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A Composite Index and Ranking of Sexual Health in the United States – 50 States and the District of Columbia

Technical Report

December 2012

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Table of Contents

Abstract Sexual Health Rankings™ 2012 Introduction Methods 1. Theoretical Framework 2. Indicator Selection 2.1. Categories 2.2. Criteria 2.2.1. Relevance 2.2.2. Availability 2.2.3. Data Quality	III 1 2 3 3 3 3 4 4
 3. Selected Indicators 3.1. Outcomes 3.1.1. Sexually Transmitted Infections and HIV/AIDS 3.1.2. Reproductive 3.1.3. Sexual Violence 3.1.4. Sexual Satisfaction 3.2. Factors 3.2.1.4. upp. Policipal and Human Pighta 	5 5 6 7 7 8
 3.2.1. Laws, Policies, and Human Rights 3.2.2. Education 3.2.3. Society and Culture 3.2.4. Economics 3.2.5. Health Systems 4. Multivariate Analysis 4.1. Principal Component Analysis 4.2. Indicator-Dimension Grouping 4.3. Correlation Coefficients 5. Ranking System 5.1. Standardization of Data 5.2. Composite Scores 5.3. Weights 5.3.1. Weighting Scheme 5.4. Ranking 	8 10 11 12 13 14 14 15 15 15 15 15 16 16 16
Tables Table 1. Sexual Health Rankings and Composite Scores Table 2. Summary Table of Sexual Health Indicators Table 3. Summary Table of Indicators and Related Elements of Sexual Health Table 4. Calculation of Indicator Weights Table 5. Principal Component Analysis Table 6. Correlation Coefficient Matrix—All Indicators Table 7. Correlation Coefficient Matrix, Indicators Grouped by Element—Autonomy Table 8. Correlation Coefficient Matrix, Indicators by Element—Reproductive Choice Table 9. Correlation Coefficient Matrix, Indicators by Element—Inequity/violence Table 10. Correlation Coefficient Matrix, Indicators by Element—Pleasure/satisfaction Table 11. Correlation Coefficient Matrix, Indicators by Element—Morbidity Table 12. State Ranks and Unweighted Scores, by Indicator	i iii iv v vi vii xi xii xiii xv xvi

Abstract

Sexual Health Rankings[™] is an effort to construct a composite indicator to measure and rate the sexual health of U.S. state populations. We intend to inform and promote the development of population-based sexual health measures, and engage diverse stakeholders in improving sexual health in the United States. The primary platform for *Sexual Health Rankings*[™] is our Web site, www.sexualhealthrankings.com, which allows users to explore the data, participate in interactive public discussion of our research methods, build community, and connect with additional resources to inform positive, evidence-based approaches to sexual health promotion.

There is a recognized need to measure sexual health at the population level. The World Health Organization has developed a comprehensive definition of sexual health that emphasizes wellness, accounts for the determinants of health, and encompasses human rights, sexual expression and identity, and sexual pleasure.

Composite indicators are useful for measuring multidimensional and multifactorial concepts, such as sexual health. Composite indices of overall health and human development already exist. We demonstrate that it is feasible to construct a composite indicator of sexual health using published data only.

Sexual Health Rankings™ shows that sexual health varies dramatically across the United States. There is considerable state-level variation in sexual health outcomes—including measures of sexual satisfaction, morbidity, reproduction, and violence—and in factors that influence sexual health. Differences in state laws, health systems, and social and economic conditions contribute to variation in the overall sexual health of state populations.

Our first edition of *Sexual Health Rankings*™, for the year 2012, ranks Vermont highest (no.1) in sexual health, and Mississippi as the least sexually healthy state (no. 51).

The composite index is made up of 26 individual indicators. Indicator values are normalized to standard scores to enable comparison. The standard scores are weighted before being aggregated into a composite score. We developed an original weighting scheme focused on enabling comprehensive measurement of sexual health and reducing bias based on availability of data.

We identify limitations of the available data and suggest future directions for development of population-based sexual health measures and indicators. We expect the development of *Sexual Health Rankings*[™] to be iterative and ongoing, and we hope to engage multidisciplinary interest in the process.

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Introduction

Throughout the 20th century, the health sciences defined sexual health primarily in terms of reproduction, the epidemiology of sexually transmitted diseases, and sexual dysfunction in individuals. From a public health perspective, framing sexual health in terms of disease and dysfunction, or the absence thereof, is clearly inadequate. In the first decade of the present century, the World Health Organization (WHO) began to advance a much broader definition of sexual health that emphasizes wellness, accounts for the determinants of health, and encompasses human rights, sexual expression and identity, and sexual pleasure. The WHO working definition has been widely accepted in the public health field. However, to date, little has been done to develop summary measures of population sexual health. The lack of such measures presents a challenge to developing public health policies and programs to promote and improve sexual health.

The Sexual Health Rankings™ project aims to: construct a composite indicator to measure and rate the sexual health of U.S. state populations; inform and promote the development of population-based sexual health measures; and engage diverse stakeholders in improving sexual health.

Why construct a composite index of sexual health?

Composite indicators are useful for measuring multidimensional and multifactorial concepts such as sexual health. Composite indices of overall health, and of similarly broad concepts such as human development, already exist. Numerous aspects of sexual health are already measured individually. More measures are needed and hopefully will be developed. No matter how sophisticated and well informed they are, professionalsincluding researchers, policymakers, program managers, activists, and journalists—and the general public can have difficulty keeping track of many scattered statistics and understanding how they are interrelated. A composite index folds these data into a simple, functional measure, and provides a framework to facilitate analyses of the component data.

Why rank the sexual health of states?

In our federal system of government, individual states have powers to control conditions that affect sexual health. Differences in state laws, health systems, and social and economic conditions can produce variation in the overall sexual health of state populations. National policies and programs should account for variation across states. Comparing states by ranking them also helps stakeholders at the state level identify strengths, challenges, and opportunities for action in their states.

Our intentions

This report details the methods used to construct the *Sexual Health Rankings*[™] index. The principal result reported is a set of 51 composite scores for the 50 U.S. states and the District of Columbia, ranked highest (no. 1) to lowest (no. 51). These scores are for the year 2012.

Sexual Health Rankings[™] is conceived to be an ongoing project. We aim to update the results and technical report on an annual basis.

We intend to continually review our methods and data, and revise them as needed to improve upon the reliability and usefulness of the composite index. To this end, we welcome and encourage feedback from our peers across the many professional and scientific disciplines that intersect with sexual health.

Methods

Our methods are chiefly guided by the *Handbook on Constructing Composite Indicators: Methodology and User Guide*, a publication of the Organization for Economic Cooperation and Development and the Joint Research Centre of the European Commission. [1]

1. Theoretical Framework

Sexual Health Rankings[™] is based on a holistic, positive concept of sexual health that the World Health Organization began to advance in the early 2000s, and that now underlies the development of a comprehensive strategy to promote sexual health in the United States. [2]

The World Health Organization's current working definition of sexual health is, "a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled." [3]

This definition is widely cited on its own, but it contains nested terms—"sexuality" and "sexual rights"—that need to be unpacked in order to appreciate the full scope of the concept. WHO's working definitions of sexuality and sexual rights are:

SEXUALITY

Sexuality is a central aspect of being human throughout life and encompasses sex, gender identities and roles, sexual orientation, eroticism, pleasure, intimacy and reproduction. Sexuality is experienced and expressed in thoughts, fantasies, desires, beliefs, attitudes, values, behaviours, practices, roles and relationships. While sexuality can include all of these dimensions, not all of them are always experienced or expressed. Sexuality is influenced by the interaction of biological, psychological, social, economic, political, cultural, ethical, legal, historical, religious and spiritual factors.

SEXUAL RIGHTS

Sexual rights embrace human rights that are already recognized in national laws, international human rights documents and other consensus statements. They include the right of all persons, free of coercion, discrimination and violence, to:

- the highest attainable standard of sexual health, including access to sexual and reproductive health care services;
- seek, receive and impart information related to sexuality;
- sexuality education;
- respect for bodily integrity;
- choose their partner;
- decide to be sexually active or not;
- consensual sexual relations;
- consensual marriage;
- decide whether or not, and when, to have children; and
- pursue a satisfying, safe and pleasurable sexual life.

The responsible exercise of human rights requires that all persons respect the rights of others. [3]

For the purpose of constructing this composite index, we have condensed the WHO definition into five fundamental elements. These five elements of sexual health are listed in the box below.

ELEMENTS OF SEXUAL HEALTH

- Ability of individuals to have control over, and freely decide on, their own sexual behavior and experiences
- 2. Ability of individuals to decide freely on whether, and when, to procreate
- 3. Freedom from discrimination and violence related to sexuality and gender
- 4. Experience of sexual pleasure and satisfaction
- 5. Freedom from sexual morbidity, including HIV/ AIDS and other sexually transmitted infections.

2. Indicator Selection

2.1. Categories

In 2007, WHO and the United Nations Population Fund held a joint technical consultation to recommend countrylevel indicators of sexual health. [4] The majority of indicators proposed as a result of this meeting are not appropriate for state-level monitoring of sexual health in the United States. Most indicators pertain to countrylevel laws and policies, and tend to be more applicable to countries that have a centralized national system of health care delivery. Furthermore, some indicators address practices such as forced marriage and female genital mutilation, which are not widespread in the United States. Although such practices may affect certain subsets of the U.S. population, such as immigrants and refugees, cases are not reliably documented, and the relatively small number of individuals affected would likely preclude state-level comparisons. [5, 6] Other proposed indicators concern laws regarding sexual behavior, such as homosexual acts, that do not vary by state in the U.S., since a U.S. Supreme Court decision in 2003 invalidated all state "sodomy" laws. [7]

The published report summarizing the outcome of the 2007 technical consultation does suggest a useful way to categorize indicators of sexual health. These categories are:

- · Policy and social indicators
- Access to services—availability, information and demand, quality
- Use of services
- Indicators of output and impact (health status). [4]

Sexual Health Rankings[™] adapts these categories to structure the logical relationships of selected indicators.

The Sexual Health Rankings™ indicators are categorized as "outcomes" or "factors."

Outcomes are states of wellbeing or changes in health status that directly impact sexual health, and are attributable to modifiable factors. They may be positive or negative. Factors are conditions in which people live that influence sexual health—also known as social determinants of health. The influence of factors may be positive or negative, and they are by definition modifiable. Nonmodifiable factors such as heredity, race/ethnicity, and age are not included on their own, although these variables may affect some indicators.

Factors are grouped into five subcategories corresponding to five "domains" identified by WHO:

- Laws, policies and human rights
- Education
- Society and culture
- Economics
- Health systems. [8]

2.2. Criteria

The selection of indicators to be included in the Sexual Health Rankings[™] composite index is guided by standards developed for the International Monetary Fund (IMF) General Data Dissemination System (GDDS). These standards are not specific to health indicators, but are considered broadly applicable to health-related data collection and dissemination. [9]

The four "dimensions" of the GDDS are adapted to more clearly outline the *Sexual Health Rankings*[™] selection criteria. These criteria are grouped into three categories: 1) relevance; 2) availability; 3) data quality.

2.2.1. RELEVANCE

Selected indicators are relevant and important to sexual health. Relevance is determined by mapping potential indicators to the WHO working definition of sexual health using an evidence-based approach. A relevant indicator influences (as a factor) or manifests (as an outcome) one or more defined elements of sexual health, and the importance of the relationship is supported by evidence.

2.2.2. AVAILABILITY

Selection was limited to indicators for which state-level analyses of data were available in published reports, or reports accessible by querying public databases. No original research or analyses of raw data have been conducted to construct new indicators; however, with some indicators it was necessary to convert categorical variables (e.g., the status of laws and policies) into quantitative variables. A dichotomous categorical variable may be assigned a value of 1 or 0. In some instances, a measure may be composed of two or more dichotomous categorical variables. In such cases, each of the component categorical variables is assigned a value of 1 or 0; then these values are added together to represent the measure as a continuous variable.

2.2.3. DATA QUALITY

Selection criteria based on the quality of indicator data are adapted from the IMF Data Quality Assessment Framework. [10] The *Sexual Health Rankings*™ criteria are categorized as:

- Integrity
- Accuracy
- Timeliness
- Consistency.

2.2.3.a. Integrity

Indicator data collection, analysis, and reporting practices must be objective, transparent, and adhere to professional and ethical principles.

2.2.3.b. Accuracy

Indicator data collection and analysis use "sound statistical techniques" and the outputs "sufficiently portray reality." [10] Data should have been evaluated for accuracy by the organization responsible for their collection, analysis, and dissemination. Detailed documentation of metadata should be readily available.

Indicators that include complete data for all 50 states and the District of Columbia are strongly preferred. Imputation of missing values is to be avoided if a complete data set can be obtained using older data within the stated time frame limit (e.g. 2008 instead of 2010), or by combining multiple years of data to obtain a state value when singleyear data are suppressed due to small sample size, or if another comparable indicator with complete data exists.

2.2.3.c. Timeliness

Timeliness refers to the time frame that an indicator covers and to the frequency with which data are reported. The limits imposed on timeliness are subjective, and were influenced by the availability of data for some indicators. Indicators were selected according to the following criteria:

Selection was limited to indicators with available singleyear data no earlier than 2008—i.e., four years prior to the current calendar year. The latest available single-year data were selected.

Combining multiple years of data is sometimes necessary to increase sample sizes for small populations and uncommon outcomes. Multiple consecutive years of data may be combined for a pooled analysis, which estimates the average value of the indicator over that time period. Indicators based on multi-year data were included if the latest available year was 2008 or later, and the earliest year in the pooled analysis was 2004 or later.

Preference was given to indicators that report data on an annual basis; however, an allowance was made for indicators that are not reported on a regular basis, if a reasonable assumption could be made that the indicator would be updated periodically; therefore, an indicator based on a one-off study would be excluded.

2.2.3.d. Consistency

Data must be "consistent within the dataset, over time, and with major datasets" [10] to be included in the *Sexual Health Rankings*[™] composite index. The organization producing the indicator data should address geographic differences in the way variables are defined and recorded, or other issues that could affect comparisons between states.

3. Selected Indicators

3.1. Outcomes

3.1.1. SEXUALLY TRANSMITTED INFECTIONS AND HIV/AIDS

Indicator	AIDS diagnoses, estimated rate per 100,000 population
Year(s)	2010
Frequency	Annual
Source	Centers for Disease Control and Prevention. HIV Surveillance Report, 2010; vol. 22. Table 20. March 2012.

The estimated rate of AIDS diagnoses is the only HIV/ AIDS surveillance indicator available for all 50 states and D.C. This indicator does not necessarily correspond to the incidence of HIV infection. Due to improved treatment of HIV infection, many infected people are living longer without developing AIDS. In 2010, the estimated rate of HIV infection in the United States was 16.1 per 100,000 population; whereas the rate of AIDS diagnoses was 10.8. [11]

Ideally, a composite index of sexual health would include HIV incidence data, because HIV infection is a serious cause of morbidity even when it does not progress to AIDS. [12] Stopping the spread of HIV is also a major public health concern. The latest available state-level estimates of HIV infection include only the 46 states that implemented standardized HIV infection reporting systems and began reporting these data to CDC by June 2007 (a length of time considered adequate "to allow for stabilization of data collection and for adjustment of the data"). [11] All 50 states and D.C. have implemented uniform confidential, name-based reporting of HIV infection as of April 2008. The HIV Surveillance Report for 2012, to be published in 2014, will be the first to include HIV infection estimates for all 50 states and D.C. [13]

Although HIV incidence data may be desirable, the estimated rate of AIDS diagnoses may be less biased by factors that influence diagnosis of asymptomatic HIV infection, such as geographic variation in the promotion and availability of HIV testing services, as well as patterns in the use of anonymous HIV testing services. State and local HIV registries do not capture anonymous HIV test results. [11]

Indicator	Gonorrhea cases, rate per 100,000 population
Year(s)	2010
Frequency	Annual
Source	Centers for Disease Control and
	Prevention. STD Surveillance
	2010. Table 14. November 2011.

Gonorrhea is listed a "nationally notifiable infectious disease."[14] STD control programs and health departments in all 50 states and DC report data on gonorrhea cases to the CDC. Reporting by states is voluntary, and each state sets its own policies regarding which diseases must be reported, and in what circumstances. States update their lists of reportable diseases annually. If a state does not mandate reporting of a disease, the reported incidence rate in that state may not be representative of the population. Therefore, CDC states that comparisons of rates between states "should be interpreted with caution." [15]

The Council of State and Territorial Epidemiologists conducts an annual State Reportable Conditions Assessment (SRCA). This assessment summarizes the status of "reporting requirements for infectious and noninfectious conditions that must be reported to public health according to a jurisdiction's regulations or legislation." SRCA also details reporting requirements pertaining to clinical health care providers, hospitals, and laboratories. [16]

A SRCA query shows that the reporting status of gonorrhea in 2010 was generally consistent throughout the United States. In 2010, all 50 states and D.C. "explicitly" required health care providers and laboratories to report gonorrhea cases. In 48 states, gonorrhea was designated as a reportable disease for hospitals; however, gonorrhea was not reportable for hospitals in two states (Kansas and California).

Considering that gonorrhea infection is usually diagnosed by a positive laboratory test result, it is arguable that the reportable status for laboratories is most relevant to whether state incidence statistics could be considered comparable to one another. [17]

In the absence of any other known differences in states' reporting practices, gonorrhea incidence rates are presumed to be comparable across states.

Indicator	Syphilis cases, rate per 100,000
	population
Year(s)	2010
Frequency	Annual
Source	Centers for Disease Control and
	Prevention. STD Surveillance
	2010. Table 23. November 2011.

"All stages of syphilis" includes the primary, secondary, latent, and late stages of syphilis, neurosyphilis, and congenital syphilis. As discussed above, differences in reporting rules may limit comparisons of incidence rates across states. The reportable status of syphilis varies by state, depending on the stage of the disease and the reporting entity.

A SRCA query shows that in 2010, all 50 states and D.C. explicitly designated all stages of syphilis as reportable for laboratories. Reporting mandates varied for clinicians and hospitals depending on the stage of syphilis; however, the vast majority of states designated all stages of syphilis as reportable for clinicians and hospitals (Alaska, California, and Colorado being the exceptions).

A diagnosis of syphilis infection is confirmed by a positive laboratory test result. [18] The fact that all laboratory test results for syphilis were reportable in all states in 2010 suggests incidence rate estimates are likely to be comparable across states.

>>> Chlamydia incidence data were also reviewed for inclusion in the composite index, and excluded due to broad inconsistencies in reportable status by state.

Cervical cancer incidence, rate
per 100,000 population
2004-2008 (combined years)
Annual
Centers for Disease Control and
Prevention and National Cancer
Institute. United States Cancer
Statistics: 1999–2008 Incidence
and Mortality Web-based Report.

Combined data for years 2004-2008 are used for this indicator. The combined incidence rate report was generated by the Web-based system. Multiple years were combined in order to obtain a complete set of data. Single-year data for the state of Vermont were suppressed due to small cell sizes. Combining years provided a sufficiently large sample to calculate a rate for Vermont.

Cervical cancer is included as a sexual health outcome because persistent infection with human papillomavirus (HPV), a sexually transmitted virus, causes almost all cases of cervical cancer. [19]

3.1.2. REPRODUCTIVE

Indicator	Births to mothers aged 15-19
	years, rate per 1,000 population
Year(s)	2010
Frequency	Annual
Source	National Center for Health
	Statistics. NCHS data brief, no 89.
	2012.

Ideally, a composite index of sexual health would include teen pregnancy rates; however, recent state-level data on teen pregnancy is not available. Teen birth data are available and are also important.

Adolescent childbearing has numerous negative economic, social, and health impacts. It contributes significantly to low educational achievement and low income for the mother. Children of teen mothers are also "more likely to have lower school achievement and drop out of high school, have more health problems, be incarcerated at some time during adolescence, give birth

as a teenager, and face unemployment as a young adult." [20, 21]

Knowledge about sexual health and access to contraception are important factors that influence teen birth rates. [20, 22]

3.1.3. SEXUAL VIOLENCE

Indicator	Forcible rape incidents, rate per 100,000 population
Year(s)	2010
Frequency	Annual
Source	Federal Bureau of Investigation,
	Uniform Crime Reports, prepared
	by the National Archive of Criminal
	Justice Data

An indicator of sexual violence ought to include all forms of sexual assault perpetrated against females and males of all ages. Until 2011, the Federal Bureau of Investigation's Uniform Crime Reporting Program only collected data on incidents of "forcible rape," defined as "the carnal knowledge of a female, forcibly and against her will." [23] This definition was first established in 1927. In December 2011, the FBI redefined rape as: "The penetration, no matter how slight, of the vagina or anus with any body part or object, or oral penetration by a sex organ of another person, without the consent of the victim." This definition is intended to include "any gender of victim or perpetrator," and any case in which a person is not capable of consenting to sex "because of temporary or permanent mental or physical incapacity, including due to the influence of drugs or alcohol or because of age."

The Uniform Crime Reporting Program is scheduled to begin collecting data using the new definition of rape in January 2013. [24]

3.1.4. SEXUAL SATISFACTION

3.1.4.a. Proxy Indicators of Sexual Satisfaction

A widely accepted population-based measure of sexual satisfaction does not currently exist, although the public health field recognizes the need for such a measure. Sexual Health Rankings[™] uses self-reported health status and relationship status as proxy indicators of sexual satisfaction.

Indicator	Percentage of adults reporting
	good or better health
Year(s)	2011
Frequency	Annual
Source	Centers for Disease Control and
	Prevention. Behavioral Risk Factor
	Surveillance System Survey Data.
	2011.

Numerous studies show that self-reported health is positively associated with sexual satisfaction, and that worse self-reported health is a strong predictor of sexual dysfunction. [25-29]

Studies demonstrating significant associations between health status and sexual satisfaction have focused on married and partnered adults in midlife (ages 40-55) and older. The largest of these is an analysis of data from the Global Study of Sexual Attitudes and Behaviors, a survey of 27,500 men and women aged 40-80 years in 29 countries, including the United States. The study assessed four subjective measures of "sexual wellbeing": emotional and physical satisfaction with sexual relationships, satisfaction with sexual health or function, and the importance of sex in one's life. Self-reported health status "positively and consistently affected all measures of sexual well-being," across all countries, in both men and women. [26]

Another study of 1,009 couples (median age of men, 55; women, 52) in the United States, Brazil, Germany, Japan, and Spain shows a significant association between self-reported health status and sexual satisfaction for men, but not for women. [29] Significant positive associations between sexual functioning and sexual satisfaction were observed for both men and women; however, the magnitude of the association was greater in women than in men.

If better health status and sexual functioning correlate with increased sexual satisfaction, then data showing a positive association between health status and sexual

functioning would further support the use of health status as a proxy indicator of sexual satisfaction.

The National Health and Social Life Survey (NHSLS), a nationally representative probability sample study of adults aged 18-59, examines health status and sexual dysfunction. The study shows that fair-to-poor health status is significantly associated with sexual dysfunction — premature ejaculation, erectile dysfunction, and low sexual desire in men; and sexual pain in women. [28, 30]

Correlates of sexual satisfaction may differ for younger adults and adolescents, as Higgins et al. note in a 2011 study of sexual satisfaction among U.S. university students; however, they did not include health status as an independent variable in their study. [31]

Frequency of sexual intercourse is another demonstrated predictor of overall sexual satisfaction in adult men and women. [25, 31-33] The National Survey of Sexual Health and Behavior (NSSHB), a nationally representative probability sample study including adults aged 18-94, shows that among women, "better perceived health status was significantly associated with a higher likelihood of reporting vaginal intercourse in the past 90 days for most age cohorts."

Self-reported health status was significantly associated with frequency of vaginal intercourse for men aged 60 and older, but not for men in younger age groups. For men and women in most age groups, health status was not significantly associated with frequency of solo masturbation, partnered masturbation, oral sex, or anal sex. [34, 35]

Indicator	Percentage of adults married or a member of an unmarried couple
Year(s)	2011
Frequency	Annual
Source	Behavioral Risk Factor
	Surveillance System Survey Data.
	Atlanta, GA: Centers for Disease
	Control and Prevention, 2011.

A strong positive association between sexual satisfaction and being married or in a partnered relationship has been observed. Some findings pertain to the association between relationship status and subjective measures of sexual satisfaction; others may be inferred from associations between relationship status and frequency of sexual intercourse.

In a 1994 report on findings from the NHSLS, Laumann et al. conclude that, "a monogamous sexual partnership embedded in a formal marriage evidently produces the greatest satisfaction and pleasure." [30]

The 2009 AARP survey of midlife and older adults in the United States, however, reports that, "groups who are partnered but unmarried showed higher rates of both sexual intercourse and satisfaction than those who are married." [25]

Regarding frequency of sex, the NSSHB shows that partnered (married, in a relationship and cohabiting, or in a relationship but not living together) men and women in most age groups reported engaging in penile-vaginal intercourse, oral sex (giving and receiving), and anal intercourse more frequently than those were single and not dating, or single and dating. Frequency of solo masturbation was not significantly associated with relationship status in women, but partnered men were less likely to report having masturbated within the past 90 days. [34-36]

3.2. Factors

3.2.1. LAWS, POLICIES, AND HUMAN RIGHTS

3.2.1.a. Sexual Orientation and Gender Identity

Indicator	Status of statewide employment,
	housing, and school non-
	discrimination laws and policies
	based on sexual orientation and
	gender identity
Year(s)	2012
Frequency	Continually updated
Source	Maps of State Laws & Policies.
	Washington, DC: The Human
	Rights Campaign. June 12 and
	14, 2012.

This indicator is composed of binary numerical scores representing whether state law prohibits employment discrimination, housing discrimination based on sexual orientation and/or gender identity; and whether statewide law or school policy addresses discrimination against students based on sexual orientation and/or gender identity.

States can achieve numerical scores of 0 to 6. States that achieve the maximum score have enacted legislation prohibiting discrimination based on both sexual orientation and gender identity in employment, housing, and schools.

Indicator	Status of state law on marriage
	equality for same-sex couples
Year(s)	2012
Frequency	Continually updated
Source	Maps of State Laws & Policies.
	Washington, DC: The Human
	Rights Campaign. May 10 and
	June 12, 2012.

This indicator is composed of binary numerical scores representing two variables: 1) whether state law grants full marriage equality to same-sex couples; and 2) whether no state law or constitutional amendment prohibits same-sex marriage. This allows states that have not sanctioned same-sex marriage, but not have not taken action to preclude it, to achieve a higher score than states that have codified discrimination against same-sex couples legislatively or constitutionally.

This indicator treats marriage equality as a dichotomous variable, in order to avoid subjectively scoring the relative value of "partial equality" through measures such as civil unions.

States can achieve numerical score of 0 to 2. A state that scores 0 has a constitutional or legislative ban on samesex marriage in effect. A state that scores 1 may or may not confer some degree of legal recognition and rights to same-sex couples.

A state that mandates full and equal recognition of samesex marriages receives a score of 2.

Indicator	Status of state laws addressing
	bias or hate crimes based on
	sexual orientation and gender
	identity
Year(s)	2012
Frequency	Continually updated
Source	Maps of State Laws & Policies.
	Washington, DC: The Human
	Rights Campaign. June 25, 2012.

This indicator is composed of binary numerical scores representing whether a state has a law that addresses bias or hate crime based on sexual orientation and/or gender identity. The maximum possible score is 2; the minimum, 0.

States with laws that address bias or hate crimes based on sexual orientation and gender identity receive the maximum score.

3.2.1.b. Contraception

Status of state laws on
emergency contraception in
hospital emergency departments
2012
Continually updated
State Policies in Brief: Emergency
Contraception. New York:
Guttmacher Institute. November
1, 2012.

This indicator is composed of binary numerical scores representing two variables: 1) whether state law requires hospital emergency rooms to provide information about emergency contraception; and 2) whether state law requires hospital emergency rooms to dispense emergency contraception to sexual assault victims upon request.

States with laws requiring both receive a maximum score of 2; states with no such laws receive the minimum score of 0.

3.2.1.c. Abortion

Indicator	Status of state laws restricting private insurance coverage of
	abortion
Year(s)	2012
Frequency	Continually updated
Source	State Policies in Brief: Restricting
	Insurance Coverage of Abortion.
	New York: Guttmacher Institute.
	November 1, 2012.

This indicator is composed of binary numerical scores representing two variables: 1) whether state law imposes any restriction on private insurance coverage of abortion; and 2) whether state law imposes any restriction on abortion coverage in insurance plans of state employees. Any restriction of abortion coverage in private insurance plans includes restrictions applicable to all private insurance sold in the state.

A restriction is defined as any provision that prohibits abortion coverage, or limits coverage to any or all of the following circumstances: pregnancy endangers the woman's life; pregnancy resulting from rape; pregnancy resulting from incest; fetal impairment; to prevent "substantial and irreversible impairment of a major bodily function" of the pregnant woman. For this indicator, a higher score is less desirable.

States that restrict abortion coverage in both private insurance and state employee's plans receive maximum score of 2; states that do not impose any such restrictions receive the minimum score of 0. (Normalized scores are reverse-coded for aggregation.)

Indicator	Status of state laws imposing
	barriers to obtaining an abortion
Year(s)	2012
Frequency	Continually updated
Source	State Policies in Brief: Counseling
	and Waiting Periods for Abortion;
	Requirements for Ultrasound. New
	York: Guttmacher Institute.
	November 1, 2012.

This indicator is composed of binary numerical scores representing three variables: 1) whether state law requires that women seeking abortion receive counseling intended to discourage abortion before undergoing the procedure; 2) whether state law requires a waiting period (typically 24 hours) between counseling and the abortion procedure; and 3) whether state law requires that women seeking abortion undergo an ultrasound before the procedure. For this indicator, a higher score is less desirable.

States that have all three legal provisions in place receive maximum score of 3; states that do not have such provisions receive the minimum score of 0. (Normalized scores are reverse-coded for aggregation.)

3.2.1.d. Sex Education

Indicator	Status of sex education mandates and content requirements for contraception and STI/HIV
	education
Year(s)	2012
Frequency	Continually updated
Source	State Policies in Brief: Sex and
	HIV Education. New York:
	Guttmacher Institute. November
	1, 2012.

This indicator is composed of binary numerical scores representing four variables: 1) whether a state mandates sex education in schools; 2) whether a state mandates STI/HIV education in schools; 3) whether sex education in schools must cover contraception; and 4) whether STI/ HIV education must cover contraception. The maximum possible score is 4; the minimum, 0.

The maximum score is given to states that mandate sex education and STI/HIV education in schools, and require that contraception be covered as part of sex and STI/HIV education.

3.2.2. EDUCATION

3.2.2.a. Sexual Health Education in Schools

Indicator	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required course in any of grades 6, 7, or 8
Year(s)	2010
Frequency Source	Biennial Brenner, ND, et al. School Health Profiles 2010: Characteristics of Health Programs Among Secondary Schools in Selected U.S. Sites. Atlanta: Centers for Disease Control and Prevention. 2011.
Indicator	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required course in any of grades grades 9, 10, 11, or 12
Year(s)	2010
Frequency Source	Biennial Brenner, ND, et al. School Health Profiles 2010: Characteristics of Health Programs Among Secondary Schools in Selected U.S. Sites. Atlanta: Centers for Disease Control and Prevention. 2011.

The School Health Profiles is a system of surveys developed by CDC to assess school health policies and practices at the state and local level. The surveys are conducted biennially among middle and high school principals and lead health education teachers. The system is designed to allow comparison across state and local jurisdictions. Only weighted data—i.e. surveys completed by at least 70 percent of principals or lead health teachers in the sample—are included in the biennial report. In 2010, weighted data from lead health teacher surveys were obtained for 47 states and D.C. These data for Colorado, Illinois, and New Mexico are not included in the 2010 report. In order to include School Health Profiles data in the composite index, values for these states were imputed using the state median value.

In 2010, School Health Profiles surveys evaluated the teaching of 17 topics related to HIV, STD, and pregnancy prevention:

- The differences between HIV and AIDS
- How HIV and other STDs are transmitted
- How HIV and other STDs are diagnosed and treated
- Health consequences of HIV, other STDs, and pregnancy
- The relationship among HIV, other STDs, and pregnancy
- The relationship between alcohol and other drug use and risk for HIV, other STDs, and pregnancy
- The benefits of being sexually abstinent
- How to prevent HIV, other STDs, and pregnancy
- How to access valid and reliable health information, products, and services related to HIV, other STDs, and pregnancy
- The influences of media, family, and social and cultural norms on sexual behavior
- Communication and negotiation skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy
- Goal-setting and decision-making skills related to eliminating or reducing risk for HIV, other STDs, and pregnancy
- Compassion for persons living with HIV or $\ensuremath{\mathsf{AIDS}}$
- Efficacy of condoms, that is, how well condoms work and do not work
- The importance of using condoms consistently and correctly
- How to obtain condoms
- How to correctly use a condom

3.2.3. SOCIETY AND CULTURE

3.2.3.a. Gender Equality

Gender inequality is recognized as a primary cause of sexual violence against women, and a major factor generally influencing vulnerability to sexual ill-health,

including HIV infection and unintended pregnancy. [3, 8, 37-40]

Indicator	Proportion of seats held by women in state legislatures and DC Council
Year(s)	2012
Frequency	Corresponds to election cycles
Source	 Women's Legislative Network of NCSL. Women in State Legislatures: 2012 Legislative Session. Denver, CO and Washington, DC: National Conference of State Legislatures. 2012. Council of the District of Columbia. Council Directory for DC: Council of the District of Columbia. June 18, 2012.

The proportion of seats in legislative bodies held by women is an indicator of gender equality. The ratio of seats held by women to seats held by men in national legislatures is a component of the United Nations Development Program's Gender Inequality Index. [41] The World Economic Forum also includes the ratio of women to men among legislators, senior officials, and managers as a variable in its Global Gender Gap Index. [42]

Indicator	Percentage of women aged ≥25
	years with high school diploma
	and higher education
Year(s)	2008-2010
Frequency	Annual
Source	U.S. Census Bureau. 2008-2010
	American Community Survey 3-

For women, having a high school diploma or higher education is associated with more intended births, [43] increased use of reproductive health and contraceptive services, [44] and decreased likelihood of engaging in HIV risk-related behaviors in the past 12 months. [45] In a 1999 analysis of data from the National Health and Social Life Survey, Laumann et al. report that, "High educational attainment is negatively associated with experience of sexual problems for both sexes. These differences are especially marked between women who do not have high school diplomas and those who have college degrees." Specific problems associated with educational attainment were low sexual desire, problems achieving orgasm, sexual pain, and sexual anxiety. [28]

3.2.4. ECONOMICS

3.2.4.a. Poverty

Indicator	Percentage of people in poverty
Year(s)	2009-2011
Frequency	Annual
Source	U.S. Census Bureau. 2010, 2011,
	and 2011 March Current
	Population Survey

Annual household income less than 100 percent of the federal poverty level is associated with a wide range of adverse sexual health behaviors and outcomes for men and women, including fewer intended births, [43] lower contraception use, [46] increased likelihood of engaging in HIV risk-related behaviors, [45] increased STD infection rates, [47] higher prevalence of HIV infection, [48] higher rates of rape and sexual assault victimization. [40, 49, 50]

3.2.4.b. Health Insurance

Indicator	Percentage of women aged 15-44 uninsured
Year(s)	2009-2010
Frequency	Annual
Source	State Data Center. New York: Guttmacher Institute.
Indicator	Percentage of women aged 15-44 covered by Medicaid
Year(s)	2009-2010
Frequency	Annual
Source	State Data Center. New York: Guttmacher Institute.

An analysis by researchers at the Guttmacher Institute found variation in state unintended pregnancy rates to be strongly associated with the proportion of women without health insurance, and the proportion receiving Medicaid, after controlling for demographic characteristics and contraceptive use: "An increase in the proportion of women uninsured was associated with elevated unintended pregnancy rates, and an increase in the proportion receiving Medicaid coverage was associated with reduced rates." [51]

The Guttmacher Institute publishes state-level estimates of the percentage of women of reproductive age (15-44 years) without health insurance and covered by Medicaid. These data are obtained from the U.S. Census Current Population Survey. Survey data for 2009 and 2010 were combined to produce the state-level estimates, in order to improve statistical reliability.

3.2.5 HEALTH SYSTEMS

3.2.5.a. Access to Services

Indicator	Percentage of contraceptive need met by all publicly funded clinics
Year(s)	2008
Frequency	Biennial
Source	Frost JJ, Henshaw SK and
	Sonfield A, Contraceptive needs
	and services: national and state
	data, 2008 update, New York:
	Guttmacher Institute, 2010.

Guttmacher Institute researchers estimate that in 2008, 36 million females in the United States were in need of contraceptive services and supplies—e.g. those aged 13-44 years who, "were sexually active and able to become pregnant, but were not pregnant and did not wish to become pregnant." [52] Of these, an estimated 17.4 million were considered to be in need of publicly funded contraceptive services and supplies. An individual in need of publicly funded contraception is defined as a female who meets the criteria of need for contraception stated above, and who is aged 20 years or older, with a family income less than 250 percent of the federal poverty level; or younger than 20, regardless of income. As Frost et al. note, this indicator is not a complete measure of unmet need because it does not capture "women who receive Medicaid-covered services from private physicians, as well as users of nonprescription methods who have not made a (clinic) visit for contraceptive services."

Indicator	Percentage of people aged 18-64
	years who reported ever receiving
	a HIV test
Year(s)	2010
Frequency	Annual
Source	Henry J. Kaiser Family
	Foundation. Statehealthfacts.org.
	Centers for Disease Control and
	Prevention, Behavioral Risk Factor
	Surveillance System Survey Data,
	2010, unpublished data.

Since 2006, the CDC has recommended routine HIV screening for people aged 13-64 years in all health care settings, including hospitals, clinics, and primary care settings; and as part of the panel of routine prenatal screening tests for pregnant women. [53]

HIV screening tests identify people with asymptomatic HIV infection. HIV-infected people who know their infection status can seek medical treatment to forestall progression of HIV infection to AIDS, and take actions to prevent transmitting the virus to others. [11]

Indicator	Percentage of women aged 15-44
	living in a county without an
	abortion provider
Year(s)	2008
Frequency	Periodic
Source	Jones RK, Kooistra K. Abortion
	incidence and access to services
	in the United States, 2008.
	Perspect Sex Reprod Health.
	2011 Mar;43(1):41-50.

These data are derived from an analysis, sponsored by the Guttmacher Institute, published in 2011. [54] The researchers conducted a nationwide census of all

facilities providing abortions. To obtain state-level percentages of women living in a county without an abortion provider (a provider is defined as "a physical site where abortion services are offered"), the researchers combined the provider census data with National Center for Health Statistics bridged-race population estimates.

The need to travel long distances to a provider may be a barrier to obtaining an abortion. An earlier Guttmachersponsored study showed that in the year 2000, abortion rate among women residing in metropolitan counties, where abortion providers tended to be concentrated, was two times the rate of abortions among women residing in non-metropolitan counties. [55]

In 2008, 97 percent of non-metropolitan counties nationwide lacked an abortion provider. [54]

The national census of abortion providers conducted in 2009 was the 15th such census the Guttmacher Institute has conducted since 1973. [54] Research articles reporting these data have been published regularly, with varying frequency. Articles similar to the latest one cited here were published in 2008, [56] 2005, [57] and 2002. [55] As such, it is reasonable to expect to be able to update this indicator with new data in the near future.

Indicator	Estimated vaccination coverage, ≥3 doses HPV, females aged 13-17 years
Year(s)	2010
Frequency	Annual
Source	Centers for Disease Control and Prevention. National and state vaccination coverage among adolescents aged 13 through 17 yearsUnited States, 2010. MMWR Morb Mortal Wkly Rep. 2011 Aug 26;60(33):1117-23.

HPV infection causes practically all cervical cancers, 90 percent of cancers of the anus, and 40 percent of cancers of the vagina, vulva, and penis.[58] A vaccine against the most common cancer-causing types of HPV was first licensed by the U.S. Food and Drug Administration in 2006.[59] In 2007, the CDC Advisory

Committee on Immunization Practices (ACIP) recommended routine HPV vaccination, using a threedose series, for females aged 9-26 years. In 2009, the ACIP released guidance stating that males aged 9-26 years could also receive HPV vaccination. In 2011, the ACIP replaced this guidance statement with a recommendation for routine HPV vaccination of males aged 9-26 years.

The National Immunization Survey – Teen shows that in 2010, 69.6 percent of females aged 13-17 years nationwide had received the full three-dose HPV vaccine series; whereas only 1.4 percent of males aged 13-17 had received one or more doses of HPV vaccine. [60]

The CDC reports that in 2010, "... adolescent vaccination coverage varied widely among states and other reporting areas, which could reflect differing vaccination-promotion initiatives among local health agencies and communities ... Additional factors that might play an important role in vaccination coverage include vaccine financing, health-care infrastructure, local outbreaks, and communication efforts leading to increased consumer demand."

4. Multivariate Analysis

4.1. Principal Component Analysis

Principal component analysis (PCA) was used to describe the underlying structure of the data set. Unweighted standardized scores for the 26 selected indicators were analyzed.

The PCA results are shown in table 5.

4.2. Indicator-Dimension Grouping

As discussed in Section 1, *Sexual Health Rankings*[™] is based on a conceptual model of sexual health comprising five elements: 1) ability of individuals to have control over, and freely decide on, their own sexual behavior and experiences; 2) ability of individuals to decide freely on whether, and when, to procreate; 3) freedom from discrimination and violence related to sexuality and gender; 4) experience of sexual pleasure and satisfaction; and 5) freedom from sexual morbidity, including HIV/AIDS and other sexually transmitted infections.

For the sake of convenience, the five elements are given the following labels:

- I. Autonomy
- II. Reproductive choice
- III. Inequity/violence
- IV. Pleasure/satisfaction
- V. Morbidity.

Based on considerations discussed in the previous section, the indicators are grouped according to their relationships to the five elements of sexual health. Individual indicators may be related to more than one element. If an indicator is grouped with a given element, it is assumed that it measures some aspect of that element. These groupings do not make assumptions about causation, direction, or strength of association. Table 3 presents a matrix of these relationships.

4.3. Correlation Coefficients

For descriptive purposes, correlation analysis was performed using standardized scores for all 26 indicators, and for sets of indicators grouped by element. The correlation coefficient matrixes for these analyses are shown in tables 6-11.

5. Ranking System

5.1. Standardization of Data

Indicator data are standardized in order to make them comparable. Standardization is necessary because the indicators have different units of measurement (e.g. rates and proportions). Indicator data are converted to standard scores (*z*-scores), using the following formula:

$$Z = \frac{Y - \overline{x}}{s}$$

where: Y = the state value

 \overline{x} = the national mean; or, when a national statistic is not reported, the calculated mean of all state values (n=51)

s = the standard deviation of all 51 state values.

For most indicators, the sample standard deviation (s) is calculated. For indicators that are not based on sample data (e.g. state laws and policies), the population standard deviation (σ) is calculated.

The standard score (Z) for each state represents the number of standard deviations of the state value above or below the national mean. A score of 0.000 denotes that the state value and national mean are the same. Scores higher than the national mean are positive; and scores lower than the national mean are negative.

Reverse coding is applied to indicators for which a higher value (reflecting a higher rate, proportion, or compound statistic) is less desirable—e.g. disease incidence, poverty, detrimental legislation. To reverse-code these indicators, *z*-scores are simply multiplied by -1.

5.2. Composite Scores

Each state's composite score (Composite) is the sum of the weighted scores for all indicators.

A weighted score is a standard score (Z) multiplied by an assigned weight (w).

Composite = $\sum w_i Z_i$

5.3. Weights

The weighting of indicators in a composite index significantly influences rankings, and therefore must be considered carefully.

America's Health Rankings (AHR) and County Health Rankings (CHR), the two projects from which Sexual Health Rankings™ draws its inspiration, take the same basic approach to weighting indicators. Weights are assigned as percentages, with the weights of all indicators totaling 100 percent. Portions of the total weight are allotted between indicators measuring health outcomes and health factors (i.e. determinants of health). Individual health factors are assigned weights based on

their relative contribution to a set of population health outcomes. The degree to which each indicator contributes to these health outcomes is determined using a variety of approaches, including referencing evidencebased estimates published in the scientific literature, statistical analysis of the indicator data, and input from expert advisory panels. [61, 62]

Each of the 26 indicators included in the *Sexual Health Rankings*[™] composite index is related to one or more of the five elements of sexual health. Eight indicators are classified as outcomes, and 18 are classified as factors.

At present, valid and generally accepted outcome measures for all five elements of sexual health do not exist. Therefore the weighting scheme does not calculate relative contributions of factors to outcomes, as AHR and CHR do.

The weighting scheme does, however, distinguish between indicators of outcomes—i.e., measures of sexual health status—and factors that influence sexual health. Each category is weighted according to the number of indicators in the category. Outcome indicator scores make up approximately 31 percent (8/26) of each state's composite score, and factors account for approximately 69 percent (18/26) of the composite score.

Weights assigned to individual indicators are determined by indicator category (outcome or factor), relevance to each of the five elements of sexual health, and the number of indicators related to each of the five elements.

5.3.1. WEIGHTING SCHEME

A weight (*w*) is calculated for each indicator according the following process. Weights for the two categories of indicators—outcomes and factors—are calculated separately.

Table 4 presents the calculations in detail.

The five elements of sexual health are assumed to be of equal importance. The weighting formula therefore must be adjusted to prevent overrepresentation of elements to which a greater number of indicators are related. Each of the five elements is assigned a weight (R) equal to 0.2

divided by the number (*n*) of indicators related to that dimension.

R = 0.2 / n

Not all indicators included in the composite index measure every element of sexual health. The weighting formula must therefore account for each indicator's relevance to the five elements.

The final weight (w) for each indicator is calculated as the sum of the R values of the dimensions to which the indicator is related, multiplied by the value of y, which is the proportion of indicators in its respective category to the total number of indicators in the composite.

$w = y(\sum R_i)$

The y values for outcomes and factors are 8/26 and 18/26, respectively.

5.4. Ranking

States are ranked 1 to 51 by their composite scores, from highest (no. 1, best sexual health) to lowest (no. 51, worst sexual health).

Table 1 presents the weighted ranking and aggregate scores of the 50 states and D.C. The unweighted ranking and scores are presented in the same table to illustrate the effect of weighting.

Table 12 shows rankings and scores for each individual indicator.

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WEIGHTED			UNWEIGH	TED	
Rank	State	Score	Rank	State	Score
1	Vermont	1.240	1	Vermont	29.374
2	Connecticut	0.986	2	Massachusetts	20.556
3	New Hampshire	0.958	3	Connecticut	20.425
4	New Jersey	0.898	4	New Hampshire	17.259
5	Massachusetts	0.876	5	Maine	17.217
6	Maine	0.793	6	Hawaii	15.682
7	lowa	0.731	7	New Jersey	15.153
8	Minnesota	0.726	8	Washington	13.694
9	Hawaii	0.670	9	Oregon	12.957
10	Wisconsin	0.655	10	lowa	12.905
11	Oregon	0.645	11	Rhode Island	12.397
12	Washington	0.641	12	Minnesota	11.045
13	Maryland	0.582	13	New York	10.849
14	New York	0.475	14	Colorado	10.756
15	Colorado	0.370	15	Maryland	<u>9</u> .989
16	Delaware	0.345	16	Wisconsin	<u>9</u> .267
17	Wyoming	0.305	17	Delaware	<u>8.796</u>
18	Montana	0.300	18	California	7.982
19	Rhode Island	0.269	19	Montana	2.370
20	District of Columbia	0.233	20	Illinois	0.465
21	Nebraska	0.155	21	Nebraska	0.190
22	Pennsylvania	0.147	22	District of Columbia	0.030
23	Utah	0.147	23	Pennsylvania	-0.392
24	Virginia	0.128	24	New Mexico	-0.467
25	Illinois	0.101	25	Virginia	-1.300
26	California	0.086	26	Wyoming	-2.348

Table 1. Sexual Health Rankings and Composite Scores, 50 U.S. States and District of Columbia, 2012

WEIGHTED		-	UNWEIGH	TED	
Rank	State	Score	Rank	State	Score
27	North Dakota	0.057	27	Nevada	-3.083
28	South Dakota	-0.011	28	Utah	-3.359
29	Ohio	-0.088	29	North Dakota	-3.405
30	Idaho	-0.115	30	South Dakota	-3.769
31	Florida	-0.122	31	Idaho	-4.472
32	Kansas	-0.146	32	Ohio	-4.610
33	Michigan	-0.148	33	Alaska	-4.843
34	Alaska	-0.151	34	Kansas	-5.112
35	Nevada	-0.190	35	North Carolina	-5.230
36	Missouri	-0.196	36	Missouri	-5.996
37	Indiana	-0.210	37	Tennessee	- <mark>6</mark> .170
38	North Carolina	-0.211	38	Michigan	-6.339
39	West Virginia	-0.294	39	Arizona	- <mark>6</mark> .520
40	New Mexico	-0.334	40	West Virginia	-7.153
41	Tennessee	-0.366	41	Florida	-7.453
42	South Carolina	-0.389	42	Indiana	-8.454
43	Georgia	-0.422	43	Kentucky	-8.778
44	Oklahoma	-0.466	44	Oklahoma	-9.977
45	Arizona	-0.492	45	South Carolina	-11.402
46	Alabama	-0.535	46	Georgia	-12.663
47	Kentucky	-0.602	47	Alabama	-12.857
48	Arkansas	-0.774	48	Texas	-16.522
49	Texas	-0.780	49 Arkansas		-18.759
50	Louisiana	-0.797	50	Louisiana	-21.880
51	Mississippi	-1.037	51	Mississippi	-23.272

Table 1. Sexual Health Rankings and Composite Scores, 50 U.S. States and District of Columbia, 2012

Category	Domain	Topic	Indicator	Year	Source
Outcomes	Sexually	HIV/AIDS	Estimated rate of AIDS diagnoses per 100,000 population	2010	CDC, HIV Surv.
	transmitted	Gonorrhea	Rate of gonorrhea cases per 100,000 population	2010	CDC, STD Surv.
	infections	Syphilis	Rate of syphilis cases per 100,000 population	2010	CDC, STD Surv.
		Cervical cancer	Cervical cancer incidence rate per 100,000 population, age adjusted	2004-08	CDC/NCI, USCS
	Reproductive	Teen births	Births to mothers aged 15-19 years, rates per 1,000 population	2010	CDC, NCHS
	Sex. violence	Rape	Forcible rape incident rate per 100,000 population	2010	FBI, UCR
	Sexual	Proxy indicators	Percentage of adults reporting good or better health	2011	CDC, BRFSS
	satisfaction	of satisfaction	Percentage of adults married or a member of an unmarried couple	2011	CDC, BRFSS
Factors	Laws,	Sexual	Status of statewide employment, housing, and school non-discrimination laws and	2012	HRC
	policies &	orientation &	policies based on sexual orientation and gender identity		
	human rights	gender identity	Status of state law on marriage equality for same-sex couples	2012	HRC
			Status of state laws addressing bias or hate crimes based on sexual orientation and	2012	HRC
		Contraception	Status of state laws on emergency contraception in hospital emergency departments	2012	Guttmacher Inst.
		Abortion	Status of state laws restricting private insurance coverage of abortion	2012	Guttmacher Inst.
			Status of state laws imposing barriers to obtaining an abortion mandated counseling to discourses abortion waiting period ultrasound required	2012	Guttmacher Inst.
		Sex education	Status of sex education mandates and content requirements for contraception and	2012	Guttmacher Inst.
			STI/HIV education		
	Education	Sexual health	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy	2010	CDC, School
		education in	prevention topics in a required course in any of grades 6, 7, or 8		Health Profiles
		schools	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy	2010	CDC, School
			prevention topics in a required course in any of grades 9, 10, 11, or 12		Health Profiles
	Society &	Gender equality	Proportion of seats held by women in state legislatures and DC Council	2012	NCSL/WLN; DCC
	culture		Percentage of women aged \geq 25 years with high school diploma and higher education	2008-10	Census, ACS 3yr
	Economics	Poverty	Percentage of people in poverty	2009-11	Census, CPS
		Health insurance	Percentage of women aged 15-44 uninsured	2009-10	Guttmacher Inst.
			Percentage of women aged 15-44 covered by Medicaid	2009-10	Guttmacher Inst.
	Health	Access to	Percentage of contraceptive need met by all publicly funded clinics	2008-10	Guttmacher Inst.
	systems	services	Percentage of people aged 18-64 years who reported ever receiving a HIV test	2010	KFF (BRFSS)
			Percentage of women aged 15-44 living in a county without an abortion provider	2008	Guttmacher Inst.
			Estimated vaccination coverage, ≥3 doses HPV, females aged 13-17 years	2010	CDC, NIS-Teen

Table 2. Summary Table of Sexual Health Indicators

Sexual Health Rankings™ 2012

Legislative Network DCC—District of Columbia Council ACS 3yr—American Community Survey 3-year estimates CPS—Current Population Survey BRFSS—Behavioral Risk Factor Surveillance System HRC—Human Rights Campaign NCSL/WLN—National Conference of State Legislatures/Women's USCS-United States Cancer Statistics NCHS-National Center for Health Statistics FBI-Federal Bureau of Investigation UCR-Uniform Crime Reports CDC-Centers for Disease Control and Prevention HIV Surv.-HIV Surveillance Reports STD Surv.-STD Surveillance NCI-National Cancer Institute KFF—Henry J. Kaiser Family Foundation NIS-Teen—National Immunization Survey–Teen

•					Estimated vaccination coverage, ≥3 doses HPV, remales aged 13-17 years		
					Felicitiade of wolffelt aged 13-44 living in a county without all application provider		
•			,		Percentage of people aged 18-64 years who reported ever receiving a miv test	oyoconio	
			•	•	Percentage of contraceptive need met by all publicly funded clinics	Health	
			•		Percentage of women aged 15-44 covered by Medicaid		
			•		Percentage of women aged 15-44 uninsured		
•		•	•	•	Percentage of people in poverty	Economics	
•	•	•	•	•	Percentage of women aged ≥25 years with high school diploma and higher education	culture	
		•			Proportion of seats held by women in state legislatures and DC Council	Society &	
•			•	equired	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a r course in any of grades 9, 10, 11, or 12		
•			•	equired	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a r course in any of grades 6, 7, or 8	Education	
•			•		Status of sex education mandates and content requirements for contraception and STI/HIV education		
			•	•	Status of state laws imposing barriers to obtaining an abortion mandated counseling to discourage abortion, waiting period, ultrasound required		
		•	•	•	Status of state laws restricting private insurance coverage of abortion		
		•	•		Status of state laws on emergency contraception in hospital emergency departments		
		•		•	Status of state laws addressing bias or hate crimes based on sexual orientation and gender identity		
		•		•	Status of state law on marriage equality for same-sex couples	rights	
		•		exual	s Status of statewide employment, housing, and school non-discrimination laws and policies based on s orientation and gender identity	Laws, policies & human	Factors
	•				Percentage of adults married or a member of an unmarried couple	satisfaction	
	•				Percentage of adults reporting good or better health	Sexual	
		•		•	Forcible rape incident rate per 100,000 population	Sexual violence	
			•	•	Births to mothers aged 15-19 years, rates per 1,000 population	Reproductive	
•					Cervical cancer incidence rate per 100,000 population, age adjusted		
•					Rate of syphilis cases per 100,000 population		
•					Rate of gonorrhea cases per 100,000 population		
•					Estimated rate of AIDS diagnoses per 100,000 population	STIs	Outcomes
<	<	≡	=	_	Indicator	Domain	Category
ents	Elem	alth E	ıal He	Sexu			
						outilitially take	

Table 3. Summarv Table of Indicators and Related Elements of Sexual Health

Sexual Health Rankings™ 2012

Table 4. Calculation of Indicator Weights

y = (8/26)			v	IV	Ш	П	1	
$w = y (\sum R_i)$	∑ Ri		R5	R4	R₃	R ₂	R ₁	
0.015	0.050		0.050					aids
0.015	0.050		0.050					gon
0.015	0.050		0.050					syph
0.015	0.050		0.050					cerv
0.092	0.300					0.200	0.100	teenbir
0.092	0.300				0.200		0.100	rape
0.031	0.100			0.100				healthstat
0.031	0.100			0.100				partner
30.8%	100%		0.200	0.200	0.200	0.200	0.200	
		n=	4	2	1	1	2	
y = (18/26)								
$w = y (\sum R_i)$	∑ Ri		R ₅	R4	R₃	R ₂	R ₁	
0.031	0.045				0.025		0.020	nondisc
0.031	0.045				0.025		0.020	gaymar
0.031	0.045				0.025		0.020	hatecrime
0.029	0.042				0.025	0.017		erec
0.043	0.062				0.025	0.017	0.020	insabort
0.025	0.037					0.017	0.020	barabort
0.031	0.045		0.029			0.017		sexedman
0.045	0.065		0.029			0.017	0.020	taught678
0.045	0.065		0.029			0.017	0.020	taught912
0.017	0.025				0.025			womleg
0.201	0.290		0.029	0.200	0.025	0.017	0.020	womhs
0.062	0.090		0.029		0.025	0.017	0.020	poverty
0.012	0.017					0.017		womunins
0.012	0.017					0.017		womedicaid
0.025	0.037					0.017	0.020	contraneed
0.020	0.029		0.029					hivtest
0.012	0.017					0.017		countyabort
0.020	0.029		0.029					hpvax
69.2%	100%		0.200	0.200	0.200	0.200	0.200	
100%		n=	7	1	8	12	10	

E ements of Sexua Heath: I. Autonomy II. Reproduct ve cho ce III. Inequ ty/v o ence IV. P easure/sat sfact on V. Morb d ty

Table 4. Calculation of Indicator Weights, continued

Weight	Label	Indicator
0.015	aids	Estimated rates of AIDS diagnoses per 100,000 population
0.015	gon	Rates of gonorrhea cases per 100,000 population
0.015	syph	Rates of syphilis cases per 100,000 population
0.015	cerv	Cervical cancer incidence rates per 100,000 population, age adjusted
0.092	teenbir	Births to mothers aged 15-19 years, rates per 1,000 population
0.092	rape	Forcible rape incident rates per 100,000 population
0.031	healthstat	Percentage of adults reporting good or better health
0.031	partner	Percentage of adults married or a member of an unmarried couple
0.031	nondisc	Status of statewide employment, housing, and school non-discrimination laws and policies based on sexual orientation and gender identity
0.031	gaymar	Status of state law on marriage equality for same-sex couples
0.031	hatecrime	Status of state laws addressing bias or hate crimes based on sexual orientation and gender identity
0.029	erec	Status of state laws on emergency contraception in hospital emergency departments
0.043	insabort	Status of state laws restricting private insurance coverage of abortion
0.025	barabort	Status of state laws imposing barriers to obtaining an abortion mandated counseling to discourage abortion, waiting period, ultrasound required
0.031	sexedman	Status of sex education mandates and content requirements for contraception and STI/HIV education
0.045	taught678	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required course in any of grades 6, 7, or 8
0.045	taught912	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required course in any of grades 9, 10, 11, or 12
0.017	womleg	Proportion of seats held by women in state legislatures and DC Council
0.201	womhs	Percentage of women aged ≥25 years with high school diploma and higher education
0.062	poverty	Percentage of people in poverty
0.012	womunins	Percentage of women aged 15-44 uninsured
0.012	womedicaid	Percentage of women aged 15-44 covered by Medicaid
0.025	contraneed	Percentage of contraceptive need met by all publicly funded clinics
0.02	hivtest	Percentage of people aged 18-64 years who reported ever receiving a HIV test
0.012	countyabort	Percentage of women aged 15-44 living in a county without an abortion provider
0.02	hpvax	Estimated vaccination coverage, ≥3 doses HPV, females aged 13-17 years

Table 5. Principal Component Analysis

rincipal compone	nts/correlation		Number of obs Number of comp.	= 51 = 26
Rotation: (un	rotated = princ	ipal)	Trace Rho	= 26 = 1.0000
Component	I Eigenvalue	Difference	Proportion	Cumulative
Comp1	 1 7.46134	.799579	0.2870	0.2870
Comp2	6.66176	4.79218	0.2562	0.5432
Comp3	1.86958	.284597	0.0719	0.6151
Comp4	1.58498	.325149	0.0610	0.6761
Comp5	1.25984	.189143	0.0485	0.7245
Comp6	1.07069	.143111	0.0412	0.7657
Comp7	.927581	.084376	0.0357	0.8014
Comp8	.843205	.142772	0.0324	0.8338
Comp9	.700433	.0552095	0.0269	0.8607
Comp10	.645224	.087795	0.0248	0.8856
Comp11	.557429	.105471	0.0214	0.9070
Comp12	.451957	.0945207	0.0174	0.9244
Comp13	.357436	.0666828	0.0137	0.9381
Comp14	.290754	.0364917	0.0112	0.9493
Comp15	.254262	.0723623	0.0098	0.9591
Comp16	.1819	.0123214	0.0070	0.9661
Comp17	.169578	.0166359	0.0065	0.9726
Comp18	.152942	.0192812	0.0059	0.9785
Comp19	.133661	.0296498	0.0051	0.9836
Comp20	.104011	.0207579	0.0040	0.9876
Comp21	.0832534	.0147433	0.0032	0.9908
Comp22	.0685101	.00871105	0.0026	0.9935
Comp23	.0597991	.0027704	0.0023	0.9958
Comp24	.0570287	.0297182	0.0022	0.9980
Comp25	.0273105	.00178339	0.0011	0.9990
Comp26	.0255271	•	0.0010	1.0000

Table 6. Correlation Coefficient Matrix—All Indicators

	Ι	aids	gon	syph	cerv	teenbir	rape	health~t
· · ·	·+-							
aids	1	1.0000	4 0000					
gon	1	0.6769*	1.0000	4 0000				
syph	1	0.8510*	0.7727*	1.0000				
cerv	I	0.4636*	0.6715*	0.6138*	1.0000			
teenbir	I	0.1646	0.5398*	0.3863*	0.6750*	1.0000		
rape	I	-0.1203	0.0995	-0.1518	-0.0093	0.3221*	1.0000	
healthstat	I	-0.0607	0.3615*	0.2581	0.6805*	0.7096*	-0.0316	1.0000
partner	I	0.8592*	0.7755*	0.8589*	0.6129*	0.2888*	-0.1613	0.2239
nondisc	I	-0.1802	0.2405	-0.0318	0.2121	0.4952*	0.2130	0.4417*
gaymar	Ι	-0.1555	0.1700	-0.0331	0.2073	0.4820*	0.2964*	0.3516*
hatecrime	Ι	-0.2406	0.1592	-0.1443	0.1111	0.3725*	0.2309	0.3510*
erec	Ι	-0.2678	0.0179	-0.1834	0.0761	0.2462	0.1635	0.2325
insabort	Ι	-0.1440	-0.0281	-0.1738	-0.0895	0.1190	0.0593	0.0222
barabort	Ι	-0.1586	0.3072*	0.0682	0.1253	0.4651*	0.0972	0.3890*
sexedman	Ι	-0.1310	0.0674	0.0150	-0.0525	0.1727	0.3318*	-0.0102
taught678	Ι	-0.6540*	-0.4027*	-0.5011*	-0.4061*	-0.0505	0.2571	-0.0376
taught912	I	-0.4462*	-0.0926	-0.2651	-0.2179	0.3471*	0.3927*	0.1283
womleg	Ι	0.0014	0.3232*	0.1527	0.3507*	0.4411*	0.0529	0.4630*
womhs	Ι	0.1881	0.4690*	0.4797*	0.7198*	0.6320*	-0.1933	0.8121*
poverty	Ι	0.2982*	0.5514*	0.5445*	0.6459*	0.8039*	0.0896	0.7371*
womunins	Ι	-0.0637	0.2520	0.1984	0.5313*	0.7447*	0.1762	0.7027*
womedicaid	Ι	-0.2324	-0.0945	-0.2063	-0.1567	0.0942	0.2235	-0.0733
contraneed	Ι	-0.3783*	-0.1716	-0.1383	-0.1302	-0.0179	-0.2936*	0.1384
hivtest	Ι	-0.7208*	-0.6809*	-0.7206*	-0.4897*	-0.1415	0.1558	-0.1647
countyabort	Ι	-0.3321*	0.0140	-0.1842	0.0920	0.4509*	0.0959	0.3835*
hpvax	Ι	0.0032	0.2932*	0.1273	0.3639*	0.5058*	0.1244	0.4721*
		partner	nondisc	gaymar	hatecr~e	e erec	insabor	t barabort
partner	Ì	1.0000						
nondisc	Ι	-0.1305	1.0000					
qaymar	Ι	-0.1333	0.4759*	1.0000				
hatecrime	Ι	-0.2226	0.7774*	0.4108*	1.0000			
erec	I	-0.1521	0.5912*	0.2971*	0.4783*	1.0000		
insabort	Ι	-0.1545	0.3344*	0.2721	0.2361	0.2459	1.0000	
barabort	I	-0.0860	0.7001*	0.4855*	0.5918*	0.2931*	0.4125*	1.0000
sexedman	I	-0.1654	0.3977*	0.1267	0.3206*	0.1786	0.2053	0.3946*
tauaht678	I	-0.6678*	0.4328*	0.2475	0.3847*	0.2399	0.2293	0.3036*
tauaht912	Ι	-0.4601*	0.6013*	0.5033*	0.5806*	0.3793*	0.3425*	0.6058*
5							-	

Table 6. Correlation Coefficient Matrix, All Indicators, continued

	I	partner	nondisc	gaymar	hatecr~e	e erec	insabort	barabort
	+-							
womleg	1	0.1015	0.6667*	0.2166	0.6866*	0.2441	0.2109	0.5372*
womhs	I	0.4475*	0.2372	0.1699	0.0632	-0.0027	0.0301	0.2961*
poverty	I	0.4887*	0.3221*	0.3126*	0.1975	0.0883	0.0039	0.3500*
womunins	I	-0.0020	0.4709*	0.4015*	0.3691*	0.1963	0.0063	0.3420*
womedicaid	I	-0.3981*	0.3439*	0.3173*	0.2908*	0.1777	0.1951	0.2635
contraneed	I	-0.2674	0.3007*	0.2693	0.1527	0.2090	0.2984*	0.4139*
hivtest	I	-0.7546*	0.0772	0.1349	0.1983	0.1651	0.3203*	0.1682
countyabort	I	-0.2770*	0.5953*	0.4149*	0.6243*	0.3663*	0.3394*	0.6189*
hpvax	I	-0.0018	0.3707*	0.3685*	0.3771*	0.1927	0.0888	0.3442*
	I	sexedman	taug~678	taug~912	womleg	womhs	poverty	womunins
	+-							
sexedman		1.0000						
taught678	1	0.3367*	1.0000					
taught912	I	0.4661*	0.6568*	1.0000				
womleg	I	0.1947	0.1660	0.3279*	1.0000			
womhs	I	-0.1145	-0.1849	-0.0870	0.3193*	1.0000		
poverty	I	0.0039	-0.1438	0.1435	0.2520	0.7803*	1.0000	
womunins	I	0.0906	0.1871	0.3346*	0.3520*	0.6226*	0.6549*	1.0000
womedicaid	I	0.2856*	0.3802*	0.3705*	0.2030	-0.1678	-0.2636	0.3674*
contraneed	I	0.2837*	0.4086*	0.3460*	0.0721	0.1352	0.0278	0.0776
hivtest	I	0.2253	0.4434*	0.4704*	0.0311	-0.3803*	-0.3341*	-0.1384
countyabort	I	0.2391	0.3904*	0.5944*	0.6085*	0.0917	0.2280	0.2863*
hpvax	I	0.0928	0.0829	0.2188	0.2165	0.3601*	0.4338*	0.5504*
	I	womedi~d	contra~d	hivtest	county~t	hpvax		
	+-	1 0000						
womealcala	1	1.0000	1 0000					
contraneed	1	0.1939	1.0000	1 0000				
nivtest	1	0.1003	0.2008		1 0000			
countyabort	 	0.1357	0.2131	0.452/*	1.0000	4 0000		
hpvax	I	0.1518	0.1217	-0.0743	0.2994*	1.0000		
								۴P

LabelIndicatoraidsEstimated rates of AIDS diagnoses per 100,000 populationgonRates of gonorrhea cases per 100,000 populationsyphRates of syphilis cases per 100,000 populationcervCervical cancer incidence rates per 100,000 population, age adjustedteenbirBirths to mothers aged 15-19 years, rates per 1,000 populationrapeForcible rape incident rates per 100,000 population

* P ≤ 0.05

Table 6. Correlation Coefficient Matrix, All Indicators, continued

Label	Indicator
healthstat	Percentage of adults reporting good or better health
partner	Percentage of adults married or a member of an unmarried couple
nondisc	Status of statewide employment, housing, and school non-discrimination laws and policies based on
sexual orienta	tion and gender identity
gaymar	Status of state law on marriage equality for same-sex couples
hatecrime	Status of state laws addressing bias or hate crimes based on sexual orientation and gender identity
erec	Status of state laws on emergency contraception in hospital emergency departments
insabort	Status of state laws restricting private insurance coverage of abortion
barabort	Status of state laws imposing barriers to obtaining an abortion mandated counseling to discourage
abortion, waiti	ng period, ultrasound required
sexedman	Status of sex education mandates and content requirements for contraception and STI/HIV education
taught678	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a
required cours	se in any of grades 6, 7, or 8
taught912	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a
required cours	se in any of grades 9, 10, 11, or 12
womleg	Proportion of seats held by women in state legislatures and DC Council
womhs	Percentage of women aged ≥25 years with high school diploma and higher education
poverty	Percentage of people in poverty
womunins	Percentage of women aged 15-44 uninsured
womedicaid	Percentage of women aged 15-44 covered by Medicaid
contraneed	Percentage of contraceptive need met by all publicly funded clinics
hivtest	Percentage of people aged 18-64 years who reported ever receiving a HIV test
countyabort	Percentage of women aged 15-44 living in a county without an abortion provider
hpvax	Estimated vaccination coverage, ≥3 doses HPV, females aged 13-17 years

I	t	eenbir	rape	nondisc	gaymar	hatecr~e	insabort	barabort
teenbir	·+- 	1.0000						
rape	I	0.3221*	1.0000					
nondisc	I	0.4952*	0.2130	1.0000				
gaymar	I	0.4820*	0.2964*	0.4759*	1.0000			
hatecrime	I	0.3725*	0.2309	0.7774*	0.4108*	1.0000		
insabort	I	0.1190	0.0593	0.3344*	0.2721	0.2361	1.0000	
barabort	I	0.4651*	0.0972	0.7001*	0.4855*	0.5918*	0.4125*	1.0000
taught678	I	-0.0505	0.2571	0.4328*	0.2475	0.3847*	0.2293	0.3036*
taught912	I	0.3471*	0.3927*	0.6013*	0.5033*	0.5806*	0.3425*	0.6058*
womhs	I	0.6320*	-0.1933	0.2372	0.1699	0.0632	0.0301	0.2961*
poverty	I	0.8039*	0.0896	0.3221*	0.3126*	0.1975	0.0039	0.3500*
contraneed	Ι	-0.0179	-0.2936*	0.3007*	0.2693	0.1527	0.2984*	0.4139*
	I	taug~678	taug~912	womhs	poverty	contra~d		
	+-							
taught678	I	1.0000						
taught912	I	0.6568*	1.0000					
womhs	I	-0.1849	-0.0870	1.0000				
poverty	I	-0.1438	0.1435	0.7803*	1.0000			
contraneed	I	0.4086*	0.3460*	0.1352	0.0278	1.0000		

Table 7. Correlation Coefficient Matrix, Indicators Grouped by Element-Autonomy

Label	Indicator
teenbir	Births to mothers aged 15-19 years, rates per 1,000 population
rape	Forcible rape incident rates per 100,000 population
nondisc	Status of statewide employment, housing, and school non-discrimination laws and policies based on sexual orientation and gender identity
gaymar	Status of state law on marriage equality for same-sex couples
hatecrime	Status of state laws addressing bias or hate crimes based on sexual orientation and gender identity
insabort	Status of state laws restricting private insurance coverage of abortion
barabort	Status of state laws imposing barriers to obtaining an abortion mandated counseling to discourage
	abortion, waiting period, ultrasound required
taught678	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required course in any of grades 6, 7, or 8
taught912	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required equipped in any of grades 0, 10, 11, or 12
	required course in any of grades 9, 10, 11, or 12
womns	Percentage of women aged ≥25 years with high school diploma and higher education
poverty	Percentage of people in poverty
contraneed	Percentage of contraceptive need met by all publicly funded clinics

	1	teenbir	erec	insabort	barabort	sexedman	taug~678	taug~912
teenbir	·+- 	1.0000						
erec	I	0.2462	1.0000					
insabort	I	0.1190	0.2459	1.0000				
barabort	I	0.4651*	0.2931*	0.4125*	1.0000			
sexedman	Ι	0.1727	0.1786	0.2053	0.3946*	1.0000		
taught678	I	-0.0505	0.2399	0.2293	0.3036*	0.3367*	1.0000	
taught912	I	0.3471*	0.3793*	0.3425*	0.6058*	0.4661*	0.6568*	1.0000
womhs	Ι	0.6320*	-0.0027	0.0301	0.2961*	-0.1145	-0.1849	-0.0870
poverty	I	0.8039*	0.0883	0.0039	0.3500*	0.0039	-0.1438	0.1435
womunins	I	0.7447*	0.1963	0.0063	0.3420*	0.0906	0.1871	0.3346*
womedicaid	Ι	0.0942	0.1777	0.1951	0.2635	0.2856*	0.3802*	0.3705*
contraneed	Ι	-0.0179	0.2090	0.2984*	0.4139*	0.2837*	0.4086*	0.3460*
countyabort	Ι	0.4509*	0.3663*	0.3394*	0.6189*	0.2391	0.3904*	0.5944*
	I	womhs	poverty	womunins	womedi~d	contra~d	county~t	
	+-							
womhs	I	1.0000						
poverty	I	0.7803*	1.0000					
womunins	I	0.6226*	0.6549*	1.0000				

Table 8. Correlation Coefficient Matrix, Indicators Grouped by Element—Reproductive Choice

womunins	0.6226*	0.6549*	1.0000			
womedicaid	-0.1678	-0.2636	0.3674*	1.0000		
contraneed	0.1352	0.0278	0.0776	0.1939	1.0000	
countyabort	0.0917	0.2280	0.2863*	0.1357	0.2131	1.0000

* P ≤ 0.05

Label	Indicator
teenbir	Births to mothers aged 15-19 years, rates per 1,000 population
erec	Status of state laws on emergency contraception in hospital emergency departments
insabort	Status of state laws restricting private insurance coverage of abortion
barabort	Status of state laws imposing barriers to obtaining an abortion mandated counseling to discourage abortion, waiting period, ultrasound required
sexedman	Status of sex education mandates and content requirements for contraception and STI/HIV education
taught678	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required course in any of grades 6, 7, or 8
taught912	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required course in any of grades 9, 10, 11, or 12
womleg	Proportion of seats held by women in state legislatures and DC Council
womhs	Percentage of women aged ≥25 years with high school diploma and higher education
poverty	Percentage of people in poverty
womunins	Percentage of women aged 15-44 uninsured
womedicaid	Percentage of women aged 15-44 covered by Medicaid
contraneed	Percentage of contraceptive need met by all publicly funded clinics
countyabort	Percentage of women aged 15-44 living in a county without an abortion provider

	I	rape	nondisc	gaymar	hatecr~e	erec	insabort	womleg
	+							
rape	Ι	1.0000						
nondisc	Ι	0.2130	1.0000					
gaymar	Ι	0.2964*	0.4759*	1.0000				
hatecrime	Ι	0.2309	0.7774*	0.4108*	1.0000			
erec	Ι	0.1635	0.5912*	0.2971*	0.4783*	1.0000		
insabort	Ι	0.0593	0.3344*	0.2721	0.2361	0.2459	1.0000	
womleg	Ι	0.0529	0.6667*	0.2166	0.6866*	0.2441	0.2109	1.0000
womhs	I	-0.1933	0.2372	0.1699	0.0632 -	0.0027	0.0301	0.3193*
poverty	Ι	0.0896	0.3221*	0.3126*	0.1975	0.0883	0.0039	0.2520
	Ι	womhs	poverty					
	.+							

Table 9. Correlation Coefficient Matrix, Indicators Grouped by Element-Inequity/violence

womhs | 1.0000 poverty | 0.7803* 1.0000

Label rape nondisc	Indicator Forcible rape incident rates per 100,000 population Status of statewide employment, housing, and school non-discrimination laws and policies based on sexual orientation and gender identity
gaymar	Status of state law on marriage equality for same-sex couples
hatecrime	Status of state laws addressing bias or hate crimes based on sexual orientation and gender identity
erec	Status of state laws on emergency contraception in hospital emergency departments
insabort	Status of state laws restricting private insurance coverage of abortion
womleg	Proportion of seats held by women in state legislatures and DC Council
womhs poverty	Percentage of women aged \geq 25 years with high school diploma and higher education Percentage of people in poverty

Table 10. Correlation Coefficient Matrix, Indicators Grouped by Element-Pleasure/satisfaction

I health~t partner womhs
healthstat | 1.0000
partner | 0.2239 1.0000
womhs | 0.8121* 0.4475* 1.0000

Label	Indicator
healthstat	Percentage of adults reporting good or better health
partner	Percentage of adults married or a member of an unmarried couple
womhs	Percentage of women aged ≥25 years with high school diploma and higher education

	I	aids	gon	syph	cerv	sexedman	taug~678	taug~912
	+-							
aids	I	1.0000						
gon	I	0.6769*	1.0000					
syph	I	0.8510*	0.7727*	1.0000				
cerv	I	0.4636*	0.6715*	0.6138*	1.0000			
sexedman	I	-0.1310	0.0674	0.0150	-0.0525	1.0000		
taught678	I	-0.6540*	-0.4027*	-0.5011*	-0.4061*	0.3367*	1.0000	
taught912	I	-0.4462*	-0.0926	-0.2651	-0.2179	0.4661*	0.6568*	1.0000
womhs	I	0.1881	0.4690*	0.4797*	0.7198*	-0.1145	-0.1849	-0.0870
poverty	I	0.2982*	0.5514*	0.5445*	0.6459*	0.0039	-0.1438	0.1435
hivtest	I	-0.7208*	-0.6809*	-0.7206*	-0.4897*	0.2253	0.4434*	0.4704*
hp∨ax	I	0.0032	0.2932*	0.1273	0.3639*	0.0928	0.0829	0.2188
	I	womhs	poverty	hivtest	hp∨ax			
	·+-							
womhs	I	1.0000						
poverty	I	0.7803*	1.0000					
hivtest	I	-0.3803*	-0.3341*	1.0000				
hp∨ax	I	0.3601*	0.4338*	-0.0743	1.0000			

Table 11. Correlation Coefficient Matrix, Indicators Grouped by Element-Morbidity

Label	Indicator
aids	Estimated rates of AIDS diagnoses per 100,000 population
gon	Rates of gonorrhea cases per 100,000 population
syph	Rates of syphilis cases per 100,000 population
cerv	Cervical cancer incidence rates per 100,000 population, age adjusted
sexedman	Status of sex education mandates and content requirements for contraception and STI/HIV education
taught678	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a
	required course in any or grades 6, 7, or 8
taught912	Percentage of schools in which teachers taught all 17 HIV, STD, or pregnancy prevention topics in a required course in any of grades 9, 10, 11, or 12
womhs	Percentage of women aged ≥25 years with high school diploma and higher education
poverty	Percentage of people in poverty
hivtest	Percentage of people aged 18-64 years who reported ever receiving a HIV test
hpvax	Estimated vaccination coverage, ≥3 doses HPV, females aged 13-17 years

Table 12. State Unweighted Ranks and Scores, by Indicator

0 -0.467 2 Florida 1 0.119 3 Flor 0 -0.467 3 Georgia 0 -1.096 3 Geor 0 -0.467 1 Hawaii 2 1.335 3 Hawa
0 -0.467 2 Florida 1 0.119 3 Flor

FITTING AM T	1 Historia	1 Wieconein	1 W. Virginia	1 Washington	2 Virginia	1 Vermont	3 Utah	1 Texas	1 Tennessee	1 S. Dakota	2 S. Carolina	2 R.I.	2 Penn.	1 Oregon	3 Oklahoma	2 Ohio	3 N.Dakota	2 N.Carolina	1 New York	1 New Mexico	1 New Jersey	1 N.H.	1 Nevada	3 Nebraska	1 Montana	3 Missouri	2 Miss.	1 Minnesota	1 Michigan	1 Mass.	1 Maryland	1 Maine	1 Louisiana	3 Kentucky	3 Kansas	1 Iowa	1 Indiana	2 Illinois	3 Idaho	1 Hawaii	1 Georgia	1 Florida	1 D.C.	1 Delaware	1 Connecticut	2 Colorado	1 California	1 Arkansas	2 Arizona	1 Alaska	1 Alabama	Rank insabort
0.0.9		0 0 0 0 0 0	0 0.679 3	0 0.679 1	1 -0.653 4	0 0.679 1	2 -1.985 3	0 0.679 4	0 0.679 1	0 0.679 3	1 -0.653 3	1 -0.653 1	1 -0.653 3	0 0.679 1	2 -1.985 3	1 -0.653 3	2 -1.985 3	1 -0.653 3	0 0.679 1	0 0.679 1	0 0.679 1	0 0.679 1	0 0.679 1	2 -1.985 3	0 0.679 1	2 -1.985 3	1 -0.653 4	0 0.679 3	0 0.679 3	0 0.679 1	0 0.679 1	0 0.679 1	0 0.679 4	2 -1.985 3	2 -1.985 4	0 0.679 1	0 0.679 3	1 -0.653 1	2 -1.985 3	0 0.679 1	0 0.679 3	0 0.679 2	0 0.679 1	0 0.679 1	0 0.679 1	1 -0.653 1	0 0.679 1	0 0.679 3	1 -0.653 3	0 0.679 2	0 0.679 4	#/2 Score Rank
httmckw	HISCONSIL	Wieconein Wieconein	W Virginia	Washington	Virginia	Vermont	Utah	Texas	Tennessee	S. Dakota	S. Carolina	R.I.	Penn.	Oregon	Oklahoma	Ohio	N.Dakota	N.Carolina	New York	New Mexico	New Jersey	N.H.	Nevada	Nebraska	Montana	Missouri	Miss.	Minnesota	Michigan	Mass.	Maryland	Maine	Louisiana	Kentucky	Kansas	Iowa	Indiana	Illinois	Idaho	Hawaii	Georgia	Florida		Delaware	Connecticut	Colorado	California	Arkansas	Arizona	Alaska	Alabama	barabort #/3
				0 1.039 2 Wash	3 -1.610 3 Virg	0 1.039 1 Verm	2 -0.727 3 Utah	3 -1.610 4 Texa	0 1.039 3 Tenn	2 -0.727 5 S. D	2 -0.727 2 S. C	0 1.039 1R.I.	2 -0.727 4 Penn	0 1.039 1 Oreg	2 -0.727 3 Okla	2 -0.727 3 Ohio	2 -0.727 4 N.Da	2 -0.727 1 N.Ca	0 1.039 3 New	0 1.039 1 New	0 1.039 1 New	0 1.039 4 N.H.	0 1.039 3 Neva	2 -0.727 5 Nebr	0 1.039 3 Mont	2 -0.727 4 Miss	3 -1.610 5 Miss	2 -0.727 3 Minn	2 -0.727 4 Mich	0 1.039 5 Mass	0 1.039 1 Mary	0 1.039 1 Main	3 -1.610 5 Loui	2 -0.727 3 Kent	3 -1.610 5 Kans	0 1.039 3 Iowa	2 -0.727 4 Indi	0 1.039 4 Illi	2 -0.727 5 Idah	0 1.039 3 Hawa	2 -0.727 3 Geor	1 0.156 5 Flor	1.039 2 D.C.	0 1.039 1 Dela	0 1.039 4 Conn	0 1.039 4 Colo	0 1.039 2 Cali	2 -0.727 5 Arka	2 -0.727 5 Ariz	1 0.156 5 Alas	3 -1.610 2 Alab	Score Rank sexe
T = 0			irrrinia 4 1	ington 3 0	inia 20	ont 4 1	2 0	s 1 -0	essee 2 0	akota 0 -1	arolina 3 0	4 1	• 1 -0	on 4 1	homa 2 0	2 0	kota 1 -0	rolina 41	York 2 0	Mexico 4 1	Jersey 4 1	1 -0	da 2 0	aska 0 -1	ana 20	ouri 1 -0	• 0 -1	esota 2 0	igan 1 -0	• 0 -1	land 4 1	e 4 1	siana 0 -1	ucky 2 0	as 0 -1	2 0	ana 1 -0	nois 1 -0	0 0 -1	11 2 0	oria 20	ida 0 -1	3 0	ware 4 1	ecticut 1 -0	rado 1 -0	fornia 30	nsas 0 -1	ona 0 -1	ka 0 -1	ama 3 0	dman #/4 Sco
FITTING AN 25 CV2.		568 13 Wieconein	553 6 W Virginia	.846 31 Washington	.139 28 Virginia	.553 11 Vermont	.139 45 Utah	-568 26 Texas	.139 24 Tennessee	.275 34 S. Dakota	.846 19 S. Carolina	.553 25 R.I.	.568 32 Penn.	.553 15 Oregon	.139 8 Oklahoma	.139 23 Ohio	.568 38 N.Dakota	.553 21 N.Carolina	.139 3 New York	.553 24 New Mexico	.553 9 New Jersey	.568 30 N.H.	.139 22 Nevada	275 17 Nebraska	.139 39 Montana	.568 29 Missouri	.275 14 Miss.	.139 33 Minnesota	.568 41 Michigan	.275 19 Mass.	.553 18 Maryland	.553 10 Maine	.275 36 Louisiana	.139 27 Kentucky	275 35 Kansas	.139 16 Iowa	.568 40 Indiana	.568 24 Illinois	.275 41 Idaho	139 2 Hawaii	.139 43 Georgia	.275 7 Florida	.846 1 D.C.	.553 30 Delaware	.568 20 Connecticut	.568 24 Colorado	.846 5 California	275 12 Arkansas	.275 44 Arizona	.275 37 Alaska	.846 4 Alabama	re Rank taught678
J.7 -1.032		220 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	25.7 0.795	12.9 - 0.413	13.7 -0.337	23.6 0.597	0.0 -1.630	14.2 -0.290	16.2 -0.101	10.9 -0.601	1 19.0 0.163	15.8 -0.139	11.6 -0.535	20.1 0.267	24.9 0.720	16.9 -0.035	7.9 -0.884	17.9 0.059	28.5 1.059	16.2 -0.101	24.2 0.654	13.3 -0.375	17.6 0.031	19.3 0.191	7.3 -0.941	13.6 -0.347	20.6 0.314	11.0 -0.592	6.6 -1.007	19.0 0.163	19.1 0.172	24.1 0.644	9.5 -0.733	14.1 -0.299	9.8 -0.705	19.7 0.229	7.2 -0.950	16.2 -0.101	6.6 -1.007	47.6 2.862	4.7 -1.186	25.0 0.729	64.7 4.475	13.3 -0.375	18.1 0.078	16.2 -0.101	26.6 0.880	22.8 0.522	3.7 -1.281	8.0 -0.875	27.7 0.984	Percent Score

39 W	21 W	18 1	22 V	10 V	47 U	38 I	23 I	40	16.0	17 8	20 F		а л. л.	0 7 C	43 1	ο ω 	24 N	2 N	л л	N 6	37 N	40 M	31 M	26 M	30 M	28 M	13 M	11 . N	14 F	1 C C	10 1	19 1	36 1	24 I	33 I	7 H	A 1 5	, , ,	4 4 1 1	8	24 C	6 C	24 P	46 P	42 P	34 A	Rank t
lyoming	lisconsin	/asulugcon /. Virginia	/irginia	/ermont	Jtah	lexas	ennessee	. Dakota	. Carolina	I.	enn.	Teron	hiro lahoma)hio	-Carolina	lew York	lew Mexico	lew Jersey	. н.	levada	lebraska	fontana	lissouri	liss.	finnesota	lichigan	iass.	farvland	lai ne	omiciana ventucky	ansas entuckv	owa	ndiana	llinois	daho	Iawaii	POrnia		elaware	Connecticut	Colorado	alifornia	vrkansas	vrizona	laska	lahama	aught912
26.6 -0	44.1 0	47.8 0	41.8 -0	57.2 0	8.9 -1	27.0 -0	41.3 -0	17.2 -1	51.0 0	49.2 0	45.3 0		30 8 05	1- 0-1T	17 6 1 17 4 - L	76.0 1	41.1 -0	83.2 2	67.6 1	59.3 0	27.1 -0	25.7 -0	31.9 -0	38.0 -0	33.2 -0	34.5 -0	54.1 0	56.8 0	53.5		54 · L - U	46.3 0	29.4 -0	41.1 -0	31.7 -0	64.5 1	23.8 -1		07.9 L	59.6 0	41.1 -0	65.8 1	41.1 -0	14.9 -1	23.2 -1	31.4 -0	Percent <mark>Sco</mark>
.924	080	. 292	.052	.831	.939	.901	.081	.463	476	372	.149	• л с л с	.89	3440	.2.19	606.	.092	.322	.428	.952	.895	.975	.620	.270	.545	.471	.653	808	- 619	- C 24	.494	.206	.763	.092	.631	.250	084	.400	.445	.969	.092	.324	.092	.595	.119	- 648	re Ra
46 Wyoming	21 Wisconsin	40 W. Virginia	41 Virginia	2 Vermont	44 Utah	34 Texas	39 Tennessee	37 S. Dakota	50 S. Carolina	18 R.I.	42 Penn.		48 Oklahoma	40 N.Jakura 27 Ohio	JU N.Carolina	32 New York	15 New Mexico	<pre>11 New Jersey</pre>	22 N.H.	20 Nevada	29 Nebraska	24 Montana	25 Missouri	43 Miss.	5 Minnesota	35 Michigan	23 Mass.	8 Marvland	10 Maine	10 Nentrucky	16 Kansas 38 Kentucku	33 Iowa	36 Indiana	7 Illinois	14 Idaho	3 Hawaii	26 Georgia		17 DeLaware	9 Connecticut	1 Colorado	13 California	31 Arkansas	4 Arizona	28 Alaska	47 Alahama	nk womleg
14.4	25.0	17.9	17.9	38.9	16.3	21.0	18.2	20.0	9.4	25.7	17.0	280	10 8	23.5 7#+2	22.4	22.2	26.8	29.2	24.5	25.4	22.4	24.0	23.9	16.7	32.8	20.9	24.5	30.9	9-62 	11 1	188	21.3	20.7	31.1	27.6	34.2	23.7	20.0	20.0	29.9	40.0	28.3	22.2	33.3	23.3	13.6	Percent
-1.409	0.186	-0-885	-0.894	2.286	-1.122	-0.419	-0.844	-0.570	-2.170	0.287	-1.024	0 774	-1 665	-0.043	-0.214	-0.242	0.456	0.816	0.115	0.246	-0.199	0.035	0.014	-1.073	1.371	-0.427	0.111	1.071	0.877	1 012	-0.438	-0.368	-0.469	1.104	0.582	1.578	102.004	0.100	0.308	0.934	2.454	0.690	-0.234	1.446	-0.066	-1.541	Score
1 Wyoming	13 Wisconsin	44 W. Virginia	28 Virginia	5 Vermont	9 Utah	51 Texas	42 Tennessee	12 S. Dakota	38 S. Carolina	40 R.I.	26 Penn.	17 Oregon	23 OLIO 22	24 Ohio	35 N.Carolina	39 New York	43 New Mexico	27 New Jersey	3 N.H.	41 Nevada	10 Nebraska	2 Montana	32 Missouri	49 Miss.	4 Minnesota	20 Michigan	19 Mass.	23 Marvland	7 Maine	46 Toniciana	15 Kansas 47 Kentucku	8 Iowa	29 Indiana	31 Illinois	22 Idaho	18 Hawaii	37 Georgia		25 DeLaware	21 Connecticut	15 Colorado	50 California	45 Arkansas	36 Arizona	6 Alaska	48 Alahama	Rank womhs
92.5	90.5	83.6	87.3	92.0	91.0	8.08	84.2	90.7	84.9	84.8	88.1	2000	ъ ча 00.00	6.06 6.06	1.58	84.8	83.8	87.9	92.0	84.5	6.06	92.1	87.0	81.9	92.0	89.1	89.3	8.88	91.3	02.0	8 c8	91.0	87.1	0.48	6*88	9.68	85.1	T•/ 0	1.88	0.68	0.06	6.08	83.5	85.5	91.6	9.68	Percent
2.011	1.407	-0-689	0.439	1.874	1.554	-1.555	-0.535	1.479	-0-300	-0.332	0.670	1 170	0 175	1.726	-0.001	-0.326	-0.646	0.622	1.881	-0.430	1.543	1.900	0.329	-1.222	1.877	0.967	1.043	0.876	1.641	0.940	-0 045	1.561	0.378	0.346	0.913	1.132	-0.256		0.679	0.946	1.250	-1.522	-0.731	-0.122	1.744	-1.005	Score
3 Wyoming	14 Wisconsin	42 W. Virginia	12 Virginia	8 Vermont	6 Utah	45 Texas	39 Tennessee	25 S. Dakota	40 S. Carolina	22 R.I.	17 Penn.		27 Oklahoma	29 Ohio	41 N.Carolina	35 New York	50 New Mexico	9 New Jersey	1 N.H.	32 Nevada	5 Nebraska	30 Montana	34 Missouri	51 Miss.	10 Minnesota	31 Michigan	11 Mass.	4 Marvland	19 Maine	40 Nencucky	43 Kentucky	7 Iowa	36 Indiana	23 Illinois	28 Idaho	18 Hawaii	46 Georgia		21 Delaware	2 Connecticut	20 Colorado	37 California	44 Arkansas	48 Arizona	16 Alaska	38 Alahama	Rank poverty
9.8 1.569		16.7 <u>-0.601</u>	10.9 1.225	10.6 1.328	10.2 1.440	17.7 -0.917	16.5 -0.533	14.1 0.228	16 6 -0 - 552	13.5 0.422	12.0 0.885		14 4 0 139	14.6 0.060		15.9 -0.350	19.9 -1.613	10.6 1.322	7.3 2.359	15.0 -0.068	10.1 1.475	14.8 -0.006	15.3 -0.165	21.0 -1.957	10.6 1.315	14.9 -0.031	10.8 1.274	9.9 1.543	12.5 0.727		16 0 _0 657	10.5 1.365	16.0 -0.378	13.8 0.300	14.4 0.119	12.3 0.785	18.5 _1.175	15 1 0 110	12.7 0.650	9.0 1.817	12.6 0.689	16.2 -0.436	17.6 -0.895	19.1 -1.348	12.0 0.892	16.4 _0.497	Percent Score

TO MYOUTT	2 Wiscon	17 W. Vir	10 Washin	10 Virgin	5 Vermon	10 Utah	24 Texas	10 monnog	19 S. Car	7 R.I.	7 Penn.	14 Oregon	19 Oklaho	9 Ohio	8 N.Dako	17 N.Caro	9 New Yo	22 New Me	11 New Je	6 N.H.	21 Nevada	8 Nebras	18 Montan	13 Missou	20 Miss.	4 Minnes	10 Michig	1 Mass.	8 Maryla	3 Maine	19 Louisi	14 Kentuc	10 Kansas	9 Towa	ae¦pur 11	18 Idaho	3 Hawaii	19 Georgi	23 Florid	6 D.C.	8 Delawa	5 Connec	9 Colora	18 Califo	21 Arkans	15 Arizon	14 Alaska	17 Alaham	Rank womuni
<u>c</u>	an	ginia	gton	ia	ſŦ			ota	olina				ma		ta	lina	rk	xico	rsey			ka	a	ri		ota	an		nd		ana	ky		2	υ	1		a	a		re	ticut	do	rnia	as	۵	2	٣	ns Per
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	л 671 л Лл	.715	.307	.307	159	.307	. 419		.056	.819	.819	.374	056	.478	.648	.715	.478	567	137	686.	397	.648	.885	.204	226	330	.307	.352	.648		056	.374	.307	.478	033	- 2885	. 500	056	737	686 * (.648	159	.478	.885	397	.545	.374	. 715	re Ran
TO WYONAL	6 Wiscon	7 W. Vir	13 Washin	17 Virgin	2 Vermon	17 Utah	J Texas	LO S. Dak	13 S. Car	5 R.I.	10 Penn.	13 Oregon	12 Oklaho	8 Ohio	15 N.Dako	11 N.Caro	3 New Yo	6 New Me	13 New Je	17 N.H.	17 Nevada	16 Nebras	13 Montan	11 Missou	6 Miss.	9 Minnes	7 Michig	2 Mass.	<mark>15</mark> Maryla	1 Maine	10 Louisi	8 Kentuc	15 Kansas	12 Towa	a that o	15 Idaho	9 Hawaii	14 Georgi	14 Florid	4 D.C.	7 Delawa	11 Connec	15 Colora	8 Califo	11 Arkans	6 Arizon	15 Alaska	13 Alaham	k womedi
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T C • C	10.01	18.0	12.0	8.0	24.0	8.0	10.0	0.00	12.0	20.0	15.0	12.0	13.0	17.0	10.0	14.0	23.0	19.0	12.0	8.0	8.0	9.0	12.0	14.0	19.0	16.0	18.0	24.0	10.0	28.0	15.0	17.0	10.0	13.0	ט או דיד	10.0	16.0	11.0	11.0	22.0	18.0	14.0	10.0	17.0	14.0	19.0	10.0	12.0	Percent
-0.907	0.920	0.711	-0.540	-1.374	1.962	-1.374	-0.957	/ 26 • 0-	-0.540	1.128	0.086	-0.540	-0.331	0.503	-0.957	-0.123	1.754	0.920	-0.540	-1.374	-1.374	-1.165	-0.540	-0.123	0.920	0.294	0.711	1.962	-0.957	2.796	0.086	0.503	-0.957	-0-331		-0.957	0.294	-0.748	-0.748	1.545	0.711	-0.123	-0.957	0.503	-0.123	0.920	-0.957	-0-540	Score
~1 n1~	17 W1S	10 W.	15 Was	44 Vir	3 Ver	46 Uta	35 Tex	26 B02	25 S.	24 R.I	19 Pen	5 Ore	6 Okl	45 Ohi	16 N.D	37 N.C	28 New	9 New	31 New	18 N.H	36 Nev	48 Neb	7 Mon	42 Mis	29 Mis	33 Min	43 Mic	30 Mas	32 Mar	20 Mai	47 Lou	22 Ken	41 Kan	12 Tow	28 Thd	34 Ida	39 Haw	39 Geo	35 Flo	1 D.C	8 Del	13 Con	21 Col	4 Cal	23 Ark	49 Ari	2 Ala	ט.ט 14 אן א	Rank con
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T nyom	42 Wisc	46 W. V	20 Wash	7 Virg	35 Verm	50 Utah	22 Iellin 19 Texa		17 S. C	32 R.I.	30 Penn	26 Oreg	36 Okla	27 Ohio	49 N.Da	11 N.Ca	4 New	21 New J	13 New	29 N.H.	16 Neva	48 Nebr	34 Mont	39 Miss	14 Miss	45 Minn	23 Mich	12 Mass	2 Mary	38 Main	8 Loui:	25 Kent	44 Kans	47 Towa	21 Tn/i	40 Idah	43 Hawa	3 Geor	5 Flor	1 D.C.	6 Dela	18 Conn	24 Colo	15 Cali	28 Arka	33 Ariz	9 Alas	10 Alah	k hivt
5117	ing	irginia	ington	inia	ont	'	s essee	akota	arolina		•	on	homa		kota	rolina	York	Mexico	Jersey		da	aska	ana	ouri	•	esota	igan	•	land	P	siana	ucky	as		UCTS		ii	gia	ida		ware	ecticut	rado	fornia	nsas	ona	ka	ama	est
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-0-0-	-0.953	.1 -1.365	.7 -0.070	.4 0.744	.3 -0.737	7 -2.033	.9 -0.054	VLC U L	.9 0.075	.6 -0.696	.7 -0.683	.7 -0.443	.1 -0.754	.3 -0.492	.8 -2.018	.3 0.612	.0 1.065	.5 -0.220	.9 0.436	.3 -0.608	.4 0.133	.8 -1.648	.4 -0.725	.4 -0.840	.1 0.224	.3 -1.339	.0 -0.278	.5 0.513	.5 1.375	,5 -0.834	.4 0.741	7 -0.312	.3 -1.102	.8 -1.647	·0 -0 -0 - 0	.3 -0.856	.4 -0.971	.5 1.124	.4 0.988	.2 3.407	.5 0.880	.4 0.007	.8 -0.304	.5 0.151	.4 -0.602	6 -0.701	.2 0.723	.л 0.635	' Score

44 Wyoming	32 Wisconsin	42 W. Virginia	8 Washington	25 Virginia	14 Vermont	33 Utah	17 Texas	29 Tennessee	39 S. Dakota	37 S. Carolina	19 R.I.	21 Penn.	13 Oregon	27 Oklahoma	26 Ohio	38 N.Dakota	23 N.Carolina	4 New York	23 New Mexico	6 New Jersey	10 N.H.	5 Nevada	20 Nebraska	22 Montana	37 Missouri	43 Miss.	31 Minnesota	16 Michigan	7 Mass.	11 Maryland	24 Maine	34 Louisiana	40 Kentucky	24 LOWA	35 Indiana	18 Illinois	36 Idaho	1 Hawaii	28 Georgia	15 Florida	1 D.C.	10 Delaware	3 Connecticut	13 Colorado	2 California	41 Arkansas	9 Arizona	12 Alaska	30 Alabama		Dank countrabort
96 -2.309	63 -1.060	84 -1.855	11 0.909	54 -0.719	24 0.416	64 -1.098	33 0.076	59 -0.909	76 -1.552	73 -1.439	38 -0.114	46 -0.416	23 0.454	56 -0.795	55 -0.757	74 -1.477	50 -0.568	7 1.060	50 -0.568	9 0.984	19 0.606	8 1.022	43 -0.303	48 -0.492	73 -1.439	91 -2.120	62 -1.022	32 0.114	10 0.946	20 0.568	51 -0.606	65 -1 - 136	77 _1 500		66 -1.1/4	37 -0.076	69 -1.287	0 1.325	57 -0.833	25 0.379	0 1.325	19 0.606	5 1.136	23 0.454	1 1.287	79 -1.666	17 0.681	22 0.492	61 - 0.984	37 37	Dorroomt Score
<pre>12 Wyoming</pre>	5 Wisconsin	35 W. Virginia	4 Washington	9 Virginia	16 Vermont	42 Utah	29 Texas	30 Tennessee	2 S. Dakota	27 S. Carolina	1 R.I.	8 Penn.	17 Oregon	25 Oklahoma	25 Ohio	30 N.Dakota	15 N.Carolina	14 New York	25 New Mexico	34 New Jersey	7 N.H.	32 Nevada	6 Nebraska	21 Montana	33 Missouri	43 Miss.	18 Minnesota	36 Michigan	3 Mass.	26 Maryland	23 Maine	15 Louisiana	28 Kentucky	19 IOWA	40 Indiana	31 Illinois	44 Idaho	13 Hawaii	41 Georgia	39 Florida	20 D.C.	11 Delaware	4 Connecticut	10 Colorado	24 California	44 Arkansas	22 Arizona	38 Alaska	43 Alabama		and house
40.3 0.918	44.1 1.338	25.3 -0.741	45.5 1.493	41.5 1.051	38.6 0.730	22.2 -1.084	27 -0.553	26.3 -0.630	54.5 2.488	29.5 -0.276	55.1 2.555	41.7 1.073	38.2 0.686	31.1 -0.100	31.1 -0.100	26.3 -0.630	39.3 0.807	39.7 0.852	31.1 -0.100	25.4 -0.730	42.2 1.128	25.9 -0.675	42.5 1.161	33.2 0.133	25.5 -0.719	20 -1.327	37.8 0.641	25.2 -0.752	46.8 1.637	30.8 -0.133	32.9 0.100	39-3 0-807	27 3 _0 520	30.2 0.404	24.8 -0.796	26 -0.664	17.6 -1.592	39.9 0.874	22.8 -1.017	24.9 -0.785	33.8 0.199	40.4 0.929	45.5 1.493	40.9 0.984	32 0.000	19.6 -1.371	33.1 0.122	25 -0.774	20 - 1.327	3.0 Fercenc Score	Doroon+ 00010