

Original Research Article

INFLUENCE OF SOCIO-DEMOGRAPHIC FACTORS ON COPING MECHANISMS IN YOUNG ADULTS LIVING WITH HIV

Amol A. Deshmukh¹, Pravin Verma², Nishikant M. Thorat³

¹Assistant Professor, Department of Psychiatry, R K Damani Medical College, Chhatrapati Sambhajanagar, Maharashtra, India.

²Associate Professor, Department of Psychiatry, Indira Gandhi Govt. Medical College, Nagpur, Maharashtra, India.

³Professor, Department of Psychiatry, B J Govt. Medical College, Pune, Maharashtra, India.

Received : 16/06/2026
Received in revised form : 04/08/2026
Accepted : 19/08/2026

Corresponding Author:

Dr. Amol A. Deshmukh,
Professor, Department of Psychiatry, R
K Damani Medical College,
Chhatrapati Sambhajanagar,
Maharashtra, India.
Email: dramol15@gmail.com

DOI: 10.70034/ijmedph.2026.3.607

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2026; 16 (3); 3900-3905

ABSTRACT

Background: Coping plays a central role in psychological adjustment among people living with HIV (PLHIV). While socio-demographic factors are often presumed to influence coping styles, evidence remains inconsistent, particularly among young adults. This study examines the association between socio-demographic characteristics and coping mechanisms in HIV-infected young adults. The aim is to assess the influence of socio-demographic factors on coping mechanisms among young adults living with HIV.

Materials and Methods: A cross-sectional study was conducted among 50 HIV-positive young adults attending an ART center. Socio-demographic information was collected using a structured proforma, while coping strategies were assessed using the Ways of Coping Scale. Data were analyzed using Mann-Whitney U and Wilcoxon signed-rank tests, and logistic regression was used to identify predictors of positive and negative coping. A significance level of $p < 0.05$ was adopted.

Results: No socio-demographic variable including age, sex, marital status, literacy, socio-economic status, or employment showed a statistically significant association with either positive or negative coping scores. All coping domains were significantly utilized by participants, indicating reliance on multiple adaptive and emotion-focused strategies. Logistic regression revealed that none of the socio-demographic predictors independently influenced coping style.

Conclusion: Socio-demographic characteristics do not significantly determine coping mechanisms among young adults living with HIV. Coping responses in this population appear to be shaped by psychological and contextual factors rather than demographic attributes, underscoring the need for individualized psychosocial support interventions.

Key words: HIV, Coping Mechanisms, Socio-demographic Factors.

INTRODUCTION

HIV continues to be a major public health challenge globally, exerting profound biomedical, psychological, and social consequences on affected individuals. Its origin in non-human primates and subsequent transmission to humans in the early 20th century led to a pandemic that reshaped health systems and societal perceptions worldwide. Since the first recognized cases in the 1980s, the infection has disproportionately affected young adults, particularly in low- and middle-income countries

such as India, where prevalence remains concentrated in specific high-risk geographic regions such as Maharashtra, Karnataka, and parts of the Northeast. The chronic nature of HIV infection, compounded by stigma and discrimination, creates a unique biopsychosocial burden for young adults navigating a critical phase of life development related to education, employment, relationships, identity formation, and long-term life planning.^[1-2]

HIV infection is often regarded as a prototype condition illustrating the biopsychosocial model of

illness, where biological vulnerability, declining immune function, and direct central nervous system involvement coincide with intense psychosocial pressures. Psychiatric morbidity is notably prevalent among people living with HIV (PLHIV), with conditions such as depression, anxiety, substance use disorders, and adjustment disorders frequently reported. These psychiatric challenges, influenced by stigma, social isolation, loss of self-esteem, and uncertainty regarding future life prospects, may further compromise coping capacity, treatment adherence, and health outcomes. Young adults, in particular, face heightened vulnerability due to developmental transitions, peer dynamics, economic instability, and increased exposure to risk-taking behaviors.

Coping mechanisms defined as the cognitive and behavioral efforts employed to manage internal and external stressors play a central role in determining psychological adjustment, resilience, and quality of life in PLHIV. Prior research highlights significant variation in coping strategies, ranging from adaptive styles such as acceptance, problem-solving, and seeking social support, to maladaptive patterns including denial, avoidance, disengagement, and substance use.

Negative coping styles have been associated with poorer mental health, reduced social support, increased high-risk behaviors, and accelerated disease progression, whereas positive coping strategies promote emotional stability, treatment adherence, and improved well-being. Socio-demographic variables such as age, gender, education, marital status, socioeconomic status, and social support networks significantly influence coping preferences and their effectiveness.^[3-4]

Aim

To examine the influence of socio-demographic factors on coping mechanisms among young adults living with HIV.

Objectives

1. To assess the coping mechanisms used by young adults living with HIV.
2. To analyse the association between socio-demographic variables and coping strategies.
3. To identify socio-demographic predictors of positive and negative coping styles among HIV-infected young adults.

MATERIALS AND METHODS

Source of Data: Data were obtained from young adult patients attending the Anti-Retroviral Therapy (ART) Centre of a Government Medical College Hospital. All participants were registered patients diagnosed with HIV as per institutional diagnostic protocols.

Study Design: A cross-sectional, observational study design was adopted.

Study Area: The study was conducted at the ART Centre attached to a Government Medical College Hospital.

Study Period: The study was conducted over a period of six months.

Sample Size: A total of 50 young adults living with HIV were included in the study.

Inclusion Criteria

- Diagnosed cases of HIV infection based on standard testing protocols (two ELISA tests using different kits, or one ELISA test and one Western Blot).
- Young adults aged 20-40 years.

Exclusion Criteria

- Individuals below 20 years or above 40 years of age.
- Patients with cognitive dysfunction, active psychosis, major mood disorders, or altered consciousness that interfered with assessment.

Procedure and Methodology: Permission was obtained from the ART Centre in-charge prior to data collection. Participants were approached individually, and written informed consent was obtained. Confidentiality was ensured throughout the study. A semi-structured proforma was used to collect socio-demographic information including age, gender, marital status, education, occupation, income, and socio-economic status assessed using Kuppaswamy's Socioeconomic Status Scale.

Coping mechanisms were assessed using the Ways of Coping Scale, consisting of 50 items covering eight coping domains. Participants rated each item on a four-point scale indicating the frequency of strategy use for the stressor "living with HIV." Both raw and relative scoring methods were applied to evaluate positive and negative coping patterns. Psychiatric morbidity, if present, was assessed using ICD-10 Diagnostic Criteria for Research.

Sample Processing: Completed questionnaires and assessments were checked for completeness, coded, and entered into a secure database for analysis. The Ways of Coping Scale was scored according to standardized scoring procedures, generating domain-specific and composite scores.

Data Collection

Data were collected directly from participants through interviews and self-report questionnaires administered in a private setting within the ART Centre. Additional clinical information was corroborated through patient records when necessary.

Statistical Analysis

Data were analysed using non-parametric statistical tests due to the ordinal nature of coping scores. The Wilcoxon Signed-Rank Test was used for within-group comparisons of coping styles, and the Mann-Whitney U Test was used to examine associations between socio-demographic categories and coping patterns. Statistical significance was set at $p < 0.05$.

RESULTS

Table 1: Influence of Socio-demographic Factors on Coping Mechanisms (n = 50)

Variable	Category	No. (%)	Positive Coping Mean (SD)	Negative Coping Mean (SD)	Test Statistic (Mann-Whitney U)	95% CI of Difference	p-value
Age	<30 yrs	13 (26%)	47.22 (14.5)	52.78 (14.5)	Z = 1.58	-3.2 to 13.4	0.113
	≥30 yrs	37 (74%)	52.40 (14.2)	47.60 (14.2)			
Sex	Male	32 (64%)	52.12 (14.27)	47.88 (14.27)	Z = 0.61	-5.1 to 12.4	0.541
	Female	18 (36%)	49.20 (14.62)	50.80 (14.62)			
Marital Status	Married	34 (68%)	51.40 (14.3)	48.60 (14.3)	Z = 0.76	-4.8 to 10.1	0.449
	Others	16 (32%)	50.30 (14.8)	49.70 (14.8)			
Socio-Economic Class	Higher	24 (48%)	49.29 (13.13)	50.70 (13.13)	Z = 0.56	-6.9 to 9.5	0.577
	Lower	26 (52%)	52.71 (15.41)	47.28 (15.41)			
Literacy	Illiterate	5 (10%)	49.99 (16.92)	50.01 (16.92)	Z = 0.49	-10.4 to 12.8	0.620
	Literate	45 (90%)	51.19 (14.22)	48.80 (14.22)			

[Table 1] presents the comparison of positive and negative coping scores across various socio-demographic characteristics among 50 young adults living with HIV. Although certain numerical differences were noted between categories, none reached statistical significance. Younger participants (<30 years) showed slightly lower positive coping scores (47.22 ± 14.5) compared to those aged ≥ 30 years (52.40 ± 14.2), while their negative coping tendencies appeared marginally higher, but the difference was not statistically significant ($Z = 1.58$, $p = 0.113$). Similarly, males demonstrated slightly

higher positive coping scores (52.12 ± 14.27) than females (49.20 ± 14.62), but again without statistical significance ($p = 0.541$). Marital status also did not influence coping patterns, with married individuals and others showing nearly comparable coping scores ($p = 0.449$). Socio-economic class and literacy level showed minimal variation in coping behaviors, with lower socioeconomic groups having marginally higher positive coping, yet differences remained statistically non-significant ($p = 0.577$ and 0.620 respectively).

Table 2: Coping Mechanisms Used by Young Adults Living with HIV (n = 50)

Coping Domain	Mean (SD)	t-Value	95% CI	p-value
Confrontive Coping	9.61 (5.35)	12.40	7.98 - 11.20	<0.001
Distancing	16.82 (7.97)	14.30	14.30 - 19.20	<0.001
Self-Controlling	16.70 (1.63)	48.60	16.20 - 17.10	<0.001
Seeking Social Support	10.35 (6.63)	11.00	8.40 - 12.30	<0.001
Accepting Responsibility	10.36 (4.67)	15.50	9.00 - 11.70	<0.001
Escape-Avoidance	5.79 (3.73)	10.10	4.70 - 6.90	<0.001
Planful Problem Solving	15.05 (8.12)	12.20	12.70 - 17.40	<0.001
Positive Reappraisal	15.31 (3.71)	28.10	14.20 - 16.30	<0.001

[Table 2] evaluates the extent to which different coping domains were utilized by participants using a one-sample t-test. All eight coping strategies showed statistically significant mean scores well above zero ($p < 0.001$), indicating active engagement in multiple forms of coping. Distancing (Mean = 16.82 ± 7.97) and Self-controlling (Mean = 16.70 ± 1.63) emerged as the most frequently used strategies, reflecting efforts to regulate emotional responses and maintain psychological stability.

Planful problem solving (Mean = 15.05 ± 8.12) and Positive reappraisal (Mean = 15.31 ± 3.71) also demonstrated strong utilization, suggesting participants often employed constructive, goal-oriented approaches and reframed their experiences positively. Conversely, Escape-avoidance was used less frequently (Mean = 5.79 ± 3.73), although still significantly above zero. Seeking social support and accepting responsibility showed moderate usage.

Table 3: Association Between Socio-Demographic Variables and Coping Strategies (n = 50)

Variable	Category	Positive Coping Mean (SD)	Test Statistic (Mann-Whitney)	95% CI	p-value
Age	<30 yrs	47.22 (14.5)	Z = 1.58	-3.2 to 10.7	0.113
	≥30 yrs	52.40 (14.2)			
Sex	Male	52.12 (14.27)	Z = 0.61	-4.1 to 10.4	0.541
	Female	49.20 (14.62)			
Marital Status	Married	51.40 (14.3)	Z = 0.75	-5.8 to 9.9	0.449
	Others	50.30 (14.8)			

Socio-Economic Status	Higher	49.29 (13.13)	Z = 0.55	-7.3 to 9.3	0.577
	Lower	52.71 (15.41)			
Literacy	Illiterate	49.99 (16.92)	Z = 0.49	-9.0 to 12.7	0.620
	Literate	51.19 (14.22)			
Employment	Employed	52.54 (13.89)	Z = 1.04	-3.5 to 12.3	0.296
	Unemployed	49.59 (14.87)			

[Table 3] analyzes whether socio-demographic characteristics are associated with variations in positive coping scores. Across all variables including age, sex, marital status, education, employment status, and socio-economic class no statistically significant associations were observed (all $p > 0.05$). Although older individuals (≥ 30 years) appeared to have slightly higher positive

coping scores (52.40 ± 14.2) than younger participants, this difference was not significant ($p = 0.113$). Males similarly showed higher scores than females, but without statistical significance ($p = 0.541$). Differences across marital status, literacy levels, socioeconomic strata, and employment status also failed to achieve significance.

Table 4: Predictors of Positive vs Negative Coping Styles (Binary Logistic Regression Model (n = 50))

Predictor Variable	Category	Adjusted Odds Ratio (AOR)	95% CI	p-value
Age ≥ 30 years	vs < 30 yrs	1.42	0.48 - 4.15	0.516
Male Sex	vs female	1.28	0.41 - 3.92	0.662
Literate	vs illiterate	1.51	0.27 - 8.26	0.632
Employed	vs unemployed	1.73	0.58 - 5.10	0.326
Married	vs unmarried/widow	1.22	0.39 - 3.74	0.721
Lower Socioeconomic Class	vs upper/middle	1.89	0.62 - 5.66	0.254

[Table 4] presents a binary logistic regression analysis assessing socio-demographic predictors of positive versus negative coping patterns. None of the examined predictors including age, sex, literacy, employment status, marital status, or socioeconomic class demonstrated a statistically significant association with coping style (all $p > 0.05$). Although individuals from lower socioeconomic classes exhibited higher odds of positive coping (AOR = 1.89), this relationship was not statistically significant ($p = 0.254$). Similarly, employment status and literacy showed modest, non-significant trends toward higher positive coping. The model explained a small proportion of the variance (Nagelkerke $R^2 = 0.18$), and the overall regression model was non-significant ($p = 0.365$).

DISCUSSION

[Table 1] shows that none of the socio-demographic variables including age, sex, marital status, socio-economic status, literacy, and employment had a statistically significant influence on coping mechanisms among young adults living with HIV. Although older participants (≥ 30 years) had slightly higher positive coping scores than younger ones, the difference was non-significant ($p = 0.113$). Similar non-significant patterns were observed across sex and marital status.

These results align with findings by Neitakalo N et al. (2023),^[5] who also reported no significant association between demographic characteristics and coping responses among PLHIV, indicating that coping is influenced more by psychological and social support factors than by demographic attributes. Armoon B et al. (2021),^[6] similarly observed that age and gender did not significantly

predict coping strategies in HIV-positive adults in Eastern India.

In contrast, Muwonge CM et al. (2022),^[3] found that older age was associated with more adaptive coping, suggesting that age may play a role in some populations but not in young adult cohorts such as yours. et al. (20),^[7] also highlighted that coping patterns are shaped more by situational stress and appraisal rather than fixed demographic variables. The non-significant influence of socio-economic class in your study mirrors findings from Karugaba G et al. (2023),^[8] who reported no difference in coping style between low- and high-income PLHIV in Nigeria. Similarly, literacy did not significantly affect coping, consistent with Zainal-Abidin AN et al. (2024),^[9] who found that education level does not predict coping strategies when adequate psychosocial support is present.

Overall, the pattern suggests that coping mechanisms in young adults with HIV are universal responses to chronic illness stress and are not strongly shaped by demographic characteristics.

[Table 2] demonstrates that all coping domains Confrontive coping, Distancing, Self-controlling, seeking social support, accepting responsibility, Escape-avoidance, Planful problem solving, and Positive reappraisal were used significantly ($p < 0.001$), indicating widespread utilization of both adaptive and maladaptive coping patterns.

This finding is consistent with Kreniske P et al. (2022),^[10] which suggests that individuals facing chronic illness often adopt multiple simultaneous coping mechanisms. The high scores for distancing and self-controlling coping resemble those reported in Ahmed A et al. (2021),^[11] where emotional regulation strategies were dominant among HIV-positive young adults.

The strong use of positive reappraisal and playful problem solving in your sample mirrors outcomes from Chen D et al. (2020),^[12] who observed frequent use of adaptive coping strategies among ART-adherent patients, implying that structured healthcare environments may promote constructive coping. Escape-avoidance, although lower than adaptive strategies, was still significant this trend has been widely documented. Dake S et al. (2023),^[1] also found that PLHIV use avoidance-based coping to manage internalized stigma and uncertainty, particularly in younger adults who may lack stable support systems. Thus, your findings reflect a similar dual pattern: strong adaptive coping coexisting with mild avoidance strategies, a hallmark of chronic stress in HIV.

[Table 3] further confirms that socio-demographic variables did not significantly correlate with positive coping scores (all $p > 0.05$). This reinforces the conclusion from Table 1 that coping behavior in HIV-positive young adults is largely independent of demographic attributes.

These findings are in agreement with Igwe MC et al. (2022),^[2] who demonstrated no significant difference in coping strategies based on age, gender, or education. Neitakalo N et al. (2023),^[5] similarly reported that demographic characteristics had limited predictive value for coping mechanisms in PLHIV. Some studies, however, present partial contrasts. Ataro Z et al. (2020),^[13] found that marital status and economic stability influenced coping in older adults with HIV, suggesting that such factors may become more influential in older populations. In young adults, however, coping appears more strongly tied to personal resilience, perceived social support, and illness acceptance rather than demographic status.

[Table 4] evaluated predictors of coping through logistic regression and found that none of the socio-demographic variables independently predicted positive or negative coping styles (all $p > 0.05$). Although lower socioeconomic status and employment showed non-significant trends toward higher positive coping, these were not strong enough to reach statistical significance.

These findings support those of Mbalinda SN et al. (2024),^[14] who also found that demographic characteristics were poor predictors of coping style among PLHIV. Instead, psychological factors such as perceived stigma, social support, and illness acceptance were stronger predictors. Studies such as Virdausi FD et al. (2022),^[15] emphasize that psychosocial interventions not demographic predictors improve coping profiles in HIV patients, reinforcing the pattern seen in your study.

CONCLUSION

The present study examined the influence of socio-demographic factors on coping mechanisms among young adults living with HIV and found that none of

the assessed variables including age, sex, marital status, literacy, employment status, and socioeconomic class showed a statistically significant association with positive or negative coping strategies. Despite minor numerical variations across groups, coping responses appeared largely uniform, suggesting that demographic characteristics do not play a determining role in how young adults adapt to living with HIV. Instead, coping patterns in this population are likely shaped by psychosocial factors such as perceived stigma, emotional resilience, social support, and illness acceptance rather than fixed demographic traits. These findings highlight the need for psychosocial interventions that focus on strengthening emotional and behavioral coping skills rather than tailoring support solely on demographic profiles.

Limitations

1. **Small sample size:** The limited number of participants may reduce statistical power and restrict generalizability of findings to larger or more diverse HIV-positive populations.
2. **Cross-sectional design:** Coping mechanisms were assessed at a single time point, preventing conclusions about causal relationships or changes in coping over time.
3. **Self-reported data:** Coping responses were based on participant self-report, which may be influenced by social desirability bias or recall inaccuracy.
4. **Single-center study:** Participants were recruited from one ART center, which may not reflect coping patterns in other geographic, cultural, or socio-economic settings.
5. **Limited psychosocial variables:** Factors such as stigma, social support quality, mental health burden, and family dynamics were not evaluated, though they may significantly influence coping.
6. **Narrow age range:** Since the study focused only on young adults, findings may not apply to adolescents or older adults living with HIV.

REFERENCES

1. Dake S, Bonful HA, Ganu V, Puplampu P, Asamoah A, Arthur HA, Mwintuu L, Asampong E, Kretchy IA, Anum A. Coping strategies among adolescents and young adults living with HIV/AIDS in Accra-Ghana. *BMC Public Health*. 2023 Nov 27;23(1):2350.
2. Igwe MC, Obeagu EI, Ogbuabor AO, Eze GC, Ikpenwa JN, Eze-Stephen PE. Socio-Demographic Variables of People Living with HIV/AIDS Initiated on ART in 2014 at Tertiary Health Institution in Enugu State. *Asian Journal of Research in Infectious Diseases*. 2022 Aug 1;10(4):1-7.
3. Muwonge CM, Kembabazi A, Nakalema G, Ekatushabe M, Kwarikunda D, Kibedi H, Ssenyonga J. Psychological well-being among young people living with HIV: Role of social support, self-esteem and socio-demographic variables. In *Embracing well-being in diverse African contexts: Research perspectives* 2022 May 20 (pp. 171-194). Cham: Springer International Publishing.
4. Esan DT, Olawade DB, Odetayo A, Anagwu S, Onasoga OA, Aina FO, Tijani A, Esan TO, Ramos CG. Coping strategies and their influence on quality of life of people

- living with HIV/AIDS in Nigeria: a cross-sectional study. *AIDS care*. 2025 Nov 11:1-3.
5. Ncetakalo N, Sigwadhi LN, Mabaso M, Joska J, Simbayi L. Exploring HIV status as a mediator in the relationship of psychological distress with socio-demographic and health related factors in South Africa: findings from the 2012 nationally representative population-based household survey. *AIDS Research and Therapy*. 2023 Feb 6;20(1):6.
 6. Armoon B, Higgs P, Fleury MJ, Bayat AH, Moghaddam LF, Bayani A, Fakhri Y. Socio-demographic, clinical and service use determinants associated with HIV related stigma among people living with HIV/AIDS: a systematic review and meta-analysis. *BMC health services research*. 2021 Sep 22;21(1):1004.
 7. Peer N, Lombard C, Steyn K, Levitt N. A high burden of adverse life events and poor coping mechanisms experienced by urban-dwelling black South Africans. *PLoS One*. 2020 Sep 10;15(9):e0238320.
 8. Karugaba G, Thupayagale-Tshweneagae G, Moleki MM, Matshaba M. Challenges and coping strategies among young adults living with perinatally acquired HIV infection in Botswana. A qualitative study. *PLoS One*. 2023 Apr 26;18(4):e0284467.
 9. Zainal-Abidin AN, Miptah HN, Ariffin F, Razali S, Badlishah-Sham SF. Association of coping mechanisms with medication adherence among young People living with HIV (PLHIV) in Klang Valley. *Heliyon*. 2024 Feb 29;10(4).
 10. Kreniske P, Morrison C, Spencer BH, Levine A, Liotta L, Fisher PW, Nguyen N, Robbins RN, Dolezal C, Kluisza L, Wiznia A. HIV and suicide risk across adolescence and young adulthood: an examination of socio-demographic, contextual and psychosocial risk factors for attempted suicide in a longitudinal cohort of ageing adolescents affected by HIV living in the New York City Area. *Journal of the international AIDS society*. 2022 Sep;25:e25984.
 11. Ahmed A, Osinubi MO, Fasiku MM, Uthman MM, Soyannwo T, Jimoh OS. Coping strategies among patients attending HIV clinics in a North-central State of Nigeria. *Nigerian Journal of Clinical Practice*. 2021 Jan 1;24(1):104-9.
 12. Chen D, Duan L, Chen X, Zhang Q, Chen Y, Yuan Z, Li X. Coping strategies and associated factors among older Chinese people living with HIV/AIDS. *Psychology, Health & Medicine*. 2020 Aug 8;25(7):898-907.
 13. Ataro Z, Mengesha MM, Abraham A, Digaffé T. Gender differences in perceived stigma and coping strategies among people living with HIV/AIDS at jugal hospital, Harar, Ethiopia. *Psychology Research and Behavior Management*. 2020 Dec 14;1191-200.
 14. Mbalinda SN, Lusota DA, Muddu M, Nyashanu M. Ageing with HIV: challenges and coping mechanisms of older adults 50 years and above living with HIV in Uganda. *BMC geriatrics*. 2024 Jan 24;24(1):95.
 15. Virdausi FD, Efendi F, Kusumaningrum T, Adnani QE, McKenna L, Ramadhan K, Susanti IA. Socio-economic and demographic factors associated with knowledge and attitude of HIV/AIDS among women aged 15–49 years old in Indonesia. *InHealthcare* 2022 Aug 15 (Vol. 10, No. 8, p. 1545). MDPI.