Systematic Literature Review of the Association Between School Climate and Adolescent Sexual and Reproductive Health

Jessica Appelson, MPH ’15 Candidate

Johns Hopkins Bloomberg School of Public Health
Advisor: Beth Marshall, DrPH
Background

- Methods
- Results
- Conclusions
Adolescent Sexual Health in the US

- High incidence of STIs in adolescents: 50% of new cases in 2000 for 25% of sexually active population\(^1\)

- High rates of teen birth: 26.5 births per 1,000 15-19 year old women in 2013\(^2\)
  - Compared to 17.7 avg. for high income countries\(^3\)
Disparities in US Adolescent Fertility Rates

Births per 1,000 women 15-19

Social-Ecological Model

Social-Ecological Health Promotion Model

The Social-Ecological Health Promotion (SEHP) model illustrates the interrelated spheres - individual, relationship, community, and societal - as well as the social determinants of health (SDH), within those spheres, that influence individual behavior and health outcomes.

INDIVIDUAL
Refers to SDH that reside within the individual
- Self efficacy
- Shelter & food security
- Sense of belonging
- Gender identity
- Smart use of media
- Lifes goals & aspirations
- Socioeconomic status
- Perceived control of life
- Spirituality & religious beliefs
- Resilience & ability to cope

SOCIAL
Refers to SDH that take shape as policy, culture, and media
- Advocates
- Mutual obligation & respect
- Promotion of education
- Political voice
- Social cohesion

COMMUNITY
Refers to SDH present within a community in which youth live, within or beyond geographical boundaries
- Safe space, free of violence
- Recreational opportunities
- Geographic location
- Quality, youth-friendly health services
- Readily available, healthy food

RELATIONSHIP
Refers to SDH present in the relationships youth have with others
- Positive role models
- Supervision & monitoring
- Healthy relationships
- Peer support
- Warm & open communications
- Emotional support

SOCIETAL
Refers to SDH that take shape as policy, culture, and media
- Employment & diverse education opportunities
- Safe & reliable transportation
- Community connectedness

Healthy Teen Network
Schools and Health

- CDC’s Division of Adolescent and School Health:

“In the United States, schools have direct contact with more than 50 million students for at least 6 hours a day during 13 key years of their social, physical, and intellectual development.”

6
School Climate Terminology

- National School Climate Council’s definition:

  “Patterns of school life experiences and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures.”

  - School... attachment, connection, connectedness, bonding, engagement, belonging, involvement, satisfaction
  - Peer norms, peer support
  - Teacher support, teacher fairness
Current Research on School Climate

- Academic achievement
- Mental health
- Violence

**Goal of systematic literature review:**
- Characterize the current state of the literature on school climate and ASRH
- Discuss implications for school-based health programs
Table of Contents

Methods

- Background
- Results
- Conclusions
Search Strategy

- Databases: ERIC, Scopus, Pubmed
- Searched title and abstract for terms related to...
  - Sexual and reproductive health (i.e. sex, pregnancy, STIs, contraceptive use, etc.)
  - School climate (i.e. connectedness, environment, engagement, etc.)
- Identified 326 articles
Inclusion Criteria

- Published 1995-2014
- US population of adolescents 6th-12th grade
- Measurement of school climate
- Measurement of sexual or reproductive health outcome
- Original research
Results

- Background
- Methods
- Conclusions
Summary of Included Articles

- Study type:
  - 10 from Add Health Study, a nationally representative prospective cohort study on adolescents 7th-12th grade started in 1994-1995 school year
  - Sample size ranged: 845 to 14,800 participants
Measuring School Climate Example

- You feel close to people at your school.
- You feel like you are part of your school.
- You are happy to be at your school.
- The teachers at your school treat students fairly.
- You feel safe at your school.
- How much do you feel that your teachers care about you?
  - 5-point Likert scale
  - Add Health 1995, Resnick et al.\(^7\)
Measuring School Norms Example

- Most of my friends believe people my age should wait until they are older before they have sex.
- Most of my friends believe it’s OK for people my age to have sex with several different people in the same month.
- Most of my friends believe condoms should always be used if a person my age has sex.
  - 5-point Likert scale
  - Example from Basen-Enquist et al. 1999 & 2001
Measuring School Structure Example

- SES (proxy measure: proportion of students receiving free lunch)
- Proportion of single mother families
- Proportion of minority students
- School type: Catholic, Independent, Public
  - Manlove et al., 1998\textsuperscript{10}
Is positive school climate associated with better health?

Yes!

18 of the 19 articles found a protective association
Table 2. Distribution of ASRH outcomes across articles and type of association found with school climate.

<table>
<thead>
<tr>
<th>ASRH Outcome:</th>
<th>Ever had Sexual Intercourse</th>
<th>Contraceptive Use</th>
<th>Early/Age of Initiation</th>
<th>Ever Pregnant</th>
<th>Ever Diagnosed with STI</th>
<th>Sex under the influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion</td>
<td>8/9</td>
<td>3/5</td>
<td>2/4</td>
<td>3/4</td>
<td>1/3</td>
<td>2/2</td>
</tr>
<tr>
<td>Aspy et al.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basen-Engquist et al.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epstein et al.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harris et al.13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaestle14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L'Engle &amp; Jackson15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manlove10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McBride et al.16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McNeely &amp; Falci17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mollborn et al.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oman et al.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perkins &amp; Jones20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ream21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resnick et al.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rink et al.22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shneyderman &amp; Schwartz23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steiner et al.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrane &amp; Chen25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wong et al.26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusions
Implications for School-Based Programs

- School climate is associated with ASRH and should be considered in health programs
- Intervening at different levels of adolescents’ environment including the school context is important
Implications for Research

- Improve consistency of terminology and measurements
- Randomized intervention design to explore causal associations
- Disentangle the relationships between the different aspects of school climate and ASRH
Limitations

- Variation in terminology
- 10 articles from a single longitudinal study
- Did not assess quality or size of impact
- Excluded non-US populations
Conclusions

- This analysis provides evidence that school climate is important and deserves more attention in ASRH research and interventions.
References


References Cont.
