Toward a Science of Adolescent Sexual Health

J. Dennis Fortenberry MD MS
Indiana University School of Medicine
Indianapolis IN USA
Why a science of adolescent sexual health is important

• Definitions are difficult to operationalize

• Enduring belief in the value of empiricism

• Data as an anodyne to deception

• Nagging feeling that exclusive public health focus on sexual risk is harmful
Sexual Risk Prevention as an STD Prevention Strategy
Sexually Transmitted Diseases Treatment Guidelines, 2010

• education and counseling of persons at risk on ways to avoid STDs through changes in sexual behaviors and use of recommended prevention services;

• identification of asymptotically infected persons and of symptomatic persons unlikely to seek diagnostic and treatment services;

• effective diagnosis, treatment, and counseling of infected persons;

• evaluation, treatment, and counseling of sex partners of persons who are infected with an STD; and

• pre-exposure vaccination of persons at risk for vaccine-preventable STDs.
A contrast of sexual health and sexual risk prevention paradigms 
a study of heterosexual anal sex

[Women] engaged in anal intercourse for a wide variety of reasons: to experience physical pleasure, enhance emotional intimacy, please their male partners or avoid violence. ...

Among reasons women cited for not using condoms were familiarity with their partner and feeling that condoms made anal sex less pleasurable. Knowledge of HIV and STD risks did not appear to encourage condom use.

Maynard E et al. Perspectives on Sexual & Reproductive Health. 41:142-9, 2009
Differences of adolescent and adult sexual health

• Sexual freedoms and rights typically restricted for people under age 18

• Restricted access to sexual health information and sexual health services

• Limited access to sexual health research, including clinical trials

• Developmental changes in organization and meaning of sexuality and sex
What is Sexual Health

World Health Organization

A state of physical, emotional, mental and social well-being related to sexuality

Not merely the absence of disease, dysfunction or infirmity

Requires a positive and respectful approach to sexuality and sexual responses

(includes) ...the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence

Sexual rights of all persons must be respected, protected and fulfilled

Sexual Desire

Sexual Cognitions

Awareness
Interpretation
Response

Sexual Arousal

Sexual Cognitions

Sexual Rights

Sexual Choice

Sexual Knowledge

Sexual Pleasure

Sexual Behaviors

Abstinence
Masturbation
Partnered Sex

Sexual Function

Erection/Lubrication
Pain Free
Orgasm

Sexual Knowledge

Condom Use
# Developmental assets and sexual pleasure

## Table: Developmental assets and sexual pleasure

<table>
<thead>
<tr>
<th>Developmental asset</th>
<th>Regularity of Orgasm</th>
<th>Like receiving oral sex very much</th>
<th>Like performing oral sex for partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>.33*</td>
<td>.14*</td>
<td>.20*</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.38*</td>
<td>.35*</td>
<td>.45*</td>
</tr>
<tr>
<td>Empathy</td>
<td>.28*</td>
<td>.24*</td>
<td>.17*</td>
</tr>
</tbody>
</table>

p<0.05; numbers are log odds increase per unit of increase in developmental asset

Sexual knowledge, sexual self-esteem, and sexual self-efficacy

<table>
<thead>
<tr>
<th></th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender – female</td>
<td>0.22*</td>
</tr>
<tr>
<td>Race - African-American</td>
<td>-0.05</td>
</tr>
<tr>
<td>Coital debut</td>
<td>-0.03</td>
</tr>
<tr>
<td>Sexual Knowledge</td>
<td>0.16*</td>
</tr>
<tr>
<td>Sexual Self-esteem</td>
<td>0.25*</td>
</tr>
<tr>
<td>Sexual anxiety</td>
<td>-0.69</td>
</tr>
</tbody>
</table>

Rostosky et al. J. Sex Research, 45, 277–286, 2008
Sexual rights are human rights related to sexuality

Sexual Rights: An IPPF Declaration, 2008

- **Article 1** - Right to equality, equal protection of the law and freedom from all forms of discrimination based on sex, sexuality or gender

- **Article 2** - The right to participation for all persons, regardless of sex, sexuality or gender

- **Article 3** - The rights to life, liberty, security of the person and bodily integrity

- **Article 4** - Right to privacy

- **Article 5** - Right to personal autonomy and recognition before the law

- **Article 6** - Right to freedom of thought, opinion and expression; right to association

- **Article 7** - Right to health and to the benefits of scientific progress

- **Article 8** - Right to education and information

- **Article 9** - Right to choose whether or not to marry and to found and plan a family, and to decide whether or not, how and when, to have children

- **Article 10** - Right to accountability and redress
There is no sexual health without sexual justice

There is no sexual justice without sexual rights

A sexual health perspective on partnered sexual behaviors

*there’s more to sex than penis/vagina*

- Kisses
- Caresses
- Coitus et cetera
- Clean-up
- Cuddles
Kissing and other sexual behaviors at last sex, gay and bisexual men, ages 18-24

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Gay Identified Men, % N=3,118</th>
<th>Bisexual Identified Men, % N=695</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kissed on mouth</td>
<td>83</td>
<td>76</td>
</tr>
<tr>
<td>Gave oral sex</td>
<td>77</td>
<td>76</td>
</tr>
<tr>
<td>Received oral sex</td>
<td>75</td>
<td>77</td>
</tr>
<tr>
<td>Masturbated partner</td>
<td>76</td>
<td>75</td>
</tr>
<tr>
<td>Held partner romantically</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>Receptive anal intercourse</td>
<td>43</td>
<td>36</td>
</tr>
</tbody>
</table>

Rosenberger et al J Sex Med 2011
# Vibrator use among American men & women

<table>
<thead>
<tr>
<th></th>
<th>Men, % (N=1,047)</th>
<th>Women, % (N=2,056)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masturbation</td>
<td>17</td>
<td>46</td>
</tr>
<tr>
<td>Coitus</td>
<td>36</td>
<td>37</td>
</tr>
<tr>
<td>Sexual foreplay with partner</td>
<td>40</td>
<td>41</td>
</tr>
</tbody>
</table>

**Lubricant use at most recent sexual event, Women ages 18 years and older**

<table>
<thead>
<tr>
<th>Lubricant Application site</th>
<th>Penile-Vaginal % (N=6,048)</th>
<th>Penile-Anal % (N=62)</th>
<th>Solo Masturbation % (N=2,136)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant genitals</td>
<td>59</td>
<td>61</td>
<td>41</td>
</tr>
<tr>
<td>Partner genitals</td>
<td>54</td>
<td>81</td>
<td>-</td>
</tr>
<tr>
<td>On fingers</td>
<td>53</td>
<td>60</td>
<td>64</td>
</tr>
<tr>
<td>On sex toy</td>
<td>9</td>
<td>27</td>
<td>45</td>
</tr>
</tbody>
</table>

*Herbenick et al J Sex Med 2011*
Younger Women Become Older Women

Sexual experiences over the lifespan

Herbenick et al. J Sex Med 2010
Masturbation and partnered sexual activity (past year), 14-17 year olds

Masturbation (past year) and condom use at last penile-vaginal sex, by gender

Sexual Experience and Function at last Penile-Vaginal Intercourse, by Condom Use – Men

Experience and function, last penile-vaginal intercourse

*Most recent event “extremely”
** Most recent event “any”

Sanders et al., J Sexual Med, 5:362-373, 2010
Sexual Experience and Function at last Penile-Vaginal Intercourse, by Condom Use – Women

*Most recent event “extremely”
** Most recent event “any”

Sanders et al., J Sexual Med, 5:362-373, 2010
Clean-up

• Condom removal and disposal

• Withdrawal and the wet spot

• Washing and douching

• Post-exposure prophylaxis

Horner et al Arch Sex Behav, 2008
Cuddles

- After-sex as relationship maintenance
- Co-sleeping
- Seconds and dessert
### Importance of pre- and post-coital behaviors, by gender

<table>
<thead>
<tr>
<th></th>
<th>Talking</th>
<th></th>
<th>Kissing</th>
<th></th>
<th>Cuddling</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>Before</td>
<td>4.0</td>
<td>3.18</td>
<td>4.4</td>
<td>3.8</td>
<td>3.6</td>
<td>3.0</td>
</tr>
<tr>
<td>After</td>
<td>3.4</td>
<td>3.14</td>
<td>3.5</td>
<td>3.1</td>
<td>3.8</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Importance scale 1 – 5

Hughes & Kruger *J Sex Research* 2011
An empirical definition of sexual health – adolescent women

- Emotional Domain
  - Relationship Quality
  - Sexual Satisfaction
- Physical Domain
  - Absence of Genital Pain
  - Pregnancy Prevention Attitudes
- Attitudinal Domain
  - Condom Use Efficacy
  - Sexual Esteem
  - Low Sexual Anxiety
- Social Domain
  - Sexual Communication
  - Sexual Autonomy

Confirmatory fit index 0.91
RMSEA 0.068

Hensel & Fortenberry, *J Adolesc Health*
http://dx.doi.org/10.1016/j.jadohealth.2012.05.017 2012
Sexual Health and Frequency of Partnered Non-Coital Behaviors

* p<0.05

Hensel & Fortenberry, *J Adolesc Health*
http://dx.doi.org/10.1016/j.jadohealth.2012.05.017 2012
Sexual Health and Condom Use at Last Sex

Sexual health → Condom use at last sex

0.29*

CFI .902; RMSEA (90% CI) .057 (.053–.062).

* p<0.05

Hensel & Fortenberry, J Adolesc Health
http://dx.doi.org/10.1016/j.jadohealth.2012.05.017 2012
Sexual Health and Frequency of Condom Use

Sexual health \rightarrow Condom use at last sex

0.04*

CFI .92; RMSEA (90% CI) .058 (.053–.064).

* p<0.05

Hensel & Fortenberry, *J Adolesc Health*
http://dx.doi.org/10.1016/j.jadohealth.2012.05.017 2012
Sexual Health and Hormonal Contraceptive Method

CFI .90; RMSEA (90% CI) .056 (.050–.061)

* p<0.05

Hensel & Fortenberry, J Adolesc Health
http://dx.doi.org/10.1016/j.jadohealth.2012.05.017 2012
Sexual Health and Sexually Transmitted Infection

-0.02*

Sexual health \[ \rightarrow \] STI

CFI .907; RMSEA (90% CI) .058 (.054 – .068)

* = p<0.05
STI = chlamydia, gonorrhea or trichomonas

Hensel & Fortenberry, J Adolesc Health
http://dx.doi.org/10.1016/j.jadohealth.2012.05.017 2012
Reflections on the meaning of sexual health for adolescents