portion of the participants reported being single (60.7%), while 39.0% were either married or cohabitating. Educational attainment varied among participants, with most having completed primary education (60.2%), followed by secondary education (26.5%). A smaller percentage had no formal education (11.2%), and a negligible number reported having college education or adult-based education training (ABET) (0.5% each). Most participants were unemployed (95.9%), with social security benefits from the South African Social Security Agency (SASSA) being the primary source of income for 95.4% of the sample. Living arrangements were diverse, with nuclear families (46.4%) and extended families (36.7%) being the preferred setups, whereas a smaller percentage lived with friends (2.6%), relatives (5.1%), or alone (7.7%).

The sample was recruited from Soshanguve, which is a South African township in Gauteng Province that consists of areas that are well-known for their high violent crime rates (Pheto, 2024). Numerous violent incidents have been documented in the community, including community violence (Timeslive, 2023), rape (Makhetha, 2019; Malesele, 2023), and murder (Dibakwane, 2019; Mahope, 2024; Mitchley, 2020). In addition to violent crime, Soshanguve residents often experience other adversities, including poor service delivery (e.g. inadequate maintenance of sewerage systems) and resource scarcity, such as substandard water provision (Nonyane, 2023; Worku, 2017).

Self-reported demographic variables included age, (young-old (60–69 years), middle-old (70–79 years), oldest-old (80+ years), and gender (male or female).

Trauma exposure was measured using the LADS. It is a five-item interview that takes at least 15 min to assess penetrative sexual abuse (item weight = 0.13), perceived discrimination (item weight = 0.30), intimate partner violence (item weight = 0.18), family violence (item weight = 0.17), and the fear of being killed or seriously injured (item weight = 0.22). The LADS is well validated and was chosen because of its usability in multicultural settings as well as its good discriminant and predictive validity (Liu et al., 2015; Loeb et al., 2018; Myers et al., 2015; Wyatt et al., 2023).

General health was measured using the GHQ–28 to detect a wide range of psychological symptoms including depression and anxiety (Goldberg & Hillier, 1979). The test takes roughly 20–30 min to administer and contains 28 items that have been divided into four subscales through factor analysis: somatic symptoms (items 1–7), anxiety/insomnia (items 8–14), social dysfunction (items 15–21), and severe depression (items 22–28). The total scale score ranged from 28 to 112. The higher the score, the poorer the psychological well-being of the participant (Nagyova et al., 2000). The scale has been used in South Africa, with Idemudia et al. (2013) reporting a test-retest reliability of 0.91. Cronbach's alpha for the entire measure in the current study was 0.93.

Trauma-related beliefs were measured using TBI. It has 20 inherently negative items, such as *'I am worthless and bad'* and *'I have lost a part of myself',* rated from 0 (*absolutely untrue)* to 4 (*absolutely true)*. The measure has the following subscales: self-perception and worth, mistrust and negative worldviews, and lost opportunities and isolation. The scale takes approximately 15–20 min to complete. Cronbach's Alpha and split-half reliability coefficients for the TBI were 0.78 and 0.69, respectively, for a South African sample administered (Peltzer, 2000). The Cronbach Alpha coefficient of 0.77 was calculated for the present study.

The current study received approval from the Institutional Review Boards of the University of California, Los Angeles (IRB#19-000974), and the University of Pretoria (HUM002/0719). Participants provided informed consent before their enrolment in the study. Two trained mental health interviewers administered the three questionnaires through face-to-face interviews. These interviews typically lasted between 45 and 60 min. Participants received compensation for their involvement in the form of a R100 (US$5.36) grocery store voucher. Additionally, the referral information for nearby mental health services was provided to the participants as needed.

First, descriptive statistics for the study variables were calculated. Second, Pearson's correlation analysis was employed to investigate the associations between the study variables, specifically examining the strength and direction of the connections between trauma exposure, general health outcomes, and trauma-related beliefs. Subsequently, the one-sided significance of these correlations was assessed using *p*-values to determine their statistical relevance.

Finally, a multiple regression analysis was conducted to explore the predictive relationship between trauma exposure, general health outcomes, and trauma-related beliefs. A series of regression models were constructed: one examined the impact of trauma exposure types on general health outcome domains, and another set of models investigated the influence of various trauma domains on trauma-related belief subscales. The significance of the models was assessed using *F*-tests for the overall fit and *t*-tests for individual predictors.

Results

A descriptive analysis of trauma exposure among the participants revealed that 24.6% ($n=48$) had not experienced any trauma, while 40.0% ($n=78$) reported one type of trauma. Of the participants, 20.5% ($n=40$) reported experiencing two types of trauma, 9.7% ($n=19$) reported three types, 4.1% ($n=8$) reported four types, and only 1.0% ($n=2$) reported a maximum exposure level of five types (Table 1a).

The most common type of trauma exposure was discrimination, experienced by 48.2% of participants ($M=0.48$, $SD=0.50$). This was followed by injury (31.8%, $M=0.32$, $SD=0.47$), IPV (23.1%, $M=0.23$, $SD=0.42$), family violence (18.9%, $M=0.19$, $SD=0.39$), and sexual assault (9.2%, $M=0.09$, $SD=0.29$). The mean LADS score was 0.30 ($SD=0.23$), indicating a moderate level of overall trauma exposure (Table 1b).

Notably, nearly half of the participants (45.7%) scored between 0.30 and 0.57 on the LADS, a range that may suggest an elevated risk for mental health challenges, especially considering that a score of 0.33 has been identified as a threshold for high risk in previous research (Liu et al., 2015). Furthermore, a substantial portion (30.7%) scored even higher (0.64 to 1.00), indicating a potentially significant risk of mental health problems in this population.

The results suggest a significant burden of mental health difficulties and trauma-related beliefs among older adults living in South African townships. The average GHQ-28 score was 58.24, indicating a

Table 1. Trauma exposure descriptions: (a) Frequency and (b) Types of Trauma Exposure Reported by Participants (n = 195).

a.	*n*	%
,00	48	24,6%
1,00	78	40,0%
2,00	40	20,5%
3,00	19	9,7%
4,00	8	4,1%
5,00	2	1,0%

b. Trauma Types	*N*	Minimum	Maximum	Mean	Std. Deviation
Sexual assault	195	,00	1,00	,0923	,29020
Discrimination	195	,00	1,00	,4821	,50096
Injury	195	,00	1,00	,3179	,46688
Family Violence	195	,00	1,00	,1897	,39311
IPV	195	,00	1,00	,2308	,42241
Valid N (listwise)	195				

Note: TGHQ (Total Score on the General Health Questionnaire), SoMSY (Somatic Symptoms Subscale), AniNS (Anxiety/Insomnia Subscale), SoDys (Social Dysfunction Subscale), DepSui (Depression/Suicidal Ideation Subscale).
TrBel (Trauma-Related Beliefs), SWorth (Self-Worth), Mistrust, LostOp (Lost Opportunity), Age, Gen (Gender), Discrim (Discrimination), IPV (Intimate Partner Violence), FamHit (Family Violence), and SexAssau (Sexual Assault).
Note. Significance levels: $^{*}p<0.05$, $^{**}p<0.01$.

moderate level of overall general health outcomes. Somatic symptoms, anxiety, insomnia, social dysfunction, and depression/suicidal ideation were also prevalent, with mean scores ranging from 14.02 to 15.17.

Furthermore, the mean score for trauma-related beliefs was 33.02, suggesting that these beliefs were common in this population. Notably, the participants reported relatively high levels of poor self-worth (mean = 7.67), mistrust (mean = 19.18), and perceived lost opportunities (mean = 6.16), which may reflect the cumulative impact of trauma exposure and the challenging social environment of the township (Table 2).

Correlation analysis revealed that trauma exposure was significantly positively correlated with general health issues ($r = 0.235$, $p < 0.001$), indicating that individuals with higher trauma exposure reported more adverse outcomes. Similar positive relationships were found with somatic symptoms ($r = 0.219$, $p = 0.002$), anxiety and insomnia ($r = 0.246$, $p < 0.001$), social dysfunction ($r = 0.170$, $p = 0.018$), and severe depression and suicidal tendencies ($r = 0.160$, $p = 0.026$). In contrast, trauma exposure was not significantly correlated with age ($r = -0.087$, $p = 0.228$) or gender ($r = 0.046$, $p = 0.521$) (Table 3).

The results indicated that trauma exposure was significantly positively correlated with mistrust beliefs ($r = 0.365$, $p < 0.001$) and poor self-worth ($r = 0.353$, $p < 0.001$), suggesting that higher levels of trauma exposure were associated with stronger mistrust beliefs and poor self-worth. However, trauma exposure showed no significant relationship with mistrust ($r = -0.050$, $p = 0.489$) or opportunities lost ($r = 0.091$, $p = 0.204$) (Table 4).

Regression analyses revealed distinct patterns of significant predictors and variance across the four general health outcomes in older adults.

Table 2. Descriptive statistics of the general health questionnaire and trauma belief inventory.

	n	Minimum	Maximum	Mean	Std. Deviation
TGHQ	195	,00	99,00	58,2410	8,64467
SoMSY	195	,00	28,00	14,8615	2,75387
AniNS	195	,00	28,00	15,1744	2,79734
SoDys	195	,00	23,00	14,1846	2,26965
DepSui	195	,00	21,00	14,0205	2,18703
TrBEL	195	10,00	61,00	33,0205	9,93378
SWorth	195	,00	33,00	7,6308	10,54382
Mistrust	195	6,00	24,00	19,1795	4,67099
LostOp	195	,00	8,00	6,1641	1,98804

Table 3. Correlations between trauma exposure, general health outcomes and demographic variables.

Variable	TrExp	TGHQ	SoMSY	AniNS	SoDys	DepSui	Age	Gen
TrEx	1	.235**	.219**	.246**	.170*	.160*	−0.087	.046
P-value		<.001	.002	<.001	.018	.026	.228	.521
N	195	195	195	195	195	195	195	195

Note. Significance levels: *$p < 0.05$, **$p < 0.01$.
Note. Pearson's correlations were calculated between trauma exposure (measured using the LADS; Liu et al., 2015) and general health domains (measured using the GHQ-28; Goldberg & Hillier, 1979).

Model 1: The overall model was significant, $F(8, 186) = 5.605$, $p < 0.001$, explaining 19.4% of the variance in somatic symptoms. Significant predictors included gender (female gender was associated with higher levels of somatic symptoms) ($\beta = 0.143$, $p = 0.040$), discrimination ($\beta = -0.181$, $p = 0.010$), and IPV ($\beta = 0.188$, $p = 0.014$).

Model 2: The overall model was significant, $F(8, 186) = 7.946$, $p < 0.001$, explaining 25.5% of the variance in anxiety and insomnia. Significant predictors included sex (female sex was associated with higher levels of anxiety and insomnia symptoms) ($\beta = 0.151$, $p = 0.024$), discrimination ($\beta = -0.207$, $p = 0.002$), injury ($\beta = 0.150$, $p = 0.038$), family violence ($\beta = 0.162$, $p = 0.034$), and IPV ($\beta = 0.201$, $p = 0.007$).

Model 3: The overall model was significant, $F(8, 186) = 3.213$, $p = 0.002$, explaining 12.1% of the variance in social dysfunction. Significant predictors included discrimination ($\beta = -0.154$, $p = 0.036$) and interpersonal violence ($\beta = 0.168$, $p = 0.036$).

Model 4: The overall model was significant, $F(8, 186) = 2.468$, $p = 0.015$, explaining 9.6% of the variance in depression and suicidal ideation. Age was a significant predictor ($\hat{I}^2 = 0.171$, $p = 0.018$). The oldest-old group ($M = 15.00$, $SD = 2.24$) had a higher mean score than the young-old ($M = 13.98$, $SD = 2.03$) and middle-old ($M = 14.02$, $SD = 2.52$) groups. However, the oldest-old group had a small sample size ($n = 5$), which limits the generalizability of this finding (Table 5).

Regression analyses indicated that the predictors had differing levels of significance across the dependent variables. For self-worth, the overall model was highly significant, $F(8, 186) = 27.436$, $p < 0.001$, explaining 54.1% of the variance. Significant predictors of self-worth included age ($\beta = -0.115$, $p = 0.026$), discrimination ($\beta = -0.340$, $p < 0.001$), injury ($\beta = 0.283$, $p < 0.001$), family violence ($\beta = 0.227$, $p < 0.001$), and interpersonal violence ($\beta = 0.227$, $p < 0.001$). The mean for the poor self-worth score was higher for the young-old group ($M = 61.47$, $SD = 9.65$) than for the middle-old group ($M = 57.54$, $SD = 10.69$).

In the case of mistrust, the overall model was also significant, $F(8, 186) = 4.792$, $p < 0.001$, explaining 17.1% of the variance. The only significant predictor was discrimination ($\beta = 0.290$, $p < 0.001$), indicating that the experience of discrimination was associated with higher levels of mistrust.

For lost opportunities, the overall model was not significant, $F(8, 186) = 1.780$, $p = 0.083$, explaining only 7.1% of the variance. However, within this model, gender ($\beta = 0.196$, $p = 0.009$) and sexual assault ($\beta = -0.158$, $p = 0.039$) were significant predictors, suggesting that gender (being female) and experiences of sexual assault influenced perceptions of lost opportunities (Table 6).

Table 4. Correlations among trauma exposure, trauma related beliefs domains, and demographic variables.

Variable	TrEx	TrBEL	SWorth	Mistrust	LostOp	Age	Gen
TrEx	1	.365**	.353**	−0.050	.091	−0.087	.046
P-value		<.001	<.001	.489	.204	.228	.521
N	195	195	195	195	195	195	195

Significance levels: $^{**}p < 0.01$.
Note. Trauma-related beliefs were assessed using the TBI (Scott & Stradling, 1994; Peltzer, 2000), covering dimensions of self-worth, mistrust, and perceived lost opportunities. Trauma exposure scores are derived from the LADS (Liu et al., 2015).

Table 5. Summary of multiple regression analyses of trauma exposure predicting somatic symptoms, anxiety and insomnia, social dysfunctions, and depression and suicide ideations.

Predictor	*B* (SE)	β	*t*	*p*	Tolerance	VIF
Model 1: SoMSY						
Gen	0.816 (0.395)	0.143	2.066	.040	0.904	1.106
Discrim	−0.993 (0.383)	−0.181	−2.590	.010	0.891	1.123
IPV	1.228 (0.496)	0.188	2.475	.014	0.748	1.337
Model 2: AniNS						
Gen	0.876 (0.386)	0.151	2.271	.024	0.904	1.106
Discrim	−1.157 (0.375)	−0.207	−3.088	.002	0.891	1.123
Injury	0.898 (0.431)	0.150	2.086	.038	0.776	1.289
Famhit	1.155 (0.540)	0.162	2.138	.034	0.695	1.439
IPV	1.331 (0.485)	0.201	2.745	.007	0.748	1.337
Model 3: SoDys						
Discrim	−0.697 (0.330)	−0.154	−2.112	.036	0.891	1.123
IPV	0.904 (0.427)	0.168	2.116	.036	0.748	1.337
Model 4: DepSui						
Age	0.062 (0.026)	0.171	2.382	.018	0.939	1.065

Note. Regression models examined associations between trauma exposure (LADS; Liu et al., 2015) and general health outcomes (GHQ-28 subscales; Goldberg & Hillier, 1979). Predictors included gender, age, and five trauma types.

Table 6. Summary of multiple regression analyses of trauma exposure for self-worth mistrust, and lost opportunities.

Predictor	*B* (SE)	β	*t*	*p*	Tolerance	VIF
Model 1: SWorth						
Age	−0.199 (0.089)	−0.115	−2.239	.026	0.939	1.065
Discrim	−7.150 (1.108)	−0.340	−6.455	<.001	0.891	1.123
Injury	6.385 (1.273)	0.283	5.015	<.001	0.776	1.289
Famhit	6.096 (1.598)	0.227	3.816	<.001	0.695	1.439
IPV	5.666 (1.434)	0.227	3.952	<.001	0.748	1.337
Model 2: Mistrust						
Discrim	2.703 (0.660)	0.290	4.098	<.001	0.891	1.123
Model 3: LostOp						
Gen	0.807 (0.306)	0.196	2.635	.009	0.904	1.106
sexassau	−1.081 (0.519)	−0.158	−2.082	.039	0.869	1.150

Note. Regression analyses were conducted to assess the relationship between trauma exposure (LADS; Liu et al., 2015) and trauma-related belief domains measured by the TBI (Scott & Stradling, 1994; Peltzer, 2000), including self-worth, mistrust, and lost opportunities.

Discussion

The present study examined the association of trauma exposure, age, and gender with general health outcomes and trauma-related beliefs in older adults living in South African townships. The findings revealed a substantial burden of mental health difficulties and trauma-related beliefs in this population.

This study found a high prevalence of frequent trauma exposure among older South African adults, consistent with previous studies by Atwoli et al. (2013) and Payne et al. (2020). Interestingly, discrimination has emerged as the most common form of trauma exposure, highlighting the persistent challenges faced by older adults in this population. This finding underscores the enduring legacy of marginalization and its ongoing consequences for the health and well-being of older adults in South African townships. The prevalence of IPV and family violence also emphasizes the need to pay attention to these specific forms of abuse within this population. The LADS scores further emphasize older adults' potential vulnerability to the negative mental health effects of trauma. A substantial proportion of participants reported scores that may indicate an elevated risk for mental health challenges, while a considerable proportion reported even higher scores, suggesting a significant risk for mental health challenges. The elevated LADS scores in this sample could be attributed to several factors, including the cumulative effects of trauma over the lifespan and age-related coping challenges. These findings underscore the importance of recognizing the prevalence and potential impact of trauma in older adults. This has significant clinical implications, highlighting the need for

routine trauma screening and targeted interventions in this population in healthcare settings.

General-health findings

The significant positive correlations between trauma exposure and general health findings, including somatic symptoms, anxiety and insomnia, social dysfunction, depression, and suicidal ideation, align with the existing literature that emphasizes the detrimental impact of trauma exposure on older adults (Loeb et al., 2018; López-Martínez et al., 2018; Sui & Padmanabhanunni, 2016; Tadi et al., 2022).

Notably, the association between trauma and somatic symptoms demonstrates a complex relationship between physical and psychological health. This finding supports previous research linking interpersonal trauma exposure to the increased severity of somatic symptoms (McCall-Hosenfeld et al., 2014). The prevalence of anxiety and insomnia further emphasizes the psychological consequences of trauma exposure, particularly in the context of chronic and early onset experiences (Calvo-Schimmel et al., 2023). The relationship between trauma exposure and social dysfunction sheds light on the profound impact of trauma on interpersonal relationships and community engagement. This finding is consistent with research focusing on deficits in social cognition, empathy, and social cue interpretation associated with trauma (Békés et al., 2023). The specific impact of traumas, such as sexual assault and community violence, on trust and social engagement calls attention to the importance of recognizing and addressing trauma exposure as a potential underlying factor in older adults' health complaints.

Interestingly, this study found no significant relationship between trauma exposure, age, and gender. This suggests that trauma affects older adults in South Africa across different demographics. Such a pattern demands a shift in policy and practice towards universal screening and trauma-informed approaches that do not assume risk based on age or gender, but rather acknowledge trauma as a widespread concern.

However, regression analyses revealed nuanced relationships between specific types of trauma exposure and mental health outcomes. For instance, discrimination has emerged as a significant predictor of somatic symptoms, anxiety, insomnia, and social dysfunction, highlighting its pervasive impact on general health. Additionally, IPV was associated with increased somatic symptoms, anxiety, and insomnia, whereas family violence predicted anxiety and insomnia. These findings underscore the importance of understanding the unique impact of different types of trauma on specific mental health domains.

Furthermore, the study found that age was a significant predictor of depression and suicidal ideation, with the oldest-old group reporting higher levels than the young-old and middle-old groups did. This finding aligns with previous research suggesting increased vulnerability to mental health challenges in the oldest-old population (Bosch et al., 2020). However, the small sample size of the oldest-old group in this study limited the generalizability of this finding, warranting further investigation with a larger sample.

Trauma-related beliefs

Trauma exposure is also associated with trauma-related beliefs. These results are consistent with previous research, which has shown that various forms of trauma such as discrimination, physical injury, family violence, and IPV are significant predictors of negative self-worth, mistrust, and perceptions of lost opportunities (Békés et al., 2023; Ben-Ezra et al. 2010; Bergeron et al., 2020; Sheikh et al., 2022).

Regression analysis for self-worth revealed a significant negative association with discrimination, indicating that individuals who have experienced discrimination are more likely to have lower self-worth. This finding aligns with existing literature that highlights the detrimental impact of discrimination on mental health and self-perception (Bergeron et al., 2020; Sheikh et al., 2022). Additionally, experiences of injury, family violence, and IPV were significant predictors of lower self-worth in the present study, emphasizing the profound and lasting effects of these traumatic events.

The results of mistrust analysis indicated that discrimination was the only significant predictor, suggesting that individuals who have faced discrimination may develop a heightened sense of mistrust toward others. This finding is consistent with previous research linking discrimination to negative interpersonal outcomes and difficulties in establishing trust (Bergeron et al., 2020).

Notably, the regression analysis for perceived lost opportunities revealed a significant association between gender and experience of sexual assault. Specifically, female participants and those who had experienced a sexual assault reported a higher perception of lost opportunities. This finding emphasizes the unique challenges faced by women and survivors of sexual assault in terms of navigating life opportunities and achieving full potential.

Limitations

The current study has some limitations. First, its cross-sectional design prevented the establishment of causality, emphasizing the need for longitudinal

studies. The sample's convenience and geographic specificity limit generalizability, and the use of measures for trauma exposure, general health, and trauma-related beliefs poses risks of recall bias and social desirability effects. Moreover, the unequal representation of genders in the sample, with a higher proportion of female participants than male participants, poses a limitation to generalizability. The limited number of domains in the trauma exposure measure may not adequately capture the complexity and severity of traumatic experiences. Furthermore, this study only examined general health outcomes that occurred in the past four weeks, which could have impacted the results. For future studies, it would be beneficial to include an examination of mental health, diagnosed pain, or the trajectory of health outcomes to provide a more comprehensive understanding of this phenomenon. Another limitation of this study was the exploratory nature of the analyses, which examined the relationships between specific trauma types, general health outcomes, and trauma-related beliefs. Although this approach allowed for a broader understanding of potential associations, it did not fully account for the complex interplay and cumulative effects of multiple traumatic experiences. Future research with larger sample sizes and more sophisticated statistical modelling is needed to elucidate the intricate relationships between various trauma types and their impact on the health and well-being of older adults. Comparing the findings of this study with other populations or settings could offer a broader perspective on the relationships between trauma exposure, general health findings, and trauma-related beliefs, thereby enriching the study's contributions to the field. In addition to these limitations, this study offers significant value and insight. This study's in-depth examination of older adults in challenging environments is a significant strength that addresses the gap in South African literature and provides worthwhile data regarding their unique experiences. The significant impact of gender, discrimination, and violence on the health and well-being of older South Africans emphasizes the need for targeted interventions addressing these issues. Consequently, this study highlights the importance of comprehensive clinical assessments, emphasizing the need to consider the underlying mental health distress associated with physical symptoms. Utilizing established measures, such as the LADS for trauma exposure and the GHQ-28, this study ensured the validity and reliability of its findings, offering valuable tools for screening mental health difficulties in local clinical settings. This methodological rigor adds to the credibility and robustness of this research. Beyond its contribution to the literature on trauma and aging, this study carries important clinical implications. The recognition of trauma exposure as a contributing factor to both psychological and general health complaints is particularly relevant in the context of routine care for older adults. While this research focused on an aging population, the findings highlight the broader need for trauma-informed practices across health care systems. The evidence further suggests that integrating early identification of trauma exposure into health assessments may not only improve treatment outcomes, but also support the development of preventive interventions that reduce the long-term burden of trauma-related health issues.

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Data availability statement

The data supporting this study's findings are available from the corresponding author, Nyambeni Matamela, upon reasonable request.

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