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Future Orientation as a Cross-Cutting Protective Factor Against Multiple Forms of Violence

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Among 9-12th grade students who completed an anonymous health risk and protective behavior survey (n=2346), positive future orientation was significantly and inversely associated with multiple forms of interpersonal violence including youth, community, and sexual/relationship violence. Designing interventions to promote future orientation holds promise as a cross-cutting violence prevention strategy.

Interpersonal violence, defined as violence between individuals¹, is pervasive, interrelated across types of violence, and disrupts adolescent physical and mental well-being¹⁻³. Common forms of interpersonal violence among youth include community and intimate partner violence¹. There are physical and mental health consequences of violence exposure, including high rates of violence-related injury, anxiety, depression, and posttraumatic stress disorder, as well as poor control of chronic illnesses⁴. Victims of interpersonal violence are also more likely to experience repeated violence as well as suffer from multiple types of violence¹. In their 2014 “Connecting the Dots” report, the Centers for Disease Control and Prevention (CDC) highlighted how multiple forms of interpersonal violence are interconnected and share similar root causes⁵. Some forms of interpersonal violence,

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such as homicide survivorship (ie, losing a loved one to homicide) and exchange sex (i.e., the exchange of sex for drugs, money, food, or shelter), are less well studied among youth despite being linked to adverse physical and mental health outcomes^{3,5}. Understanding the broad range of interconnected forms of interpersonal violence affecting young people, there is an ever growing need to develop strategies that reduce exposure and involvement in violence across multiple forms.

Future orientation, defined as hopes and plans for the future, is associated with multiple prosocial outcomes, and has been inversely linked to weapon-related violence, bullying, and delinquency⁶⁻⁷. Although a limited number of studies have used asset-based measures of future orientation⁸, much research to date has included deficit-based measures (i.e., perceived life expectancy¹⁰ and hopelessness¹²), examined a narrow subset of violence outcomes, and focused on youth in suburban settings^{6-7,9-12}. Understanding associations between future orientation and experiences of multiple forms of interpersonal violence among diverse youth can guide more representative strengths-based violence prevention strategies.

Situating our work within the CDC's "Connecting the Dots" framework of identifying shared risk and protective factors to address interconnected forms of violence⁵, we examined associations between future orientation and multiple interpersonal violence perpetration and victimization experiences among a school-based sample of youth from Pittsburgh, Pennsylvania.

METHODS

Data were drawn from an anonymous school-based survey of health risk and protective behaviors administered to ninth through twelfth graders from 13 high schools within Pittsburgh Public Schools (PPS) in 2018 modelled on the CDC Youth Risk Behavioral Survey (YRBS). The study involved a partnership between PPS, the Allegheny County Health Department (ACHD), and the Division of Adolescent and Young Adult Medicine at the Children's Hospital of Pittsburgh (AYA). Data collection was organized and implemented by AYA and took place in-person over a one-week period (October 15th-19th, 2018). ACHD processed the surveys and our team analyzed the data pertaining to the current analysis. Our institutional Review Board deemed this cross-sectional analysis exempt.

Positive future orientation was defined as answering affirmatively to both of the following items adapted from previous instruments¹³: "I am excited about my future" and "if I set goals, I can take action to reach them." These two items were selected to assess core dimensions of future orientation, including positive outlook for one's future and aspirational goal setting, and have been shown to be important in prosocial outcomes¹³. Youth and community violence measures included past 12-month history of threatening someone with a weapon on school property (1 item), being threatened with a weapon on school property (1 item), gun carrying (1 item), engaging in a fight (2 items), sustaining a fight-related injury requiring medical attention (1 item), and lifetime history of losing a friend or family member to murder (homicide survivorship; 1 item). Sexual/relationship violence measures included past 12-month history of physical or sexual adolescent relationship abuse (ARA, 2 items),

sexual assault (1 item), and lifetime history of receiving money/shelter/food in exchange for sex (exchange sex; 1 item). Of the 4207 youths surveyed, those who completed both future orientation items and at least one violence item were included in the analysis (55.8%).

Descriptive statistics summarized demographics, future orientation, and violence experiences. Logistic regression separately examined associations between future orientation and each violence measure (operationalized as any/none). Models were adjusted for age, sex assigned at birth, race/ethnicity (White non-Hispanic, Black non-Hispanic, and Hispanic/multiracial/other), and identification as sexual or gender minority. All analyses were conducted using R version 3.6.3 (2020-02-29).

RESULTS

A total of 2346 adolescents were included in the analysis. Mean participant age was 15.7 years, with 25% of youth identifying as Black non-Hispanic, 47% as White non-Hispanic, and 26% as Hispanic/multiracial/other (Table 1). 82% of participants reported positive future orientation. Experiences of violence were common, with 3.7% reporting history of threatening someone with a weapon, 32.7% reporting homicide survivorship, and 8.1% reporting ARA (Table 2).

Positive future orientation was significantly and inversely associated with all domains of youth and community violence, including gun carrying (adjusted odds ratio [aOR], 0.44; 95% CI, 0.28-0.70), threatening someone with a weapon (aOR, 0.26; 95% CI, 0.16-0.41), being threatened with a weapon (aOR, 0.44; 95% CI, 0.30-0.65), fighting (aOR, 0.64; 95% CI, 0.50-0.81), injury from a fight (aOR, 0.26; 95% CI, 0.17-0.42), and homicide survivorship (aOR, 0.72; 95% CI, 0.57-0.92) (Table 2).

Positive future orientation was also associated with significantly lower odds of sexual and relationship violence. Youth with positive future orientation had lower odds of reporting ARA, sexual assault, and exchange sex (ARA: aOR, 0.45; 95% CI, 0.32-0.63; sexual assault: aOR, 0.67; 95% CI, 0.50-0.89; exchange sex: aOR 0.56; 95% CI, 0.37-0.86).

DISCUSSION

Among a school-based sample of 9-12th grade adolescents, experiences of violence were common and similar to those reported in the 2019 national YRBS survey¹⁴. For example, national rates of gun-carrying and adolescent relationship abuse (4.4% and 8.2%, respectively) were similar to the rates reported in our Pittsburgh school-based survey (4.3% and 8.1%, respectively). Although not assessed in the national YRBS survey, the reported prevalence of exchange sex among adolescents in this survey (5.2%), was similar to rates reported in previous work (3.5% - 7.4%).^{2,15} Conversely, the rate of adolescent homicide survivorship among participants in this study (32.7%) was higher than that of previous studies among youth across Allegheny County, PA, the county in which Pittsburgh is located (13%)¹⁶, as well as among nationally representative samples (18%)³. Possible reasons for this difference are that our study was conducted in-person among school-based youth in an urban setting whereas other studies have utilized telephone-based surveys that have included broader geographic regions where community violence tends to be less prevalent. The fact

that one in three participants experienced the death of a friend or family member to murder highlights the need to address the impact of traumatic loss on youth, as well as the socio-structural factors, including poverty and racism, that underpin community violence^{5,17}.

We found that positive future orientation was associated with significantly lower odds of violence exposure and involvement across multiple domains. Building on previous research that has found inverse associations between more deficit-based measures of future orientation (ie, perceived life expectancy⁹ and hopelessness¹⁰) on weapon-related violence, bullying, and delinquency,^{6,8–12} this work draws upon a strengths-based measure of future orientation^{7,13} and expands understanding of how future orientation relates to an array of weapon, community, sexual, and relationship violence experiences. In particular, we found inverse associations between future orientation and less frequently studied violence experiences (i.e., homicide survivorship, ARA, and exchange sex), further expanding the breadth of future orientation as a potential protective factor across multiple forms of violence.

Although our questionnaire assessed multiple forms of violence, our work did not address additional contextualizing factors that may co-occur with the violence experiences examined in our analysis (i.e., caregiver intimate partner violence, domestic violence, child maltreatment). Emerging research suggests that future orientation may also serve to buffer against negative health effects among youth who have experienced childhood adversity such as these²¹. We therefore encourage researchers and clinicians to think broadly about interventions that can improve youth resiliency.

Violence prevention interventions should consider incorporating and evaluating strengths-based frameworks of future orientation as a potential cross-cutting protective factor. Community-based interventions rooted in empowerment theory, which links individual strengths towards positive social change, have shown that strengthening youth assets (i.e., self-esteem and self-efficacy) and engaging youth in positive community change can reduce participation in and exposure to interpersonal violence¹⁹. In particular, empowerment and resiliency frameworks are especially valuable for marginalized youth and/or youth exposed to high rates of violence (i.e., community violence, intimate partner violence, domestic violence in the home, child maltreatment) where meaningful and supportive participation in society may have been limited^{20,21}. Fostering future orientation through collective efficacy and goal setting may offer opportunities to reduce multiple forms of violence²¹. Further work is needed to identify best practices for how to sustain and promote future orientation through violence prevention interventions.

Pediatricians and other youth-serving professionals may also play a unique and influential role in promoting future orientation and aspirational goal setting with their adolescent and young adult patients. The American Academy of Pediatrics Bright Futures Guidelines for Health and Supervision recommends that pediatric health care providers complete strengths-based psychosocial assessments and incorporate violence prevention into routine pediatric practice²². In particular, promoting factors associated with psychological resilience among adolescents is one of the four anticipatory guidance domains that have strong research evidence to reduce or prevent youth violence^{22–25}. Understanding that many youths do

not recognize their strengths unless they are pointed out to them²⁴, pediatric health care professionals have opportunities to promote safety and reduce injuries among their patients by recognizing and encouraging protective factors via routine psychosocial assessments (i.e., SSHADESS²⁴) that begin with assessing strengths²². Discussing and validating a young person's hopes, beliefs, and goals for the future may ultimately help to reduce exposure to violence.

There are notable limitations in our study. The cross-sectional design precludes assessing for causation. The survey examined multiple health risk and protective behaviors that necessitated use of a brief measure of future orientation. Although limited, both survey items assessed critical domains of future orientation (future expectations and aspirational goal setting) and individually have been significantly inversely associated with perpetrating violence⁶. In addition, future orientation items were located near the end of the survey and many participants were missing data on these items. School-based sampling may miss marginalized youth at highest risk for violence involvement¹⁸. Although results may not be generalizable to other geographic regions, the prevalence of violence across comparable domains in this study were generally similar to those reported by the national YRBS school-based survey¹⁴.

Although interpersonal violence remains prevalent and interconnected across many forms, future orientation may be a pertinent, cross-cutting protective factor. Providing opportunities for adolescents to envisage their goals and actualize their visions may be an important strategy to prevent multiple forms of violence exposure and involvement.

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Table 1.

Sample Characteristics of Study Participants

Demographic Characteristic		No. (%) (N = 2346)
Age (years): mean, SD		15.7, 1.2
Race	American Indian/Alaska Native	28 (1.2%)
	Asian	104 (4.4%)
	Black or African American	636 (27.1%)
	Native Hawaiian or Other Pacific Islander	11 (0.5%)
	White	1154 (49.2%)
	Multiracial/Other	394 (16.8%)
Ethnicity	Hispanic	188 (8.0%)
	Non-Hispanic	2106 (89.8%)
Sex assigned at birth	Male	978 (41.7%)
	Female	1349 (57.5%)
Self-identifying as a sexual or gender minority	No	1667 (71.1%)
	Yes	609 (26.0%)
Future orientation	Positive	1863 (80.1%)
	Negative	464 (19.9%)

Table 2.

Associations Between Future Orientation and Multiple Forms of Violence

Type of Violence Experience	Prevalence of Violence Experience No. (%)	Association Between Positive Future Orientation and Violence	
		Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI) ^a
Gun Carrying ^b	100 (4.3%)	0.34 (0.23 – 0.51) ^d	0.44 (0.28 – 0.70) ^d
Threatening Someone with a Weapon ^b	86 (3.7%)	0.20 (0.13 – 0.31) ^d	0.26 (0.16 – 0.41) ^d
Being Threatened with a Weapon ^b	132 (5.6%)	0.35 (0.25 – 0.51) ^d	0.44 (0.30 – 0.65) ^d
Engaging in a Fight ^b	545 (23.2%)	0.65 (0.52 – 0.82) ^d	0.64 (0.50 – 0.81) ^d
Being Injured from a Fight ^b	82 (3.5%)	0.21 (0.14 – 0.33) ^d	0.26 (0.17 – 0.42) ^d
Homicide Survivorship ^c	767 (32.7%)	0.81 (0.66 – 1.01)	0.72 (0.57 – 0.92) ^d
Adolescent Relationship Abuse ^b	191 (8.1%)	0.40 (0.29 – 0.55) ^d	0.45 (0.32 – 0.63) ^d
Sexual Assault ^b	319 (13.6%)	0.61 (0.47 – 0.80) ^d	0.67 (0.50 – 0.89) ^d
Exchange Sex ^c	121 (5.2%)	0.48 (0.33 – 0.72) ^d	0.56 (0.37 – 0.86) ^d

^aOdds ratios adjusted for age, race/ethnicity, sex assigned at birth, and self-identification as a sexual/gender minority;^bPast 12-month history;^cLifetime history;^dp<0.01.