FROM TOBACCO-RELATED PRODUCTS TO SMOKING: RESULTS FROM A LONGITUDINAL STUDY
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Purpose: To assess longitudinal factors related to smoking among youths depending on smoking status at baseline.

Methods: Data were drawn from the two first waves (T0 in 2016 and T1 in 2017) of the GenerationFRee longitudinal study conducted in eleven post-mandatory schools in the Canton of Fribourg, Switzerland. Participants (N=1606, mean age 16.2 at baseline [15-24], 45.8% females) filled out a web-based self-administered anonymous questionnaire which aimed at assessing their lifestyle. Participants were asked at T1 whether they smoked (Group 1, N=571) or not (Group 2, N=1035). Groups were compared on the use of tobacco-related products (TRP) (e-cigarettes, hookah, snus, and smokeless tobacco) during the past 12 months, use of other substances (alcohol, cannabis) and socio-demographic (age, gender, family structure, socioeconomic status, academic track [student/apprentice]) variables at T0 separately by smoking status at T0. Groups were compared at the bivariate level and afterwards at the multivariate level using a logistic regression analysis to assess the variables associated with being a smoker at T1 using non-smokers as the reference category. Data are presented as odds ratios (OR) with 95% confidence interval.

Results: Smokers at T0. At the bivariate level, smokers at T1 were significantly more likely to be apprentices and showed a clear trend (p=.052) to be less likely to live in an intact family. At the multivariate level, both variables remained significant: they were more likely to be apprentices (OR: 2.32 [1.28:4.22]) and to live in a non-intact family (OR: 1.75 [1.01:3.04]). Non-smokers at T0. At the bivariate level, those who became smokers at T1 were significantly more likely to have used TRPs (45.7% vs. 18.2%; p<.001), to have misused alcohol, and to have used cannabis at T0. In the multivariate analysis, having used TRPs (OR: 3.05 [1.92:4.85]) and cannabis (OR: 2.89 [1.41:5.90]) remained significant. Moreover, when the analysis were repeated separately by product, they remained significant (E-cigarettes: 2.46 [1.54:3.91]; Smokeless tobacco: 1.88 [1.12:3.15]; Snus: 2.05 [1.07:3.92]; Hookah: 2.68 [1.73:4.14]).

Conclusions: These longitudinal results show an important association between using TRPs and starting to smoke and seem to confirm the gateway effect of products such as hookah, snus, smokeless tobacco, and electronic cigarettes. Therefore the potential harmful impact of these substances should not be underestimated. The association with cannabis is also an important result given that in Switzerland cannabis is mostly consumed in joints including tobacco. As an important percentage of non-smoking youths try different TRPs and they seem to be an entry point to cigarette consumption, TRPs should be part of substance use screening among adolescents. Similarly, tobacco prevention programs should be broadened to include tobacco-related products.

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TRAPPED: YOUNG WOMEN IN URBAN UTTAR PRADESH REFLECT ON THEIR MOBILITY

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**Purpose:** Mobility is a key indicator of empowerment for girls and young women and has significant implications for their educational, economic, social, and health status, including their ability to access and use sexual and reproductive health services. This mixed methods study used novel methodologies to describe how gender affects mobility among youth in urban Uttar Pradesh, India.

**Methods:** Body mapping sessions, in which life narratives are illustrated on a full-size silhouette of the narrator’s body, were conducted with 30 young women and 10 young men ages 14-17 years to explore contextual factors related to gender. Story circle sessions, in which participants share personal stories following a narrative prompt, were conducted with 43 young women and 31 young men ages 15-24 years to explore the role of gender in education, home and community, and expectations for the future. Surveys were completed with 275 young men and women aged 15-24 years to measure limitations on mobility both within and outside the community.

**Results:** Each of the three methodologic approaches revealed restrictions and limitations on young women’s mobility that were not experienced by young men. Through body mapping workshops, young women reported not being allowed to be outside the house unless they were chaperoned or on their way to school and parental warnings against talking to anyone in their community. In story circle sessions, young women shared stories of prohibitions placed on their movement by parents or older brothers. Experiences of street harassment were common, and used as justification for limiting girls’ movement, keeping them at home, or requiring chaperones. Cumulatively, these restrictions left girls and young women feeling isolated. Restrictions on movement were also cited by young women as barriers to going to school and working outside of the home. Only 36% of young women reported they were able to go to the market alone, compared to 93% of young men; 62% of young women reported they could only go to the market with someone, and 3% said not at all. While 76% of males reported they could travel to a health facility alone, only 15% of female youth were allowed to do so; 83% said only if accompanied. While 97% of young men said they were allowed to go to places outside their community alone, only 30% of young women were allowed, with 64% allowed to do so only when accompanied. All differences in mobility were statistically significant (p<0.001).

**Conclusions:** Compared to young men, young women in Lucknow face many restrictions on their mobility, which influences their access to education, health services, and labor opportunities. Harassment, traditional gender norms, and family dynamics reinforce these mobility limitations. Programs and policies seeking to improve the sexual and reproductive health of women in India must consider the daily context that shapes the lives of women and girls. Barriers to mobility remain a key challenge to empowering young women and girls in India.

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FACTORS ASSOCIATED WITH EMOTIONAL DISTRESS AND SUICIDALITY AMONG INTERNATIONAL COLLEGE STUDENTS

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**Purpose**: Suicide ranks as the second leading cause of death for college students. Although enrollment of international students in American colleges has increased, researchers have failed to examine suicide risk among this unique population. The current study aimed to address gaps in the literature regarding the factors associated with emotional distress and suicidality among a sample of international college students.

**Methods**: The analytic sample include 334 international students of typical college age (i.e., 18 to 26) from two Midwestern and two Southeastern universities. Most students identified as female (56.0%) and Asian (62.0%), and 93.7% were in the U.S. on an F1 academic Visa. Participants completed an anonymous online survey administered between 2013 and 2017. Emotional distress was measured with the Depression, Anxiety, and Stress Scales short form, and suicidality was assessed with the Suicide Behaviors Questionnaire. Participants also completed measures that assessed potential risk factors (perceptions of entrapment, cultural stress, family conflict, perfectionism, interpersonal needs, ethnic discrimination) and protective factors (cultural sanctions against suicide, ethnic identity, and social support). Pearson correlation tests were performed to examine bivariate relationships between each risk and protective factor and the mental health outcomes (alpha = .05). Significant variables were subsequently entered together, with gender and age, into linear regression analyses to determine the factors most strongly related to greater emotional distress and suicidality during the preceding year.

**Results**: In bivariate tests, factors significantly associated with greater emotional distress included higher levels of entrapment (r = .24), cultural stress (r = .18), family conflict (r = .16), unmet interpersonal needs (r = .53), and ethnic discrimination (r = .16). Similarly, factors significantly associated with greater suicidality were higher levels of entrapment (r = .30), cultural stress (r = .29), family conflict (r = .24), perfectionism (r = .17), unmet interpersonal needs (r = .35), and ethnic discrimination (r = .24), and lower levels of social support (r = -.15). When all significant factors were examined together in a regression analysis F(7,259) = 55.71, p < .001, higher levels of entrapment (β = .33, t = 11.00, p < .001), unmet interpersonal needs (β = .07, t = 2.54, p < .05), and ethnic discrimination (β = .11, t = 2.50, p < .05) were significantly associated with increased emotional distress. Only unmet interpersonal needs (β = .11, t = 2.60, p = .01) remained significantly associated with greater past-year suicidality in a multivariate regression analysis F(9,249) = 6.16, p < .001.

**Conclusions**: Findings provide initial evidence regarding factors associated with suicide risk among international college students. Clinicians working with international students and prevention programmers targeting this population should address students’ perceptions of entrapment, ethnic discrimination, and especially unmet interpersonal needs in efforts to decrease/prevent students’ feelings of emotional distress and suicidality. Enhancing students’ perceived social support also might represent an important protective factor, yet additional research with larger samples is needed.
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A MULTI-COMPONENT SCHOOL ENVIRONMENT INTERVENTION REDUCES BULLYING AND RISKY BEHAVIOUR AND IMPROVES MENTAL HEALTH AND QUALITY OF LIFE: FINDINGS FROM THE INCLUSIVE CLUSTER RANDOMIZED CONTROLLED TRIAL

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**Purpose:** Antisocial behaviours among youth are a public health priority because of their high prevalence and harmful effects. Bullying and anti-social behaviour are associated with worse physical and mental health and poorer educational attainment. School environment interventions targeting antisocial behaviours may be an efficient way to address multiple health harms in adolescence. The INCLUSIVE intervention extends previous school environment trials by including a ‘restorative practice’ approach, increasingly popular but never before subject to an RCT in schools. This trial assessed the effectiveness and cost-effectiveness of INCLUSIVE to reduce bullying, aggressive behaviour and improve health-related behaviours.

**Methods:** INCLUSIVE was a 3-year (2014-2017) cluster randomized controlled trial (RCT) aimed at 11-16-year-olds in 40 schools (N= 5,960 students) in England. The intervention included: a) involving students in action groups to revise school policies; b) school-wide restorative practice; and c) a social/emotional learning curriculum. Primary outcomes were bullying (Gatehouse Bullying Scale: GBS) and school aggressive behaviour (Edinburgh Study of Youth Transitions and Crime ESYTC). Secondary outcomes were: mental health (Strengths & Difficulties Questionnaire: SDQ), well-being (Short Warwick-Edinburgh Mental Wellbeing Scale: SWEMWBS), quality of life, smoking, alcohol & drug use, truancy and police contact. Recruited schools were representative of state secondary schools in England. Baseline data were collected prior to random allocation to intervention or usual practice. Institutional Review Board permissions were obtained. A process evaluation and economic evaluation were undertaken (not reported here). Statistical analysis used an intention-to-treat approach and multi-level models to account for school-level clustering.

**Results:** All 40 schools remained in the trial. Student participation rates were >90% for each survey. Schools were comparable at baseline. At 36 months (primary outcome), intervention schools had significant reductions in bullying (GBS effect estimate -0.04(-0.07, -0.00)p=0.03) but there was no significant difference between arms in aggressive behaviours (ESYTC effect estimate -0.25(-0.80 to 0.29)p=0.13), both adjusted for baseline covariates. Secondary outcomes: At 36 months intervention schools showed significant improvements in quality of life (PedsQL: 1.68 (0.60, 2.75)p=0.002) and well-being (SWEMWBS: 0.44(0.07,0.81)p=0.02) and reductions in psychological distress (SDQ: -0.56(-0.96, -0.17)p=0.005), smoking(OR=0.67(0.51,0.87)p=0.003), drunkenness (OR=0.62(0.48,0.80)p<0.001), drug use (OR=0.73(0.56,0.95) and police contacts in past year (0.78(0.64,0.97)p=0.02). There were no effects on sexual risk or hospitalisations in past year.
Conclusions: The INCLUSIVE intervention was effective at reducing bullying, improving mental health and well-being, and reducing smoking, risky alcohol use and police contacts in lower secondary-school students in England but did not reduce aggressive behaviour. Further analyses are planned to identify mechanisms by which components of the intervention had effects and identify subgroups of schools and students benefiting most. The wide range of positive outcomes suggests the intervention resulted in broad health promotion which is highly meaningful at a population level. Our findings suggest school environment interventions are an effective way of improving a wide range of health outcomes in young people.

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TRANSMITIONING ADOLESCENTS WITH HIV TO ADULT CARE: OUTCOMES FROM A PROSPECTIVE MULTI-SITE STUDY
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Purpose: Youth (ages 13-29) living with HIV (YLHIV) account for nearly one-third of new HIV infections, face significant barriers to care engagement, and only 6% are virally suppressed. Healthcare transition (HCT) from pediatric/adolescent to adult-oriented care can be especially disruptive. Retrospective single-center studies indicate only half of youth remain engaged in care one-year post-HCT but no work prospectively examines HIV-related HCT. Accordingly, we examined HCT across 14 Adolescent Medicine Trials Network (ATN) clinical sites.

Methods: This prospective study collected self-report ACASI data (i.e., demographics, behaviors) and abstracted electronic medical record data from 135 behaviorally infected YLHIV (all eligible for transition by individual site criteria) at baseline and nine month follow-up. Successful HCT was defined as having at least one adult HIV clinic appointment by follow-up. Youth were primarily male (76.3%), Black (77.8%), and averaged 24 years old (range 21-24). Descriptive and multilevel model analyses were conducted using SPSS and Mplus. Data also included 58 interviews with staff (e.g., physicians, nurses, social workers) at adolescent (n=28) and adult (n=30) clinics. Interviews were analyzed using the constant comparative method and guided by the American Academy of Pediatrics (AAP) HCT guidelines.

Results: Only 39% of YLHIV successfully transitioned within 9 months. In quantitative analyses, both individual- and clinic-level factors were relevant. Individual: YLHIV without healthcare insurance were significantly more likely to successfully transition compared to those with private insurance (EST=1.24, OR=3.5, p=0.02). Clinic: Qualitative analysis showed that many clinics lacked formal transition protocols (AAP Guideline #1). Adolescent clinics that provided information and support about adult care options were more likely to successfully transition YLHIV (EST=0.86, SE=0.40, P=0.027); these clinics reported responsibility for preparing youth for transition (AAP Guideline #2), (e.g., “[Youth] need so much more
education regarding the service system...Because they don't know how to call for a refill, how to do all those things.”). More broadly, clinic staff worked closely to create connections between adolescents and adult clinics (AAP Guideline #3) to facilitate successful HCT (e.g., adult providers conducting initial visits in the adolescent clinic) and discussed the need to evaluate the transition process (AAP Guideline #4) (e.g., staff identified necessary components [e.g., adolescent-adult inter-clinic data sharing and communication] for assessing outcomes [e.g., appointment adherence, viral suppression]).

**Conclusions:** This study highlights the complex set of individual and clinic factors associated with HCT. We found that many YLHIV did not successfully transition: some patients may have returned to care in the adolescent clinic but others were lost to care. Also, insurance status is important but in unexpected ways; this requires further examination. Formal, proactive transition preparation – corresponding to current AAP recommendations – was empirically demonstrated to improve successful transition. Results suggest that adolescent and adult clinic involvement is essential to provide coordinated care, thus highlighting the importance of cultivating inter-clinic connections (e.g., communication and data sharing) to reduce service fragmentation and support YLHIV. Addressing these key factors is essential for developing streamlined, comprehensive, and context-specific transition protocols to support continuous care engagement for YLHIV.

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