*Original Research*

# Social Determinants of Health and Psychological Capital Among Youth Experiencing Homelessness

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## Abstract

**Background:** Social determinants of health affect health behaviors and outcomes. Youth experiencing homelessness suffer significant deprivation of resources such as inadequate housing, reduced education, poor health care, and decreased economic stability. Inner resources, such as psychological capital, may also be related to health behaviors and health outcomes.

**Objective:** In this study, we sought to describe and explore associations among selected determinants of health and self-reported scores on indicators of psychological capital among youth experiencing homelessness.

**Methods:** This cross-sectional secondary analysis was conducted with a randomized subsample of 148 youth. We calculated chi-square frequencies to describe the data, classical item analyses to evaluate responses, and correlation tests to examine significance of associations.

**Results:** Youth in this sample demonstrated that they possess inner resources associated with determinants of health. Education, health care, and social support were significantly associated with attributes of psychological capital (hope, efficacy, resilience, optimism). Sexual minority groups had high representation in this subsample (25.7%), indicating a need for more study and equitable services for this population.

**Conclusion:** More research should be conducted to better understand the associations between determinants of health, psychological capital, and health behaviors among disadvantaged youth to advance health equity initiatives.

## Keywords

underserved youth, inner strengths, HIV screening, social support, educational attainment

Over 4 million youth and young people in the United States experience homelessness each year.[1] Youth under the age of 24 are considered to experience homelessness if they are either trading sex for housing, are staying with friends but cannot stay there longer than 14 days, if they are being labor or sex trafficked, or if they left their home due to actual experiences of or threats of emotional, financial, or physical abuse and lack a safe, alternative housing option.[2] Current estimates are that on any given night in the United States, around 29 000 of these youth experiencing homelessness (YEH) access shelter.[3] One national prevalence and incidence study of YEH indicted that 10% of all youth between the ages of 18 and 25 years experienced some type of homelessness in a 1-year period,[4] while another report suggests 1 out of every 30 youth aged 13 to 17 experience homelessness each year.[1]

Youth experiencing homelessness are frequently characterized by their deficits, and many have histories of childhood trauma and mental health issues.[5,6] Indeed, YEH represent a population that may experience health disparities and other social disadvantages related to multiple adverse childhood experiences (ACES), resulting in post-traumatic stress symptoms and heightened engagement in risky behaviors.[7,8] Despite having adverse experiences in childhood due to factors in their external environment, some YEH develop inner resources, such as resilience, which may protect them from engaging in health risk behaviors.[9]

Whereas experiences of homelessness are found to be related primarily to poverty in developing countries, family conflict is the main reason for this phenomenon in the United

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States.[10] Neglect of family connectedness predisposes US YEH to heightened risk for adverse outcomes.[11] However, in the absence of a family unit, service organizations (such as drop-in and overnight shelters) may support YEH in perceiving a higher level of social support and better access resources (eg, employment opportunities, professional support) in the community.

### Social Determinants of Health

*Healthy People 2030* (HP2030) provides the nation with direction for top priorities in health and health care. One of the top national priorities outlined by *HP2030* is to eliminate health disparities and advance health equity.[2] One increasingly used strategy to advance equitable opportunities in the United States is to address the social determinants of health (SDOH). The SDOH are conditions in a person's life that occur across sectors (eg, home, work, play) within their external environment.[12] Five general domains are associated with the SDOH and have been found to be more correlated with health behaviors and health inequities than medical diagnoses alone.[13] The domains include: education, economics, health care, neighborhood (built environment), and community/social support.

The majority of YEH face heightened odds of risky health behaviors, such as survival sex and substance use, in relation to SDOH (lower levels of educational attainment, housing instability, and violence within their built environment).[14] Previous studies of YEH have documented high levels of unmet needs in health care,[15] family stress and violence,[16] and disadvantaged rates of unemployment of up to 57% to 71%,[17] reducing their chance of a healthy transition into adulthood. Despite the deficits in external support and resources among YEH, the presence of intangible inner resources, such as resilience, may be related to how YEH navigate challenging economic conditions, educational barriers, health-related behaviors, and decision-making, as well as other functional activities of daily living.

### Psychological Capital

Psychological Capital is a combination of the attributes hope, self-efficacy, resilience, and optimism (often referred to as *the HERO within*).[18] International studies with working adults have shown associations between improved work performance, enhanced well-being, and Psychological capital,[19] yet little is known about Psychological capital among YEH.[20] While understudied among youth in the United States, psychological capital has been shown to be positively related to health behaviors among youth internationally.[21] Furthermore, one preliminary study with rural, medically-underserved US youth demonstrated that the combination of the HERO strengths was found to be more strongly associated with positive health outcomes (such as greater subjective well-being and lesser anxiety) than any of the individual HERO strengths alone (Preston, unpublished data). Another study with homeless female youth demonstrated higher levels of psychological capital were associated with safer sexual health practices.[22] Psychological capital offers the potential for a strengths-based approach to support positive health behaviors (and thereby reduce risky health behaviors) among YEH, a population who experience extreme hardships and health inequities which occur in relation to SDOH. Psychological capital may be useful as an inner resource, if developed, to improve mental and behavioral health outcomes among YEH.

### Purpose

To our knowledge, there is no literature on the associations between SDOH and psychological capital among YEH. Since psychological capital is amenable to development and intervention, we aim to explore whether YEH who report higher levels of psychological capital are also reporting getting testing for HIV more frequently, higher levels of educational attainment (such as graduation from high school), legal avenues of earning income, and higher levels of social connectedness, which may be through access to drop-in or overnight services centers. Higher reporting of Psychological capital in relation to SDOH, such as educational attainment, may also be linked to mental and behavioral health outcomes among YEH, a population at extreme risk for poor health outcomes.[23] There is no evidence currently available which explores these relationships, particularly among US YEH. The purpose of this analysis, therefore, is to describe the general SDOH and the components of Psychological capital among YEH, and to investigate the associations between Psychological capital strengths and selected SDOH.

## Methods

### Design

This secondary analysis of data is drawn from a longitudinal intervention study using a Solomon four-group design. Details of the design[20] and intervention[24] are described in detail elsewhere. Specifically, we addressed the following research questions:

1. How do Youth experiencing homelessness self-report selected social determinants of health?
2. How do Youth experiencing homelessness self-report components of Psychological capital (hope, self-efficacy, resilience, and optimism)?
3. What are the associations between indicators of Psychological capital and selected social determinants of health?

### Setting and Sample

The intervention study took place in 2 urban cities in the United States, one in the Southwest United States and one in the Midwest United States. Both are the capitals of their respective states and home to a major university. The original study was approved by the institutional review boards (IRBs) of both universities (the University of Texas at Austin IRB #2015-07-0009 and the Ohio State University IRB #2014B0130), where the principal investigators of the original study were employed. Owing to the sensitive nature of some of the questions asked, a certificate of confidentiality from the National Institutes of Health (NIH) was obtained prior to beginning the study. This secondary analysis was deemed exempt from IRB review.

Each of these cities has at least one drop-in center where YEH can seek health and social services to help them with activities of daily living. YEH were recruited through posting flyers and making person-to-person contact at the shelters and social services centers where YEH frequented (eg, for breakfast). Social workers working at the centers partnered with the research team and recruited youth who accessed the shelter to participate in the study. From these shelters and drop-in centers, 602 participants were recruited and enrolled in the intervention study. YEH were required to be between the ages of 18 and 24 years to participate, and were randomly assigned to 1 of 4 groups within the Solomon four-group design at enrollment. The Solomon four-group design explores sensitivities to pretesting in interventional research by dividing participants randomly to a (1) pretest–intervention group, (2) no pretest–intervention group, (3) pretest–no intervention group, or (4) no pretest–no intervention group. The research team and participants were blinded to group assignment at the time of study enrollment. Prior publications have explored the effectiveness of the brief Psychological capital intervention, the impact of pretest sensitization, group assignment, and the randomization process.[24] Data collection began in 2015 and closed in the spring of 2020 with the onset of the COVID-19 pandemic.

The sample for this analysis is the no pretest–no intervention group ("group 4" at enrollment). We selected this subsample to describe how YEH report on the SDOH and their Psychological capital strengths without pretest or intervention contamination. The YEH who frequent the selected drop-in and overnight shelters at both locations were ethnically and sexually diverse, and representative of the cities from which they were recruited (44% from Austin, Texas shelters; 56% from Columbus, Ohio shelters). The Austin, Texas shelters were 2 part-time centers which were open at varied times through the year, but a maximum of 3 days/week at each site. The one Columbus, Ohio shelter offered wraparound services and was open 24 h/day, 7 days/week all year. Data for this particular study were collected at enrollment (basic demographic information) and post-test 1 (3 weeks after enrollment). Data were collected at the service center the YEH accessed in their respective city. Youth who chose to participate received $15 at enrollment and $20 after completion of posttest 1, as a token of thanks. Data from YEH can be very difficult to collect given the transient lifestyle of this oft-neglected and understudied population.[5] Youth experiencing homelessness suffer exponentially greater adverse health outcomes than the general population,[25] so we were particularly pleased to be able to access a dataset with racially and sexually diverse participants in the sample.

### Measures

Demographic and SDOH data in this study were collected using an investigator-developed demographic form (see Appendix A), including questions related to educational attainment, economic stability, health and access to health care, neighborhood and the built environment, and community/social support.[26] We selected questions related to high school graduation, full-time and seasonal employment, HIV testing status, living with friends and family, and the participant's social connectedness score[27] to represent each of the respective SDOH. The Social Connectedness Scale[27] has a history of valid and reliable use among underserved and homeless youth, and produced a Cronbach alpha score of 0.85 at this administration. Each of the unidimensional measures selected to measure the Psychological capital attributes has a history of valid and reliable use with YEH. See Table 1 for sample questions and reliability scores for the measures of Psychological capital attributes.

### Data Analysis

Data were cleaned and all statistical analyses were conducted in the RStudio version 3.6.2 platform.[32] Data to answer the first research question were analyzed using descriptive statistics. Mean scores, Pearson correlations, and reliability coefficients were computed to answer the second question.[33,34] The data were transformed and appropriate alternative analyses were conducted if parametric assumptions were not met. For our third research question about associations between indicators of psychological capital and SDOH, a power analysis was conducted with *a priori* assumptions using G*Power.[35] We set the effect size at 0.25, the 2-tailed alpha value at 0.05, and power at 0.80, resulting in a minimum sample size of 120. Our sample exceeded the minimum required to conduct our analysis. List-wise deletion was used to handle missing data.[36]

## Results

Valid responses from 148 participants were included in this secondary analysis. The sample included high representation of youth reporting identification with groups typically marginalized and underrepresented. As an example, each of the

**Table 1.** Indicators of Psychological Capital Among Youth Experiencing Homelessness.

| Measure | # items and format | Mean (range) | Cronbach's alpha | Sample item |
|---|---|---|---|---|
| Hope[28] | 6 items and 8-point Likert | 31.7 (range 0-48) | 0.82 | I can think of many ways to reach my current goals. |
| Substance Refusal Self-Efficacy[a] | 8 items and 0%-100% rating | 26.5 (range 0-40) | 0.89 | I would be able to resist the urge to not drink heavily . . . if I had trouble sleeping. |
| Safe Sex Self-Efficacy[29] | 5 items and 5-point Likert | 17.3 (range 0-25) | 0.86 | I feel sure that I could say "no" to sex if my partner refused protection/condom |
| Resilience[30] | 25 items and 7-point Likert | 119.6 (range 0-175) | 0.90 | I take things one day at a time. |
| Optimism[31] | 12 items and 5-point Likert | 24.8 (range 0-44) | 0.73 | I don't get upset too easily. |

Indicators of Psychological Capital = HERO attributes (hope, self-efficacy, resilience, and optimism).
[a]Personal communication (N. Slesnick, 2012).

**Table 2.** Demographics of Youth Experiencing Homelessness in This Subsample (N = 148).

| Category | n | % |
|---|---|---|
| Ethnicity | | |
| Hispanic/Latino | 29 | 19.6 |
| Not Hispanic/Latino | 119 | 81.4 |
| Race | | |
| White | 66 | 44.6 |
| Black | 53 | 35.8 |
| Native American/Alaska Native | 27 | 18.2 |
| Asian | 2 | 1.4 |
| Gender identity | | |
| Male | 83 | 56.1 |
| Female | 62 | 41.9 |
| Transgender | 3 | 2.0 |
| Sexual orientation* | | |
| Straight | 110 | 74.3 |
| Bisexual | 26 | 17.6 |
| Lesbian | 10 | 6.8 |
| Gay | 9 | 6.1 |
| Age | | |
| Mean | 21 years | |
| Standard deviation | 1.76 years | |

*Some respondents reported more than one sexual orientation

reported racial categories comprised less than 50% of the sample. Detailed demographics for the sample are provided in Table 2.

## *Education, Economic Stability, and Health and Health Care*

Over half of this sample (58.1%) had graduated high school, whereas nearly 1 out of 3 earned less than a high school degree. Half of this sample earned money through seasonal (52%) or part-time (50%) work, and 33.7% worked full-time. Various other methods of gaining money were reported such as selling personal items, gambling, and survival sex. The majority (66.9%) had accessed health care services for HIV testing. Table 3 provides additional details on descriptions of health behaviors, health care access, and health care utilization.

## *Neighborhood and Built Environment, Community, and Social Support*

With regard to primary living residence, the majority of this sample (54%) stayed with different people on any given night (eg, with a relative or adult friend). Around one third of the sample reported living on the streets (29.1%). There were 39.9% YEH who reported currently accessing case management services, which we consider a form of community/social support. Fully two thirds of participants (70%) reported being abused and/or neglected by their parents, and 10% reported the main reason they ran away and now stay away from home is because their parent or guardian died and they no longer have a safe housing option. Table 4 outlines additional self-reported descriptions made by the YEH related to their neighborhood and built environment and community/social support.

## *Indicators of Psychological capital and Determinants of Health*

There were statistically significant associations between educational attainment (eg, high school graduation) and all of the Psychological capital strengths (hope, $r=0.24$, $P<.01$; self-efficacy for substance refusal, $r=0.21$, $P<.05$; self-efficacy to negotiate for safe sex, $r=0.22$, $P<.01$; resilience, $r=0.29$, $P<.001$; and optimism, $r=0.27$, $P<.001$). There were also statistically significant associations between social connectedness and all of the Psychological capital strengths (hope, $r=0.76$, $P<.001$; self-efficacy for substance refusal, $r=0.68$, $P<.001$; self-efficacy to negotiate safe sex, $r=0.73$, $P<.001$; resilience, $r=0.79$, $P<.001$; optimism, $r=0.77$, $P<.001$). We noted statistically significant associations between 2 Psychological capital strengths and accessing health care

**Table 3.** Economic Stability, Education, and Health Care Among Subsample of Youth Experiencing Homelessness (N = 148).

| Category | n | % |
|---|---|---|
| Economic stability* | | |
| Temporary work (eg, seasonal) | 77 | 52.0 |
| Part-time work | 74 | 50.0 |
| Money from selling clothes or personal items | 60 | 40.5 |
| Money from relatives | 58 | 39.1 |
| Money from friends | 52 | 35.1 |
| Money from panhandling | 50 | 33.8 |
| Working full-time | 50 | 33.7 |
| Money from selling blood/plasma | 40 | 27.0 |
| Money from agencies | 31 | 20.9 |
| Money from dealing drugs | 29 | 19.6 |
| Money from self-made items | 25 | 16.9 |
| Money from gambling | 17 | 11.5 |
| Money from recycling bottles/cans | 14 | 9.6 |
| Money from survival sex | 12 | 8.1 |
| Education | | |
| Graduated high school | 86 | 58.1 |
| Dropped or quit school | 48 | 32.4 |
| Enrolled in high school or college | 13 | 8.8 |
| Suspended from school | 6 | 4.1 |
| Enrolled in vocational training school | 4 | 2.7 |
| Health and health care | | |
| HIV tested | 99 | 66.9 |
| Tobacco use | 92 | 62.2 |
| Has health insurance | 89 | 60.1 |
| Illegal drug use | 72 | 48.6 |
| Recently saw health provider | 69 | 46.6 |
| Treated in emergency department | 64 | 43.2 |
| History of sexual abuse | 62 | 42.0 |
| Alcohol use | 55 | 37.2 |
| Consistent condom use with sexual intercourse | 44 | 29.7 |
| Recent dental appointment | 32 | 21.6 |
| Prescription pain reliever use** | 16 | 10.8 |
| Prescription sedative use*** | 11 | 7.4 |

*Participants could select more than one option.
**Examples of prescription pain relievers include morphine, oxycodone, hydrocodone, hydromorphone, and methadone.
***Examples of prescription sedatives include diazepam, alprazolam, clonazepam, and lorazepam.

services for HIV testing (hope, $r=0.23$, $P<.05$; optimism, $r=0.18$, $P<.05$). There were no statistically significant associations between economic stability (temporary or seasonal work; range of $r=-0.02$ to 0.04, $P=.12$ to .99) or living with a friend/relative (range of $r=-0.02$ to 0.07, $P=.42$ to .96) and the components of Psychological capital. The relationship between self-efficacy for substance refusal and working part-time (working 20 hours per week, another indicator of economic stability) had a somewhat larger correlation but did not reach statistical significance ($r=0.13$, $P=.12$). Pearson correlations between Psychological capital strengths and SDOH variables are outlined in Table 5.

**Table 4.** Built Environment and Social Support Among Subsample of Youth Experiencing Homelessness (N = 148).

| Category | n | % |
|---|---|---|
| Neighborhood/built environment | | |
| Primary residence in the past year | | |
| With parents or relatives in their house | 45 | 30.4 |
| On the streets | 43 | 29.1 |
| With adult friends in their house | 35 | 23.6 |
| In jail, youth detention, long-term housing | 14 | 9.5 |
| In a shelter | 9 | 6.1 |
| With foster family in their house | 2 | 1.4 |
| Community and social support[a] | | |
| Social connectedness[b] | 79 | 53.4 |
| Current case management | 59 | 39.9 |
| Parental neglect | 55 | 37.2 |
| Parental abuse | 50 | 33.8 |
| Parental death | 15 | 10.1 |

[a]Participants could select more than one response.
[b]Social connectedness = % reporting scores above the mean on Social Connectedness Scale.[27]

## Discussion

We saw in our study a large portion of this subsample of YEH self-identified as Black, Indigenous, Hispanic, Lesbian, and/or Gay. This is consistent with findings from other studies where YEH disproportionately self-identified as Black, Indigenous, Hispanic, Lesbian, and/or Gay.[37-39] The overprevalence of these historically minoritized populations self-identifying among samples of YEH spurs a need for more research to solicit a deepened understanding of the complexities of navigating life on the street,[40] particularly among those with intersecting historically-minoritized identities, which may exponentiate the stresses and challenges of housing instability.[41]

Very little is known about Psychological capital in relation to youth health behaviors, particularly in the United States. In our study with US YEH, we found a significant association with accessing health care services for HIV testing and 2 Psychological capital attributes, hope and optimism, yet there was not a significant association with HIV testing and the other 2 Psychological capital attributes (self-efficacy and resilience). We found it particularly interesting that self-efficacy to negotiate safe sex and self-efficacy to refuse substances did not demonstrate a significant relationship with reporting HIV testing in our study. In another study with young adults, self-efficacy was also not correlated with sexual health behaviors; instead, the young adults who perceived their risk for HIV as severe were less likely to undergo HIV testing.[42]

Self-efficacy has previously been well-established as a motivator for health behaviors.[43] One possible explanation is to consider the conceptual differences from the traditional view of self-efficacy and Psychological capital self-efficacy

**Table 5.** Pearson Correlations Among Indicators of Psychological Capital and Social Determinants of Health in This Subsample of Youth Experiencing Homelessness (N = 148).

| Indicators | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Hope | 1.0 | | | | | | | | | |
| 2. Self-efficacy, SR | 0.75*** | 1.0 | | | | | | | | |
| 3. Self-efficacy, NSS | 0.83*** | 0.77*** | 1.0 | | | | | | | |
| 4. Resilience | 0.92*** | 0.81*** | 0.85*** | 1.0 | | | | | | |
| 5. Optimism | 0.87*** | 0.76*** | 0.83*** | 0.94*** | 1.0 | | | | | |
| 6. Grad HS | 0.24** | 0.21* | 0.22** | 0.29*** | 0.27*** | 1.0 | | | | |
| 7. Seasonal work | 0.04 | 0.02 | 0.01 | 0.04 | −0.02 | 0.00 | 1.0 | | | |
| 8. HIV tested | 0.23* | 0.02 | 0.17 | 0.09 | 0.18* | −0.01 | 0.10 | 1.0 | | |
| 9. Social connected | 0.76*** | 0.68*** | 0.73*** | 0.79*** | 0.77*** | 0.10 | 0.02 | 0.06 | 1.0 | |
| 10. Live with R or F | 0.00 | −0.02 | 0.07 | 0.02 | 0.04 | 0.08 | 0.22** | −0.13 | 0.10 | 1.0 |

Self-efficacy, SR = for substance refusal; Self-efficacy, NSS = to negotiate safe sex; Grad HS = graduated high school; Seasonal work = day labor, seasonal work, or pickup work; Seasonal work selected as it was a legal way to earn income and the most frequently reported way to earn legal income; HIV tested = have ever been tested for HIV; Social connected = above average score on social connectedness scale; Live with R or F = live with relative, foster family, or friends.
*$P < .05$. **$P < .01$. ***$P < .001$.

as related to confidence. Historically speaking, self-efficacy pertains to competence in a certain task or domain[43]; however, Psychological capital self-efficacy is a 2-part attribute, pertaining to both competence in a domain and also in confidence in ability to perform that domain.[43] It would be worthwhile to examine the relevance of each item on the self-efficacy scale which was used in this study to see if those items are more strictly related to task completion.[33]

What is also interesting is that Psychological capital optimism and Psychological capital hope have some conceptual overlap with Psychological capital self-efficacy, related to the belief in a personal ability to achieve goals and to a personal positive contribution to achieving a task. In further conflict, Goodman et al[44] conducted a study with at-risk female youth and found that optimism was not necessarily associated with likelihood to receive HIV testing. Another study with gay men in the United Kingdom found that optimism did not explain HIV testing behaviors either.[45] A study with people living with HIV in South Africa found that resilience may be a contributor to HIV testing and sexual health maintenance.[46] It warrants further investigation into the utility of composite Psychological capital to be able to more fully predict and motivate positive health behaviors, as well as strategies to boost self-esteem[47] among YEH, as these psychological concepts are all closely related to mental and behavioral health outcomes.

To date, the research shows a conflicted understanding of psychological variables and HIV testing and sexual health behaviors. One reason from this could be the variety of tools which are being used to study Psychological capital from one study to the next, making it very difficult to compare results across populations and health outcomes. To increase the practical ability to investigate Psychological capital in relation to sexual health behaviors among underserved youth, a valid and reliable multidimensional, self-report instrument is needed, since at the moment most youth health researchers are required to use a battery of unidimensional tools.[21]

Within this sample, we found that YEH, while facing extreme depravity of external resources, also self-report inner psychological resources. As a group, this subsample of YEH scored above the mean on each of the unidimensional measures of the indicators of Psychological capital (hope, self-efficacy, resilience, and optimism). The experience of adversity may have provided YEH an opportunity to sharpen and heighten their psychological resources, potentially even as a compensatory response to the lack of external resources. Few studies have explored post-traumatic growth among discriminated and minoritized youth, yet preliminary research in this field suggests that this may be a bright side to adversity.[48,49] It is possible that YEH develop psychological resources (eg, Psychological capital attributes) while experiencing homelessness to survive, warranting further study of post-traumatic growth and Psychological capital strength development among YEH.

We identified a significant relationship between educational attainment and all of the indicators of Psychological capital, which to our knowledge, is a novel contribution to the literature regarding US YEH. Our finding is congruent with previous research on Psychological capital and educational attainment among youth from other minoritized and disadvantaged populations (eg, youth with disabilities, foster youth).[50,51] Yet, several researchers have highlighted the need to move beyond the relationship between Psychological capital and educational attainment to develop our understanding of the role of Psychological capital in social mobility across economic classes.[52-54] Youth in the United Kingdom reporting higher levels of Psychological capital also reported increased social mobility and employability.[52] More research should be conducted to better understand the associations between

education, employment, Psychological capital, and health behaviors among disadvantaged youth, so that health interventions more appropriately address their holistic social and health needs.

We found a significant relationship with each of the indicators of Psychological capital and social support, which is congruent with prior research.[17,55,56] Social support and social connectedness have been found to be related to positive outcomes with sexual practices, substance use, violence, and mental health as youth transition into adulthood.[57] Social connectedness may nourish the adolescent's experience of safety, empowerment, acceptance, affirmation, and the feeling of being appreciated.[58] YEH draw on a multitude of available services and often demonstrate ingenuity when mobilizing resources to survive such as finding a place to stay with friends/family and seasonal/part-time work. Living with family, friends, or romantic partners (even if the night time residence is inconsistent) may reinforce relationships critical to transitioning out of homelessness and into stability.[59,60]

### *Limitations*

This study has several limitations. First, this was a subsample of a larger intervention sample, and variations in demographic variables, outcomes, and associations from the larger sample may have better informed and/or altered the results of this study. The locations may have affected the reporting of the results of those YEH who chose to participate in the study, and we did not examine demographic or reporting differences between the YEH living in these 2 separate regions. We did not examine differences between groups based on gender or sexual orientation. This type of analysis might be informative for a better understanding of how the trauma associated with homelessness may be more or less challenging, or require more, less, or different resources between different groups of YEH. This is an area that still needs further study. Second, we would like to clarify the associations we have identified do not confer causation, only a direction in which to point for future research and potential intervention. Third, as this was a secondary analysis, we were limited by the measures, variables, and recruitment decisions originally selected by the primary research team. Details of part-time or temporary employment for this sample in terms of what type of employment, how long it lasted, or number of hours per week were not available. In addition, some of the items regarding education, such as "current enrollment in high school or college" did not allow us to delineate enrollment between the two, because it was only one item. We also want to highlight that this sample was collected from YEH who accessed shelters within 2 major metropolitan centers in their respective states, so the sociopolitical landscape and policy decisions in these cities may differ for YEH living in more rural regions or other cities within the United States. Knowing more details about sociopolitical, neighborhood, and economic factors may heighten clarity surrounding the role of the external environment and trajectories of homeless youth. Despite these limitations, we have established baseline evidence regarding the relationship between selected SDOH variables and Psychological capital strengths among a diverse sample of difficult to access, highly vulnerable youth, so we still believe this is a valuable contribution to the literature.

### *Future Research*

There is a need for future sexual health behavior research in relation to the combination of the 4 psychological attributes (hope, self-efficacy, resilience, and optimism) known as Psychological capital. While we see in this sample of US YEH attainment of this inner resource, there are barriers to using Psychological capital Theory in youth health research. Many youth health researchers use a battery of unidimensional scales to measure Psychological capital, which fails to produce a composite score of a higher order construct. To increase the pragmatic ability to study Psychological capital among youth and youth health behaviors, a multidimensional measure of Psychological capital would be beneficial. The significant findings in this study support future exploration of Psychological capital, SDOH, and health behaviors among US YEH.

## Conclusion

The primary purpose of this secondary analysis was to describe SDOH, health behaviors, and indicators of Psychological capital among a subsample of YEH and this was met. The secondary purpose was to explore the associations between indicators of Psychological capital and selected SDOH and this was also met. Some challenges remain and future research to explore Psychological capital and risky health behaviors among YEH needs to be conducted. Health policy decision-makers and advocates for YEH should take a comprehensive approach to advancing housing stability and include YEH in their planning endeavors. It appears that YEH have inner resources which they may draw on to survive. Understanding more about their inner resources may inspire system-level change when interpreted and contextualized on a macro level. Future studies should involve YEH in exploration of their inner strengths to advance their living conditions, confidence in their abilities, and ultimately their mental and behavioral outcomes.

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## Supplemental Material

Supplemental material for this article is available online.

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