

typed norms and behaviours have been associated with deleterious health outcomes, and among adult men, endorsement of certain masculine norms (such as self-reliance) has been associated with suicidal ideation and poorer mental health. While the examination of masculinity is a useful means of understanding health risks in men and boys, there has been little quantitative examination of this relationship, particularly among adolescents. This study aimed to examine associations between endorsement of masculine norms and suicidal ideation in a representative sample of Australian adolescents.

Methods Using data from the Australian Longitudinal Study on Male Health, this study examined associations between specific masculine constructs and suicidal ideation among 826 Australian boys/young men aged 15–18 years at baseline. Masculine norms were measured in Wave 1, using the Conformity to Masculine Norms Inventory (CMNI-22). Suicidal ideation was a single item from the Patient Health Questionnaire (PHQ9), and was measured in Wave 2 (when participants were 17–20 years of age). Logistic regression analysis was conducted, adjusting for available confounders.

Results Results showed that after adjustment for parental education and area socio-economic position, greater conformity to violent norms (OR 1.23, 95%CI: 1.03–1.47) and self-reliance norms (OR 1.49, 95%CI: 1.15–1.70) were associated with higher risk of suicidal ideation. Greater conformity to norms regarding heterosexuality was associated with reduced risk of suicidal ideation (OR 0.80, 95%CI: 0.68–0.91).

Conclusion Among the adolescent males in this sample, we found that high conformity to norms of violence and self-reliance was associated with greater risk of suicidal ideation, while high conformity to norms of heterosexuality was associated with reduced suicidal ideation. Such results do not indicate that being heterosexual is protective but highlight the broader buffering effect of conforming to the masculine norm of heterosexuality. Maximising adolescent health is recognized as key to a sustainable, healthy and equitable future. These results suggest that conforming to certain masculine norms may be deleterious for adolescent male health and highlight the importance of presenting multiple ways of being a male. This is vital in shifting social norms toward a society that supports various, and varying forms of masculinity, particularly in terms of sexuality.

OP58

THE ROLE OF FAMILY AND PEER SUPPORT IN PROMOTING RESILIENCE IN THE FACE OF BULLYING AND CYBERBULLYING: EVIDENCE FROM SCHOOL CHILDREN IN SCOTLAND

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Background Being bullied is a threat to children's mental well-being but there is some evidence that emotional support may buffer children against bullying victimisation. Modern technology has changed the way that children interact, such that cyberbullying is now an additional bullying exposure. We investigated whether bullying and cyberbullying victimisation posed similar threats and whether family and peer support promoted resilience to adverse wellbeing as an outcome.

Methods Data were collected on 5,286 children in grades P7 (Age 11), S2 (Age 13), and S4 (Age 15) from 208 Schools in the 2017/18 Health Behaviour in School Aged Children in Scotland Survey. Resilience was operationalised with statistical interactions between self-reported measures of bullying or cyberbullying victimisation (None/Occasional/Frequent) and family or peer support (Low/Intermediate/High) in the prediction of wellbeing (WHO-5 Wellbeing Index). Analyses were carried out separately by gender with multilevel models, adjusted for sociodemographic factors and school grade, used to generate predictive margins.

Results 14.2% of children were frequently bullied whereas 4.6% were frequently cyberbullied, with 3.1% being both frequently bullied and cyberbullied. Both bullying and cyberbullying had negative relationships with wellbeing. The relationship between cyberbullying and wellbeing was stronger, especially for children who were victims of cyberbullying but not traditional bullying. For example, the adjusted predicted mean WHO-5 scores for girls were as follows: never bullied 58.8 (95%CI 57.6–60.0), frequently bullied but not cyberbullied 50.5 (95%CI 46.8–54.1) frequently both bullied and cyberbullied 40.5 (95%CI 36.2–44.7), and frequently cyberbullied but not bullied 36.2 (95%CI 23.1–49.5).

Family support was associated with resilience to the consequences of both bullying and cyberbullying victimisation. For example, among never bullied girls, high family support had a modest relationship with wellbeing, the adjusted predicted mean WHO-5 score was 63.1 (95%CI 61.7–64.4) for girls with high support and 57.4 (95%CI 54.8–60.1) for girls with low support. For frequently bullied girls, family support was much more strongly associated with wellbeing, the adjusted predicted mean WHO-5 score for girls with high support was 56.0 (95%CI 52.4–59.6) compared to 38.3 (95%CI 31.8–44.8) for those with low family support. Results for boys were similar but the protective associations of family support were reduced. There was no evidence that support from friends was associated with resilience to bullying or cyberbullying.

Conclusion Cyberbullying is not as common as bullying but may pose a greater threat to adolescent wellbeing. Supportive families are associated with resilience among victims of both bullying and cyberbullying.

OP59

ARTS ENGAGEMENT AND SELF-ESTEEM IN CHILDREN: RESULTS FROM A PROPENSITY SCORE MATCHING ANALYSIS

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Background Self-esteem is regarded as vital to children's social and cognitive development and emotional well-being. To date, a few studies have suggested that arts activities can improve self-esteem in young people. However, such studies have mainly focused on small samples. This research therefore used a UK national, representative study, Millennium Cohort Study (MCS), to explore the relationship between arts engagement and children's self-esteem. Given that arts engagement is socially patterned, propensity score matching (PSM) was implemented for analysis.

Methods This study analysed data from the MCS Sweep 5 interviews when respondents were aged 11 (N=6209).

Children's self-esteem was measured using Rosenberg's self-esteem scale (standardised). Arts engagement was measured through asking children how often they (1) listen to or play music, (2) draw, paint, or make things, and (3) read for enjoyment, outside school. Two sets of binary indicators were generated. Set A focused on whether children were engaged in these activities most days (1=most days; 0=less often than most days). Set B focused on extremes of engagement (1=most days; 0=never or less often than once a month). PSM models were implemented using kernel matching method; post-estimation test demonstrated high matching quality.

Results Results showed that all three activities were associated with higher levels of self-esteem when matching for all identified demographic, socio-economic and familial confounders (listen to/play music: ATT=0.07, SE=0.02, $p<0.01$; paint, draw, and make things: ATT=0.14, SE=0.03, $p<0.001$; read for enjoyment: ATT=0.14, SE=0.03, $p<0.001$). The size of coefficients was doubled when the two comparison groups were more distinct with respect to reading frequency. Two sensitivity analyses additionally showed that (1) the relationship was more prominent when children engaged in these activities with their parents on a regular basis; and (2) there was no clear evidence that ability in either music or art activities moderated the relationship with self-esteem.

Conclusion Our findings show that arts activities have a significant association with children's self-esteem and that children may benefit more if their parents are also involved in the activities. We also find that the engagement itself offers a variety of benefits that enhance one's self-esteem, regardless of the ability in the activities. While PSM controls for observable factors, the causality of the association cannot be absolutely determined. However, the relevance of this research to the design and delivery of arts programmes for health is clear: arts engagement may well be important in supporting children's self-esteem – a core marker of positive life-long development.

OP42

HOW MUCH EVIDENCE DO WE HAVE, AND HOW MUCH MORE DO WE NEED FOR ASSESSING THE IMPACT OF PUBLIC HEALTH INTERVENTIONS ON HEALTH INEQUALITIES? PART 1: SMOKING CESSATION INTERVENTIONS

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Background A distribution of public health intervention impact across socioeconomic groups can be estimated by examining the cumulative impact of socioeconomic differences across a staircase from need (e.g. prevalence) to intervention characteristics (e.g. effectiveness) using distributional cost effectiveness analysis (DCEA). The extent to which the amount of evidence for inequality at different steps of the staircase contributes to uncertainty in population level impact is not well understood. In this study, we used a DCEA of smoking cessation interventions to explore how socioeconomic inequality in model

inputs impacts upon final conclusions about health inequality and value for money.

Methods A smoking cessation DCEA was developed to examine the impacts of interventions on different socioeconomic groups.

Impacts on total population health and health inequality were assessed using incremental population net health benefit (NHB) and incremental 'equally distributed equivalent' (EDE) health, both expressed in quality adjusted life years (QALYs). EDE reflects the extent by which the social value of NHB is reduced by inequality in its distribution that favours more advantaged groups.

Scenario analyses were used to explore: (i) the impact of ignoring socioeconomic differences in inputs, e.g., setting mortality in all groups to the average; (ii) the value of eliminating the differences by 'levelling up' uptake to the 'best'; and (iii) how the results differ when applying local level patterns of prevalence (e.g. York). The DCEA was adapted to reflect uncertainty in the extent of the differences between socioeconomic groups. Probabilistic sensitivity analysis (PSA) was used to determine the importance of uncertainty in each input for determining uncertainty in outputs.

Results Using English data, interventions improved NHB (Varenicline: 522,143 QALYs; e-cigarette: 334,874 QALYs) and EDE (Varenicline: 421,457 QALYs; e-cigarette: 270,097 QALYs), but increased health inequality (incremental EDE<incremental NHB). Setting mortality to the average, interventions provided an additional 4% NHB and 2% EDE. Setting uptake to the 'best', interventions provided an additional 33% NHB and 56–57% EDE.

Using the data for York, there was uncertainty as to whether interventions reduced health inequality (probability: 16.9% for Varenicline and 22.6% for e-cigarette). The PSA indicated the key drivers for uncertainty were socioeconomic differences in effectiveness, smoking prevalence and uptake.

Conclusion Smoking cessation interventions provide value for money in all the scenarios and interventions to eliminate differences in uptake efficacy could provide additional EDE QALYs. Uncertainty in socioeconomic differences in smoking prevalence contributes the most to uncertainty about the health inequality impact of smoking cessation interventions.

Health Inequalities 2

OP60

HOW MUCH EVIDENCE DO WE HAVE, AND HOW MUCH MORE DO WE NEED FOR ASSESSING THE IMPACT OF PUBLIC HEALTH INTERVENTIONS ON HEALTH INEQUALITIES? PART 2: ALCOHOL BRIEF INTERVENTIONS

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Background Inequalities in the impact of public health policies can be introduced at many stages of implementation, from need to effectiveness, and the net effect of any policy on health inequalities can be a combination of many, potentially smaller, inequalities. The extent to which these different