Priority Roadmap for Policy-Ready Contraceptive Research
Environmental Scan Report

Definitions and Measures of Reproductive and Sexual Health-Related Constructs: Agency, Autonomy, Empowerment, Equity, Quality of Life, and Wellbeing

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ABSTRACT

Experts have suggested replacing or balancing traditional public health measures like "unintended pregnancy" with more measures of holistic constructs, like autonomy or quality of life. This report presents an overview of the existing evidence in the published and grey literature related to a subset of reproductive and sexual health-related constructs (i.e., agency, autonomy, empowerment, equity, quality of life, wellbeing); identifies research gaps; and makes recommendations for future research. Forty-nine relevant articles were identified in the environmental scan. The environmental scan findings demonstrate that accepted definitions and measures exist around specific constructs, such as autonomy and empowerment. However, there is a lack consistency of definitions or validated measure to assess other constructs, such as reproductive and sexual equity, quality of life, and wellbeing. The lack of clear, consistent definitions of these constructs hinders the ability to operationalize and measure these constructs, and leaves a gap in the evidence for research, measurement, and implementation.

INTRODUCTION

The Coalition to Expand Contraceptive Access (CECA) is leading collaborative process to create a **Priority Roadmap for Policy-Ready Contraceptive Research**. Building on the existing foundation of the coalition and leveraging its unique positioning and diverse collaborative relationships, CECA will:

- Craft a long-term, national-level research and policy agenda.
- Identify the rigorous evidence needed to influence policy, leverage federal processes, and set the stage for state-level implementation.
- Position funders, researchers, and clinical organizations to strategically invest in and carry out ongoing research to inform policies.

To begin the process of identifying existing needs and innovations in the field, CECA performed a series of six targeted and strategic environmental scans[1] to survey existing evidence on key priority topics related to contraceptive access and identify where gaps remain to build a solid foundation of research. The environmental scan findings and supplementary evidence sources will serve as the basis for CECA's Research Roadmap Workgroup's efforts to understand the current body of evidence around contraceptive access, identify research needs and innovation, prioritize research gaps and promising practices, and translate evidence into national research and policy priorities and actions.

This report describes the findings of the environmental scan on **definitions and measures of reproductive and sexual health-related constructs of interest (i.e., agency, autonomy, empowerment, equity, quality of life, and wellbeing)**. To effectively understand and measure the impact of

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[1] The environmental scan topics were: (1) Definitions and measures of reproductive and sexual health-related constructs; (2) Measuring health, economic and social outcomes related to contraception; (3) Impact of major policy changes related to contraceptive access; (4) Implementation and evaluation of pharmacist-prescribed contraception; (5) Implementation and evaluation of statewide contraceptive access initiatives; and (6) Contraceptive care workforce.

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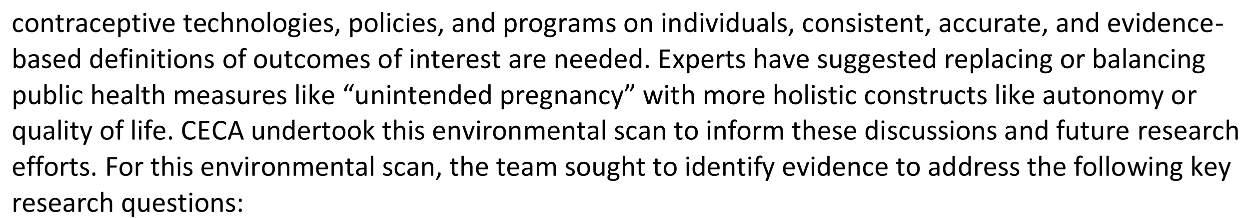

contraceptive technologies, policies, and programs on individuals, consistent, accurate, and evidence-based definitions of outcomes of interest are needed. Experts have suggested replacing or balancing public health measures like “unintended pregnancy” with more holistic constructs like autonomy or quality of life. CECA undertook this environmental scan to inform these discussions and future research efforts. For this environmental scan, the team sought to identify evidence to address the following key research questions:

1. How are the constructs of reproductive and sexual agency, autonomy, empowerment, equity, quality of life, and wellbeing defined in the literature?
    a. How are these constructs (i.e., agency, autonomy, empowerment, equity, quality of life and wellbeing) defined in the health care and public health literature in general?
    b. For constructs where the health care and public health literature are limited, how are these constructs defined in other sectors (e.g., education, environment, economy, community)?
    c. What are the common elements in how the various constructs are defined? What distinguishes them?

2. How are the constructs of reproductive and sexual agency, autonomy, empowerment, equity, quality of life, and wellbeing measured?
    a. Are there validated measures? How were they developed? Who has been involved in devising these measures? What do they measure?
    b. For constructs where the health care and public health literature are limited, how are these constructs measured in other sectors (e.g., education, environment, economy, community)?

3. What questions about definition and measurement of the constructs of reproductive and sexual agency, autonomy, empowerment, equity, quality of life, and wellbeing remain unanswered in the current literature?

METHODS

The scope of the environmental scan focused on identifying peer-reviewed and grey literature that included definitions of and/or approaches for measuring sexual and reproductive conceptual outcomes.

The team included both descriptive and experimental peer-reviewed publications in the environmental scan, as well as grey literature (e.g., commentaries, white papers, conference abstracts, blog posts, webpages) relevant to the topic. The criteria for inclusion and exclusion for this environmental scan were purposefully broad to identify and retrieve as much potentially relevant information as possible. Databases searched to identify relevant articles included PubMed, Google Scholar, and Google Search. Search strategies varied depending on the source, as the content type and structure differed for each source. Search terms included each of the constructs of interests (e.g., “reproductive autonomy”; “sexual wellbeing”), and terms to identify definitions and measures (e.g., “define”; “meaning”; “measurement”; “scales”). Search terms are listed in the Appendix. The search was limited to literature published since 2010; however, the research team included some studies outside the timeframe if they were especially relevant to the topic. The search included international literature (i.e., no geographic limits were applied to the search). The team also consulted subject matter experts on the environmental scan topic throughout the process to provide guidance around the research questions, scan methodology, seminal articles to include in the review, and conclusions that could be drawn from the key findings.

SUMMARY OF FINDINGS

Description of Search Results

The team identified **49 articles** relevant to the environmental scan:

- **Agency: 10 articles** described definitions and/or measurement of reproductive or sexual agency.
- **Autonomy: 19 articles** described definitions and/or measurement of reproductive, sexual or contraceptive autonomy.
- **Empowerment: 10 articles** described definitions and/or measurement of reproductive or sexual empowerment.
- **Equity: 4 articles** described definitions and/or measurement of reproductive or sexual equity.
- **Quality of life: 4 articles** described definitions and/or measurement of reproductive or sexual quality of life.
- **Wellbeing: 2 articles** described definitions and/or measurement of reproductive or sexual wellbeing.

The findings of these articles on definitions and measurements of reproductive and sexual health-related constructs are summarized in Table 1.

Based on the limited literature related to definitions and/or measurement of specific constructs (i.e., equity, quality of life, and wellbeing) in the sexual and reproductive health context, the search was expanded to include literature related to definitions and measurements of equity, quality of life, and wellbeing in the health care and public health sectors more broadly, as well as non-health care sectors. This broader inclusion of sources resulted in **10** additional articles incorporated into the environmental scan that provide an overview of validated measures related to equity, quality of life, and wellbeing, or present key elements of measuring these constructs. These articles are intended to provide additional context to fill the gaps in the literature related to defining and measuring these constructs in the sexual and reproductive health context but are not included in Table 1.

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TABLE 1: Summary of Environmental Scan Findings

SRH-Related Construct	Number of Relevant Articles	Q1. Key Definitions of the Construct	Q2. Measurement of the Construct	Q3. Questions Unanswered in the Literature
Agency	10	• **Reproductive agency:** Three definitions identified, including: "Being able to set individual reproductive goals and follow through with actions to realize the goals. This would include reproductive goals about whether, when and how many children to have, and being in a position to effectively use contraceptives and pregnancy terminations to control fertility, to enable women to realize their goals." (Willan et al., 2020) • **Sexual agency:** Five definitions identified, including: "The acknowledgment of self as a sexual being; the ability to identify, communicate, and negotiate one's sexual needs; and the successful initiation of behaviors that allow for the satisfaction of these desires." (Ward et al., 2018)	• Reproductive Agency Scale (RAS-17) (Yount, James-Hawkins, & Abdul Rahim, 2020) • Reproductive Decision Making Agency Measure (Hinson et al., 2020)	• Testing of reproductive agency scales in diverse settings • Development of validated measures of sexual agency
Autonomy	19	• **Reproductive autonomy**: Six definitions identified, including: "Having the power to decide about and control matters associated with contraceptive use, pregnancy, and childbearing. For example, having reproductive autonomy means that women can control whether and when to become pregnant, whether and when to practice contraception (and which method to use), and whether and when to continue a pregnancy." (Upadhyay et al., 2014) • **Sexual autonomy:** Six definitions identified, including: "In the sexual context, autonomy refers to having a sense of control and feeling unburdened by external pressures." (Sanchez, Kiefer & Ybarra, 2006)	• Reproductive Autonomy Scale (Upadhyay et al., 2014)	• Influence of system-level factors on reproductive autonomy • How systems effectively determine, implement, and evaluate strategies to promote reproductive autonomy

SRH-Related Construct	Number of Relevant Articles	Q1. Key Definitions of the Construct	Q2. Measurement of the Construct	Q3. Questions Unanswered in the Literature
		• **Contraceptive autonomy:** One definition identified: “The factors that need to be in place in order for a person to decide for themselves what they want in regards to contraceptive use, and then to realize that decision.” (Senderowicz, 2020)		• Development and testing of scales in diverse settings to measure contraceptive autonomy
Empowerment	10	• **Reproductive empowerment:** Six definitions identified, including: “Both a transformative process and an outcome, whereby individuals expand their capacity to make informed decisions about their reproductive lives, amplify their ability to participate meaningfully in public and private discussions related to sexuality, reproductive health and fertility, and act on their preferences to achieve desired reproductive outcomes, free from violence, retribution or fear.” (Edmeades et al., 2018) • **Sexual empowerment:** Three definitions identified, including: “A woman’s sexual empowerment is conceptualized as her perception of the right to self-determination in sexual relationships and her ability to express herself in sexual decision-making” (Crissman, Adanu & Harlow, 2012)	• Reproductive Empowerment Scale (MEASURE Evaluation, 2020) • Women’s and Girls’ Empowerment in Sexual and Reproductive Health Index (Moreau et al., 2018) • Sexual and reproductive empowerment – Sexual and Reproductive Health Empowerment Scale for Adolescents and Young Adults (Upadhyay et al., 2020)	• Testing of reproductive and sexual empowerment scales in diverse settings

SRH-Related Construct	Number of Relevant Articles	Q1. Key Definitions of the Construct	Q2. Measurement of the Construct	Q3. Questions Unanswered in the Literature
Equity	4	• **Reproductive equity:** Two definitions identified, including: “Reproductive health equity gives people what they need to have a fair chance at sexual and reproductive wellbeing and autonomy. That means your race, ethnicity, gender, income, sexual orientation, immigration status, or neighborhood does not disadvantage you from accessing the quality and affordable health care services you need to live a life of reproductive health.” (Planned Parenthood Action Fund, n.d.) • **Sexual equity:** One definition identified: “The balance between each partner’s sexual contributions and consequences.” (Schoeb et al., 2013)	• No validated measures of sexual and reproductive equity identified in the scan, however validated measures of quality of life have been developed and tested in the broader health context and in other sectors	• Development of standard definitions and validated measures
Quality of Life	4	• **Reproductive quality of life:** Two definitions identified, including: “Reproductive quality of life means that a person can achieve optimal sexual and reproductive health, including self-determining and achieving their goals of if, when, and how to become a parent.” (CECA, 2020) • **Sexual quality of life:** One definition identified that it: “Encompasses multiple dimensions that an individual may associated with a healthy and pleasurable sexual life. These include sexual responses, cognitions, and attitudes, as well as dimensions related to intimate relationships and a sense one’s physical body as capable and entitled to experience sexual sensations.” (McClelland, 2012)	• No validated measures of sexual and reproductive quality of life identified in the scan, however validated measures of quality of life have been developed and tested in the broader health context and in other sectors	• Development of standard definitions and validated measures

SRH-Related Construct	Number of Relevant Articles	Q1. Key Definitions of the Construct	Q2. Measurement of the Construct	Q3. Questions Unanswered in the Literature
Wellbeing	2	• **Reproductive wellbeing:** One definition identified: “Reproductive well-being means that all people have the information, services, and support they need to have control over their bodies and to make their own decisions related to sexuality and reproduction throughout their lives.” (Sealy, 2019)	• No validated measures of sexual and reproductive wellbeing identified in the scan, however validated measures of quality of life have been developed and tested in the broader health context and in other sectors	• Development of standard definitions and validated measures
		• **Sexual wellbeing:** Review article of sexual wellbeing definitions emphasized this definition: “An individual’s subjective assessment of a wide range of physical, cognitive, emotional and social aspects of relations with oneself and with others.” (Lorimer et al., 2019)		

Definitions and Measurements of Sexual and Reproductive Health-Related Constructs

Agency: Reproductive and Sexual

Agency is defined in the New Oxford English Dictionary as “the ability or capacity to act or exert power.” In the social sciences, agency has been defined as “the capacity for action and the ability to influence events and maintain some control over one’s life.” (Ortner, 2006)

Reproductive Agency

Two definitions of reproductive agency were identified in the environmental scan, as listed in Table 2. Each definition emphasized that individuals (specifically, women) have the **ability to set reproductive goals** as well as **make decisions and take action to achieve those goals.**

TABLE 2: Definitions of Reproductive Agency

Definitions of Reproductive Agency
• “[A woman’s] ability to make decisions that support her intended reproductive goals” (McCleary-Sills, 2013)
• “Reproductive agency means being able to set individual reproductive goals and follow through with actions to realize the goals. This would include reproductive goals about whether, when and how many children to have, and being in a position to effectively use contraceptives and pregnancy terminations to control fertility, to enable women to realize their goals. Thus, agency assumes that people not only set goals, but also take action to achieve these goals” (Willan et al., 2020)

Two measures for reproductive agency emerged in the literature—both measures were developed and tested in international contexts among women-only.

The Reproductive Agency Scale (RAS-17) is a contextual, multidimensional and validated measure developed and testing among pregnant Arab women in Qatar (Yount, James-Hawkins & Abdul Rahim, 2020). The 17-item scale measures intrinsic reproductive agency (which “involves a consciousness of one’s capabilities, rights, and aspirations”) and instrumental reproductive agency (which “involves strategic action to pursue one’s aspirations”). Although the scale is focused on reproductive agency, it is important to note that the scale’s items emphasize outcomes related to women’s agency more broadly. For example, scale items to measure intrinsic reproductive agency include items related to women’s awareness of their economic rights, such as, “Every woman should have a university education” and “Financial independence makes a woman strong.” Similarly, scale items to measure instrumental reproductive agency focused on women’s influence in personal and family decisions, and freedom of movement.

In the second study, researchers developed and tested measures of reproductive decision-making agency to measure the construct among married women in Nepal (Hinson et al., 2019). The decision-making agency measure focused on three domains: Agency around when to have children, Agency around whether to use contraception, and Agency around which method of contraception to use. These three domains were assessed in four core items applied to each of the three domains:

- When discussing when to have children *or* whether to use contraception *or* which method of contraception use, did you share your opinion about what you wanted with your husband?
- If so, do you think your opinion was valued?

- Who had the final say on when to have children *or* whether to use contraception *or* which contraceptive method to use?
- Would you prefer to have had more influence the decision about when to have children *or* whether to use contraception *or* which contraceptive method to use, less influence, or were you happy with your level of influence?

Respondents were indicated to have high, medium, or low reproductive decision-making agency based on the combination of responses to the four core items (Hinson et al., 2019). Testing of the measures demonstrated strong associations with several outcomes related to feelings of reproductive control, such as how hopeful participants were about their ability to control how many children they have or control fertility using a contraceptive method, if and when they wanted to. The measure was less predictive of whether higher levels of reproductive decision-making agency were associated with contraceptive needs being met.

Sexual Agency

Five definitions of sexual agency were identified in the environmental scan, as listed in Table 3. Each definition emphasized that individuals have the **ability to express, assert, or advocate for their own sexual interests** as well as **make decisions and act on those decisions** regarding their sexual interests. Three of the definitions identified were offered specifically in the context of adolescents' sexual agency (Berkel, 2020; Klein, Becker, & Štulhofer, 2018; Lim et al., 2019).

TABLE 3: Definitions of Sexual Agency

Definitions of Reproductive Agency
• "Self-efficacy in asserting one's sexual interests, from the ability to avoid unwanted sexual activity to the positive fulfillment of sexual desires" (Berkel, 2020)
• "The ability to make decisions and assertions related to one's own sexuality" (Klein, Becker & Štulhofer, 2018)
• "The ability to communicate and negotiate about one's sexuality, while having empathy for a partner's wants and needs. To have sexual agency means making informed and ethical choices for themselves and accepting the responsibility of those choices" (Lim et al., 2019)
• "A multidimensional construct that reflects a woman's ability to act on her behalf sexually, express her needs and desires (including the desire to say, "no"), and advocate for herself" (Seabrook et al., 2017)
• "The acknowledgment of self as a sexual being; the ability to identify, communicate, and negotiate one's sexual needs; and the successful initiation of behaviors that allow for the satisfaction of these desires" (Ward et al., 2018)

None of the sources identified in the environmental scan described validated scales to measure sexual agency. One published study protocol described plans to develop and validate a novel scale to measure sexual agency (and its relationship with online and offline social networks) among adolescents in Australia, though the scale had not been published at the time of this review (Lim et al., 2019). Other studies that measured sexual agency typically measured key aspects of the construct, such as sexual assertiveness, sexual self-efficacy, condom self-efficacy, sexual motivations, and/or feelings about one's level of sexual experience or sexual affect. For these aspects, researchers often used validated scales

and indices, such as the Hurlbert Index of Sexual Assertiveness, the Condom Use Self-Efficacy Scale, the sexual self-efficacy scale of the Female Sexual Subjective Inventory, and the Sexual Use subscale of the Alcohol Expectancies Questionnaire (Klein, Becker & Štulhofer, 2018; Seabrook et al., 2017; Ward et al., 2018).

Autonomy: Reproductive, Sexual and Contraceptive

Autonomy is defined in the New Oxford American Dictionary as "the right or condition of self-government; freedom from external control or influence; independence."

Reproductive Autonomy

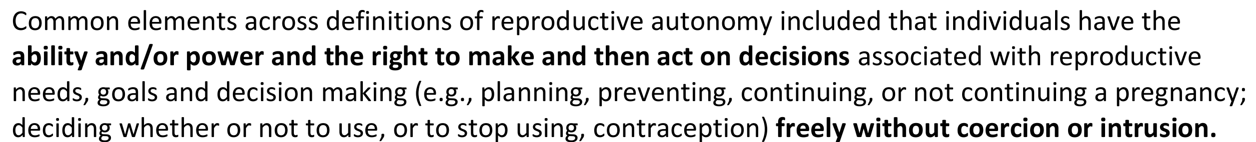
Six definitions of reproductive autonomy were identified in the environmental scan, as listed in Table 4. The most commonly cited definition across articles identified in the scan was the following definition included in a peer-reviewed article describing the development and validation of the Reproductive Autonomy Scale:

> Reproductive autonomy [is] having the power to decide about and control matters associated with contraceptive use, pregnancy, and childbearing. For example, having reproductive autonomy means that women can control whether and when to become pregnant, whether and when to practice contraception (and which method to use), and whether and when to continue a pregnancy. (Upadhyay et al., 2014)

This definition of reproductive autonomy was the only definition that emerged in the scan that was also associated with a reproductive autonomy measure.

TABLE 4: Definitions of Reproductive Autonomy

Definitions of Reproductive Autonomy ***Blue shaded row indicates most commonly referenced definition in the literature***
• "Having the power to decide about and control matters associated with contraceptive use, pregnancy, and childbearing. For example, having reproductive autonomy means that women can control whether and when to become pregnant, whether and when to practice contraception (and which method to use), and whether and when to continue a pregnancy" (Upadhyay et al., 2014)
• "Ability and fundamental right to make and act on decisions about their bodies, including whether to have sex, whether to use contraception to prevent pregnancy, and whether to continue a pregnancy" (Dehlendorf et al., 2018)
• "Women's ability to freely decide on issues related to the best time to get pregnant, interrupt an unwanted pregnancy or continue it, and use contraceptives that best suit their needs" (Fernandes et al., 2019)
• "The strong interest or right to make choices regarding reproduction even when others might regard such choices as unwise or against public interest" (Hall & van Niekerk, 2016)
• "The idea that people, most often women but increasingly people of all genders, should have significant—almost unfettered—'self-rule' regarding their reproductive capacities and reproductive decisions" (Johnston & Zacharias, 2017)
• "Individual's ability to be fully empowered agents in their reproductive needs and decisions and to access reproductive health services without interference or coercion" (Senderowicz & Higgins, 2020)



Common elements across definitions of reproductive autonomy included that individuals have the **ability and/or power and the right to make and then act on decisions** associated with reproductive needs, goals and decision making (e.g., planning, preventing, continuing, or not continuing a pregnancy; deciding whether or not to use, or to stop using, contraception) **freely without coercion or intrusion.**

Most definitions described the **reproductive autonomy of individuals broadly**, without specifying sex or gender, while some definitions specifically referenced women's reproductive autonomy. The definitions here also do not make distinctions between reproductive autonomy and autonomous decision making in relation to influences of the health care system and providers, compared to the influence of partners or other interpersonal relationships.

The definition of reproductive autonomy offered by Senderowicz & Higgins uniquely includes the ability to access reproductive health services freely, extending beyond individual and interpersonal associations to reproductive ability and decision making that are central to other definitions of reproductive autonomy (2020). Another notable distinction is that the definition offered by Dehlendorf et al. extends beyond reproductive needs and capabilities and includes "the ability and fundamental right to make and act on decisions about their bodies, including whether to have sex," aligning this interpretation with definitions of the term "sexual autonomy" (described below).

Considering measurement of reproductive autonomy, the most commonly cited measure identified in the environmental scan was the Reproductive Autonomy Scale, developed by researchers at the University of California, San Francisco Bixby Center for Global Reproductive Health and published in 2014 (Upadhyay et al., 2014). The Reproductive Autonomy Scale is a multidimensional, validated instrument that measures "a woman's ability to achieve her reproductive intentions" and is applicable to women in any type of sexual relationship (e.g., married or unmarried). The 14-item scale examines the influence of interpersonal factors and power related to contraceptive use, pregnancy and childbearing, including the potential influence of sexual partners, parents and other family members, and friends. The scale consists of three measure domains: freedom from coercion, communication, and decision-making, with a Cronbach's Alpha of 0.78. Examples items on the scale include:

- Decision-making domain: "Who has the most say about whether you use a method to prevent a pregnancy?" with response options being "Me"; "My sexual partner (or someone else such as a parent or mother-in-law/father-in-law)"; or "Both me and my sexual partner (or someone else such as a parent or mother-in-law/father-in-law) equally."
- Freedom from coercion domain: "My partner has pressured me to become pregnant" with response options on a 4-point Likert scale from Strongly Disagree to Strongly Agree.
- Communication domain: "If I didn't want to have sex I could tell my partner" with response options on a 4-point Likert scale from Strongly Disagree to Strongly Agree.

The scale was initially developed and tested among a nationally representative sample of women seeking care in family planning clinics and abortion clinics (or women accompanying an individual seeking care) across the U.S., where analysis of the scale's validity found that the freedom from coercion and communication subscales were associated with lower odds of unprotected sex in the past three months. Since its publication, the Reproductive Autonomy Scale has been adapted for various social and global contexts, including among rural college students (Wright et al., 2018); religious women (Kahn et al., 2014); and women in Brazil (Fernandes et al., 2019), Ghana (Loll et al., 2020), and Vietnam (Nguyen et al., 2019). It is important to note that while the definitions of reproductive autonomy offered in the

evidence are often inclusive of individuals without specifying sex or gender, the Reproductive Autonomy Scale was developed and tested among women specifically.

Sexual Autonomy

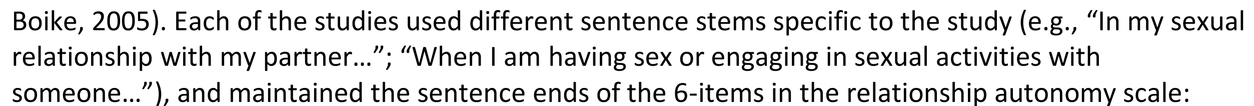
Six definitions of sexual autonomy emerged in the literature during the environmental scan, as sampled in Table 5. The most commonly referenced definition was the following definition included in a 2006 peer-reviewed article on sexual submissiveness among women: "In the sexual context, autonomy refers to having a sense of control and feeling unburdened by sexual pressures" (Sanchez, Kiefer & Ybarra, 2006).

TABLE 5: Definitions of Sexual Autonomy

Definitions of Sexual Autonomy Blue shaded row indicates most commonly referenced definition in the literature
• "In the sexual context, autonomy refers to having a sense of control and feeling unburdened by external pressures" (Sanchez, Kiefer & Ybarra, 2006)
• "Someone's prerogative to determine when, with whom, and under what circumstances they engage in sexual activity; to only engage in sexual activity to which they consent" (Brown, 2014)
• "The right/capacity of each individual to decide the who, when, where and how of their sex lives" (Danaher, 2013)
• "The extent of women's power to choose when and how to have sex. It includes her ability to offer consent and to negotiate safer sex" (Dodoo et al., 2019)
• "The ability to refuse sex or request that the partner uses contraception, such as a condom… [It is] conceptualized as a human right to protect and maintain an informed decision over one's body, one's sexuality, and one's sexual experience" (Memiah et al., 2019)
• "The role of women in decisions related to when, with whom and how sexual relations were practiced and includes the idea that women must have freedom to decide on their sexual relations both within and out of wedlock" (Viswan et al., 2017)

Common elements across definitions of sexual autonomy included that individuals have the **ability and/or power and right to make and act on decisions** associated with sex and sexuality, including with whom, when, and under what circumstance to have sex **freely and without coercion or interference.** Two of the definitions of sexual autonomy (offered by Dodoo et al. and Memiah et al.) specifically mention the encompassing of the ability to refuse sex and negotiate the use of contraception, including condoms, with a partner (Dodoo et al., 2019; Memiah et al., 2019). Similar to reproductive autonomy, most of the definitions of sexual autonomy described the **autonomy of individuals broadly**, without specifying sex or gender, while some definitions specifically reference women's sexual autonomy with the underlying assumption that women might generally lack or have limited sexual autonomy compared to men.

Several articles identified in the environmental scan described strategies for measuring sexual autonomy among individuals. For example, four studies described using a 6-item relationship autonomy scale developed by LaGuardia et al. and adapted by Sanchez et al. to measure sexual autonomy (Emmerink et al., 2016a; Emmerink et al., 2016b; LaGuardia et al., 2000; Sanchez et al., 2011; Sanchez, Crocker &



Boike, 2005). Each of the studies used different sentence stems specific to the study (e.g., “In my sexual relationship with my partner…”; “When I am having sex or engaging in sexual activities with someone…”), and maintained the sentence ends of the 6-items in the relationship autonomy scale:

- “… I like to be dominant.”
- “… I tend to take the initiative.”
- “… I tend to take an active role.”
- “… I know exactly what I want.”
- “… I have a say in what happens and can voice my opinion.”
- “…I feel free to be who I am.”

Response options ranged across a 6-point scale from “Not at all” to “Very well.” This adapted sexual autonomy scale was not externally validated in the respective studies.

Other studies constructed indicators of sexual autonomy to assess research questions of interest. For example, one study exploring the relationship between intimate partner violence, sexually transmitted disease, and sexual autonomy used composite variables to assess sexual autonomy across the domains of sexual communication, condom use assertiveness, and condom use despite partner’s disapproval (Willie, Callands, & Kershaw, 2018). A second multi-country study assessing the association between sexual autonomy and neonatal, child, and infant mortality measured sexual autonomy using compositive variables of “respondent can refuse sex,” “respondent can ask partner to use condom,” and “wife is justified in asking the husband to use condom” (Memiah et al., 2019). A third study derived measurement of sexual autonomy from the study country’s Demographic and Health Survey data from three survey questions focused on perceived social and gender-based power norms: Whether a woman can ask their husband/partner to use a condom if she wanted him to?; If a wife knows her husband has a disease that she can contract during sexual intercourse, is she justified in asking him to use a condom when they have sex?; and Is a woman justified in refusing sex if she is tired/not in the mood? (Viswan et al., 2017)

Finally, a sexual autonomy subscale was included in the validated Women’s and Girls’ Sexual and Reproductive Health Empowerment Index (described in detail in the *Empowerment* description below) (Moreau et al., 2018). The 4-item subscale (with a Cronbach’s alpha=0.76) used the following items to measure sexual autonomy:

- If I refuse sex with my husband/partner, he may physically hurt me.
- If I refuse sex with my husband/partner, he may force me to have sex.
- If I show my husband/partner that I want to have sex, he may consider me promiscuous.
- If I refuse sex with my husband/partner, he may stop supporting me.

Contraceptive Autonomy

One article identified in the environmental scan offered a definition of contraceptive autonomy, along with a proposed framework for operationalizing the construct and developing a measure to assess the construct (Senderowicz, 2020). Senderowicz defined contraceptive autonomy as: “the factors that need to be in place in order for a person to decide for themselves what they want in regards to contraceptive use, and then to realize that decision.” This conceptualization of contraceptive autonomy consisted of three subdomains:

- Informed choice (i.e., “a decision based on sufficient, unbiased information about a range of family planning options, including benefits and risks of both use and non-use”).
- Full choice (i.e., “a decision made with access to a sufficiently wide range of methods from which to choose”).
- Free choice (i.e., “a decision made about whether or not to use contraception and what method to use made voluntarily, without barriers or coercion).

The proposed algorithm to measure contraceptive autonomy focused on factors related to health systems and family planning provision that affect decision-making around contraception. The algorithm put forward criteria to measure the three subdomains of contraceptive autonomy based on whether the individual is not using contraception, is using contraception, or is user a provider-dependent method. For example, informed choice would be measured by assessing knowledge of how to use a range of contraceptive methods or knowledge about what to do in case of side effects related to use of a contraceptive method (in addition to five other proposed criteria). Full choice would be measured as whether a range of contraceptive methods are available and affordable, and whether an individual using a provider-dependent contraceptive method has the ability (and could afford) to have their contraceptive removed if they choose. Free choice would be measured as whether the choice to use or not use family planning is made voluntarily and that the individual was not offered incentive to use or not use a contraceptive method (in addition to three other proposed criteria).

Of note, the validated Women’s and Girls’ Sexual and Reproductive Health Empowerment Index (described in detail in the *Empowerment* description below) included a subscale for contraceptive autonomy (Moreau et al., 2018). The scale focused primarily on knowledge and attitude regarding the risks of family planning use or non-use in the individual and interpersonal contexts (in comparison to Senderowicz’ proposed algorithm to measure contraceptive autonomy around the factors related to health systems and family planning programming). The 5-item subscale measured contraceptive autonomy by asking the following items:

- If I use family planning, my husband/partner may seek another sexual partner.
- If I use family planning, I may have trouble getting pregnant the next time I want to.
- There could be/will be conflict in my relationship/marriage If I use family planning.
- If I use family planning, my children may not be born normal.
- If I use family planning, my body may experience side effects that will disrupt my relations with my husband/partner.

Empowerment: Reproductive and Sexual

Empowerment is defined in the New Oxford American Dictionary as "authority or power given to someone to do something; the process of becoming stronger and more confident, especially in controlling one's life and claiming one's rights."

Four sources identified in the environmental scan included definitions of reproductive empowerment, as listed in Table 6. Reproductive empowerment was often discussed in the literature as a specific element of women's empowerment and gender/equality, that includes women's agency around other social, economic, and health-related factors. The most commonly cited definition across articles identified in the scan was the following definition from the International Center for Research on Women:

> The process and outcome of transformative change where individuals expand their capacity to make informed decisions about their reproductive lives, amplify their ability to meaningfully participate in public and private discussions related to reproduction and act on their preferences and choice to achieve their desired reproductive outcomes. To be truly empowered, this process must take place free of violence, retribution or fear. (Edmeades et al., 2018; ICRW, n.d.)

TABLE 6: Definitions of Reproductive Empowerment

Definitions of Reproductive Empowerment ***Blue shaded row indicates most commonly referenced definition of reproductive empowerment***
• "Both a transformative process and an outcome, whereby individuals expand their capacity to make informed decisions about their reproductive lives, amplify their ability to participate meaningfully in public and private discussions related to sexuality, reproductive health and fertility, and act on their preferences to achieve desired reproductive outcomes, free from violence, retribution or fear" (Edmeades et al., 2018)
• "The ability and the right to decide freely on reproductive activities such as the number of children, childbearing time, and the age gap between the children" (Alishah et al., 2019)
• "The expansion of people's ability to make and act upon informed decisions about the timing and spacing of children… Reproductive empowerment also requires building women's and men's decision-making skills, and working with men, boys, and other community members to establish supportive gender norms and attitudes" (IGWG, 2020)
• "The ability to make and act on decisions about one's reproductive health" (Sikder, Challa & Kraft, 2020)

Common elements across definitions of reproductive empowerment include **the ability, process, and outcome by which individuals make informed and free decisions** associated with reproduction and broader reproductive health. The definition offered by Edmeades also goes beyond reproductive health to include elements of sexual health, noting that reproductive empowerment includes an individual's ability to meaningfully participate in discussions related to sexuality, both publicly and privately.

Similarly, three articles identified in the scan defined sexual empowerment, as listed below in Table 7. Each definition specified the definitions of sexual empowerment were specific to women and commonly emphasized the **belief or perception of one's right and power to make and act on an individual's decisions about sex authentically.**

TABLE 7: Definitions of Sexual Empowerment

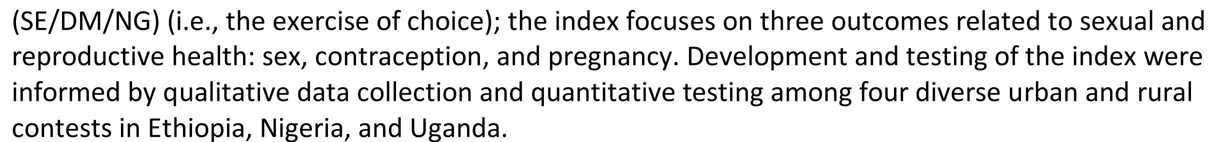
Definitions of Sexual Empowerment
• "A woman's sexual empowerment is conceptualized as her perception of the right to self-determination in sexual relationships and her ability to express herself in sexual decision-making" (Crissman, Adanu & Harlow, 2012)
• "The 'power within' in relation to a woman's perception of her ability to negotiate safer sex and the 'power to' in relation to her participation in decision-making concerning her own health" (Nankinga, Misinde & Kwagala, 2016)
• "The subjective belief that one possesses the power to make one's own sexual choices, including presentation and action… Evidence of sexual empowerment is observable when one has power over one's life. It is the functional form that sexual empowerment can take, demonstrated by choices and actions that reflect one's expectations of respect and equality" (Ring, 2018)

Three measures for reproductive and sexual empowerment emerged in the literature—one specifically related to reproductive empowerment and the other two related to reproductive and sexual empowerment.

The Reproductive Empowerment Scale is a measure developed and tested among women in sub-Saharan Africa as a part of the MEASURE Evaluation, a project led by the University of North Carolina at Chapel Hill and funded by the U.S. Agency for International Development (USAID) (MEASURE Evaluation, 2020). To develop the scale, researchers conducted formative research with men and women in Zambia, tested and refined the draft scale through cognitive interviews with women in Kenya and validated the scale within a broader reproductive health survey fielded among women in Nigeria. The 20-item scale was published in 2020 and is intended to assess reproductive empowerment among women ages 15-29 who currently have a spouse of partner. The scale consists of five subscales that measure women's communication with health care providers, communication with partners, decision-making, social support, and social norms on issues related to women's reproductive health and fertility. Response options for most items are on a four-level Likert scale from strongly disagree to strongly agree, while other questions ask participants to select from a list of individuals who might influence decision-making about contraceptive use (e.g., self, partner, parents, another family member, health care provider). Example items across the five subscales include:

- You and your health care provider talk about using contraception.
- You can initiate conversation about using contraception with your partner.
- You can refuse sex with your partner if you don't want to have sex.
- If your partner did not want you to use contraception, you have a friend of family member who could help you convince your partner that you should use contraception.
- Friends or family members who are close to you think you should be able to decide when to use contraception.

The Women's and Girls' Empowerment in Sexual and Reproductive Health Index was developed by research teams from Addis Ababa University in Ethiopia, Beyero University Kano in Nigeria, Makerre University in Uganda, and the Johns Hopkins University between March 2017 and August 2018 (Moreau et al., 2018). The index captures indicators related to sexual and reproductive autonomy (i.e., the existence of choice) and sexual and reproductive self-efficacy, decision making, and negotiation



(SE/DM/NG) (i.e., the exercise of choice); the index focuses on three outcomes related to sexual and reproductive health: sex, contraception, and pregnancy. Development and testing of the index were informed by qualitative data collection and quantitative testing among four diverse urban and rural contests in Ethiopia, Nigeria, and Uganda.

The index consists of two subscales: existence of choice and exercise of choice—each with three subscales related to sex, contraception, and pregnancy. Items are scored on scale from 1 (Strongly Disagree) to 10 (Strongly Agree). Example items include:

- If I refuse sex with my husband/partner, he may force me to have sex. (Existence of choice, Sexual autonomy)
- If I use family planning, my husband/partner may seek another sexual partner. (Existence of choice, Contraceptive autonomy)
- If I rest between pregnancies, I can take care of my family. (Existence of choice, Pregnancy autonomy)
- I am confident I can tell my husband/partner when I want to have sex. (Exercise of choice, Sexual SE/DM/NG)
- I can decide to switch from one family planning method to another if I want to. (Exercise of choice, Contraceptive SE/DM/NG)
- I can decide when to start having/have another child. (Exercise of choice, Pregnancy SE/DM/NG)

The third measure—the Sexual and Reproductive Health Empowerment Scale for Adolescents and Young Adults—differs from the first two in that it focuses specifically on young people ages 15-24 is not exclusively relevant to women and girls, and was developed and tested in the U.S. The Sexual and Reproductive Health Empowerment Scale for Adolescents and Young Adults was developed by researchers at the University of California, San Francisco Bixby Center and published in 2020 (Upadhyay et al., 2020). The researchers, through a process of conducting formative qualitative research, literature reviews, cognitive interviewing, and quantitative testing and scale validation among a nationally representative sample of U.S. adolescents and young adults, developed and validated a measure to assess sexual and reproductive empowerment among young people ages 15-24. The scale is intended to determine the extent to which this group is "empowered to achieve their desired sexual and reproductive outcomes" and is applicable across a diverse range of gender, sexual identities, and extent of previous sexual activity. Analysis of the scale's validity found that subscales were associated with access to sexual and reproductive health services and use of desired contraceptive method at the 3-month follow-up period.

The scale includes 23 items captured by seven subscales: comfort talking with partner; choice of partners, marriage, and children; sexual safety; self-love; sense of future; and sexual pleasure. Example items across the subscales include:

- If I had a romantic partner, I would feel comfortable talking about whether or not I want to have children with them.
- I can freely choose if I get married.
- I have a parent or guardian who would help me with my problems and troubles if I needed.
- Walking down the street, I feel like my body is my own.
- I can imagine what my future will be like.
- My sexual needs or desires are important.

Equity: Reproductive, Sexual, and Other Sectors

Equity is defined in the New Oxford American Dictionary as "the quality of being fair and impartial." The World Health Organization defines equity as "the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically."

Reproductive Health Equity

Two sources identified in the environmental scan offered definitions of reproductive health equity: CECA and Planned Parenthood. CECA's definition (which includes sexual health equity) states:

> Sexual and reproductive health equity means that systems ensure that all people, across the range of age, gender, race, and other intersectional identities, have what they need to attain their highest level of sexual and reproductive health. This includes self-determining and achieving their reproductive goals. Government policy, health care systems, and other structures must value and support everyone fairly and justly. (CECA, 2020)

Planned Parenthood Action Fund's definition states:

> Reproductive health equity gives people what they need to have a fair chance at sexual and reproductive well-being and autonomy. That means your race, ethnicity, gender, income, sexual orientation, immigration status, or neighborhood does not disadvantage you from accessing the quality and affordable health care services you need to live a life of reproductive health. (Planned Parenthood, n.d.)

Common elements across these definitions are the emphasis that **all people across identities, including race, gender, sexual orientation, or citizenship status,** should have access **to what they need for sexual and reproductive health promotion**. Both definitions mention the systems-level factors in reproductive health equity, referencing health care services and systems, government policies, and other structures that impact health. CECA's definition extends beyond reproductive health equity to also include sexual health equity.

An additional source described the development of a new framework of Reproductive and Sexual Health Equity in the context of preconception health (Dehlendorf et al., 2021). Although reproductive and sexual health equity is not explicitly defined in the article, the authors articulate the guiding definition of the construct by emphasizing the framework's commitment to "meeting people's reproductive and sexual health needs, with explicit attention to structural influences on health and health care and grounded in a desire to achieve the level of health for all people and to address health inequities." Six key principle define the Reproductive and Sexual Health Equity framework introduced in the article, including:

- "Center the needs of and redistribute power to marginalized individuals and communities.
- Acknowledge historical and ongoing harms, including those perpetuated by health care and public health institutions.
- Address the root causes of reproductive and sexual health inequities, including racism, patriarchy, and economic inequality.
- Honor bodily autonomy for all people.
- Affirm and create conditions for healing; don't shame or (re)traumatize.
- Create systems that meet people's needs inside and outside the formal health care system" (Dehlendorf et al., 2021).

Sexual Health Equity

The literature scan for definitions of the term “sexual equity” or “sexual health equity” yielded articles that referenced these terms but seldom defined them. The terminology was often used in the literature in the context of “gender and sexual equity” to reference parity and societal inclusiveness across genders and sexualities, sexual orientation, and gender expression. Other studies that referenced the terms, but without definitions, described promotion of sexual health for individuals across identities, including adolescents and LGBT individuals, or used the terms in the context of exploring sexual engagement between partners.

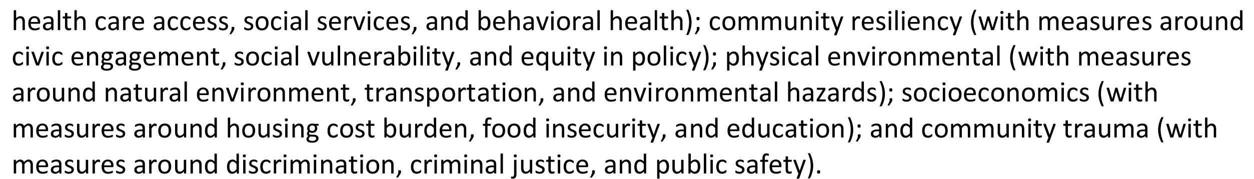
One study identified in the scan did offer a definition of sexual equity. Schoeb et al. defined sexual equity as “the balance between each partner’s sexual contributions and consequences” in a study developing and testing a Perceived Equity and Equality of Sexual Practices Scale to assess sexual communication, sexual selflessness, and sexual initiative among heterosexual adults involved in romantic relationships (2013). In the study, sexual equity was assessed in two items in the scale: “In your sex life, considering the efforts exerted by each partner, who benefits the most?” with response options ranging across a 5-point scale from “Partner benefits much more” to “I benefit much more”; and “Contributing to the couple’s sexuality in general in all possible domains related to sexuality” with instructions to indicate how often both the individual and their partner perform this action. In this case, equity is contextualized as fairness and equality between individuals in an interpersonal context. This contrasts with the definitions of reproductive health equity offered by CECA and Planned Parenthood that emphasize social and structural aspects of equity.

Equity Measurement in Other Sectors

None of the sources identified in the environmental scan described strategies to measure reproductive equity or reproductive health equity; therefore, the scan was expanded to include measurements of equity in public health and health care more broadly and across non-health care sectors.

In the fields of public health and health care, the literature includes numerous frameworks, indices, and proposed strategies to measure health equity. In a review paper of equity measurement techniques across sectors, Martin and Lewis summarize equity measurement in the health sectors as focused primarily on “disparities in general conditions and health status, differences in service interventions in terms of health care quality, and on the analysis of service population in terms of who has access to quality health care” (2019). Many of the measures in the literature also focus on assessing the impact of the social determinants of health—such as education, economic stability, and neighborhood and built environment—related to health outcomes across communities. For instance, the Prevention Institute proposed health equity metrics in 2015 to assess determinants of health at the health care, community, and structural levels to achieve health equity and proposed metrics across those domains. For example, a composite measure of community trauma and the percent of residents from traditionally marginalized communities in positions of influence are proposed to measure structural drivers that impact health. Metrics related to the social-cultural environment, physical/built environment, and economic environment are proposed to measure community determinants. Indicators such as patient satisfaction with medical encounters and number of medical schools that integrate health disparities training throughout the curriculum are indicators of health care determinants of health (Davis, 2015).

As an example of approaches to measure health equity at the state level, the Rhode Island Department of Health developed and published a core set of 15 measures across five domains to measure the state’s progress toward achieving health equity by considering the social, economic, and environmental factors that impact health (n.d.). Those five domains include: integrated health care (with measures around



health care access, social services, and behavioral health); community resiliency (with measures around civic engagement, social vulnerability, and equity in policy); physical environmental (with measures around natural environment, transportation, and environmental hazards); socioeconomics (with measures around housing cost burden, food insecurity, and education); and community trauma (with measures around discrimination, criminal justice, and public safety).

Other sectors where equity measurements are common are education, environment, and housing. In their 2019 review of the state of equity measurement, Martin and Lewis propose six dimensions central to equity measurement and observed in the fields of health care, education, environment, and housing:

1. Historical legacies: "Equity is measured cumulatively," such that equity measurement requires an understanding of the historical context of injustice and discrimination that shapes future programming.
2. Awareness of populations: "Equity is measured for relevant populations," meaning that measures identify and focus on historically marginalized groups.
3. Inclusion of voices: "Equity is measured at different points in an intervention's life, starting with design and staffing", with meaningful, sustained community engagement.
4. Access discrimination: "Equity is measured by the ability of different groups of interest to become aware of, apply for or request, and access services."
5. Output difference: "Equity is measured by the quality of completion of a service," which includes customer satisfaction with the service.
6. Disparate impacts: "Equity is measured by disparities in the desired outcomes across groups of interest."

Quality of Life: Reproductive, Sexual, and Other Sectors

Quality of life is defined in the New Oxford American Dictionary as "the standard of health, comfort, and happiness experienced by an individual or group."

The World Health Organization defines quality of life as:

> An individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment. (2012)

The Centers for Disease Control and Prevention (CDC) define quality of life as: "a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life" (2018). The CDC also notes that while there are strategies to conceptualize and measure quality of life, measuring the construct is complex because the term is defined differently across groups and fields. The CDC writes on their website:

> The term "quality of life" has meaning for nearly everyone and every academic discipline, individuals and groups can define it differently. Although health is one of the important domains of overall quality of life, there are other domains as well—for instance, jobs, housing, schools, the neighborhood. Aspects of culture, values, and spirituality are also key domains of overall quality of life that add to the complexity of its measurement. (2018)

Reproductive Quality of Life

None of the studies identified in the environmental scan offered a definition of reproductive quality of life nor an approach for measuring reproductive quality of life.

Two definitions of reproductive quality of life have emerged in CECA's work related to the topic. First, CECA has defined reproductive quality of life for the organization's work and shared this definition with stakeholder during technical expert panels (although the documents are not public sources). The CECA definition states: "Reproductive quality of life means that a person can achieve optimal sexual and reproductive health, including self-determining and achieving their goals of if, when, and how to become a parent" (2020). Second, Dr. Christine Dehlendorf of the University of California, San Francisco described reproductive quality of life this way at the 2018 North American Forum on Family Planning:

> Quality of life is a term that is used to describe a holistic assessment of individuals' wellbeing in a certain area – whether it be health in general, physical functioning, or the livability of communities. In the context of reproduction, then, quality of life can be defined as the extent to which, from a holistic perspective, individuals are able to achieve their reproductive goals. Are they able to prevent pregnancy when they want to? Are they able to prevent birth when they want to? Are they able to have children when they wish to have children? And are they treated with respect, compassion, and care throughout their reproductive lives, so that whatever outcomes they ultimately achieve, the process of getting there is optimized? (2018)

In a commentary identified in the environmental scan, Dr. Dehlendorf also suggested potential approaches to measure reproductive quality of life, writing:

> Let's measure success by reproductive quality of life. Are patients having the pregnancies they want and not having the pregnancies they don't want? Are they able to raise their children in safe, sustainable environments, as is the goal of reproductive justice? It is possible to measure the well-being of individuals and roll them up to the group level without losing the nuance of individual people's experiences. If we are talking about populations, let's talk about how healthy and happy our population is with their reproductive lives, instead of focusing on outcomes that impose an outdated narrative on everyone. (2018)

Sexual Quality of Life

Sexual quality of life has been defined in the literature as "encompassing multiple dimensions that an individual may associate with a healthy and pleasurable sexual life. These include sexual responses, cognitions, and attitudes as well as dimensions related to intimate relationships and a sense one's physical body as capable and entitled to experience sexual sensations" (McClelland, 2012). There are several studies in the literature that utilize measures that assess sexual quality of life; researchers commonly use the Sexual Quality of Life Questionnaire-Female (SQoL-F), an 18-item validated scale published in 2007 that assesses the relationship between female sexual dysfunctional and quality of life focused on sexual self-esteem, emotional issues, and relationship issues (Symonds, Boolell & Quirk, 2005). The scale was initially validated among women in the United Kingdom and U.S. and has since been adapted for a range of settings and groups (e.g., individuals with chronic illness to explore sexual function after diagnosis and/or treatment). The Sexual Quality of Life Questionnaire-Male (SQoL-M) is a frequently referenced standardized 11-item scale self-reported outcomes that assess relationship between sexual dysfunction and quality of life among men (Abraham, Symonds & Morris, 2008).

Quality of Life Measurement in Other Sectors

Many approaches exist to measuring quality of life, ranging from measurements of quality of life at the country-level to individual quality of life measures, both generic and related to specific medical conditions, such as the 36-Item Short Form Health Survey (SF-36), the World Health Organization Quality of Life (WHOQOL) assessment and the Kidney Disease Quality of Life survey (KDQOL) (Theofilou, 2013). Three approaches for measuring quality of life are frequently referenced in the health care literature as measures that aim to assess the patient experience: The CDC Healthy Days Measure (CDC HRQOL-14), Patient-Reported Outcome Measures (PROM), and Quality Adjusted Life Years (QALY) (Heath, 2020). The CDC HRQOL-14 is a 4-item scale included in the Behavioral Risk Factor Surveillance System (BRFSS), the National Health and Nutrition Examination Survey (NHANES), and the Medicare Health Outcome Survey (HOS) (CDC, 2018). The scale includes the following items:

- Would you say that in general your health is excellent, very good, good, fair or poor?
- Now thinking about your physical health, which includes physical illness and injury, how many days during the past 30 days was your physical health not good?
- Now thinking about your mental health, which includes stress, depression, and problems with emotions, how many days during the past 30 days was your mental health not good?
- During the past 30 days, approximately how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?

The Patient-Reported Outcome Measures (PROMs) are defined by the National Quality Forum (NQF) "any report of the status of a patient's health condition that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else. In other words, PRO tools measure what patients are able to do and how they feel by asking questions" (n.d.). The PROMs include a wide variety of measures assessing health care quality that may inquire about health in general or tailored to assess quality of life around a specific medical question. Common, generic PROMs questions include:

- In general, please rate how well you carry out your usual social activities and roles. (This includes activities at home, at work and in your community, and responsibilities as a parent, child, spouse, employee, friend, etc.)
- How often have you been bothered by emotional problems such as feeling anxious, depressed or irritable?
- In general, how would you rate your physical health? (Heath, 2020)

Lastly, the Quality Adjusted Life Years (QALY) are an outcome measure that researchers and health care industries use to "to put a dollar amount to a certain health care intervention, working to assess return on investment (ROI) and other factors that drive decisions to implement a strategy" and "to better understand the cost of using a certain intervention to improve quality of life for an individual patient or population" (Heath, 2020). The QALY can also be used in public health to measure the cost of social determinants of health interventions (Heath, 2019).

Wellbeing: Reproductive and Sexual

Wellbeing is defined in the New Oxford American Dictionary as "the state of being comfortable, healthy, or happy." The CDC states that:

> There is no consensus around a single definition of well-being, but there is general agreement that at minimum, well-being includes the presence of positive emotions and moods (e.g., contentment, happiness), the absence of negative emotions (e.g., depression, anxiety), satisfaction with life, fulfillment and positive functioning. In simple terms, well-being can be described as judging life positively and feeling good. (2018)

Reproductive Wellbeing

One source identified in the scan offered a definition for reproductive wellbeing. The Power to Decide webpage states: "Reproductive well-being means that all people have the information, services, and support they need to have control over their bodies and to make their own decisions related to sexuality and reproduction throughout their lives" (Sealy, 2019).

Other commonly cited definitions of reproductive health incorporate a focus on wellbeing, such as the World Health Organization definition of reproductive health, which states:

> Reproductive health is a state of complete, physical, mental, and social well-being and not merely the absence of disease of infirmity, in all matters relating to the reproductive system and to its function and processes. Reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so (n.d.).

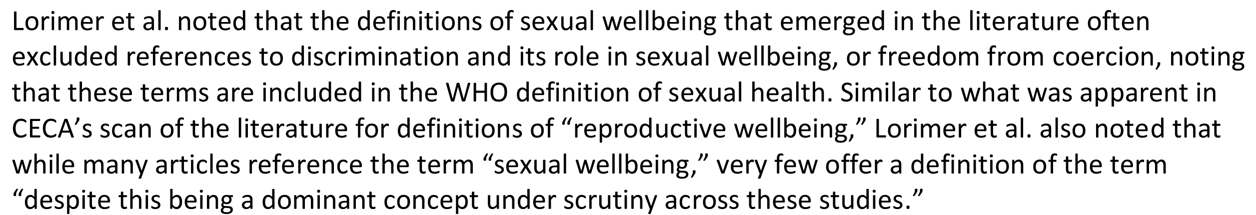
Numerous other articles identified in the scan mentioned the phrases "reproductive wellbeing" or "reproductive health and wellbeing" as a way to contextualize their study objectives or findings around broader the impact on wellbeing but did not offer a definition of the phrase.

None of the sources described strategies to measure reproductive wellbeing, although studies mentioned the need for such a framework and measure. For example, authors of one article identified in the scan stated: "A new model to define the scope and meaning of 'reproductive wellbeing' for women, linked to outcomes that matter to women, is needed to provide a framework for promotion, prevention and delivery of care across all domains throughout the life-course" (Mann & Stephenson, 2018).

Sexual Wellbeing

A review paper on definitions and measures of sexual wellbeing that was identified in the scan summarized 10 papers that offered a definition of sexual wellbeing focused on individual cognitive aspects as well as multidimensional aspects, such as emotional, social, and physical components (Lorimer et al., 2019). Example definitions of sexual wellbeing identified in the review included:

- "The cognitive and affective evaluation of oneself as a sexual being."
- "An individual's subjective assessment of a wide range of physical, cognitive, emotional and social aspects of relations with oneself and with others."
- "Sexual wellbeing refers to an individual's subjective appraisals of their sexuality, the presence of pleasurable and satisfying experiences, and the absence of sexual problems."



Lorimer et al. noted that the definitions of sexual wellbeing that emerged in the literature often excluded references to discrimination and its role in sexual wellbeing, or freedom from coercion, noting that these terms are included in the WHO definition of sexual health. Similar to what was apparent in CECA's scan of the literature for definitions of "reproductive wellbeing," Lorimer et al. also noted that while many articles reference the term "sexual wellbeing," very few offer a definition of the term "despite this being a dominant concept under scrutiny across these studies."

The Lorimer et al. review also explored measures of sexual wellbeing present in the literature across the individual, interpersonal, and sociocultural domains. For the individual domain, the review authors found that that sexual function, satisfaction, and self-esteem were the most frequently measured domains, while sexual satisfaction, relationship satisfaction, and partner communication were most frequently assessed in interpersonal measure domains. Measures of sexual wellbeing related to sociocultural domain included exploring sexual wellbeing related to gender inequality, stereotypes, and norms.

Wellbeing Measurement in Other Sectors

Wellbeing is understood to be a broad and multidimensional construct that is measured both objectively and subjectively. The Center for Health and Happiness at the Harvard University School of Public health describe the measurement of objective wellbeing by saying:

> Objective well-being is often assessed using indicators that measure aspects of education, physical and built environment, community, and economy. This approach tends to capture a societal rather than an individual perspective on well-being that is based on material, tangible and quantitative indicators. (2017)

In comparison, subjective measures of wellbeing include a range of dimensions, including psychological, social, and spiritual wellbeing aspects, where constructs such as happiness, positive affect, life satisfaction, and meaning and purpose are measured (Center for Health and Happiness, 2017; Forgeard et al., 2011). Examples of wellbeing questionnaires/questions include the Quality of Well-being Scale, Global life satisfaction; Satisfaction with emotional and social support; Feeling happy in the past 30 days; Positive and Negative Affect Scale; and Overall happiness (CDC, 2018). The Organisation for Economic Co-operation and Development (OECD) has also published guidelines on collecting, publishing, and analyzing subjective wellbeing data, as a part of the Better Life Initiative, that focus on people's experiences of life as well as "eudaimonic" measures (i.e., experiences of meaning and purpose) of wellbeing (n.d.).

A published review of wellbeing measurement concluded that wellbeing measurement should reflect the multidimensional nature of wellbeing by combining objective and subjective wellbeing measures (Forgeard et al., 2011). Forgeard et al. proposes:

> A useful way to convey information on a wide array of subjective and objective indicators is to adopt a 'dashboard approach' to measurement. This approach does not attempt to reduce wellbeing to one number, but instead encourages researchers to find ways to present information on a variety of objective and subjective facets of wellbeing in an appealing and useful manner. Using such an approach will help educate both the public and policy-makers about what wellbeing really is, and about the multiple ways in which it can be cultivated. (2011)

RESEARCH GAPS AND IMPLICATIONS

This environmental scan summarizes how a subset of reproductive and sexual health-related constructs (i.e., agency, autonomy, empowerment, equity, quality of life, and wellbeing) are defined and measured in published and grey literature. The environmental scan findings demonstrate where accepted definitions and measures exist around specific constructs, such as autonomy and empowerment. For both reproductive autonomy and empowerment, a common definition of the terms repeatedly emerges in the literature. Reproductive autonomy is defined as:

> Having the power to decide about and control matters associated with contraceptive use, pregnancy, and childbearing. For example, having reproductive autonomy means that women can control whether and when to become pregnant, whether and when to practice contraception (and which method to use), and whether and when to continue a pregnancy. (Upadhyay et al., 2014)

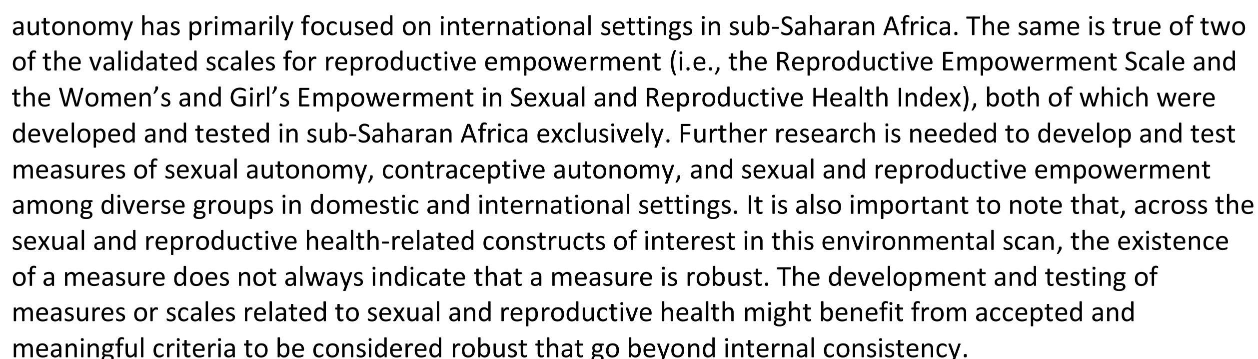
While reproductive empowerment is defined as:

> The process and outcome of transformative change where individuals expand their capacity to make informed decisions about their reproductive lives, amplify their ability to meaningfully participate in public and private discussions related to reproduction and act on their preferences and choice to achieve their desired reproductive outcomes. To be truly empowered, this process must take place free of violence, retribution or fear. (Edmeades et al., 2018; ICRW, n.d.)

There is overlap in concepts between the two definitions, consistent with the conceptualization of reproductive autonomy as one domain within the construct of women's empowerment (Upadhyay et al., 2014). Both definitions emphasize the significance of women having the power and ability to decide on matters related to their reproductive lives, health, and goals. The definition of autonomy centers the possession of that ability, while the definition of empowerment centers the expansion of that ability, highlighting that empowerment is both a process and an outcome of a "transformative change" that also requires freedom from coercion, violence, or fear. It is worth noting that many of the construct definitions identified in this scan specify a focus on women, and several of the measures are only developed and tested among women partnered in heterosexual relationship. There is a need for future efforts in this area to center definitions and measurements that are inclusive of people across gender and sexual identities, while acknowledging the intersectional and systemic oppressions that constrain some people's abilities to exercise their sexual and reproductive agency or autonomy or fully realize their sexual or reproductive wellbeing or quality of life.

Validated measures also exist to measure both reproductive autonomy and sexual and reproductive empowerment (e.g., Reproductive Autonomy Scale, Women's and Girl's Empowerment in Sexual and Reproductive Health Index); however, gaps in measurement around both constructs still exist. For example, the Reproductive Autonomy Scale is a well-established, multidimensional, validated scale of a "woman's ability to achieve her reproductive intentions" and explores the interpersonal factors and power that might support or hinder her autonomy. However, the scale is not intended to assess how system factors might also support or hinder reproductive autonomy for individuals, highlighting a question that remains unanswered in the literature: What is the influence of system-level factors on reproductive autonomy, how can systems (e.g., health care systems, family planning program) effectively determine, implement, and evaluate strategies to promote reproductive autonomy?

Notably, a systems-focused approach is proposed by Senderowicz to define and assess contraceptive autonomy among women. Presently, the research conducted by Senderowicz around contraceptive



autonomy has primarily focused on international settings in sub-Saharan Africa. The same is true of two of the validated scales for reproductive empowerment (i.e., the Reproductive Empowerment Scale and the Women's and Girl's Empowerment in Sexual and Reproductive Health Index), both of which were developed and tested in sub-Saharan Africa exclusively. Further research is needed to develop and test measures of sexual autonomy, contraceptive autonomy, and sexual and reproductive empowerment among diverse groups in domestic and international settings. It is also important to note that, across the sexual and reproductive health-related constructs of interest in this environmental scan, the existence of a measure does not always indicate that a measure is robust. The development and testing of measures or scales related to sexual and reproductive health might benefit from accepted and meaningful criteria to be considered robust that go beyond internal consistency.

The environmental scan also highlights gaps where explicit definitions and strategies for measuring constructs related to reproductive and sexual health are still needed, such as equity, quality of life, and wellbeing. For these constructs, the evidence shows that although the terms are frequently referenced in the literature—often to contextualize the objectives or findings of a study and its potential impact on reproductive and sexual equity, quality of life, or wellbeing—there were very few instances where explicit definitions of the constructs are offered. There is literature, both related specifically to the sexual and reproductive context as well as other fields (e.g., health care more broadly, education, environment) that emphasize the multidimensional aspects of each of these constructs and acknowledge the complexity inherent in measuring the constructs. The existing literature on construct measurement in public health, health care, and other sectors often critiques existing and proposes new principles and dimensions for measurement that go beyond assessing disparities in outcomes to include a range of metrics, including those that that take into account people's perceptions of their own standards and state of being (demonstrating that the lack of appropriate, rigorous, and accepted construct measurement approaches is not unique to reproductive and sexual health). Specific to reproductive and sexual health, the lack of a clear, accepted definition of these constructs hinders the ability to operationalize and measure these constructs and leaves a gap in the evidence for research, measurement, and implementation.

Key Takeaways from the Environmental Scan

- Accepted definitions and measures exist for reproductive autonomy and reproductive empowerment.
- Definitions exist in the literature for the reproductive and sexual agency, sexual and contraceptive autonomy, sexual empowerment, and sexual quality of life. However, definitions of these constructs are not often used consistently across the field. Validated measures, or proposed frameworks for measures, exist for each of these constructs.
- Limitations of existing measures include a primary focus on women-only (especially, women in heterosexual relationships) in measurement development and testing, a primary focus on international contexts, and a lack of attention to system-level factors that impact health and wellbeing.
- The following constructs lack consistency of definitions and do not have validated measures: reproductive and sexual equity, reproductive quality of life, and reproductive and sexual wellbeing.
- The lack of clear, consistent definitions of these constructs hinders the ability to operationalize and measure these constructs and leaves a gap in the evidence for research, measurement, and implementation.

APPENDIX: SEARCH TERMS

Concept	Search Terms
Constructs	Agency Autonomy Empowerment Equity Quality of life Well-being/wellbeing Reproductive agency Reproductive autonomy Reproductive Empowerment Reproductive equity Reproductive health equity Reproductive quality of life Reproductive well-being/wellbeing Sexual agency Sexual autonomy Sexual empowerment Sexual equity Sexual health equity Sexual quality of life Sexual well-being/wellbeing
Definitions	Defin* Meaning
Measurements	Measure* Scale

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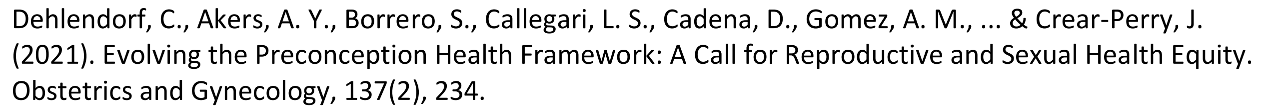

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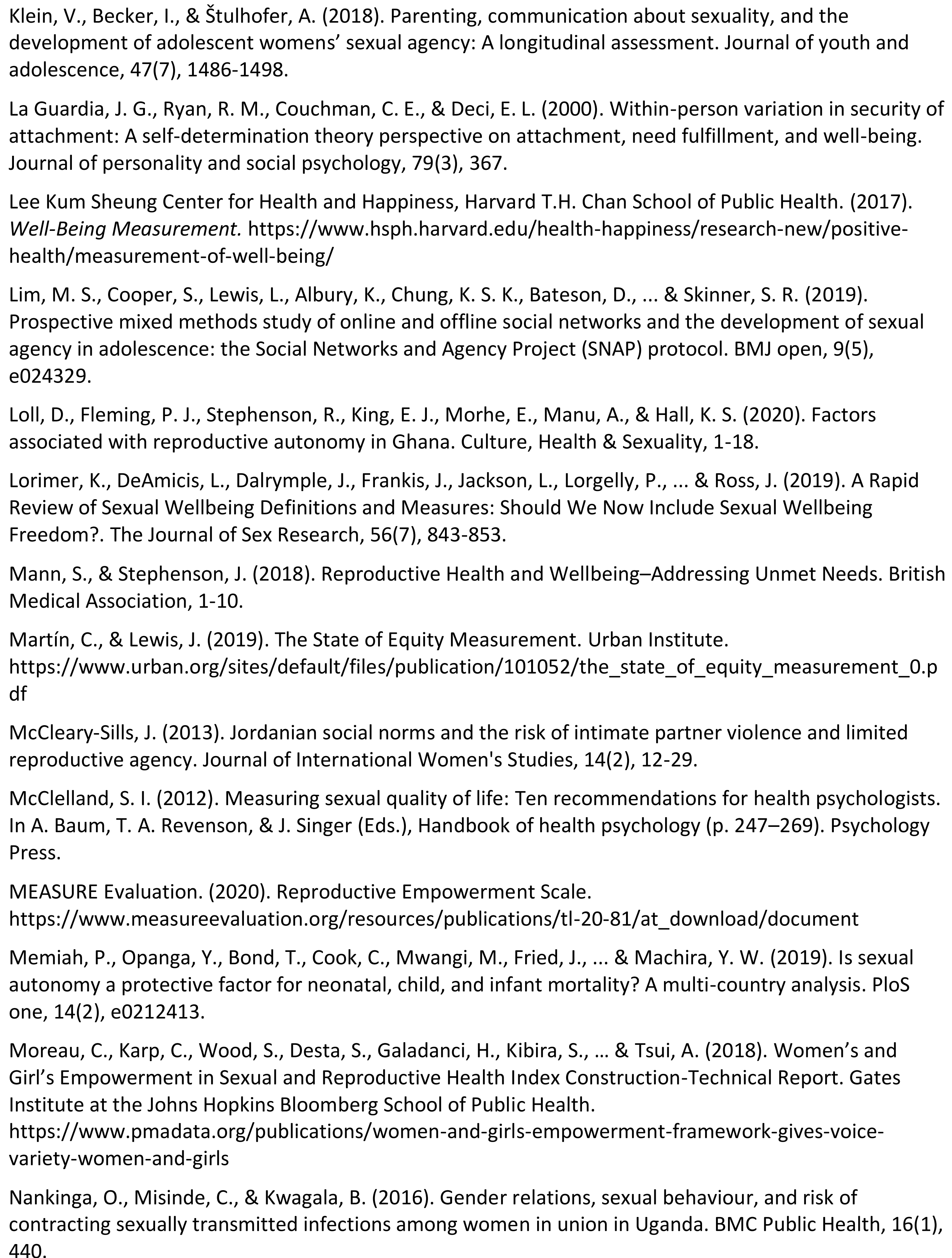

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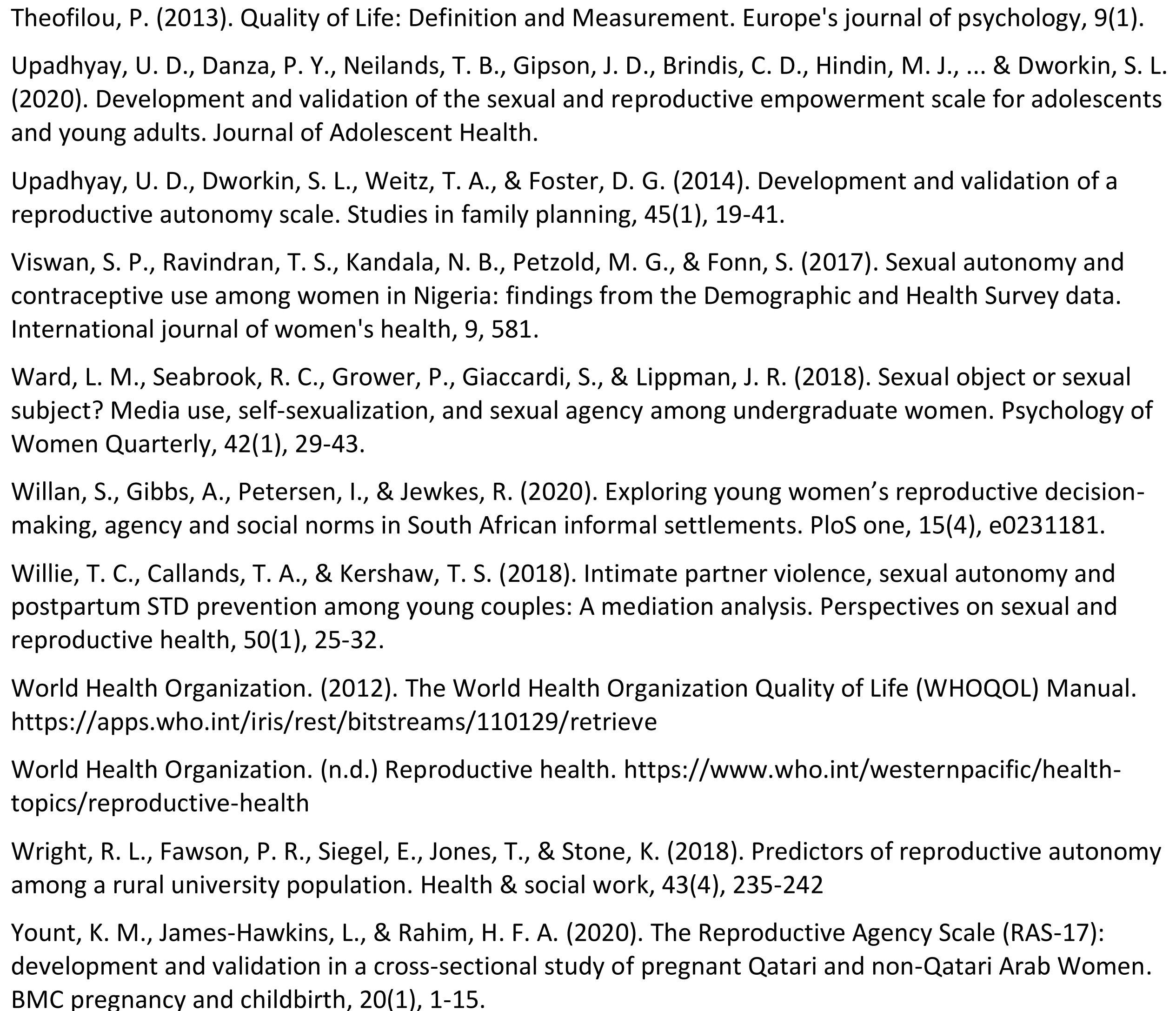

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