Technology-mediated and In-person Sexual Self-Concept in Sexually Minoritized Women: Conceptualization, Measurement, and (In)Congruence

by

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Abstract

Sexual self-concept (SSC) refers to how a person thinks, feels, and experiences themselves as a sexual being. A positive SSC has been linked to good psychosexual health. However, inconsistent conceptual and operational definitions in prior research have undermined SSC's construct validity, leaving its applicability to lesbian women largely unexplored. Lesbian women's unique navigation of intersecting systems of power and marginalization likely shapes how they experience and express their SSC. Thus, guided by intersectionality, social identity theories, and self-discrepancy theory, the overarching goal of this dissertation was to better understand how lesbian women's SSC manifests across in-person and technology-mediated contexts. I produced four articles to address this goal. In Article 1, I conducted a methodological review of 67 SSC studies. I identified inconsistent conceptual definitions, diverse operationalizations, and limited representation of sexually minoritized populations in SSC research. These findings highlighted the need for inclusive SSC measures with stronger construct validity. In Article 2, I adapted Q Methodology to online platforms. Using tools like Zoom and Trello, I created a cost-effective and accessible approach to SSC research that includes hard-to-reach populations. This methodological innovation laid the groundwork for exploring SSC's conceptual and operational definitions in Article 3. In Article 3, I conducted two studies. First, 35 sexuality researchers completed a card sort task to evaluate and categorize a comprehensive set of SSC items. This process enabled me to identify 60 relevant items representative of distinct SSC subdomains. In the second study, 20 women participated in a Q Methodology study, sorting these items into ranked categories and completing follow-up semi-structured interviews. Analyses revealed three distinct SSC definitions. These results illustrate how SSC varies by socio-demographic background and context. These findings informed the development of a

measure of SSC with construct validity evidence for lesbian women, that is applicable to in-person and technology-mediated contexts. In Article 4, I used this measure to examine SSC (in)congruence among 290 lesbian women across in-person and technology-mediated contexts. Although multivariate analyses were not significant, descriptive findings highlighted potential complex relationships between SSC alignment, contextual factors, and psychosexual outcomes that challenge self-discrepancy theory. Together, these articles advance SSC research by addressing critical gaps in construct validity, innovating methodological approaches, and centering the experiences of lesbian women. This work provides a foundation for future research into lesbian women's SSC and its implications for psychosexual health.

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Finally, thank you to my family. Thank you to my parents, Lisa and Greg, my siblings, Michael and Peter, and my aunt Laura for cheering me on every step of the way. Clare, Bean, and Verne – I love you; you keep me sane.

Preface

This dissertation includes four articles co-authored by myself and my PhD supervisor, Dr. Krystelle Shaughnessy, who served as the supervising author on all articles. The remaining co-authors contributed as research assistants, aiding with specific tasks outlined below. I am the first author on all four articles, reflecting my primary role in conceptualizing, designing, and executing the studies as well as writing, editing, and revising the manuscripts and this document.

Article 1, titled "Measuring Sexual Self-Concept: A Methodological Review," was published in *Psychology & Sexuality* in 2024. I conceptualized the research questions, conducted the data analysis, developed the methodological critique, and wrote, revised, and submitted the manuscript for publication. Dr. Shaughnessy provided supervisory guidance and editorial feedback, while S. Drouin assisted with data screening and extraction and contributed edits to the manuscript. P. Labelle helped with creating the systematic search strategy and S. Moazami helped in the article screening process.

Article 2, titled "Remote Research: Using Zoom, Trello, and Screen Sharing for Q Methodology on Sexual Self-Concept," is in press with *Sage Research Methods Cases* and will be published in early 2025. Dr. Shaughnessy and I collaboratively conceptualized the methodological framework for remote research, while I led the writing and revisions.

The Article 3, titled "What is Sexual Self-Concept?: A Q Methodology Study," has been submitted to *Self & Identity* and is currently under peer review. I developed the research questions, designed the study, conducted the Q-sorting process, analyzed the data, and wrote the manuscript. Dr. Shaughnessy provided overarching guidance and editorial feedback. P. G. Noorishad served as the second coder for the content analysis of the card sort study, while L.

Cappelletti and G. Kudinova transcribed the semi-structured interviews and acted as coders for the thematic analysis of the Q-sort data.

The Article 4, “Understanding Lesbian Women’s (In)Congruence in Technology-Mediated and In-Person Spaces,” will be prepared for publication following the defence of this dissertation. I independently conceptualized the research questions, collected and analyzed the data, wrote the chapter, prepared the OSF documents, and will write and revise the manuscript for submission.

I affirm that I have upheld academic integrity throughout this dissertation. All content, ideas, and analyses are my own unless explicitly cited. I obtained ethics approval to conduct each study from the University of Ottawa’s Research Ethics Board.

During this dissertation, I used AI tools (i.e., ChatGPT, Microsoft Word, and Grammarly) in two specific ways: 1) to assist with editing manuscripts for spelling, grammar, and sentence structure, and 2) to verify the accuracy of Python code using simulated data (note: no actual research data was entered into ChatGPT). These AI uses were approved by my supervisor, Dr. Shaughnessy (C.Psych), and occurred prior to the establishment of formal guidelines from the University of Ottawa and discussions within the School of Psychology. I acknowledge that AI tools can produce biased, discriminatory, or inaccurate outputs. Therefore, I did not use any AI tools for generative purposes. I adhered to ethical standards by avoiding plagiarism and ensuring all work accurately reflects my efforts.

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General Introduction

Overview

Sexual self-concept (SSC) is a person's perceptions (e.g., thoughts, feelings, cognitive generalizations, views) of themself as a sexual being/person (Buzwell & Rosenthal, 1996; O'Sullivan et al., 2006; Rostosky et al., 2008; Snell et al., 1992). Research has shown that people's SSC is closely linked to their psychosexual health outcomes. Specifically, forming a positive SSC is crucial for sexual, relationship, and general life satisfaction, as well as for lower levels of anxiety and depression (Antičević et al., 2017; Brown, 2018; Fleming, 2012; Greene & Faulkner, 2005; Heidari et al., 2017; Hurlbert, 1991; Impett & Tolman, 2006; Mainella, 2019; Labrecque, 2021; Lee, 2017; Salehi et al., 2015; Shepler et al., 2018; Snell et al., 1991).

It is likely that SSC congruence is an important contributing factor to positive sexual and mental health. In self-discrepancy theory, a person must maintain congruence between their self-image (i.e., their "actual" self) and their "ideal" self (i.e., the person they wish to be) or their "ought" self (i.e., the person they believe they should be) to have a positive SSC (Higgins, 1987; Rogers, 1959). According to this theory, when people focus their attention on themselves, they tend to compare their actual behaviours against their internal standards that make up their ideal and/or ought self. When people perceive that these selves match - that is, are congruent - they experience positive emotions (e.g., joy, relief, relaxation; Higgins, 1987). When people perceive a discrepancy between their actual and ideal selves - that is, they are incongruent - they experience dejection-related emotions (e.g., disappointment, dissatisfaction). When they perceive that their actual and ought selves are incongruent, they experience agitation-related emotions (e.g., guilt, self-contempt, uneasiness). Recent research has applied self-discrepancy theory (Higgins, 1987) to sexuality research. Dewitte et al. (2017) found that actual/ideal SSC

incongruence is linked to greater sexual distress and lower sexual and global self-esteem. Katz and Farrow (2000) reported that both actual/ideal and actual/ought SSC incongruence are associated with poorer sexual adjustment and increased anxiety and depression in young women. Kennis et al. (2022) showed that actual/ideal SSC incongruence mediated the relation between gender dysphoria and SSC in binary transgender people. Thus, (in)congruence may be more critical to sexual health than having a purely positive SSC. However, these findings are not consistent. For example, Holmes (2002) found that actual/ideal and actual/ought discrepancy scores were not significant predictors of psychological distress. These mixed results emphasize the need for more research on SSC (in)congruence.

SSC incongruence can arise for different reasons. Most research on sexual (in)congruence is framed within a context of hypersexuality and sexual addiction. Based on this literature, people who perceive incongruence between their spiritual and/or religious values and their sexual behaviours experience negative psychological outcomes (e.g., sexual anxiety) (Griffin et al., 2016; Grubbs et al., 2020; Hook et al., 2015; Walton, 2019; Walton et al., 2017). Another line of sexual incongruence research is concerned with the relation between sexual identity and sexual behaviour. In these studies, sexual identity refers to the label people use to describe themselves (e.g., lesbian, bisexual, heterosexual) and sexual behaviour refers to the sexual activities they engage in (e.g., I had oral contact with her breasts or nipples, she inserted a strap-on into my vagina). Based on this literature, people who have an active mismatch between their sexual identity and behaviour experience more mentally/physically unhealthy days, poorer sexual experiences, and display lower levels of sexual health behaviours (Schick et al., 2012; Kerker et al., 2006; Pathela et al., 2006). Yet, little research has examined how SSC (in)congruence may manifest in technology-mediated contexts (e.g., online communities, dating

apps, social media, gaming environments), particularly among sexually minoritized groups (for an exception, see Mateizer et al., 2022). Specifically, emerging technologies may facilitate an incongruent SSC between in-person and technology-mediated contexts because people may show their actual self in one context but their ideal or ought selves in the other. Furthermore, this incongruence may be of greater prevalence in sexually minoritized groups. The use of emerging technologies presents sexually minoritized people with spaces for self-expression with the benefits of anonymity but also these same spaces have the potential for hate speech, harassment, and threats (Mkhize et al., 2020; Scheuerman et al., 2018; Todd, 2021). Given these affordances and consequences, sexually minoritized people may navigate these spaces differently and adapt their SSC accordingly.

It is necessary to evaluate the SSC and psychosexual outcomes among lesbian women because there are distinctive factors that play a role in the sexual health of this population. On one hand, unique life stressors produced by living in heterosexist social environments characterized by stigma and discrimination (i.e., sexual-minority stress; Brooks, 1981; Meyer, 2003; Meyer & Dean, 1998) are causes of mental health disparities between lesbian women and sexually majoritized women (Almeida et al., 2009; Coker et al., 2010; Marshal et al., 2008; Mays & Cochran, 2001). On the other hand, researchers have found lesbian women possess greater positive attitudes toward their sexual selves compared to heterosexual women (Ketz, 2002; Parent et al., 2015; Shepler et al., 2018). These seemingly contradictory findings can be reconciled by considering the influence of cultural messages on sexuality. Traditional sexual scripts often impose rigid gender roles and expectations on women's sexual behaviour, fostering guilt, shame, or inadequacy in sexually majoritized women (Simon & Gagnon, 1986; Wiederman, 2005). In contrast, lesbian women are less constrained by these norms and are less

likely to internalize such restrictive messages (Ekholm et al., 2022; Horowitz & Spicer, 2013). Instead, they often cultivate more positive attitudes toward their sexual selves, emphasizing equality in relationships and embracing diverse intrapsychic and behavioural scripts. Factors such as identity pride and positive body image further empower lesbian women to reject traditional sexual norms and develop more affirming SSCs (Ketz, 2002; Parent et al., 2015; Shepler et al., 2018). These unique experiences highlight that findings from research on heterosexual women often do not generalize to lesbian women.

There has, however, been little research on lesbian women's SSC or their psychosexual outcomes. Sex research has historically focused on white, married, and heterosexual people (e.g., see reviews on sexual satisfaction [Sánchez-Fuentes et al., 2013]; sexual functioning [Hoagland & Grubbs, 2021]; sex drive [Frankenbach et al., 2022]). Furthermore, there is no research on how lesbian women's use of emerging technologies affects their SSC (in)congruence. Nor is there research on how this (in)congruence may relate to their psychosexual well-being.

Emerging technologies can influence SSC (in)congruence for all people but may have a particularly significant impact on lesbian women. Research indicates that sexually minoritized people use emerging technologies to explore their sexualities, express their SSCs, and meet and interact with partners while avoiding consequences that are more likely to arise when enacting these behaviours in person (Bianchi et al., 2017; Brown et al., 2005; Hertlein et al., 2015; Meyer, 2003). To this point, a lesbian woman might feel more comfortable expressing her SSC in technology-mediated spaces, such as discussing her sexual thoughts and preferences on online platforms. In contrast, she may hold back from expressing these aspects of her SSC in person due to fear of judgment or stigma in her immediate social environment. Alternatively, online spaces can be unfriendly towards sexually minoritized people, where they encounter hate speech,

harassment, and threats of sexual and physical violence (Mkhize et al., 2020; Scheuerman et al., 2018; Todd, 2021). As a result, a lesbian woman might choose to limit or privatize her SSC expression online while feeling freer to express herself in person within affirming social circles. Though opposing in SSC presentation, both contexts would result in lesbian women experiencing SSC incongruence. The goal of this dissertation was to better understand how lesbian women's SSC manifests across in-person and technology-mediated contexts. This research enhances inclusivity in sex research, highlights the role of technology in shaping sexual experiences, and contributes to improving psychosexual health outcomes for all people.

Review of the Literature

Self-Concept

Many psychologists have defined self-concept. As the word suggests, it is our 'concept' of ourselves. Past researchers have stated self-concept consists of cognitions and emotions. The cognitive component includes everything we believe about ourselves, both rightly and wrongly (Greenwald & Pratkanis 1984; Kihlstrom & Cantor 1984; Neisser & Jopling, 1997). The affective dimension involves our feelings about who we think we are, and our self-worth related to these judgments (Guntrip 1971; Kemberg 1977; Pajares & Schunk, 2005). Our self-concept is closely linked to our behaviour whereby the thoughts and feelings we have about ourselves influence our actions (Baumeister, 2010; Burns, 1982; Harter, 1990; Markus & Wurf, 1987; Purkey, 1988). Indeed, there are several self-concept theories (self-discrepancy theory [Higgins, 1987]; self-determination theory [Deci & Ryan, 1985]; self-efficacy theory [Bandura, 1982]; sociometer hypothesis [Leary et al., 1995]) and behavioural frameworks (Cognitive-Behavioural framework [Beck, 1979]; Emotional Cascade Model [Selby et al., 2008]) that offer insights into the connection between our thoughts, feelings, and behaviours.

Self-concept is multidimensional - we do not have just one overarching or general self-concept. Instead, we hold multiple, interconnected self-concepts across different areas of our lives (Shavelson et al., 1976). For example, I have an academic self-concept, a family self-concept, a physical self-concept, and an SSC. Each of these self-concepts is tied to a specific domain, but they are also interconnected. Together, they form an integrated network that makes up an overall self-concept (Mercer, 2011).

The self-concept is believed to be dynamic and shaped by both internal and external factors. Shavelson and colleagues (1976) argued that one's global self-concept is relatively stable, but the domains of one's self-concept (e.g., social, physical, academic) are more situational and prone to variation. Expanding on this idea, Markus and Wurf (1987) argued that the centrality of our self-beliefs determines their stability. Core beliefs, central to one's identity, resist change, whereas peripheral beliefs fluctuate more readily. Additionally, research highlights the fluidity of self-concept across contexts and interactions (e.g., Harter et al., 1998; Onorato & Turner, 2004). From this perspective, self-concept is inherently intertwined with sociocultural contexts and interpersonal dynamics, evolving in response to these influences (Neisser & Jopling, 1997).

The self-concept is shaped by a variety of processes and is deeply influenced by the contexts in which people live and interact. Tajfel's (1978) social identity theory highlights how group memberships (e.g., race, gender, social class) serve as foundations for self-concept through categorization and differentiation. Rosenberg's (1979) framework expands on this developmental theory by suggesting that self-concept emerges from four interconnected processes: perceptions of others' attitudes (reflected appraisals), comparisons with others (social comparisons), self-attributions based on behaviours and outcomes, and the psychological centrality of specific

identities. These principles underscore that self-concept is not universal but shaped by one's intersecting demographics, experiences, and sociocultural environment (Craven & Marsh, 2005; Markus et al., 1991; Skaalvik & Skaalvik, 2004).

Sexual Self-Concept

SSC is one domain of the overall, larger construct of self-concept. Researchers have conceptually defined SSC in varying ways. In line with self-concept, most definitions are built upon the idea that SSC is a person's thoughts and feelings about themself as a sexual person (e.g., Buzwell & Rosenthal, 1996; Deutsch et al., 2014; Rostosky et al., 2008). Although these definitions have a common meaning, there are also unique aspects that make them distinct from each other. For example, some researchers define SSC as a multidimensional construct (e.g., Rostosky et al., 2008; Snell et al., 1992); others view it as unidimensional (e.g., Winter, 1988). Some include sexual and gender domains in their definition (e.g., Bem, 1974; Spiegel, 2008); whereas others focus solely on sexual domains. In sum, there is not one agreed-upon conceptual definition of SSC.

Lack of conceptual clarity can make it difficult to distinguish SSC from other similar constructs. This ambiguity undermines SSC's discriminant validity (Churchill, 1979; MacKenzie et al., 2011; Nunnally & Bernstein, 1994; Schwab, 1980). This vagueness can result in the proliferation of terms that overlap conceptually. These overlapping terms create confusion and hinder the development of a cohesive body of knowledge (Morrow, 1983; Tepper & Henle, 2011). In the realm of sexual selfhood, terms like SSC, sexual subjectivity, and sexual self-schema are often used interchangeably, even though they focus on different aspects of the sexual self (Astle et al., 2023; Andersen et al., 1994, 1999; Deutsch et al., 2014; Horne & Zimmer-Gembeck, 2006). Failure to address these conceptual ambiguities complicates research efforts. It

also risks the misinterpretation and misapplication of findings (MacKenzie, 2003; Schwab, 1980). These errors hinder progress in understanding sexual selfhood and its implications.

Researchers have also developed multiple operational definitions for SSC. A conceptual definition is abstract, whereas an operational definition describes how a construct can be observed and measured. SSC is commonly measured through self-report, meaning participants are asked to report directly on their behaviours, beliefs, attitudes, or intentions using a survey (e.g., O'Sullivan et al., 2006; Snell, 1998; Vickberg & Deaux, 2005). Researchers then use these responses to create different dimensions of SSC. Together, these dimensions make up the operational definition of SSC. However, researchers have not come to a clear consensus on what dimensions make up SSC. These limitations have also resulted in operational definitions that include dimensions that seem to be theoretically inconsistent with the self-concept construct. For example, concepts like anxiety and depression would not fit into traditional self-concept models. Instead, these concepts are understood as conditions or negative outcomes of an incongruent self-concept (Higgins, 1987). However, sexual anxiety and sexual depression are common subscales in SSC measures. For example, items such as *"I feel anxious when I think about the sexual aspects of my life"* or *"I am depressed about the sexual aspects of my life"* simply reflect broader anxiety or depression within the specific context of sexuality, rather than components of SSC itself (items from Snell, 1998). The misalignment between SSC's conceptual and operational definitions may be because research on SSC has been predominantly exploratory. As such, most of these measures have not been developed systematically, with a focus on construct validation.

Construct validation is integral when measuring a concept that cannot be physically observed. This process supplies evidence to support the meaning of a measure that is assumed to represent a psychological construct (Cronbach & Meehl, 1955). By following the process of

construct validation, researchers ensure that they have applicable and rigorous research methods when evaluating constructs of interest within a given population and context. This process is intended to be systematic. Loevinger (1957) summarized the phases of construct validation: substantive, structural, and external. Flake and colleagues (2017) pointed to the limited use of construct validation in social and personality research. Given the connection between these fields and SSC, it is likely that few researchers engaged in construct validation when developing SSC measures.

The substantive phase centres on the theoretical base of a measure. In this phase, researchers identify a construct’s essential qualities by elaborating its scope and limits. This phase typically involves several steps (Flake et al., 2017). First, researchers conduct literature reviews to define the construct and its dimensions. Then, they create item pools to represent these dimensions and invite experts to review these decisions. Finally, participants test the items through focus groups, item mapping, or cognitive interviews (Simms 2008; de Vet et al. 2011). The results of this phase should be a theoretically driven conceptual definition and a relevant and representative operational definition.

The structural phase involves quantitative analyses that researchers use to examine the psychometric properties of the measure (Loevinger, 1957). Psychometric methods in general are diverse and continually evolving (see a commentary by Sawilowsky, 2007). However, several key components of this phase include item analyses (e.g., response distributions, item-total correlations), factor analyses (e.g., exploratory factor analyses, confirmatory factor analyses, structural equation modeling), and reliability assessments (e.g., internal consistency, test-retest; Ashley, 2025). The goal of this phase is for researchers to collect validity and reliability evidence that supports the use of the measure.

The external phase of construct validation involves gathering evidence for how the construct is related to or independent of other constructs. Researchers evaluate convergent and divergent validity to achieve this goal (Campbell & Fiske, 1959). Convergent validity refers to the degree to which two measures that should be related theoretically, are related. Divergent validity refers to the degree to which two measures that should not be related theoretically, are not actually related. The goal of this phase is for researchers to situate the construct within a larger context, or nomological network (Cronbach & Meehl, 1955).

In line with modern validity theory (e.g., Flake et al., 2017, 2022; Kane, 2013; Messick, 1989), a measure cannot be fully "validated", nor can it be declared universally "valid". Instead, construct validation is ongoing and requires continued evaluation. Researchers must gather validity evidence across multiple studies, populations, and contexts. If researchers create a new measure, adapt an existing measure, or use a measure in a new way or with a new population, they must provide evidence that they are still measuring their intended construct (Flake et al., 2017). At the onset of this dissertation, it is unclear what the state of SSC's construct validity is, who it applies to, and if it is context dependent.

Lesbian Women and SSC

This dissertation focuses on lesbian women to provide a baseline for exploring SSC in this often overlooked and understudied group. In line with social identity theory (Tajfel, 1978), socio-cultural factors likely lead women with varied socio-demographic backgrounds to have diverse ideas of SSC. Indeed, past definition studies show that people from different socio-cultural groups define sexuality constructs (e.g., sexual satisfaction [McClelland, 2014]; rough sex [Svetina Valdivia et al., 2022]; sexual partners [Fahs & Swank, 2023]) differently. These

differences likely reflect nuances in people's lived, sexual, and social experiences that shape how different groups understand their sexuality.

People's identities likely lead to differences in what SSC means to them. These identities include but are not limited to, gender/sex, sexual identity, race/ethnicity, age, immigration status, nationality, (dis)ability, and class. Each identity should not be considered static and ahistorical but rather constructed through historical and ongoing social practices (McCall, 2005). For example, our understanding of the meaning of “heterosexual” differs from its original use in the late 19th century. The term was coined by Dr. James Kiernan in 1892 (Katz, 1999). He used it to refer to people attracted to both sexes who engaged in sex for pleasure rather than reproduction. This behaviour was considered deviant, as it went against the norm of reproductive sexuality. It wasn’t until the 1920s and beyond that the term evolved to describe opposite-sex attraction and eventually became associated with what is now considered “normal” sexuality. Thus, identities are not based on strict biological characteristics, but on the social perceptions and meanings we assume (Lopez, 2006; Ridgeway, 1991). These identities are not “natural” or fixed. Instead, their boundaries are always shifting as they are disputed and explained in different periods and societies.

We cannot view people's identities as functioning independently when considering their impact on SSC. Instead, the intersections of these identities, the power structures influencing them, and the social contexts in which they exist shape people's experiences. Intersectionality is defined as the mutually constitutive relations among social identities. With this theory, we recognize how intersecting oppressions shape vulnerability to harm and the legal or social intelligibility of that harm (Crenshaw, 1991). There are three essential elements to intersectional research (Choo & Ferree, 2010; Cole, 2009). First, there is a focus on the experiences and

meanings of simultaneously belonging to multiple intertwined social identities (Else-Quest & Hyde, 2016). We cannot reduce identity to a summary of the social groups to which a person belongs. Social groups interact with each other to create specific manifestations that cannot be explained by each alone. From a cognitive perspective, we can understand this process as a concept combination (Gabora & Kitto, 2012). When sexuality and gender intersect, they create a unique, interconnected identity that includes elements of each and introduces new characteristics resulting from their interaction (Hampton, 1987; Smith & Osherson, 1984; Storms et al., 1998). This conceptual combination reflects how the mind integrates complex identities into a cohesive self-concept.

Second, intersectionality highlights the relationship between social categories and power structures. Categories exist within a “matrix of domination” where power is distributed unequally, privileging certain identities while marginalizing others (Hooks, 2000; Hill Collins, 1990). Privileged identities, such as being male, cisgender, heterosexual, white, or able-bodied, occupy the center of the matrix. Oppressed identities (e.g., being female, transgender, lesbian, black, or disabled) occupy the margins (Warner, 2008). This framework reveals that privilege and oppression are interconnected. For example, as a white, middle-class, nondisabled, North American, lesbian woman, I experience both privilege and oppression. I experience relative privilege as a function of my race, socioeconomic class, nationality, absence of disabilities, and presentation as the gender with which I identify. However, I also experience relative oppression as a female and lesbian. My privilege and oppression intersect and influence each other.

Third, it is essential to view identities not just as personal attributes but as embedded in specific social and cultural contexts (Collins, 1990; Stewart & McDermott, 2004). The significance of these identities varies depending on the environment they exist within. For

instance, LGBTQ2S+ people in Canada benefit from legal protections and societal acceptance through laws like the Canadian Human Rights Act (1985) and supportive rulings such as Egan v. Canada (1995). Conversely, LGBTQ2S+ people in countries with discriminatory laws, such as Russia or Nigeria, face significant systemic oppression. This variability illustrates the importance of considering context when examining how intersecting identities shape SSC.

Using an intersectional approach to study SSC allows for a deeper, more nuanced understanding of people's lived experiences. It helps researchers move beyond generalized conclusions to capture the unique, context-specific ways in which SSC is defined, experienced, and influenced by power structures and social environments. This approach underscores the importance of recognizing the complexity of identity when studying SSC, ultimately contributing to more inclusive and meaningful research.

In this dissertation, I adopted McCall's (2005) intracategorical approach to intersectional research to explore sexually minoritized women's SSCs. McCall distinguishes between three intersectional approaches: anticategorical, intercategorical, and intracategorical. Anticategorical approaches challenge and deconstruct identity categories by focusing on shared human experiences that transcend specific identities. For instance, an anticategorical approach to this dissertation would involve examining SSC across all people, irrespective of gender/sex, sexual identity, or other sociodemographic distinctions. This perspective seeks to uncover universal aspects of SSC, deliberately moving beyond the constraints of predefined identity categories. Intercategorical approaches compare experiences across groups to reveal how systems of oppression operate. For example, an intercategorical approach might involve comparing the SSC of heterosexual, lesbian, and bisexual women to investigate how differing levels of stigma, visibility, and societal acceptance shape their experiences. This approach emphasizes how

identity-based systems of privilege and marginalization create distinct outcomes across these groups. Intracategorical approaches, which I used in this dissertation, center on people with specific intersecting identities to explore how systems of oppression shape their lives. In Article 3, I examine how women across various intersecting identities, such as gender/sex, sexuality, and age define their SSC. In Article 4, I narrow the focus to the unique experiences of lesbian women, providing a deeper understanding of SSC within this specific group. McCall (2005) emphasizes that all intersectional approaches share the core assumption that relationships between identities contain measurable inequalities. However, by adopting an intracategorical approach, I prioritized an in-depth understanding of women’s and then sexually minoritized women's SSCs. This focus does not preclude the value of broader comparisons across identity groups, such as between sexually minoritized and majoritized women. Rather, I use it to center the voices and experiences of those whose identities are marginalized.

Although research on SSC provides evidence that people's identities influence their SSC, past studies have largely failed to adopt an explicitly intersectional framework. For one, gender/sex group memberships influence how people conceptualize and operationalize their SSCs. Traditional gender roles and sexual scripts often shape women's and men's sexual interactions differently (Crawford & Popp, 2003; Simon & Gagnon, 1986; Wiederman, 2005). These roles and scripts influence both sexually majoritized and sexually minoritized people (Courtice & Shaughnessy, 2018; Sanger & Lynch, 2018; Shaughnessy et al., 2017; Tabatabai, 2012). Research suggests that men and women perceive their SSCs differently (Deutsch et al., 2014; Garcia, 1999; Guyon et al., 2020; Shepler et al., 2017). However, SSC research has largely neglected transgender and nonbinary people, who often hold more negative perceptions of their

SSC compared to cisgender people (Kennis et al., 2022a, 2022b). Therefore, it is crucial to learn from women, including transgender and non-binary women, what SSC means to them.

Sexually minoritized women (e.g., lesbian women, bisexual women) likely have differing perceptions of SSCs than sexually majoritized women. In line with social identity theory, sexually minoritized women likely form a unique group, given they live their lives differently from sexually majoritized women (Halberstam, 2003). These differences lead to differing cultural expectations regarding their sexuality (Nadal, 2011; Nadal & Corpus, 2016; Platt & Lenzen, 2013; Shelton & Delgado-Romero, 2013). However, there is very little empirical research on sexually minoritized women's SSC. The research that does exist is mixed and focused on the extent to which SSC is positive/negative rather than how sexually minoritized women define or understand SSC. In two of the three relevant studies, we found that sexually minoritized women reported more positive SSC compared to sexually majoritized women (Marengo et al., 2019; Parent et al., 2015). In the third, there were no differences (Shepler et al., 2017). However, the researchers did not operationalize SSC in the same way. Further, we cannot be sure that sexually minoritized women define their SSC in similar ways to sexually majoritized women. These distinctions are important to make because the unique dynamics of sexually minoritized women's lives can impact their experiences of dating, forming partnerships, maintaining long-term relationships, and perhaps their SSC perceptions (Ferris & Duguay, 2020; Song et al., 2020). The absence of tailored research and measures for sexually minoritized women's SSC represents a crucial gap in the literature.

Technology and SSC

Technology-mediated contexts have the potential to shape and redefine how people conceptualize their SSC. With over 4.9 billion internet users globally (World Bank, 2023), the

fusion of in-person and technology-mediated experiences is undeniable. This contextual blend extends to areas as intimate as sexuality (Shaughnessy & Braham, 2021). Research indicates that SSC may remain consistent across contexts, with Mateizer et al. (2022) finding a positive relation between in-person and technology-mediated SSC. However, for some people, these contexts diverged. Those unable to integrate their SSC across in-person and technology-mediated settings report weaker sexual identity, lower sexual satisfaction, and fewer partnered online interactions (Mateizer et al., 2022). These findings suggest that although SSC may often extend seamlessly into technology-mediated spaces, it can also evolve or face conflict in these environments. Some people may entirely exclude technology from their SSC definitions, while others may adapt or expand their conceptualizations to incorporate new elements unique to technology-mediated contexts. This complexity underscores the importance of examining SSC in both realms to capture its full scope.

Self-Concept (In)Congruence

Carl Rogers' self-theory and concept of congruence are fundamental building blocks of this dissertation. Rogers had a humanist perspective on psychology, meaning he emphasized looking at the whole person and the uniqueness of each person. He believed that a person's self-concept was made up of three different parts: (a) self-image: how you see yourself; (b) self-esteem: how much you like, accept, or value yourself; and (c) the ideal self: the person you wish to be (Argyle, 2017). Rogers (1959) proposed that humans have one basic motive: to achieve self-actualization, or to reach their full potential, which represents the highest level of 'human-beingness'. To reach this potential, a person must be in a state of congruence. Congruence is when a person's ideal self matches their self-image. However, a person does not always align their self-concept with reality. A person's ideal self may not be completely consistent with their

life and experiences. This difference, between the actual and ideal self, is called incongruence (Rogers, 1959). A person is in a state of incongruence if part of their life experience is unacceptable to them, distorting their self-image. Rogers argued that people want to feel, experience, and behave in a manner that is consistent with their self-image and which reflects their ideal self. When a person's ideal self and self-image are consistent, or very similar, a state of congruence exists. Thus, the closer aligned one's self-image and ideal self are, the more congruent a person is and the higher their self-esteem.

Self-discrepancy theory was proposed by Higgins (1987) as an expansion of Rogers' (1959) theory of self-concept congruence. He renamed Rogers' idea of a person's self-image as a person's "actual/own" self. He then built on Rogers' idea of the ideal self in two ways. First, he argued that there is more than one form of the ideal self: the ideal self and the ought self. The ideal self is one that a person wishes to attain (like Rogers' concept), and the ought self is one that a person thinks is their duty or obligation to reach. Both self-concepts are either future or potential versions of the self that are not yet attained. Second, Higgins added that the ideal self and ought self could be framed from the person's "own" perspective or a significant "other's" perspective. The "own" standpoint is based on the person's hopes and dreams, whereas the "other" standpoint is based on the expectations of others.

Based on these self-concepts, Higgins (1987) argues there are four potential patterns for incongruence: (a) actual/own versus ideal/own; (b) actual/own versus ideal/other; (c) actual/own versus ought/other; and (d) actual/own versus ought/own. These various pairs of incongruence lead to specific emotional consequences (see Table 1.1). The actual/own versus ideal/own self-concept incongruence occurs when one views their actual attributes (i.e., self-image) as not matching the ideal state that they wish to reach (i.e., ideal self). People who experience this

incongruence believe that their hopes or wishes would have been unfulfilled. Therefore, when a person experiences this form of incongruence, they are likely to feel dejection-related emotions (e.g., disappointment, dissatisfaction), and depression (Higgins, 1987). The actual/own versus ideal/other self-concept incongruence occurs when one views their self-image as not matching the ideal state that they believe some significant other person hopes or wishes that they would attain. People who experience this incongruence believe that the significant other is disappointed and dissatisfied with them. Therefore, when a person experiences this form of incongruence, they are likely to feel dejection-related emotions (e.g., shame, embarrassment, feeling downcast), and concern over losing the affection of others. The actual/own versus ought/own self-concept incongruence occurs when one views their self-image as not matching the state that the person believes it is their duty or obligation to reach. People who experience this incongruence believe they have transgressed a personal moral standard. Therefore, when a person experiences this form of incongruence, they are likely to feel agitation-related emotions (e.g., guilt, self-contempt, uneasiness), and anxiety. The actual/own versus ought/other self-concept incongruence occurs when one views their self-image as not matching the state that some significant other person considers is their duty or obligation to attain. People who experience this incongruence believe danger or harm is anticipated or impending due to the real threat of experiencing rejection or isolation. Therefore, when someone experiences this incongruence, they are likely to feel agitation-related emotions (e.g., fear, feeling threatened) and resentment.

In this dissertation, I will not distinguish between the “own” versus “other” contexts. It is difficult to distinguish between the ought/own SSC and the ought/other SSC in the context of this work because lesbian women’s ought/own sexual selves are influenced by the ought/other. That is, the expectations and social norms instilled by a heteronormative society are enforced by

friends, family, and other significant relationships, ultimately influencing what they believe their sexual selves should be. Additionally, this research relies on self-reporting, excluding the perspectives of others.

Table 1.1
Self-discrepancy Theory Incongruence Pairs and their Outcomes

Type of Incongruence	Description	Outcomes
Actual/own versus ideal/own	A person's self-image does not match who they wish to be.	Disappointment; Dissatisfaction; Frustration; Depression.
Actual/own versus ideal/other	A person's self-image does not match the ideal self that some significant other person hopes or wishes that they would attain.	Shame; Embarrassment; Feeling downcast; Concern over losing the affection or esteem of others.
Actual/own versus ought/other	A person's self-image does not match the self that some significant other person considers is their duty or obligation to attain.	Fear; Feeling threatened; Resentment.
Actual/own versus ought/own	A person's self-image does not match the self that they believe is their duty or obligation to attain.	Guilt; Self-contempt; Uneasiness; Anxiety.

Note. This table outlines the types of self-discrepancies identified in Higgins' (1987) self-discrepancy theory, their descriptions, and associated emotional outcomes. "Actual/own" represents a person's self-image. "Ideal/own," "ideal/other," "ought/own," and "ought/other" reflect aspirations or obligations based on internal or external expectations. The emotional outcomes vary depending on the type of incongruence.

There is evidence across multiple domains of research that supports the premise of self-discrepancy theory. Self-concept congruence is related to greater levels of academic achievement (Williams, 1998), conflict management (La Boon, 1975), physical activity (Utesch et al., 2018), and less drug use (Feinman, 1978). In each of these studies, self-concept congruence was related to positive outcomes, while incongruent self-concepts were related to negative outcomes.

SSC Congruence

A person's SSC can be congruent or incongruent. However, there is very little literature on this topic. In my review of the research, I found that SSC incongruence is associated with more negative outcomes in women with and without genital pain (Dewitte et al., 2017), and transgender people (Kennis et al., 2022). Specifically, Dewitte et al. (2017) examined the role of women's SSC in the context of genital pain. The researchers measured different states of self (i.e., actual versus ideal) at different levels of responding about the self (i.e., explicit versus implicit) and evaluated their associations with sexual, emotional, and pain-related variables. They found that incongruence resulting from women rating their ideal self higher than their actual self was related to more sexual depression and lower sexual and global self-esteem (Dewitte et al., 2017). Kennis et al. (2022) looked at actual versus ideal SSC discrepancies in binary transgender people. They found that self-concept discrepancy accounted for the relation between gender dysphoria and SSC (measured by sexual esteem). The sexual esteem components are related to body perception, conduct, and attractiveness, as well as to sexual anxiety. Together, these findings suggest that actual versus ideal SSC incongruence is associated with negative sexual outcomes in minority groups.

Some research suggests people's perceptions of incongruence in their sexual selves coincides or predicts negative psychological outcomes. Research on sexual congruence - the alignment between a person's values and sexual behaviour - has predominantly focused on hypersexuality and problematic sexual behaviours (Griffin et al., 2016; Grubbs et al., 2020; Walton, 2019; Walton et al., 2017). Specifically, this area of research has focused on evaluating the relation between a person's actual/own versus their ought/own selves. Griffin and colleagues (2016) found that the association of hypersexual behaviour with SSC is stronger among people

who perceive incongruence between their sexual values and behaviours. Walton (2019) applied the concept of sexual incongruence to pornography use, suggesting some people experience pornography related problems (e.g., psychological distress) because they perceive their pornography use as inconsistent with their ought self. Grubbs and colleagues (2020) also looked at problematic pornography use but applied religiosity to their model. They found that people who report greater religiosity are more likely to report moral disapproval of pornography use (Droubay et al., 2021; Grubbs et al., 2019; Lambe, 2004), yet still use pornography with some frequency (Perry, 2018). Thus, these people are particularly prone to distress associated with their pornography use because their values (or ought self) are conflicting with their sexual behaviours (actual self). The value of these findings is hindered by the fact that, in these three studies, sexual congruence was not measured with SSC measures with validity evidence. Further, it is unclear if these findings would generalize to sexually minoritized women given that the samples consisted primarily of heterosexual, white, male participants. Nonetheless, this research does suggest that congruence is likely an important factor in people's sexual health more broadly.

SSC Congruence and Technology

The affordances offered by technology-mediated spaces may be particularly valuable to lesbian women because they allow a safe space for unrestricted expression of their “ideal” SSCs (i.e., whom they wish to be as a sexual person). As early as 1995, researchers have noted that Internet and mobile technologies, with their relative anonymity and multiple venues for interpersonal interactions, afford people a virtual space for exploring different versions of the self (Bargh et al., 2002; Turkle, 1995). Many previous studies have supported the assumption that technology-mediated contexts foster the empowerment of people with marginalized sexual identities (for a review see Döring, 2022). Further, people utilize technology-mediated spaces to

achieve their ideal selves (Manago et al., 2008). Indeed, expressing SSC online can occur with less risk of incurring the social consequences that can accompany disclosure of identities that do not conform to heteronormative standards in in-person contexts (e.g., bullying, undesired 'outing'; Bates et al., 2020; Bianchi et al., 2017; Brown et al., 2005; Gray, 2018; Hertlein et al., 2015; Meyer, 2003). To this point, Twist and colleagues (2017) examined sexually minoritized people's electronic visibility management (i.e., management of their sexual identity disclosure online). They found that their sample were more open about their sexual identity in technology-mediated contexts compared to in-person.

Alternatively, the disadvantages associated with technology-mediated spaces may cause lesbian women to display their "ought" SSCs (i.e., whom they feel they are obligated to be as a sexual person). These spaces can be unfriendly towards sexually minoritized people, facilitating hate speech, harassment, and threats of sexual and physical violence (Mkhize et al., 2020; Scheuerman et al., 2018; Todd, 2021). As a result, lesbian women may portray an SSC conforming to more heteronormative standards. Indeed, researchers have found that many sexually minoritized people manage their online sexual identity presentations to conform to heteronormative standards (for a review see Döring et al., 2024). Examples of these behaviours include enacting privacy and security controls, monitoring their self-expression, managing their friendship networks, creating multiple profiles, and editing and restricting their photographs (Duguay, 2016; Hanckel et al., 2019; McConnell et al., 2017; Talbot et al., 2020; Vivienne & Burgess, 2012).

Lesbian women likely display their actual SSC in in-person contexts. Indeed, past research has shown that people's actual self is more present in in-person contexts compared to technology-mediated contexts (Bargh et al., 2002; Przybylski et al., 2012). People tend to create

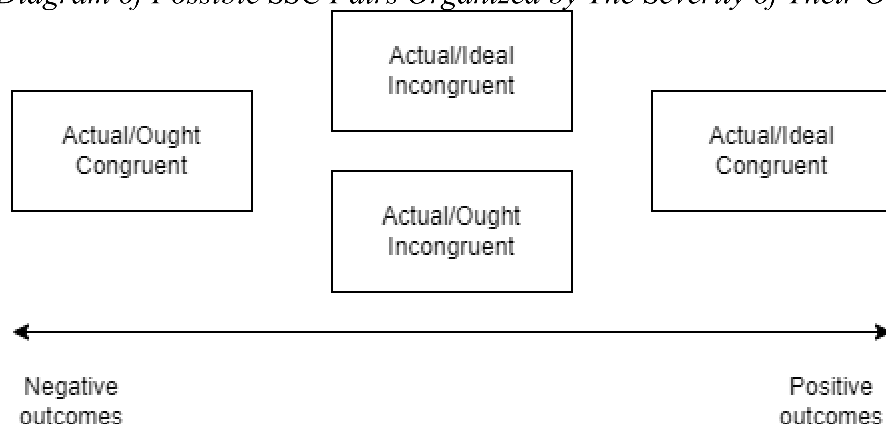
their technology-mediated self as better than their in-person self, resembling the ideal self more closely than the actual self (for reviews see: Gabarnet et al., 2023; Sibilla & Mancini, 2018). This self-enhancement is seen on social media (e.g., Castro & Marquez, 2017; Forest & Wood, 2012; Fullwood et al., 2020; Strimbu & O'Connell, 2019), online dating (e.g., Peng, 2020), and avatar-mediated environments (e.g., Gilbert et al., 2014). Considering SSC, Mateizer et al. (2022) found a strong relation between participants' in-person and technology-mediated SSCs, however, most participants located their "actual" SSC in in-person settings compared to technology-mediated ones. Additionally, an actual SSC also can be either positive or negative. To have a positive SSC, lesbian women would express their actual SSC as closer to their ideal self (Bargh et al., 2002; Rogers, 1951). Alternatively, lesbian women may have to hide their ideal self (McKenna et al., 2002). As such, they would portray their SSC in a way that they feel obligated to do so. This environment would foster a more negative SSC.

Considering these different SSC expressions and the contexts they could be exhibited in, there is a possibility for both congruence and incongruence and a valence match or mismatch (see Figure 1.1). Considering congruent SSCs, a lesbian woman may have a positive SSC in both in-person and technology-mediated contexts. In this case, her actual (i.e., in-person) and ideal (technology-mediated) SSC would be congruent. This matching relation would lead to positive outcomes (e.g., high sexual satisfaction, and low anxiety). A lesbian woman may have a negative SSC in both contexts. In this case, her actual and ought (technology-mediated) SSCs would be congruent. Although she would have a congruent SSC, this matching relation would likely lead to negative outcomes (e.g., low life satisfaction, and high depression). Incongruent SSC occurs when a lesbian woman's actual SSC does not align with her ideal or ought SSC. Incongruence is likely to arise from conforming to heteronormative standards in one context but not the other.

This incongruence can manifest in two ways. In the first scenario, a lesbian woman may conform to heteronormative expectations in person while resisting them in technology-mediated spaces. As a result, her in-person SSC might reflect a more negative, ought self, whereas her technology-mediated SSC represents a hidden, ideal self that feels more positive and authentic. In the second scenario, the reverse may happen. A lesbian woman might curate and privatize her technology-mediated SSC to hide her sexual self, while being more open and authentic about her SSC in person. In this case, her in-person SSC would align with her ideal self, while her technology-mediated SSC would reflect a more negative, ought version shaped by external expectations. In line with self-discrepancy theory, when the technology-mediated SSC does not match with the in-person SSC, negative outcomes will arise (Higgins, 1987). That is, if lesbian women manage their technology-mediated SSCs to the extent that they are significantly different from their actual, in-person SSCs, they are likely to experience psychological distress. However, these negative outcomes are likely not as strong as the ones experienced through negative, congruent SSCs. Despite the increased use of emerging technologies for identity exploration in sexually minoritized populations (Craig & McInroy, 2014; Daneback et al., 2008; Hammack et al. 2009), researchers have not examined how these practices may affect SSC (in)congruence or its outcomes. In sum, SSC incongruence has clear potential to help us understand the psychosexual health outcomes of lesbian women.

Figure 1.1

Diagram of Possible SSC Pairs Organized by The Severity of Their Outcomes



Note. This figure represents a continuum of self-discrepancy outcomes. Categories closer to the left indicate more negative outcomes and those closer to the right indicate more positive outcomes. The two incongruent categories are positioned in the middle, reflecting mixed or negative outcomes depending on the extent of the discrepancy.

Predicting SSC Incongruence

There are unique factors that may influence lesbian women's positive and negative SSC, and the congruence and incongruence with in-person and technology-mediate contexts. In this dissertation, I will focus on three areas: social support, technology, and identity.

Social Support

Lesbian women who experience greater social support in in-person interactions will likely have more positive, actual SSCs. In this environment, they would be comfortable showing their SSC as close to their ideal as possible. This support will, in turn, lead them to either have (1) positive, congruent SSCs or (2) an actual versus ought incongruent SSC. In both forms, these women would feel comfortable displaying their ideal sexual selves to their in-person contacts. Lesbian women who are in environments that lack social support (either from family, friends, and/or significant others) will experience more negative, actual SSCs. This sexual self will likely be a result of them not feeling safe or accepted to the point that they feel they need to display their SSC in a way that conforms to heteronormative standards. There are two likely results: (1)

these women will experience negative, congruent SSCs or (2) an actual versus ideal incongruent SSC, in which they only feel safe displaying their ideal sexual self in technology-mediated contexts.

Technology

Privacy and security are two key elements to consider when using technology. People with high privacy and security concerns are less likely to put self-identifying information in technology-mediated spaces (Bouma-Sims et al., 2024; Marwick & Boyd, 2011). Lesbian women with these concerns may be more likely to display their ought SSCs in technology-mediated spaces because they fear having their personal information out of their control. Therefore, on the one hand, lesbian women may have negative, congruent SSCs, displaying their actual SSC closer to their ought SSC. On the other hand, lesbian women may have an actual versus ought, incongruent SSC, where their in-person SSC is closer to their ideal self, but their technology-mediated SSC conforms to heteronormative standards. People with low privacy and security concerns may be more likely to put self-identifying information in technology-mediated spaces. Lesbian women without these concerns may be more likely to display their ideal SSCs in technology-mediated spaces because they fear having their personal information out of their control.

Identity

Identity pride and internalized homonegativity may be crucial in explaining SSC (in)congruence among lesbian women. Lesbian women with high identity pride - acceptance of one's sexual identity – may be more likely to express their SSC closely to their ideal SSC (Mohr & Fassinger, 2000). Lesbian women with high internalized homonegativity - believing or holding negative attitudes toward homosexuality that sexually minoritized people adopt as a

consequence of growing up in a heteronormative society – may be more likely to express their SSC closely to their ought SSC. High identity pride and lower internalized homonegativity may result in lesbian women having actual/ideal congruent SSC, whereas lesbian women with low identity pride and high internalized homonegativity may experience actual/ought congruent SSCs as they reconcile societal expectations with their own sexual identity.

Outcomes of SSC Incongruence

As described briefly in the previous section, lesbian women's positive and negative SSC and the congruence and incongruence with in-person and technology-mediated contexts predict differing patterns of psychosexual outcomes. For this dissertation, I focus on two categories of outcomes: satisfaction and mental health.

Satisfaction. There are multiple domains of satisfaction that SSC congruence and incongruence likely predict: sexual satisfaction, relationship satisfaction, and general life satisfaction. Sexual satisfaction is "an affective response arising from one's subjective evaluation of the positive and negative dimensions associated with one's sexual relationship" (Lawrance & Byers, 1995, p. 268). Relationship satisfaction is the subjective, global evaluation of a relationship (e.g., Fincham & Bradbury, 1987; Norton, 1983). Life satisfaction is the cognitive aspect of subjective well-being, referring to people's global evaluation of the quality of their lives (Peterson et al., 2005). These three forms of satisfaction are all related (Byers, 2005; Elyasi et al., 2015; Erol et al, 2002; Kalka, 2018; Schmiedeberg et al., 2017). These variables are also understood as key outcomes of sexual attitudes, behaviours, and communication (Dosch et al., 2016; Haavio-Mannila & Kontula, 1997; Roels & Janssen, 2020; Santtila et al., 2007; Woloski-Wruble et al., 2010). These outcomes are also important to consider when examining SSC (in)congruence (Antičević et al., 2017; Brown, 2018; Fleming, 2012; Greene & Faulkner, 2005;

Hurlbert, 1991; Impett & Tolman, 2006; Kriofske-Mainella, 2019; Lee, 2017; Salehi et al., 2015; Shepler et al., 2018; Snell et al., 1991). However, there is little research on the extent to which SSC predict any one or all of these outcomes. There is even less research on this relation among lesbian women, specifically. Moreover, I found no studies in which SSC (in)congruence predicted sexual satisfaction, relationship satisfaction, or general life satisfaction.

There is some research that provides a foundation for expectations on the predictive nature of SSC (in)congruence. Past research points to SSC congruence predicting more positive and/or higher satisfaction. Considering sexual satisfaction, some research has highlighted that positive SSCs predict greater sexual satisfaction (Antičević et al., 2017; Brown, 2018; Impett & Tolman, 2006). For relationship satisfaction, researchers have broadly found that positive SSC domains - higher sexual esteem and sexual assertiveness - relate to greater relationship satisfaction in women (Fleming, 2012; Greene & Faulkner, 2005; Hurlbert, 1991; Lee, 2017; Snell et al., 1991). Finally, considering life satisfaction, positive SSCs have predicted greater life satisfaction (Mainella, 2019; Salehi et al., 2015).

Online communities are integral to the sexual, relationship, and life satisfaction of lesbian women as they facilitate social support that may not be present in their in-person spaces. Research findings point to the importance of lesbian women using technology-mediated spaces to find communities (Craig & McInroy, 2014; Frost & Meyer, 2012; Hanckel & Morris, 2014). Past research has found that lesbian women spend significantly more time online, have a greater sense of online community, and have greater psychological well-being than heterosexual people (Gray & Moore, 2018). Lesbian women likely use technology-mediated spaces to find social support as they may experience sexual stigma in in-person contexts. This research suggests that positive, congruent SSCs would lead to the most satisfaction in all three domains; negative,

congruent SSCs would lead to the lowest satisfaction in all three domains; and the two incongruent SSCs would have comparable satisfaction rates falling between the other two.

Mental Health. Key domains of SSC relate to mental well-being (Heidari et al., 2017, Labrecque, 2021). Higgins' (1987) self-discrepancy theory argues that self-concept incongruence will cause anxiety and depression. Specifically, actual versus ought incongruence causes anxiety and actual versus ideal incongruence will cause depression. I, therefore, expect the same results for SSC incongruence. Limited research suggests that negative SSC is linked to higher depressive symptoms and positive SSC is associated with lower depression and anxiety (Labrecque, 2021; Heidari et al., 2017).

Compared to men, women experience disproportionately high levels of depression and anxiety. However, of perhaps even greater interest is that lesbian women experience higher levels of depression and anxiety than heterosexual women (Bostwick et al., 2010; Bradford et al., 1994; Hatzenbuehler & McLaughlin, 2017; Ross et al., 2018). This increased prevalence is likely due to the unique stressors (i.e., lack of social support, sexual identity disclosure, daily heterosexist experiences) lesbian women face because of their sexual identity (Ayala & Coleman, 2000; Kerr & Emerson, 2004; Ramirez & Paz Galupo, 2019).

Control Variables. Several variables influence psychosexual outcomes and must be controlled to isolate the effects of SSC (in)congruence. Specifically, body satisfaction has been identified as both an outcome and a subdomain of SSC, with evidence suggesting that positive body image is related to greater sexual satisfaction and fewer appearance-related distractions during sexual activity (e.g., Aubrey, 2007; Cleary & Hegarty, 2011; Palmer & Murry, 1995). Better sexual functioning and stronger relationship commitment are strongly tied to both better individual well-being and more positive relational outcomes (e.g., Impett & Tolman, 2006; Potki

et al., 2020). If not accounted for, these factors could artificially inflate or obscure the relationship between SSC (in)congruence and psychosexual health outcomes by introducing confounding variation. Given these associations, it will be necessary to control for body satisfaction, sexual functioning, and relationship commitment to ensure a more accurate understanding of how SSC (in)congruence uniquely impacts psychosexual health outcomes.

Summary of Dissertation

The goal of this dissertation was to better understand how lesbian women's SSC manifests across in-person and technology-mediated contexts. To accomplish this, I conducted three studies (written as four articles) that build on each other and contribute to answering my seven research questions, seven objectives, and ten hypotheses. In Article 1, I conducted a methodological review of the empirical research related to SSC. This review allowed me to identify gaps in current research methods that limit the construct validity of SSC measures for women - particularly lesbian women. The results of this review provided the starting point for the reconceptualization and operationalization of SSC for my following articles. In Article 2, I adapted Q Methodology to online platforms using Zoom and Trello. This methodological innovation created a cost-effective and accessible approach to SSC research, laying the groundwork for exploring SSC's conceptual and operational definitions in Article 3. In Article 3, I conducted two studies seeking to conceptually and operationally define SSC from both the perspectives of (1) women sexuality researchers; and (2) women with varied socio-demographic backgrounds. I further sought to explore if sexually minoritized women defined their SSC differently from sexually majoritized women and if any differences emerged between women's SSCs in in-person versus technology-mediated contexts. The results of this article allowed me to create a measure of SSC with construct validity evidence for lesbian women, across in-person

and technology-mediated contexts. I used this measure in Article 4. In this final article, I used an online survey to explore the extent to which using emerging technologies facilitates (in)congruent SSCs among lesbian women. Additionally, I explored the extent to which I could predict different types of (in)congruence and the extent to which these types of (in)congruence predicted lesbian women's sexual satisfaction, relationship satisfaction, general life satisfaction, anxiety, and depression beyond other known predictors (i.e., body image, sexual functioning, relationship commitment).

Summary of Research Questions and Hypotheses

Article 1

Research Question 1 (RQ1): What are the common elements of researchers' conceptual definitions of SSC?

Research Question 2 (RQ2): How do researchers across multiple disciplines operationally define SSC?

Research Question 3 (RQ3): To what extent have researchers provided structural validity evidence for SSC measures?

Research Question 4 (RQ4): To what extent have researchers provided external validity evidence of SSC measures?

Research Question 5 (RQ5): Who is represented in the creation of SSC measures?

Article 2

Objective 1 (O1): Develop and implement a practical, cost-effective, and ethical adaptation of Q Methodology to online formats.

Article 3

Objective 1 (O1): Explore how women sexuality researchers conceptually define SSC.

Objective 2 (O2): Explore how women sexuality researchers operationally define SSC.

Research Question 1 (RQ1): Do women with diverse socio-demographic backgrounds (e.g., gender/sex identity, sexual identity, age, ethnicity) define their SSC differently from each other?

Objective 3 (O3): Examine whether sexually minoritized women have different definitions and perceptions of SSC compared to sexually majoritized women.

Research Question 2 (RQ2): Do women's SSC definitions remain consistent across in-person and technology-mediated contexts?

Article 4

Objective 1 (O1): Identify distinct SSC (in)congruence groups across in-person and technology-mediated contexts among lesbian women.

Objective 2 (O2): Explore the extent to which technology, identity, and social support variables predict lesbian women's classification into SSC (in)congruence groups.

Hypothesis 1a (H1a): Lesbian women who receive high social support will have an actual/ideal congruent SSC.

Hypothesis 1b (H1b): Lesbian women who receive low social support will have an actual/ought congruent SSC.

Hypothesis 2a (H2a): Lesbian women with high technology-related privacy and security concerns may have an actual/ought congruent SSC.

Hypothesis 2b (H2b): Lesbian women with low technology-related privacy and security concerns may have an actual/ideal congruent SSC.

Hypothesis 3a (H3a): Lesbian women with high identity pride and low internalized homonegativity will have an actual/ideal congruent SSC.

Hypothesis 3b (H3b): Lesbian women with low identity pride and high internalized homonegativity will have an actual/ought congruent SSC.

Objective 3 (O3): Explore the extent to which lesbian women experience categorically different psychosexual outcomes (i.e., sexual satisfaction, relationship satisfaction, general life satisfaction, anxiety, depression) based on their SSC (in)congruence group membership.

Hypothesis 4a (H4a): In line with minority stress theory, lesbian women with actual/ought congruent SSCs will experience the lowest sexual satisfaction, relationship satisfaction, and general life satisfaction compared to the other three (in)congruence groups.

Hypothesis 4b (H4b): In line with minority stress theory, lesbian women with actual/ideal congruent SSCs will experience the highest sexual satisfaction, relationship satisfaction, and general life satisfaction compared to the other three (in)congruence groups.

Hypothesis 5a (H5a): In line with self-discrepancy theory, lesbian women with actual/ought incongruent SSCs will experience the highest anxiety compared to the other three (in)congruence groups.

Hypothesis 5b (H5b): In line with self-discrepancy theory, lesbian women with actual/ideal incongruent SSCs will experience the highest depression compared to the other three (in)congruence groups.

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Article 1

Measuring Sexual Self-Concept: A Methodological Review

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Abstract

Sexual self-concept (SSC) is a person's perception of themself as a sexual being. SSC is a key construct in understanding people's sexuality. However, the extent to which sexuality researchers consistently define, measure, and evaluate SSC is unknown. In this review, we determine the common elements of researchers' conceptual definitions of SSC (RQ1), describe how researchers measure SSC (RQ2), examine the structural (RQ3) and external (RQ4) validity of these measures, and highlight who is represented in the creation of SSC measures (RQ5). We conducted a comprehensive review of 67 peer-reviewed SSC studies identified through a systematic search of five databases. We extracted data using Loevinger's (1957) three phases of construct validation: substantive, structural, and external. Our results highlight current limitations in SSC construct validity. Of the 67 studies, 50 provided a conceptual SSC definition, including 14 unique definitions. Additionally, there were 32 unique measures of SSC, providing 34 distinct subscales. White (38.8%), female (47.8%), and North American (47.8%) participants were mostly represented in the research; sexual minoritized people's perceptions were underrepresented. We discuss the importance of having consistent theory-driven definitions of SSC. Moreover, researchers must consider how different groups of people uniquely understand and construct their SSCs to improve knowledge.

Keywords: sexual self-concept; method review; construct validity

Measuring Sexual Self-Concept: A Methodological Review

Sexual self-concept (SSC) is the domain of self-concept focused on sexual aspects of the self. Researchers have previously discovered that both heterosexual and sexually minoritized people's[1] SSC is linked to their psychosexual health outcomes, including sexual satisfaction, relationship satisfaction, general life satisfaction, anxiety, and depression (e.g., Antičević et al., 2017; Heidari et al., 2017; Salehi et al., 2015; Shepler et al., 2018). Due to its significance, many researchers have attempted to study SSC, resulting in a proliferation of measures. However, the extent to which researchers have developed measures of SSC from a construct validation standpoint is unclear. Construct validation refers to how well a test measures the concept it was designed to evaluate (Loevinger, 1957). A construct validation approach to psychosexual concept and measure development results in conceptually strong research methods that lead to valid empirical knowledge (Loevinger, 1957). Without a clear understanding of how researchers conceptually and operationally define SSC, we are left questioning what this concept truly represents and how best to measure it. Additionally, most psychosexual measure development has historically occurred with heterosexual and cisgender participants. Yet, researchers have found that measures developed with cisgender and/or heterosexual participants do not always hold the same psychometric properties when used with gender/sex[2,3] and/or sexually minoritized people (e.g., Carone et al., 2017; DeBlaere et al., 2017; Liu et al., 2022; Mark et al., 2018). Thus, we need to understand the extent to which SSC measure development includes gender/sex and

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[1] Sexually minoritized people can include, but are not limited to, gay men, lesbian women, bisexual, asexual, pansexual, and queer people.

[2] Gender/sex is an umbrella term used to capture the intertwined relation between sex (i.e., bodily features relating to maleness, femaleness, and sex diversity) and gender (i.e., social, cultural, and/or learned phenomena relating to femininity, masculinity, and gender diversity) and how they can not always be neatly separated (Van Anders, 2015). We use this term to acknowledge this ambiguity.

[3] Gender/sex minoritized people can include, but are not limited to, transgender men, transgender women, nonbinary, genderqueer, and intersex people.

sexually minoritized people and their perceptions to evaluate the applicability of SSC conceptual and operational definitions to these marginalised populations. Therefore, the purposes of this method review were to (a) identify how researchers conceptually and operationally define SSC, (b) examine how these definitions align with theories of self-concept generally, and (c) evaluate the psychometric properties of these definitions. To ensure the standards of construct validity are met, we must also determine if SSC is perceived the same across groups.

Self-Concept

A person's self-concept is a collection of beliefs that they hold about themselves. Rosenberg originally defined self-concept as the 'totality of the person's thoughts and feelings having reference to himself as an object' (Rosenberg, 1979, p. 7). Based on this definition, self-concept has a cognitive component and an affective component. Not only is it concerned with who we believe ourselves to be, but also the feelings we have towards these beliefs. As such, we attach feelings of competence and self-worth to our self-concepts (Pajares & Schunk, 2005). Different theorists have proposed distinct ways for how self-concept is formed (e.g., Rosenberg, 1979; Shavelson et al., 1976; Tajfel, 1978). These models of self-concept all involve cognitive appraisals. That is, they are based on the notion of a person evaluating information and using it to describe themselves. Social psychology researchers have defined self-concept as a self-ideology containing multiple representations of the self (Gecas, 1982; Markus & Wurf, 1987). As such, self-concept can be understood as a multifaceted hierarchy, with our global self-concept at the top and an array of domain-specific self-concepts nested underneath (Shavelson et al., 1976). Examples of these domain-specific self-concepts include academic self-concept, social self-concept, physical self-concept, and SSC.

Sexual Self-Concept

SSC is one domain of the overall, larger construct of self-concept. Researchers have conceptually defined SSC in varying ways. In line with self-concept, most definitions are built upon the idea that SSC is a person's perception of themself as a sexual person. Although these definitions have a common meaning, there are also unique aspects that make them distinct from each other. For example, some researchers define SSC as a multidimensional construct (e.g., Rostosky et al., 2008; Snell et al., 1992); others view it as unidimensional (e.g., Winter, 1988). Some include sexual and gender domains in their definition (e.g., Bem, 1974; Spiegel, 2008); whereas others focus solely on sexual domains. In sum, there is not one agreed upon conceptual definition of SSC. This lack of consistency complicates our understanding of SSC, posing a challenge for those wishing to research it.

Like self-concept, SSC is a powerful construct that lies at the centre of understanding what people believe about their sexual selves. These beliefs appear to predict how people feel about many aspects of their lives. Indeed, SSC research suggests that people who have negative SSC report lower sexual satisfaction (Antičević et al., 2017; Shepler et al., 2018); relationship satisfaction (Lee, 2017); general life satisfaction (Salehi et al., 2015); and decreased mental health (anxiety and depression; Heidari et al., 2017). These results are somewhat consistent with self-discrepancy theory. In selfdiscrepancy theory (Higgins et al., 1985; Rogers, 1959), a person must maintain congruence between their self-concept (i.e., their 'actual' self) and their 'ideal' self (i.e., the person they wish to be) or their 'ought' self (i.e., the person they believe they should be) to have a positive SSC (Higgins et al., 1985; Rogers, 1959). According to this theory, when people focus their attention on themselves, they tend to compare their actual behaviours against their internal standards that make up their ideal selves (i.e., who they wish to be) or ought selves

(i.e., who they should be). When people perceive that these selves match, they experience positive emotions (e.g., satisfaction, joy, relief; Higgins et al., 1985). When people perceive that their actual and ideal selves do not match, they experience dejection-related emotions (e.g., dissatisfaction, depression). When people perceive that their actual and ought selves do not match, they experience agitation-related emotions (e.g., anxiety, self-contempt). However, the extent to which SSC fits within self-concept theories such as self-discrepancy theory is unclear. It seems likely that few researchers have used a theoretical lens in developing SSC measures or research (for an exception see: Dewitte et al., 2017; Kennis et al., 2022). To better understand SSC research, we need to first understand how researchers conceptually define SSC, how they operationally define SSC (i.e., measure it), how these definitions were developed, and how they fit together.

Sexual and Gender/Sex Minoritized People and Sexual Self-Concept

Sexual and gender/sex identity play a central role in SSC, as people form their self-concept based on their group memberships. According to Tajfel's social identity theory (1978), we form our self-concepts based on our group memberships, which we determine by categorising people around us as either similar (in-group) or different (out-group). Group memberships have the greatest impact when they are central to our self-concept, and we feel a strong emotional attachment to the group. Sexually minoritized people likely conceptualize SSC in distinct ways from heterosexual people. This difference is due to their unique life experiences, including external and internal stigma (Doyle & Molix, 2015; Frost & Meyer, 2009; Mallory et al., 2015), marginalization in their romantic relationships (Lehmiller & Agnew, 2007; Platt & Lenzen, 2013), and poor mental health outcomes (Newcomb & Mustanski, 2010; Salim et al., 2019). Given these unique factors, it is likely that sexually minoritized people's SSCs differ from their

heterosexual counterparts in valence, strength, and in the dimensions that best represent SSC. Therefore, researchers need to know the extent to which SSC measures were developed with sexually minoritized participants to understand the extent to which they represent their perceptions.

Additionally, gender/sex group membership may lead to differences in conceptualizations and operationalizations of SSC. Theoretically, researchers have long pointed to different cultural messages targeting men's compared to women's sexuality (e.g., traditional sexual script theory; Simon & Gagnon, 1986; Wiederman, 2005). These scripts continue to influence many of the sexual activities, behaviours, and communications that both heterosexual and sexually minoritized men and women engage in (e.g., Courtice & Shaughnessy, 2018; Marshall et al., 2021; Thompson et al., 2020). Sexual scripts and cultural messages likely influence how people view themselves as sexual beings. Indeed, some research suggests that men and women have different perceptions of their SSC (Deutsch et al., 2014; Garcia, 1999; Guyon et al., 2020; Shepler et al., 2017). Consequently, it is important for researchers to consider the gender/sex of participants in the development of SSC measures to ensure they accurately represent the perceptions of different groups.

Alternatively, gender/sex group memberships may lead to shared SSC definitions. In gender similarities theory, researchers are urged to pay better attention to the many similarities in women and men's sexual attitudes and behaviours (Hyde, 2005). Indeed, there are many similarities between gender/sex groups when it comes to sexuality. For example, studies suggest that sexually minoritized men and women create alternative sexual scripts that are not based on binary notions of gender or heteronormative ideas of sexuality – these may transcend gender/sex differences in behavioural outcomes and perceptions related to sexuality (e.g., Barrios &

Lundquist, 2012; Gauvin & Pukall, 2018; Gonzalez-Rivas & Peterson, 2018). It is unclear how much, if any, SSC research has been conducted on gender/sex minoritized people whose gender identity falls outside of the gender/sex binary (e.g., nonbinary people, genderqueer people).

Construct Validation

Construct validation is integral when seeking to measure an unobservable concept. This process supplies evidence to support the meaning of a measure that is assumed to represent a psychological construct (Cronbach & Meehl, 1955). This process is (or ought to be) systematic. By following the process of construct validation, researchers ensure that they have applicable and rigorous research methods when evaluating constructs of interest within a given population. Loevinger (1957) summarised the process of construct validation in three phases: substantive, structural, and external. Flake et al. (2017) pointed to the limited use of construct validation in social and personality research. Given the connection between these fields and SSC, it seems likely that few researchers engaged in construct validation when developing SSC measures.

The substantive phase of construct validation centres on the theoretical base of a measure. In this phase, researchers identify a construct's essential qualities (i.e., what it is and what it is not) through literature reviews; develop item pools that represent the necessary dimensions used to measure the construct; invite experts to review these decisions; and have participants test the items through focus groups, item mapping, or cognitive interviews (Flake et al., 2017). The end results of this phase should be a theoretically driven conceptual definition and a relevant and representative operational definition (i.e., set of items in a self-report measure).

The structural phase involves quantitative analyses that researchers use to examine the psychometric properties of the measure (Loevinger, 1957). This phase includes, but is not limited

to, item analysis, factor analysis, and reliability assessments. The goal of this phase is to support the use of the measure by providing evidence for its reliability and validity.

The external phase of construct validation involves gathering evidence for how the construct is related to or independent of other constructs. Researchers evaluate convergent and divergent validity to achieve this goal (Campbell & Fiske, 1959). Convergent validity refers to the degree to which two measures that should be related theoretically, are in fact related. Divergent validity refers to the degree to which two measures that should not be related theoretically, are not actually related. The goal of this phase is to situate the construct within a larger context, or nomological network (Cronbach & Meehl, 1955).

In line with modern validity theory and those who currently study measure development (e.g., Flake et al., 2017, 2022; Kane, 2013; Messick, 1989), a measure's validity is not a binary quality that a researcher can establish in a single study. Thus, a measure cannot be 'validated'. Instead, construct validation is ongoing and requires continued evaluation. Researchers must regularly report on their sample's validity evidence because each new study presents a unique research context. If researchers create a new measure, adapt an existing measure, or use a measure in a new way or with a new population, they must provide evidence that they are still measuring their intended construct (Flake et al., 2017). Without a standardised, agreed-upon approach to measuring SSC, it is not possible to determine whether differences observed between studies are real or simply a result of different measurement methods. The process of construct validation must be met to provide the consistency needed for future comparison studies and/or meta-analyses.

Current Study

The purpose of this method review was to contribute to SSC research by exploring the evidence for construct validity and gender/sex, sexual identity inclusivity in SSC measure development. This review is crucial to improving SSC research because without a clear understanding of how researchers conceptually and operationally define SSC, we are left questioning what this concept truly represents and how best to measure it. We were guided by five research questions:

Research Question 1 (RQ1): What are the common elements of researchers' conceptual definitions of SSC?

Research Question 2 (RQ2): How do researchers across multiple disciplines operationally define SSC?

Research Question 3 (RQ3): To what extent have researchers provided structural validity evidence for SSC measures?

Research Question 4 (RQ4): To what extent have researchers provided external validity evidence of SSC measures?

Research Question 5 (RQ5): Who is represented in the creation of SSC measures?

Method

Literature Search Strategy

We conducted a search across five electronic databases (i.e., APA PsycINFO, GenderWatch, Sociological Abstracts, SCOPUS, Medline) to identify studies related to SSC. A social sciences research librarian with expertise in knowledge synthesis assisted in drafting and developing the search strategy (https://osf.io/umh5d). Based on preliminary readings, we selected these databases to reflect the range of disciplines in which SSC research tends to occur

(e.g., psychology, sociology, feminist/ gender studies, sexuality). The key search term was 'sexual self-concept'. To broaden the search, we used search tools such as truncations and Boolean operators to retrieve variations on the search term (e.g., sex* adj3 self-concept). We limited the search to peer-reviewed journal articles. We conducted the initial search in May 2020 (T1) and updated the search in May 2021 (T2).

Screening Procedure

The librarian trained the research team to screen articles. We used Covidence software to assist with screening. During phase one of the screening process, two reviewers screened the titles and abstracts of each article independently. We ensured that each article (a) was published in a peer reviewed journal; (b) was written in English; (c) used a human sample; and (d) mentioned SSC or a variation of this key term (e.g., sexualised self-concept, sexual identity self-concept). If an article did not include an abstract, the primary researcher (MA) would attempt to locate it online using Google Scholar, ResearchGate, and other databases. If unsuccessful, we categorised the study as not found and excluded it. During phase two of the screening process, the same reviewers independently screened the full texts of articles that remained according to title and abstract screening criteria. In this stage, we added the inclusion criterion that the article must operationally define SSC (i.e., measure this construct).[4] Disagreements throughout these two phases were resolved by reaching a consensus through team discussion.

Data Extraction and Analysis

We used Loevinger's (1957) three phases of construct validation to guide the development of the extraction table. The specific conditions of a given study affect the construct

[4] In our review, some researchers of the included studies utilized measures that have been operationalized to evaluate constructs other than SSC (e.g., sexual self-schema, sex roles). We included these studies because the authors specified that they were using the measures to evaluate SSC.

validity of a measure. Thus, we first extracted publication information (i.e., title of the article, authors' name, year of publication, and number of studies) and sample information (i.e., sample size, average age, gender/sex breakdown, sexuality, ethnicity, and location of study completion).

To address the substantive phase of construct validation, we extracted the conceptual definitions, operational definitions, and the content validity evidence provided in each study. For the conceptual definitions of SSC, we extracted the word-for-word definition and, if applicable, the reference information for the source from which the definition originated. We extracted each study's SSC measure to determine how the author(s) operationally defined the SSC construct. To assess the item content, we first recorded the name of the measure the author(s) used and whether it previously was published or constructed by the authors. We recorded whether the measure was unidimensional or multidimensional. If the measure was multidimensional, we noted the names of the different subscales provided in the article. We also assessed the measure structure by coding for the number of items in the whole measure and within each subscale. To assess the measurement procedures, we recorded the population that the author(s) intended to target. Particularly, we noted if the measure was intended for a general population or a specific population. If the measure was intended for a specific population, we specified the intended audience's demographics (e.g., adolescents, men, women). We also extracted the administration conditions, noting the data collection method (e.g., survey vs. interview, online vs. in-person). To address how the author(s) scored the measures, we recorded how they calculated the scores (e.g., average score, total score). We also noted if and how the author(s) had applied a standard to rate each participant's score (e.g., positive SSC vs. negative SSC). To assess the content validity, we noted how the measures were developed (e.g., literature review, expert review, focus groups, interviews). For the structural phase of construct validation, we extracted information concerning

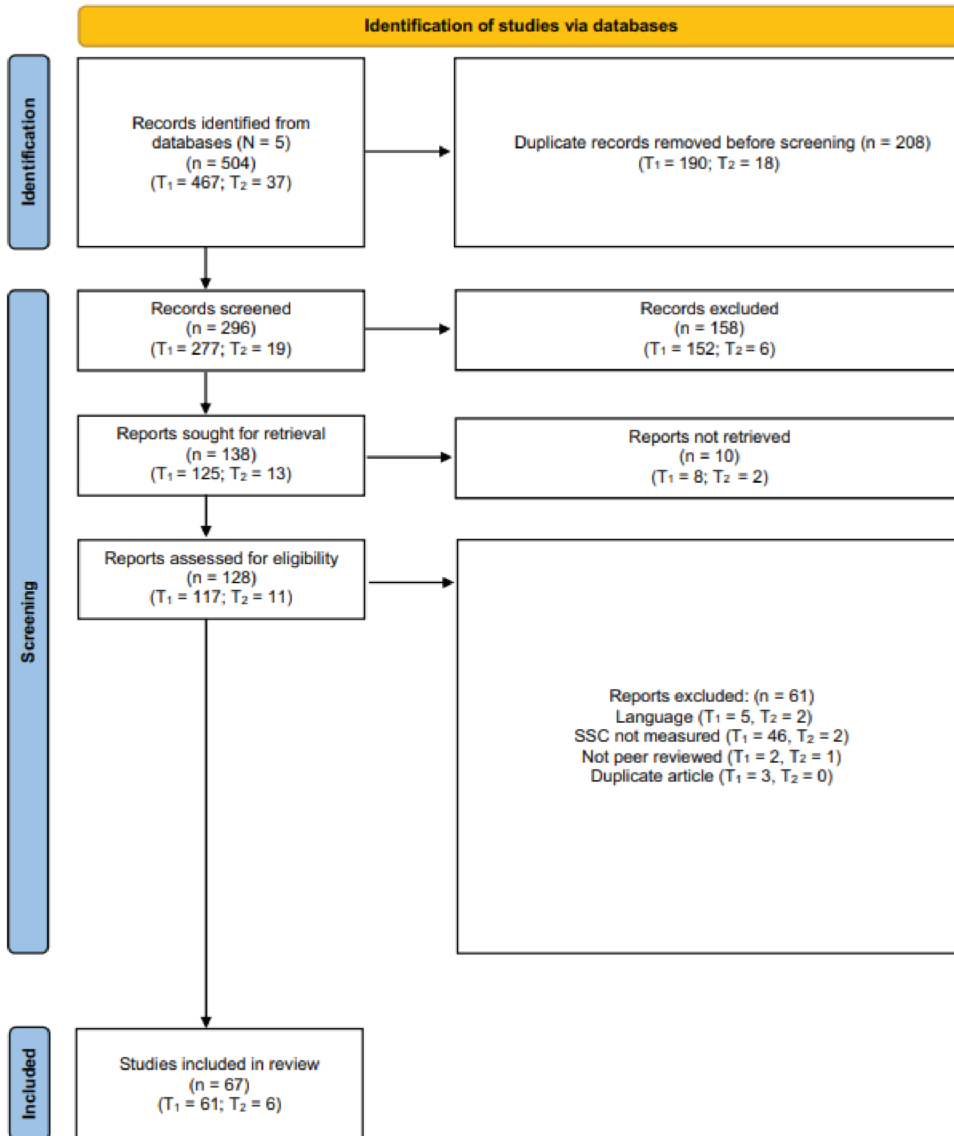
each measure's reliability, factor structure, and item-level analyses (e.g., item-total correlations, response distributions). Finally, we extracted the convergent and divergent validity of each SSC measure to evaluate the external phase. The extraction sheet with all information for each study is included as supplementary material and is available through OSF.

Results

We found a total of 504 (T1 = 467; T2 = 37) references through our database searches. Figure 2.1 displays a PRISMA flow diagram depicting the screening process and the number of articles included at each stage and in the final review. After importing references into Covidence, we removed 208 duplicates, leaving a total of 296 references for title and abstract screening. Of these 296 references, we excluded 158 because they did not meet the phase one inclusion criteria. We could not locate the full text for 10 of the 138 references included in the full-text phase. Therefore, 128 studies were eligible for full-text screening. After evaluating these studies, 67 references met the inclusion criteria and were selected for this review (61 references were excluded; see Figure 2.1).

Figure 2.1

PRISMA Diagram for Method Review



Study Characteristics

There were 63 datasets reported across 67 studies. Of the studies included in this review, 7 (10.4%) were SSC measure development papers, 7 (10.4%) included a new measure of SSC in a broader study, 29 (43.3%) used an existing measure, and 24 (35.8%) adapted (e.g., selected some subscales/items) an existing measure. The studies were published from May 1988 to February 2021, with most published in 2015 (n = 8, 11.9%). Sample sizes among the 67 studies

ranged from 35 to 13,447 participants (*M* = 522.5, *SD* = 1603.2). Most studies (*n* = 22, 32.8%) were conducted with adults only. Most studies were conducted with only female participants (*n* = 32, 47.8%), followed by both male and female participants (*n* = 29, 43.3%), and only male participants (*n* = 6, 9.0%). None of these studies specified if participants identified as cisgender or transgender, and only one included participants who identified outside of the gender/sex binary (i.e., intersex; Ferrer-Urbina et al., 2020). In most studies (*n* = 47, 70.1%), researchers did not report the sexual identity composition of their sample. Of the remaining 20 studies, 15 (75.0%) had a sample consisting predominantly of heterosexual participants. Most commonly, studies were conducted in North America (*n* = 32, 47.8%) and with White/Caucasian people (*n* = 26, 38.8%). The full breakdown of study characteristics is depicted in Table 2.1.

Table 2.1

Summary of Study Characteristics for Included Articles

Study Characteristics			*n* (%)
Demographics			
	Age		
		Children (<13)	1 (1.5%)
		Teenagers Only (13-17)	16 (23.9%)
		Emerging Adults Only (18-29)	16 (23.9%)
		Adults Only (>29)	22 (32.8%)
		Emerging Adults – Adults (18+)	1 (1.5%)
		Children and Adults	1 (1.5%)
		Not Reported	10 (14.9%)
	Gender/Sex		
		Female Participants Only	32 (47.8%)
		Male and Female Participants	29 (43.3%)
		Male Participants Only	6 (8.9%)
		Not Reported	0 (0%)
	Sexuality		
		75% - 100% Heterosexual	15 (22.4%)
		> 25% Sexually Minoritized	5 (7.5%)
		75% - 100% Sexually Minoritized	0 (0%)
		Not Reported	47 (70.1%)
	Ethnic Majority (i.e., > 50% of sample)		
		White/Caucasian/European American	26 (38.8%)
		Iranian	12 (17.9%)
		Taiwanese	6 (9.0%)
		Black/African American	4 (6.0%)
		Canadian	1 (1.5%)
		Chilean	1 (1.5%)
		Chinese	1 (1.5%)
		Columbian	1 (1.5%)
		Croatian	1 (1.5%)

		Fars	1 (1.5%)
		Ga	1 (1.5%)
		German	1 (1.5%)
		Italian	1 (1.5%)
		Japanese	1 (1.5%)
		Latina	1 (1.5%)
		Polish	1 (1.5%)
		Not Reported	7 (10.4%)
	Location of Study Completion		
		USA	28 (41.8%)
		Iran	14 (20.9%)
		Taiwan	6 (9.0%)
		Canada	4 (6.0%)
		United Kingdom	2 (3.0%)
		Australia	1 (1.5%)
		Chile	1 (1.5%)
		Columbia	1 (1.5%)
		Croatia	1 (1.5%)
		Germany	1 (1.5%)
		Ghana	1 (1.5%)
		Hong Kong	1 (1.5%)
		Ireland	1 (1.5%)
		Italy	1 (1.5%)
		Japan	1 (1.5%)
		Netherlands	1 (1.5%)
		Poland	1 (1.5%)
		South Africa	1 (1.5%)
		Not Reported	0 (0%)
Substantive			
	Literature Review		
		Conducted	5 (7.5%)
		Not Conducted	62 (92.5%)

Expert Review		
	Conducted	4 (6.0%)
	Not Conducted	63 (94.0%)
Focus Groups/Interviews		
	Conducted	5 (7.5%)
	Not Conducted	62 (92.5%)
Conceptual Definition Included		
	Yes	50 (74.6%)
	No	15 (22.4%)
	Somewhat	2 (3.0%)
Dimensionality of Measure (*N* = 32)		
	Multidimensional	17 (53.1%)
	Unidimensional	12 (37.5%)
	Not Reported	3 (9.4%)
Measures Used		
	The Multidimensional Sexual Self-Concept Questionnaire (Snell, 1995)	26
	Sexual Self-Concept Scale (Winter, 1988)	6
	The Sexuality Scale (Snell & Papini, 1989)	6
	Sexual Self-Concept Inventory (O'Sullivan et al., 2006)	5
	Sexual Self-Schema Scale - Female (Andersen & Cyranowski, 1994)	4
	Sexual Self-Schema Scale - Male (Andersen et al., 1999)	2
	Sexual Self-Concept Scale (Rostosky et al., 2008)	2
	Bem Sex-Role Inventory (BSRI; Bem, 1981)	1

	Frankfurt Self-Concept Scale for Sexuality (Deusinger, 1982)	1
	Psychological Dimensions Items (Perkel et al., 1991)	1
	Sexual Self-Concept Inventory (Palmer & Murry, 1995)	1
	Sexual Self-Concept Checklist (Breakwell & Millward, 1997)	1
	Sexual Characteristics Scales (Garcia & Carrigan, 1998)	1
	Traumatic Sexualization Survey (TSS; Matorin & Lynn, 1998)	1
	Sexual Self-Concept Questionnaire (Holmes, 2002)	1
	Women's Sexual Self-Concept Scale (WSSCS; Vickberg & Deaux, 2005)	1
	Sexual Self-Concept Scale for Sexually Abused Men (Spiegel, 2008)	1
	Adolescent Sexual Self-Concept Inventory (Hsu et al., 2015)	1
	Sexual Self Concept Scale (Biney, 2016)	1
	Sexual Self-Concept Items (Dewitte et al., 2017)	1
	Perception of the Benefits of Sex (Thorsen, 2018)	1
	Multidimensional Scale of Sexual Self-Concept (Ferrer-Urbina et al., 2019)	1
	Sexual Self-Concept Items (Chen-Yu et al., 2020)	1
Subdomains of Sexual Self-Concept (N = 32)		
	Sexual Esteem	7
	Sexual Assertiveness	5

	Sexual Self-Efficacy	4
	Body Image	3
	Passionate/Romantic	3
	Sexual Affect	3
	Sexual Agency	3
	Sexual Anxiety	3
	Sexual Control	3
	Directness/Openness	2
	Embarrassment/Conservatism	2
	Sexual Arousability	2
	Sexual Attitudes	2
	Sexual Depression	2
	Sexual Preoccupation	2
	Sexual Readiness	2
	Sexual Self-Schema	2
	Motivation to Avoid Risky Sex	2
	Powerful/Aggressive	1
	Sexual Attractiveness	1
	Sexual Deviance	1
	Sexual Enthusiasm	1
	Sexual Experience	1
	Sexual Fear/Apprehension	1
	Sexual Interest/Pleasure	1
	Sexual Intrepidness	1
	Sexual Motivation	1
	Sexual Optimism	1
	Sexual Problems	1
	Sexual Responsiveness	1
	Sexual Satisfaction	1
	Sexual Self-Consciousness	1
	Sexual Self-Monitoring	1
	Sexual Social Comparison	1
Audience (N = 32)		

		General population		21 (65.6%)
		Specific target group		11 (34.4%)
	Data Collection Method			
		Survey		43 (64.2%)
			Online[a]	11
			Paper[a]	26
			In-person[a]	22
			Telephone[a]	0
		Interview		9 (13.4%)
			Online[b]	1
			Paper[b]	1
			In-person[b]	7
			Telephone[b]	1
		Survey and Interview		2 (3.0%)
			Online[b]	0
			Paper[b]	1
			In-person[b]	2
			Telephone[b]	0
		Not Reported		13 (19.4%)
	Scoring Instructions			
		Reported		53 (79.1%)
		Not Reported		14 (20.9%)
	Scoring Procedure			
		Reported		36 (53.7%)
		Not Reported		31 (46.3%)
Structural				
	Factor Analysis			
		Only Confirmatory Factor Analysis (CFA)		6 (9.0%)
		Only Exploratory Factor Analysis (EFA)		9 (13.4%)
		Both CFA and EFA		1 (1.5%)
		Not Conducted		51 (76.1%)
	Item Analysis			
		Response Distributions Reported		4 (6.0%)

		Response Distributions Not Reported	63 (94.0%)
		Item-Total Correlations Reported	8 (11.9%)
		Item-Total Correlations Not Reported	59 (88.1%)
	Internal Consistency		
		Based on Own Sample	51 (76.1%)
		Not Reported	16 (23.9%)
	Test-Retest		
		Based on Own Sample	4 (6.0%)
		Not Reported	63 (94.0%)
External			
	Convergent Validity		
		Based on Own Sample	3 (4.5%)
		Not Reported	64 (95.5%)
	Divergent Validity		
		Based on Own Sample	2 (3.0%)
		Not Reported	65 (97.0%)

Note. *N* = 67 unless otherwise indicated. Percentages may not equal 100% due to rounding. *Measure used in conjunction with other measures. [a] Surveys may have been conducted over more than one medium. [b] Interviews may have been conducted over more than one medium. [c] Two studies used both surveys and interviews.

Substantive

The majority of researchers (*n* = 54, 80.6%) did not evaluate the substantive validity of their SSC measure. Of the 13 studies that did, four were SSC measure development papers, three included a new measure of SSC in a broader study, and six adapted an existing measure. Most commonly these studies completed literature reviews (*n* = 5, 38.5%), interviews/focus groups (*n* = 5, 38.5%), and/or expert reviews (*n* = 4, 30.8%) pertaining to the relevance of their items.

Conceptual Definitions

Most (*n* = 50, 74.6%) studies included a formal definition of SSC. We critically examined these definitions to evaluate their logical consistency, vagueness, and similarity to other SSC definitions. From this process, we extracted 14 unique definitions. Twelve definitions indicated that SSC was a person's perception (e.g., thoughts, feelings, cognitive generalisations, views) of themselves as a sexual being/person (definitions 1, 2, 4–6, 8–14; Table 2.2). The other two definitions (definition 3 and definition 7) differed. Specifically, Winter (1988) highlighted SSC as the evaluation of one's sexual feelings and actions, and Bem (1974) focused on a person's view of themselves based their 'sex-typed standard or role (i.e., masculine, feminine, androgynous, or undifferentiated)', excluding any element of sexuality from their definition.

The 12 similar SSC definitions share a fundamental basis. In five (41.7%), researchers added elements to this shared conceptualization. Both Andersen and Cyranowski (1994; definition 1) and Snell et al. (1992; definition 5) included information on how a person develops their SSC (e.g., through past sexual experiences). Additionally, these researchers and Rajabizadeh et al. (2017; definition 12) specified that a person's SSC influences their future sexual behaviours. Rostosky et al. (2008; definition 4) emphasised the multidimensional nature of the construct; Archer and Grey (2009; definition 9) added that people understand their SSC

through labels and categories; and Spiegel (2008; definition 13) added gender to their conceptual definition. A little over half of the definitions (n = 8; 57.1%) were cited in more than one study.

Table 2.2

Definitions of Sexual Self-Concept

#	Definition	Number of times cited	Authors who used this definition
1.	Cognitive generalizations about sexual aspects of oneself. They are derived from past experiences, manifest in current experience, influential in the processing of sexually relevant social information, and they guide sexual behaviour (Andersen & Cyranowski, 1994).	9	Au et al. (2012), Aubrey (2007), Hensel et al. (2011), Impett & Tolman (2006), Lotfollahi et al. (2021), Riazi et al. (2020), Salehi et al. (2015), Snapp et al. (2015), Vickberg & Deaux (2005)
2.	An individual's perception of his or her qualities in the sexual domain (Buzwell & Rosenthal, 1996).	2	Aubrey (2007), Martin & Tardif (2015)
3.	The sex-typed standard or role (i.e., masculine, feminine, androgynous, or undifferentiated) by which one describes oneself (Bem, 1974)	1	Richardson et al. (1993)
4.	A multidimensional construct that refers to an individual's positive and negative perceptions and feelings about him- or herself as a sexual being (Rostosky, Dekhtyar, Cupp, & Anderman, 2008).	11	Antičević et al. (2017), Biney (2016), Bobkowski et al. (2016), Chen-Yu et al. (2020), Hensel et al. (2011), Hsu et al. (2015), Marengo et al. (2019), Martin & Tardif (2015), Siu-ming et al. (2019), Snapp et al., (2015), Thorsen (2015)
5.	How an individual perceives him or herself as a sexual person, such as how confident they feel or the level of agency and control they perceive having in sexual situations. These self-perceptions are often related to an individual's sexual behaviours or attitudes, derived from previous experiences and motivations (Snell, Fisher, & Schuh, 1992).	6	Bobkowski et al. (2016), Hensel et al. (2011), Johnson et al. (2006), Marengo et al. (2019), Siu-ming et al. (2019), Stoeber & Harvey (2016)

6.	An individual's concept of self as sexual being (Cass, 1984).	5	Breakwell & Millward (1997), Holmes (2002), Lou et al. (2011), McBride Murry et al. (2005), Ramezani et al. (2018)
7.	An individual's evaluation of his or her own sexual feelings and actions (Winter, 1988).	5	Ferrer-Urbina et al. (2019), Hensel et al. (2011), Parent et al. (2015), Snapp et al. (2015), Tolman (1999)
8.	An individual's view of him- or herself as a sexual person (O'Sullivan et al., 2006).	10	Heidari et al. (2017), Mohagheghian et al. (2021), Pai & Lee (2012), Pai et al. (2012), Pai et al. (2010), Potki et al. (2020), Salehi et al. (2015a), Salehi et al. (2015b), Yazdani et al. (2019), Ziaei et al. (2013)
9.	The content of one's sexuality-the labels and categories by which one describes one's self as sexual (Archer & Grey, 2009).	0	
10.	''Thoughts and feelings'' one can have about his or her own sexuality (Deutsch, Hoffman & Wilcox, 2014).	0	
11.	The feelings a person has about themselves as a sexual being (Newton & McCabe, 2008).	0	
12.	Individuals' emotions, views, and beliefs regarding sexual relations, and based on these emotions, views, and beliefs, they regulate their behaviour (Rajabizadeh, Yazdanpanah, & Ramezani, 2017).	0	
13.	Thoughts and feelings about the self as they relate to the various domains of sexuality and, in this case, gender (Spiegel, 2008).	0	
14.	A measure of a person's own view of himself or herself as a sexual being (Steinke, Wright, Chung & Moser, 2008).	0	

Note. *N* = 14 unique definitions. All definitions are presented verbatim from the article cited. Number of times cited = number of times definition was cited in articles included in this method review.

Operational Definitions

Item Content. There were 32 unique measures used to examine SSC. Most (*n* = 22, 68.8%) were standalone measures of SSC. Some researchers created a latent SSC variable by combining scores for measuring other sexuality constructs that they believed represented SSC dimensions (*n* = 10; e.g., The Sexual Assertiveness Scale [Morokoff et al., 1997] with the Body Image Scale [Hopwood et al., 2001]). Of these 32 measures, 17 (53.1%) were multidimensional, 12 (37.5%) were unidimensional, and three (9.4%) had unspecified dimensionality. Only seven (21.9%) measures were used in more than one study, with 25 (78.1%) being used only once. The most common measure was the Multidimensional Sexual Self-Concept Questionnaire (MSSCQ; Snell, 1998), which was used in 26 studies. However, the MSSCQ was also commonly adapted. Only two (7.7%) researchers used the original MSSCQ in its entirety, 13 (50.0%) used a translated version (e.g., Farsi [Ziaei et al., 2013]; Persian [Ramezani et al., 2013]; Chinese [Siu-Ming et al., 2019]), and 11 (42.3%) selected just some of the subscales.

An examination of the 32 measures revealed that researchers used at least 34 distinct dimensions when measuring SSC. Of these 34 dimensions, 17 were included in more than one SSC measure. The three most commonly used dimensions were sexual esteem, sexual assertiveness, and sexual self-efficacy. Dimensions also consisted of concepts commonly theorised as outcomes of self-concept. Specifically, sexual anxiety, sexual depression, and sexual satisfaction were used in 3, 2, and 1 measure(s) respectively. Further, these subscales were commonly used; 23 (34.3%) studies included the sexual anxiety subscale, 18 (26.9%) sexual depression, and 14 (20.9%) sexual satisfaction. There was substantial variation in the number of items used to measure SSC. The fewest were two items and the most was 100 items (*M* = 29.2, *SD* = 27.5). See Table 2.1 for a full list of the 34 SSC dimensions.

Measurement Procedures. Most researchers intended for their measures to apply to a general population (*n* = 21, 65.6%) and 11 (34.4%) measures were intended for a specific subset of people (e.g., men, women, adolescents). No measures were intended specifically for sexually minoritized people.

Scoring Procedures. In most of the studies (*n* = 53, 79.1%), researchers provided instructions on how they calculated participants' SSC scores (e.g., total score for full measure, average score for full measure). However, this number dropped (*n* = 36, 53.7%) when considering how these scores could be used to interpret participants' SSCs (e.g., positive vs. negative, high vs. low). Most (*n* = 19, 52.8%) interpreted participants' SSC as ranging from positive to negative, where higher scores indicated a more positive view of one's SSC. None of these studies included cut-off points for a positive versus negative SSC but rather interpreted participants' SSCs as a range using Likert Type scales. Some researchers (*n* = 8, 22.2%) interpreted the SSC subscales separately, where higher scores reflected greater proportions of that specific dimension of SSC. In this case, a higher score could reflect a more positive perception (e.g., sexual self-esteem) or more negative perception (e.g., sexual fear) of one's SSC.

Structural

Factor Structure

In most studies, researchers did not evaluate the factor structure of the SSC measure (*n* = 51, 76.1%). In those that did (*n* = 16, 23.9%), six were SSC measure development papers, one included a new measure of SSC in a broader study, and seven adapted an existing measure. Of these studies, nine (52.9%) conducted only an exploratory factor analysis (EFA), six (35.3%) conducted only a confirmatory factor analysis (CFA), and one (6.3%) conducted both an EFA and CFA. Variances explained ranged from 40.2% to 84% (*M* = 62.5%, *SD* = 16.3), with only

three measures indicating a good model fit (i.e., Farsi Version of the MSSCQ [Ziaei et al., 2013]; Persian Version of the MSSCQ [Ramezani et al., 2013]; Sexual Self-Concept Scale for Sexually Abused Males [Spiegel, 2008]).[5] Spiegel's (2008) sample was the only one to include sexually minoritized participants. However, it was specific to sexually abused males. Similarly, there were mixed results regarding the model fit when assessing the statistics associated with the CFAs. Ideally, for each measure, all of the model fit indicators (e.g., comparative fit index, root mean square error of approximation, standardised root mean square residual) would point towards a good fit. This was not the case. Within the eight studies that conducted a CFA, two measures had all of their indicators point to a good model fit (i.e., Sexual Self-Concept Scale [Biney, 2016]; Multidimensional Scale of Sexual Self-Concept [Ferrer-Urbina et al., 2020]) and two measures had two-thirds of their indicators point towards a good model fit (i.e., Adolescent Sexual Self-Concept Inventory [Hsu et al., 2015]; revision of Sexual Self-Concept Inventory [Lou et al., 2010; O'Sullivan et al., 2006]). One of these studies included sexually minoritized people (Ferrer-Urbina et al., 2020), however, 90.1% of participants were heterosexual.

Item Analysis

Most studies (*n* = 56, 83.6%) did not include information on the quality of their items, with only four (6.0%) studies reporting on the response distributions of their items and eight (11.9%) reporting on the item-total correlations of their items. Researchers who conducted an item analysis were doing so as a part of their SSC measure development paper (*n* = 4), because they included a new measure of SSC in a broader study (*n* = 3), or because they adapted an existing measure (*n* = 2). Two studies that had an existing measure that had not been adapted included an item an item analysis.

[5] Models that explain > 60% of variance indicate good model fit (Hair et al., 2012).

Reliability Assessment

The reliability of 30 of the 32 SSC measures was assessed. Most researchers (*n* = 51, 76.1%) assessed the internal consistency of their measures using Cronbach's alpha. Cronbach's alphas ranged from .41 to .99, with 25 (49.0%) indicating their measures were acceptable (i.e., α > .80; Lance et al., 2006). Fewer researchers evaluated the test-retest reliability of their measure (*n* = 4, 6.0%). Two of these studies were SSC measure development papers (i.e., Sexual Self-Concept Inventory [O'Sullivan et al., 2006]; Sexual Self-Concept Scale for SAM [Spiegel, 2008]), one included a new measure of SSC in a broader study (Hsu et al., 2015), and one an adapted measure (Aubrey, 2007). Correlations from Time 1 to Time 2 ranged from .44 to .93, with only one measure (i.e., Sexual Self-Concept Scale for SAM; Spiegel, 2008) indicating good reliability (i.e., > .80; Price et al., 2015). The sample used in this study included gay men selected for having experienced sexual abuse. One study reported on McDonald's omega (Ferrer-Urbina et al., 2020). This study included a new SSC measure that was tested with few sexually minoritized participants (i.e., .70) and for use when comparing groups (ω > .80). However, it did not meet the required standard for reliability if the measure was intended to be used to assess individual scores (i.e., ω ≥ .95; Nunnally, 1978).

External

Convergent Validity

Only three (4.5%) studies reported the convergent validity of their measure. Two were SSC measure development papers (i.e., Sexual Self-Concept Inventory [O'Sullivan et al., 2006]; Women's Sexual Self-Concept Scale [Vickberg & Deaux, 2005]). These two indicated that factors of their measures were positively related to similar constructs. The other study applied the Farsi version of the MSSCQ to a new research population (i.e., men undergoing methadone

maintenance treatment; Rajabizadeh et al., 2017). They provided evidence of convergent validity whereby the MSSCQ was positively related to general health. These three studies did not report on their sample's sexual identity.

Divergent Validity

Only two (3.0%) studies reported the divergent validity of their measures. Both were SSC measure development papers (i.e., Sexual Self-Concept Inventory [O'Sullivan et al., 2006]; Women's Sexual Self-Concept Scale [Vickberg & Deaux, 2005]). Both studies indicated that the more positive factors on their measures were inversely related to opposing constructs. These two studies did not report on their sample's sexual identity

Summary

In Table 2.3 we summarise the construct validity evidence of standalone measures of SSC. This table does not include the list of measures that researchers used to create latent SSC variables. Researchers evaluated all three stages of the construct validation process for two measures, the Sexual Self-Concept Inventory (O'Sullivan et al., 2006) and Women's Sexual Self-Concept Scale (Vickberg & Deaux, 2005). Both of these measures originated from SSC measure development papers. However, neither of these measures met the required cut-offs for all aspects of structural validity. Specifically, they had unacceptable internal consistency on at least one of their subscales (i.e., $\alpha < .80$; Lance et al., 2006). Additionally, we retrieved no evidence to indicate that the construct validity of these measures was assessed with gender/sex or sexually minoritized participants.

Table 2.3

Summary of Construct Validity for Measures of Sexual Self-Concept

	Evidence of Construct Validity				
Measure	Substantive	Structural		External	Gender/Sex and/or Sexually Minoritized Participants
		Reliability	Factor		
*Sexual Self-Schema Scale - Female (Andersen & Cyranowski, 1994)	Yes	Yes	Yes	Yes	No
*Sexual Self-Schema Scale - Male (Andersen et al., 1999)	Yes	Yes	Yes	Yes	No
*Bem Sex-Role Inventory (BSRI; Bem, 1974)	Yes	Yes	No	Yes	NR
*Sexual Self-Concept Scale (Biney, 2016)	Yes	Yes	Yes	No	NR
Sexual Self-Concept Checklist (Breakwell & Millward, 1997)	Yes	Yes	Yes	No	NR
Sexual Self-Concept Items (Chen-Yu et al., 2020)	No	No	No	No	NR
*Frankfurt Self-Concept Scale for Sexuality (Deusinger, 1982)	No	Yes	No	Yes	NR
Sexual Self-Concept Items (Dewitte et al., 2017)	No	Yes	No	No	NR
*Multidimensional Scale of Sexual Self-Concept (Ferrer-Urbina et al., 2019)	Yes	Yes	Yes	No	Yes
*Sexual Characteristics Scales (Garcia & Carrigan, 1998)	Yes	Yes	No	No	No
Sexual Self-Concept Questionnaire (Holmes, 2002)	No	Yes	No	No	Yes
Adolescent Sexual Self-Concept Inventory (Hsu et al., 2015)	Yes	Yes	Yes	No	NR

*Sexual Self-Concept Inventory (O'Sullivan et al., 2006)	Yes	Yes	Yes	Yes	NR
*Sexual Self-Concept Inventory (Palmer & Murry, 1995)	No	Yes	No	No	NR
Psychological Dimensions Items (Perkel et al., 1991)	No	Yes	No	No	NR
Sexual Self-Concept Scale (Rostosky et al., 2008)	No	Yes	Yes	No	NR
*The Multidimensional Sexual Self-Concept Questionnaire (Snell, 1995)	Yes	Yes	No	No	NR
*The Sexuality Scale (Snell & Papini, 1989)	No	Yes	Yes	No	NR
*Sexual Self-Concept Scale for Sexually Abused Males (Spiegel, 2008)	Yes	Yes	Yes	No	Yes
*Perception Of the Benefits of Sex (Thorsen, 2018)	No	Yes	No	No	NR
*Women's Sexual Self-Concept Scale (Vickberg & Deaux, 2005)	Yes	Yes	Yes	Yes	NR
Sexual Self-Concept Scale (Winter, 1988)	Yes	Yes	No	No	NR

Note. Includes measures extracted from the review that were used to assess SSC. * = measure development study. NR = Not Reported.

Discussion

The purpose of this method review was to contribute to SSC research by exploring the evidence for construct validity and gender/sex, sexual identity inclusivity in SSC measure development. Prior to completing this review, the construct validity evidence of SSC was unclear. Additionally, the applicability of SSC conceptual and operational definitions to gender/sex and sexually minoritized people was unknown. We found that most researchers share a foundational conceptualization of SSC as a person's perceptions of themself as a sexual being/person. However, there was considerable variability in how researchers operationalized SSC. Specifically, we found 32 measures representing 34 domains of SSC with only two having been developed from a construct validation standpoint. Of these two measures, none demonstrated acceptable psychometric properties for all elements of their structural and external validity. We also found that the conceptualizations of SSC and the psychometric properties of the measures largely represent white, female, and North American perceptions. Gender/sex and sexual minoritized people's perceptions were lacking. Overall, our findings strongly suggest that researchers have conceptualized and operationalized SSC in diverse ways that pose a serious threat to its construct validity.

Construct Validity of SSC

Based on our results, we largely contest the substantive validity of SSC. Across the included studies, a common conceptual definition of SSC emerged: a person's perceptions (e.g., thoughts, feelings, cognitive generalisations, views) of themself as a sexual being/person. However, not all researchers agreed when it came to the elements that expanded on this definition. Differences arose in how researchers considered gender within one's SSC, how one's SSC is developed, and the behaviours SSC influences. Lacking a consistent conceptual definition

has had a considerable effect on how SSC is operationally defined. For instance, there is no standard for how SSC is measured. Most researchers constructed their own measure or adapted existing measures to fit their specific research purpose. This practice resulted in unique operational definitions of SSC used in an isolated study. It is near impossible to consolidate findings tied to this construct by consistently measuring SSC in different ways. Thus, researchers' abilities to identify trends and make conclusions as to how SSC affects psychosexual outcomes are impeded.

SSC measures were also largely atheoretical. Instead of building upon previously developed self-concept theories, researchers seemed to create items that they believed measured SSC. To this point, some measures contained domains that were theoretically inconsistent with the self-concept construct (e.g., sexual anxiety, sexual depression, sexual satisfaction), including the most used SSC measure (i.e., MSSCQ; Snell, 1998). Rather, these domains are better understood as outcomes of having a negative or incongruent self-concept (Higgins et al., 1985). These discrepancies call into question the empirical knowledge tied to SSC research. For one, atheoretical research is prone to Type I error, creating findings that cannot be replicated (Oberauer & Lewandowsky, 2019). Additionally, constructing independent variables with domains of the desired dependent variable will inflate the effect of the IV because the two variables share a common concept. For example, a researcher seeking to examine whether SSC predicts sexual satisfaction could not use the MSSCQ (Snell, 1998) because it includes a sexual satisfaction dimension. If the MSSCQ was used, analyses would result in SSC predicting sexual satisfaction because of the shared construct – thus shared variance – regardless of how SSC predicts sexual satisfaction in reality.

Our review also revealed issues with the structural and external validity of SSC, highlighting issues with the psychometric properties of SSC measures. Most researchers relied on Cronbach's alpha to support their measure's structural validity, likely because this metric has become a default practice. However, researchers have questioned the suitability of Cronbach's alpha and argued that McDonald's omega is a better reliability indicator (see Gauvin et al., 2021; Hayes & Coutts, 2020). More than half of the studies included in this review reported alphas below the acceptable value, meaning they had poor internal consistency. Additionally, most researchers did not assess McDonald's omega, test-retest reliability, factor structures, item-level characteristics, and convergent and divergent validity of the SSC measures. This lack of evidence calls into question our confidence in these measures' psychometric properties. But perhaps of greater concern, these limitations also threaten the replicability of SSC research overall. By continuing to use psychometrically limited or unsupported measures, researchers produce findings that cannot be replicated (Flake & Fried, 2020). Instead of helping to place SSC within a larger nomological network (i.e., linking the conceptual/ theoretical framework with the observable/empirical one; Cronbach & Meehl, 1955), these findings weaken the external validity of SSC. Researchers need to be more cognisant of the SSC measures they choose and, where possible, continue to evaluate structural and external validity to ensure that future SSC researchers have a stable foundation on which to base their research.

It is necessary to consider Loevinger's (1957) three phases of construct validity in terms of measure development but also when conducting research broadly. Our findings show that most SSC measures have been published for over a decade (see Table 2.3). Indeed, the most used SSC measure (i.e., MSSCQ; Snell, 1998) was developed and first published over 20 years ago at the time of writing Table 2.3. In this time, sexual identity and behavioural norms have changed

(Eisenberg et al., 2017; Herbenick et al., 2022; Watson et al., 2020). Thus, when choosing an SSC measure, researchers must consider when it was developed, with whom, and determine if it is still applicable. We encourage researchers to think carefully about their population while reviewing the information about measures found in Table 2.3 and in the Result Summary section to determine which, if any published measures, will be most applicable to their studies. Although it takes more work, researchers must ensure that the measures they have selected for their studies are functioning as intended, both from a reliability and validity standpoint. Only then will we have psychometrically sound measures and stable constructs.

Sexual and Gender/Sex Identity Considerations

Our method review extends research pointing to the lack of gender/sex and sexual identity inclusivity in sexuality research methods. Sex researchers commonly develop sexuality measures within the context of surveying cisgender and heterosexual people with clear gaps in the inclusion of gender/sex and sexually minoritized people (Andersen & Zou, 2015; Blair, 2014). We found this to be true with SSC measures (e.g., Archer & Grey, 2009; Deutsch et al., 2014; Griffin et al., 2016; Guyon et al., 2020; Martin & Tardif, 2015; Snapp et al., 2015). Only one study that was focused on SSC measure development included participants that fell outside of the gender/sex binary (Ferrer-Urbina et al., 2020); none had a sample comprised predominantly of sexually minoritized participants. Therefore, the reliability and validity evidence for most SSC measures is not applicable to these marginalised groups. Further, researchers commonly assumed that the SSC measures created and validated with cisgender, heterosexual populations, or populations without reported gender/sex and sexual identity data, would hold the same meaning and dimensionality within their gender/sex and sexually minoritized samples. Yet, it is likely these minoritized groups would produce different

measurement models due to their unique life experiences (Halberstam, 2003). There has not been a measure developed with gender/sex or sexually minoritized people's perceptions at the forefront, nor a measure that has been psychometrically tested within these groups. At a minimum, researchers must begin examining the reliability and validity of SSC measures with gender/sex and sexual minoritized samples. Ideally, SSC measures would be conceptualized and created for these populations. By focusing on these underrepresented groups, we can extend the integrity of SSC research, which largely has been truncated with heteronormative boundaries. Further, researchers have found that including minoritized perceptions within sexuality measures can benefit cisgender, heterosexual people as well. For example, Beischel and colleagues (2021) found that cisgender men and women changed how they thought about their gender/sex when using a diverse measure of gender/ sex and sexual diversity (i.e., Sexual Configurations Theory diagram; Van Anders, 2015). This shift allowed them to be more detailed and accurate in their descriptions of their expressions, experiences, and identities. Adding diverse perceptions will not only reveal how different groups uniquely understand SSC but also will facilitate a reimagining of what SSC is.

Limitations

This method review was not without limitations. First, we focused our literature search strategy on 'sexual self-concept'. As a result, we may have missed relevant studies that did not use this term to refer to SSC. For example, it is possible that studies on 'sexual subjectivity' or 'sexual self-schemas' could be conceptually linked to SSC. However, our use of SSC terms resulted in a wide range of studies on SSC, indicating that it is a good representation of this literature. Additionally, people's self-schemas are comprised within their self-concepts (Markus & Sentis, 1982). Thus, sexual self-schemas are considered a subdomain of SSC. Second, we

confined our review to articles published in English because we are English speakers. This means we did not capture data from articles published in other languages. Yet, our search strategy did capture information on SSC measures translated into other languages (e.g., Farsi, Croatian, French). Third, we only included published, peer-reviewed studies in our review. We likely would have found additional data if we had included more varied literature (such as dissertations or informal reports). However, they do not go through a peer-review process and therefore (1) do not meet our inclusion criteria and (2) may be less scientifically rigorous than those that are peer reviewed and published.

Conclusion

This method review illuminated serious limitations in how researchers have conceptualized and measured SSC. To ensure that we do not continue to hinder the construct validity of SSC, we must break past habits of using old measures or adapting them to fit our immediate research needs. It is imperative that researchers re-evaluate and reimagine SSC measures to increase confidence in the validity and replicability of SSC research. Researchers should begin by addressing the theoretical limitations of SSC measures to ensure that item content is relevant to self-concept theories. Then researchers can turn their attention to ensuring these measures are applicable to gender/sex and sexually minoritized populations, with sound psychometric properties and shared meanings. These steps will lead to robust theoretical and empirical knowledge of SSC that includes diverse perceptions.

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Transition Text 1

The results of the systematic method review reported in Article 1 suggest that past researchers have conceptualized and operationalized SSC in diverse ways. This inconsistency poses a threat to SSC's construct validity. This review also highlighted a critical underrepresentation of gender/sex and sexually minoritized people in SSC research. This gap raises questions about whether existing measures are applicable to these marginalized groups. From these results, I developed a working conceptual definition of SSC and an initial item pool of over 500 SSC items from peer-reviewed measures. This work informed Article 2, where my goal was to refine the definitions and items of SSC to improve its construct validity by incorporating perspectives from a wider range of women participants. To do this, I chose to use Q Methodology because it is well-suited for uncovering patterns in subjective perspectives and examining how people interpret a construct. Because the target population included underrepresented and minoritized groups, I thought it was best to provide an online option for participation. Article 2 is a description of how I adapted Q Methodology for online research. It highlights the use of accessible tools like Zoom and Trello to address practical, ethical, and cost considerations while maintaining methodological rigor. This article provides a blueprint for exploring complex constructs like SSC and contributes to advancing inclusive and innovative research methods in sexuality studies.

Article 2

Remote Research: Using Zoom, Trello, and Screen Sharing for Q Methodology on Sexual Self-Concept

This article was published in *Sage Research Methods*, in 2025:

Ashley, M., & Shaughnessy, K., (2025). Remote research: using zoom, trello, and screen sharing for q methodology on sexual self-concept. *In Sage Research Methods: Doing Research Online.* SAGE Publications, Ltd., https://doi.org/10.4135/9781036214623

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Abstract

In this Case Study, we explore how women perceive their sexual self-concepts using Q Methodology. By adapting Q Methodology to an online environment, we leveraged affordable and accessible tools such as Zoom and Trello instead of in-person or costly Q-method-specific platforms. This Case Study provides a comprehensive guide for researchers on the methodologic adaptations required to conduct Q Methodology research online, highlighting practical and ethical challenges encountered and the benefits of using readily available digital tools. Key aspects include a brief explanation of Q Methodology and its components and detailed accounts of how Zoom's screen-sharing and recording features and Trello's project-management capabilities facilitated the Q-sort process. We discuss the practical, cost, and ethical considerations we made in selecting these digital tools. We address practical challenges, such as ensuring ease of use for participants, managing technical issues, and maintaining the integrity of the sorting process online.

Learning Outcomes

By the end of this Case Study, readers should be able to:

- understand the fundamentals of Q Methodology and its application in social science research, particularly self-report measurement;
- adapt Q Methodology for an online context using digital tools (e.g., Zoom and Trello) while maintaining methodologic rigor;
- navigate practical and technical challenges associated with conducting online Q sorts; and
- implement ethical practices in online research, ensuring data confidentiality and participant privacy.

Project Overview and Context

Positionality Statement

As a lesbian woman and social psychology doctoral candidate, I (first author) am deeply troubled by the lack of research focused on our community. Lesbian women are substantially underrepresented across many disciplines of social and psychological research (Lee & Crawford, 2007, 2012; McGorray et al., 2023). I use the term women to include people who identify as women regardless of their sex assigned at birth. This lack of research fails to account for the unique perspectives of lesbian women. In 2018, I embarked on my PhD journey under the supervision of Krystelle Shaughnessy (second author) with this knowledge in mind. My research not only is aimed at contributing to the empirical understanding of how lesbian women think, feel, and experience their sexual selves but also carries an important social advocacy component. Unlike sexually majoritized people (i.e., heterosexual people), sexually minoritized people (e.g., lesbian, gay, bisexual, and queer) and their relationships are frequently targeted for

discrimination (Jaffray, 2020). Despite increasing acceptance in many societies, societal messages questioning the validity of same-gender/sex sexual attraction persist, potentially decreasing multiple aspects of well-being (Ehlke et al., 2020; Hoy-Ellis, 2023; Moagi et al., 2021).

Rationale for Research Topic and Methodology

My primary research interest is on lesbian women's sexual self-concepts (SSCs, i.e., how one thinks, feels, and experiences oneself as a sexual being) and how these concepts are influenced by both in-person and technology-mediated interactions. This interest stemmed from a broader question about the congruence of SSCs in different contexts and the potential implications this congruence might have for lesbian women's well-being and identity formation.

Our first task was to find a measure of SSC with construct-validity evidence for our planned quantitative survey study (for a thorough description of construct validity and its importance for self-report measurement, see Flake et al., 2017). To do so, we conducted a systematic method review (Ashley et al., 2024). However, we quickly discovered that the literature lacked consensus on how researchers should measure SSC. We also determined that none of the existing measures had been developed with the perspectives of lesbian women in mind. Within sex research—our primary research domain—researchers historically have studied SSC by surveying predominantly White, cisgender, and heterosexual people (Ashley et al., 2024). Guided by social identity theory (Tajfel, 1978) and intersectionality (Crenshaw, 1989), we understood that differing sociodemographic groups likely have different conceptualizations of their SSCs. Indeed, the SSCs of lesbian women could differ from those of heterosexual women. Construct validity requires testing measures with specific population groups to ensure that they align with their perspectives and experiences. Thus, using a measure developed without

considering the unique perspectives of lesbian women would be methodologically unsound. It was clear from the review results that there was no SSC measure with construct-validity evidence for lesbian women. This realization led us to conclude that we needed to create a new measure that prioritized the viewpoints of lesbian women–identified people.

We turned to Q Methodology, a research method well suited for revealing patterns in subjective perspectives. Our goal was to identify and understand the various ways in which different groups of women think, feel, and experience their sexual selves. We would then use this information to improve operational definitions of SSC for lesbian women.

This project was conducted between August and October 2023. We aimed to explore the nuances in how women with varied gender/sex identities, sexual identities, and ages defined their SSCs. Gender/sex is an umbrella term used to capture the intertwined relation between sex (i.e., bodily features relating to maleness, femaleness, and sex diversity) and gender (i.e., social, cultural, and/or learned phenomena relating to femininity, masculinity, and gender diversity) and how they cannot always be neatly separated (Van Anders, 2015). We use this term to acknowledge this ambiguity. We chose these three intersecting sociodemographic identities because research and contemporary social discourse suggest that focusing solely on sexual identity is insufficient.

We designed this project to give participants the option to complete the project in person or online. Most participants selected to do it online. This adaptation was practical considering the context of increased remote interactions following physical restrictions during the COVID-19 pandemic and the finite sample of sexually minoritized women within the geographic bounds of the study. We needed to design the online version in a cost-effective way given that we did not have funding for the project itself.

Section Summary

- The research study addressed the significant underrepresentation of lesbian women in social and psychological research, particularly in studies related to SSC.
- The researchers identified a gap in existing measures of SSC that do not consider the unique perspectives of lesbian women and decided to develop a more inclusive measure.
- Q Methodology was chosen as the research method to systematically uncover and analyze the subjective perspectives of different groups of women regarding their SSCs.

Research Design

Our study aimed to explore SSC conceptualizations among women to determine if there were significant differences based on sexual identity. If lesbian women's conceptualizations of SSC differed significantly from heterosexual women's, it would suggest that a measure of SSC specific for lesbian women was warranted. If not, the SSC construct and measurement could be the same for lesbian and heterosexual women.

Choice of Q Methodology

Q Methodology is a research technique used to study people's subjectivity. It combines qualitative and quantitative methods to reveal patterns in how people think about a particular topic. This methodology is particularly useful when researchers need to understand the range of perspectives within a group rather than aiming for statistical generalization. We selected Q Methodology based on its suitability for exploring diverse subjective viewpoints.

Key Components of Q Methodology

Q Methodology involves participants (the P set) sorting a set of statements (the Q set) according to how much they agree or disagree with them. These sorts are then analyzed to reveal clusters of similar viewpoints. We refer readers to several Sage Research Methods case studies

that describe (1) developing a Q set and a P set (Gen, 2020), (2) conducting post-sort interviews (Wolf, 2014), and (3) analyzing your Q-sort data (Mullen et al., 2022). There are also case studies that provide an overview of this method applied to social policy (Rhoads, 2014), criminology (Rhoads et al., 2021), learning sciences (Irie & Ryan, 2015), and sociology (Carroll et al., 2024).

P Set

In Q Methodology, the participant sample, or P set, is selected purposively to include people with diverse and relevant views. Consequently, sample sizes are typically smaller than those in quantitative research. In the case of this study, we recruited 20 women from varied sociodemographic backgrounds. We chose this P set considering (1) the typical P set range (i.e., 20–40; Brown, 1980) and (2) rules of thumb for P sets (Webler et al., 2009). We recruited two to three participants from each intersecting demographic group of interest (e.g., gender/sex identity [cisgender vs transgender and allogender], sexual identity [sexually majoritized vs sexually minoritized], and age [Gen Z vs Millennials]).

Q Set

The Q set is a set of statements that cover the range of perspectives about the topic being studied. These statements are carefully selected to represent diverse viewpoints on the subject of interest. Because we had already reviewed all the published SSC measures (Ashley et al., 2024), we decided to create the Q set by selecting items from these measures that theoretically represented SSC, were unique, and had evidence of reliability and validity from previous research. This process resulted in 60 SSC items as statements in our Q set. From now on, we will refer to the Q set as comprising items rather than statements given the context of this Case Study.

Q-Sorting

Participants were asked to rank order the Q set items according to how much they agreed or disagreed with them. This process is often done on a quasi-normal distribution grid, forcing participants to discriminate between items they "*Most Agree*" with, those they "*Most Disagree*" with, and those that fall in between (i.e., *Neutral*). The distribution typically resembles a bell curve with fewer items at the extremes and more in the middle. In this study, the distribution grid ranged from *Most Agree* (+4) to *Most Disagree* (–4) with 60 spaces for sorting cards. Figure 3.1 shows how our grid was divided.

Figure 3.1

Distribution Grid for Ranking Q-Set Items from Most Agree to Most Disagree

Most disagree (-4)	Disagree (-3)	Moderatly disagree (-2)	Slightly disagree (-1)	Neutral (0)	Slighlty agree (+1)	Moderately agree (+2)	Agree (+3)	Most Agree (+4)

Note. The dark squares represent the spaces where participants could place a single card. The light squares are non-selectable and serve only as visual placeholders.

Post-Sort Interviews

After completing the Q-sorting task, participants often engage in follow-up interviews about their sorting decisions. In this study, we ran semi-structured interviews with participants in which we asked them to describe what each statement meant to them and why they chose to place themselves where they did. An undergraduate research team and the first author later transcribed these interviews and examined them for patterns into how participants interpreted the items.

Analyzing the Q-Sort Data

Once all participants have completed their Q sorts, the data are subjected to factor analysis—a statistical technique used to identify patterns or clusters in the data. Unlike traditional factor analysis that groups variables, Q Methodology groups people.

Factor extraction in Q Methodology involves quantitatively analyzing the sorted items to identify groups of participants who have sorted the items in similar ways, which indicates that they share similar conceptualizations. After identifying these groups, researchers perform factor rotation to achieve a more interpretable solution. Each factor represents a distinct viewpoint held by a group of participants. For each factor, researchers generate a representative Q sort, which is an average or composite Q sort that illustrates the perspective represented by the factor.

In the case of this study, we analyzed the 20 Q sorts using PQMethod, version 2.35 (Peter Schmolck, Peter@schmolck.org) . This software package is available free online and is specifically created for Q Methodology research. We identified three distinct and interpretable factors that represented unique conceptualizations of SSC. Factor 1 comprised the sorts of seven participants, Factor 2 comprised the sorts of three participants, and Factor 3 comprised the sorts of four participants.

Interpreting Factors

For the interpretation of the factors, researchers begin by examining the representative Q sort for each factor. PQMethod provides guidance on the similarities and differences between factors by identifying distinguishing and consensus items. Distinguishing items are those ranked significantly differently from other factors, indicating unique conceptualizations. Conversely, consensus items are those ranked similarly across all factors, indicating agreement (Newman & Ramlo, 2010). In this study, Factor 1 had 20 distinguishing items (nine at $p < .001$ and 11 at $p <$

.01), Factor 2 had 12 distinguishing items (seven at $p < .001$ and five at $p < .01$), and Factor 3 had 12 distinguishing items (five at $p < .001$ and seven at $p < .01$). Additionally, 10 consensus items were placed in statistically similar positions ($p > .05$) across the three factors.

Each factor represents a group of people with similar conceptualizations. To gain further insight into these factors, researchers can refer to the post-sort interviews of the participants associated with each factor. Additionally, examining the sociodemographic information of these participants can help determine whether those who significantly load onto the same factor share other characteristics, such as age, sexual identity, and gender/sex identity. In this study, we interpreted the three factors by thematically analyzing (Braun & Clarke, 2012) the participant interviews corresponding to each factor. We also performed basic descriptive analyses of the sociodemographic information for each participant in the three factors to identify any common properties. Researchers then integrate the qualitative data with the quantitative data to develop a holistic understanding of the perspective captured in each factor.

Adapting Q Methodology Data Collection to an Online Format

At the point of planning this study (the second one of the first author's dissertation), face-to-face interactions were highly uncertain due to health and safety restrictions surrounding the COVID-19 pandemic. Additionally, we aimed to recruit women from across Canada, making an online study advantageous for reaching broad demographic and hard-to-reach populations (Ellard-Gray et al., 2015).

To adapt Q Methodology to an online environment, we explored various digital platforms designed for Q sorting, such as QMethod Software, Q-Sort Touch, and Q-Assessor. Despite their functionalities, these paid platforms were beyond our budget, costing between US$99 and US$500 per month. Additionally, their free and trial versions did not support the number of

participants or the 60-item Q set required for our study. We also considered free platforms such as HTMLQ, Attachment Q-Sorter, and WebQ. Although these platforms did not require monetary resources, they lacked visual appeal and user friendliness. Consequently, we sought alternative, cost-effective solutions.

Free Platform Choice

Trello. In search of a feasible alternative, we turned to Trello, an online visual project-management tool owned by Atlassian (https://trello.com). Trello allows users to create boards, lists, and cards. Each board represents a place to keep track of information for projects; lists keep cards organized in their various stages of progress; and cards are the smallest units of a board, representing individual tasks or ideas. Cards are sorted into lists, and lists are created on a board. Lists and cards can be moved around a board. Trello offers many functions and formats; for this study, we kept the visuals simple to mimic offline Q Methodology tools.

We used Trello to facilitate the Q-sorting process. we created a board to house the Q set and grid. On this board, we used lists to set up the grid (Figure 3.2 shows the initial setup of the Trello board with the card-sorting interface). We created a single card for each item in the Q set, much like offline Q set cards. Participants could drag and drop cards across lists to show their level of agreement. We used Trello's built-in features to constrain the number of cards that could appear in each list, effectively mimicking the normal-distribution sort. We piloted the Trello setup to ensure the accuracy and ease of the process.

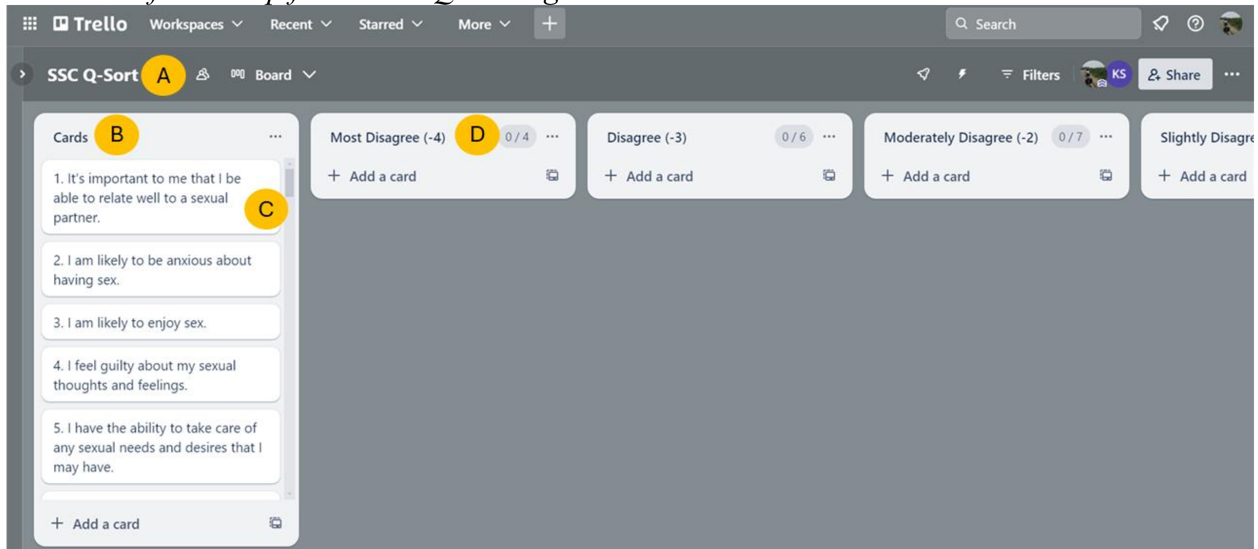
Trello's capabilities include:

- Boards (A): Used to house the Q set and the Q-sorting grid for the sort of portion of the study.

- Lists (B): Used to represent different sections of the Q-sorting grid (e.g., "*Most agree*," "*Neutral*," and "*Disagree*").
- Cards (C): Each contained an individual item in the Q set (e.g., "*I am likely to enjoy sex*").
- Customizable constraints (D): Allowing specification of how many cards can be placed in each list at a time, mimicking the forced distribution required in Q sorting.

Figure 3.2

Trello Interface Setup for Online Q-Sorting Process



Note. Trello boards (A) housed the Q set and sorting grid, lists (B) represented sections, cards (C) contained individual items. and constraints (D) mimicked the forced distribution for Q sorting.

Zoom. Although Trello would be useful for the sorting process, we needed a way to administer the Q sort to participants and record the interviews. This is where Zoom came in. Zoom is a proprietary videotelephony software program developed by Zoom Video Communications (https://zoom.us). As a graduate student (first author) and associate professor (second author) at the University of Ottawa, we had paid subscriptions that allowed us to host Zoom meetings with individual participants, record those meetings for data analysis later, and

share our screens. As mentioned in the "*Cost-Effectiveness*" section, the free version of Zoom is also a viable option despite its 40-minute meeting time limit.

With Zoom, we could share our screens to display the Trello Q-sort board to participants. Screen sharing during Zoom meetings is designed for a collaborative environment, giving users full control over their screens and what others can see. Additionally, the remote-control feature on Zoom allowed participants to control our screens from their devices, effectively letting them conduct the sorting process without our intervention. This feature was crucial for maintaining the integrity of the Q-sort process while enabling participants to sort the Q set independently. Finally, Zoom includes a recording function that will record the video and audio during the meeting to either a local or cloud location. The recording feature allowed us to easily capture the sort and the interview without having to add a third platform. These features ensured that participants could engage fully with the Q-sorting process as if they were doing it in person. Zoom's capabilities include the following:

- Screen sharing: Sharing the entire desktop, specific applications, or a portion of the screen.
- Remote control: Allowing participants to control the host's screen, enabling them to perform the Q sort directly on my Trello board.
- Recording: Recording the audio and video of meetings for later transcription and analysis.

Section Summary

- Q Methodology was chosen for its effectiveness in uncovering patterns in subjective perspectives, making it suitable for exploring how women perceive their SSCs.

- The study was adapted to an online format to accommodate the recruitment of hard-to-reach participants across Canada and the constraints imposed by the COVID-19 pandemic.
- Trello was chosen as a cost-effective tool for replicating the Q-sorting grid, using boards, cards, and customizable constraints.
- Zoom facilitated the Q sort, allowing participants to sort independently via screen sharing and remote control, with sessions recorded for analysis.

Research Practicalities

Our decision to use Trello and Zoom was driven by several factors, including practical considerations, cost-effectiveness, and ethical considerations. By using Trello and Zoom, we designed a study that was both methodologically sound and practically feasible.

Practical Considerations

When choosing Zoom and Trello for our Q Methodology study, several practical considerations were essential to ensure that the process was effective and efficient. Participants could access both platforms via any web-enabled device without needing to download applications or create accounts, increasing accessibility. Trello's intuitive interface allowed easy engagement with the Q-sorting process, accurately replicating the Q-sorting grid crucial for methodologic rigor. Zoom facilitated smooth interactions, with screen sharing and remote control enabling independent sorting tasks. These features allowed real-time instructions and troubleshooting, expanding accessibility to a diverse participant pool across Canada. This approach ensured cost-effective and inclusive data collection.

Cost-Effectiveness

Both Trello and Zoom provided free or institutionally supported versions that met all the requirements for our study without additional expenses. Trello's free version is ideal for Q Methodology research, offering unlimited lists and cards and up to 10 boards per workspace, which is essential for managing multiple sorting sessions. Customizable backgrounds and stickers make the interface visually appealing and user friendly. Zoom's free version supports 40-minute meetings and includes screen sharing and remote control, facilitating full participant engagement in the Q-sorting process. Although longer sessions required a paid subscription, the free versions of both tools proved cost-effective and efficient.

Ethical Considerations

Privacy and Security

In the information letter, we asked participants to be in a private room with no interruptions or people nearby. We made the same considerations. After each session, participants were asked to fully close their browsers to protect privacy by terminating active sessions and clearing cookies and cache, thus reducing the risk of sensitive information being stored and stopping tracking scripts. We also considered how Zoom and Trello would ensure the privacy and security of participant data throughout the study.

Trello Privacy and Security. By default, Trello boards are set to either private (requiring a password to view the content) or team visible only (where approved members of the collaboration team can view). Additionally, Trello has two-factor authentication, which enhances security for accessing the boards. For our research, it was essential to ensure that the boards were set to private. Moreover, participants were not given direct access to the private board via login credentials. Instead, they had access to our screens, which we could control and revoke at any

point. This setup ensured that participants could not directly access the board after completing the study, change the board, or somehow obtain access to other participants' completed boards, maintaining the confidentiality of the data.

Zoom Privacy and Security. Zoom may have access to any audio or video collected via its platform, so it's crucial to minimize personally identifiable information. Both video and audio files are created when recording, and both are vulnerable to breaches. It is necessary, therefore, to limit identifiers in recordings. If video is unnecessary, delete it immediately after uploading it to Zoom. Rename the audio file, move it to secure storage, and delete any remaining copies.

Privacy and security tips for recording audio and video on Zoom include the following:

- Create private meetings: Ensure that a new Zoom meeting link and password are generated for each participant.
- Enable the waiting room function: This allows the host to approve each new attendee before they can access the room.
- Uncheck the option to display participants' names in the recording: This setting prevents the capture of participants' full names in association with their voice and video.
- Blur background: This feature maintains privacy with regard to your background by blurring the background of your video, obscuring exactly who or what is behind you.

Ensure that all participants provide verbal consent before starting the recording. Only keep video and audio files long enough to enable written transcription of materials and delete the files from your local drive promptly once transcriptions are created. If there is a need to maintain the audio and/or video files, this must be justified in your institutional review board application,

with additional protective measures outlined to reduce the risk of unauthorized access. Participants must be informed about how their recorded data will be managed.

Managing Sensitive Disclosures and Inappropriate Comments

Given the sensitive nature of the topic, participants might disclose sensitive information, such as experiences of assault, trauma, or paraphilias. These disclosures can be distressing for both the participant and the researcher. Additionally, there is a risk that participants might use the opportunity to make the researcher uncomfortable by sharing inappropriate or explicit content unrelated to the study. Some strategies to mitigate these concerns include the following:

- Clearly outline the study's scope, questions, and discussion boundaries in the consent form and at the interview start.
- Maintain professional boundaries and have a plan for providing resources or referrals if needed.
- Keep the camera on during Zoom sessions to reinforce professionalism. The visual presence of the researcher reinforces the seriousness of the study, making it less likely for participants to deviate from appropriate behaviour.
- Address inappropriate comments immediately and, if necessary, end the session.

By implementing these strategies, researchers can manage sensitive and inappropriate disclosures effectively, ensuring a respectful and professional environment for both participants and themselves. This approach not only protects the well-being of all involved but also upholds the ethical standards of the research study.

Section Summary

- Trello's and Zoom's capabilities provided a user-friendly way to conduct the Q-sorting process online, enabling broad and diverse participation.

- Both tools were chosen for their free or institutionally supported versions, making them budget friendly for the study.
- Clear communication, professional boundaries, and support resources were crucial in ethically managing sensitive participant disclosures and preventing inappropriate behaviour.
- Data confidentiality was ensured through strict privacy settings on Trello and best practices for Zoom meetings.

Method in Action

Initial Plan and Execution

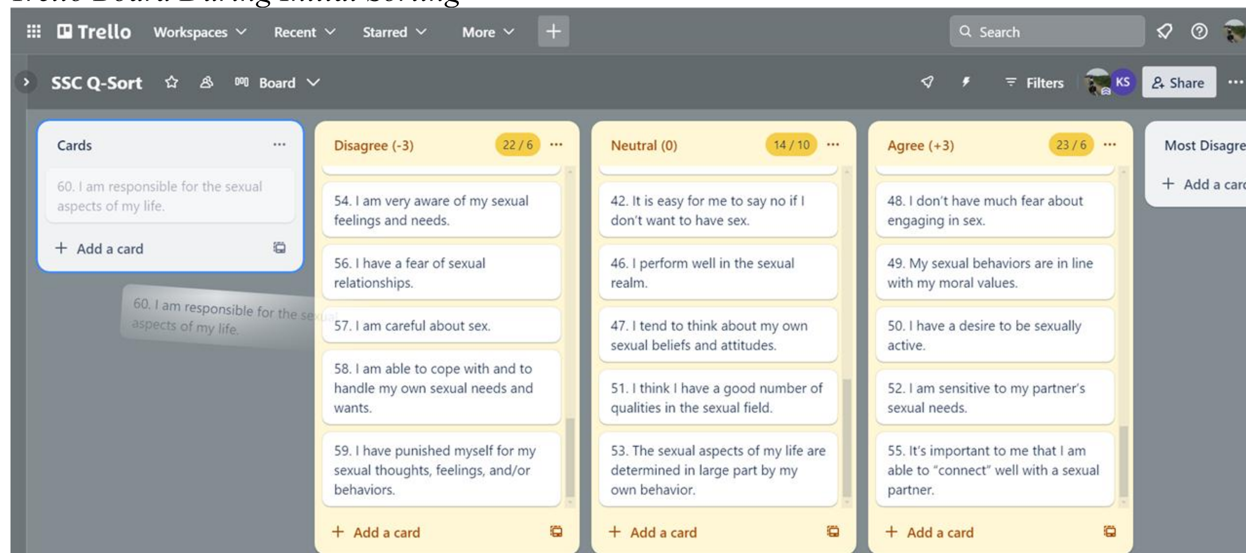
We adapted the study to an online environment using Zoom for participant interaction and Trello for the Q-sorting process. Here's how it was designed and executed.

Participants were invited to the study via email, which included a private Zoom meeting link and password. On joining the Zoom call, participants received a Qualtrics link in the chat to complete a consent form. The consent form included an agreement to have the session audio and video recorded. If participants consented, they then proceeded to complete a demographic questionnaire on the following page. During this process, participants remained on the Zoom call with the first author to ask any clarification questions they might have. After participants completed the questionnaire, they informed the first author, who then initiated the recording and proceeded with the sorting task.

The Q-sorting process began with the first author explaining how to sort the 60 cards into three initial lists: Agree, Disagree, and Neutral (Figure 3.3 provides a visual example of this process). Participants were given control of the first author's screen through Zoom's remote-

control feature, allowing them to move the cards around on the Trello board. This interactive feature was crucial for ensuring that participants could perform the sorting task independently.

Figure 3.3
Trello Board During Initial Sorting



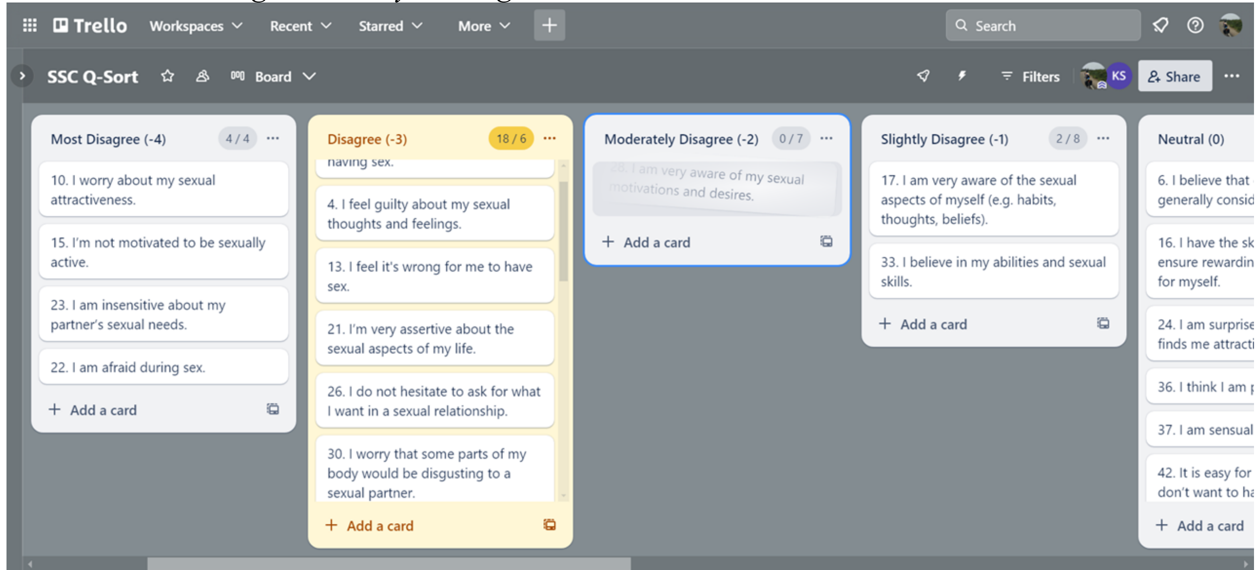
Note. Participant using Zoom's remote-control feature to drag card 60 from the left "*Cards*" panel to the "*Agree*," "*Neutral*," or "*Disagree*" lists on the Trello board. The numbers next to each list indicated the card count and category limit.

To ensure that the sorting process would adhere to the forced-distribution grid required in Q Methodology, we reminded participants at the outset that half the cards would need to be on the "*Disagree*" side and half on the "*Agree*" side. This reminder was essential because some participants initially placed too many cards on one side, complicating the process when it came to sorting the cards along the forced distribution.

Next, participants sorted the cards from the three initial lists (*Agree, Disagree*, and *Neutral*) into nine lists according to the forced distribution grid. Figure 3.4 illustrates the cards being sorted into the "*Slightly Disagree*" and "*Moderately Disagree*" lists.

Figure 3.4

Trello Board During Secondary Sorting

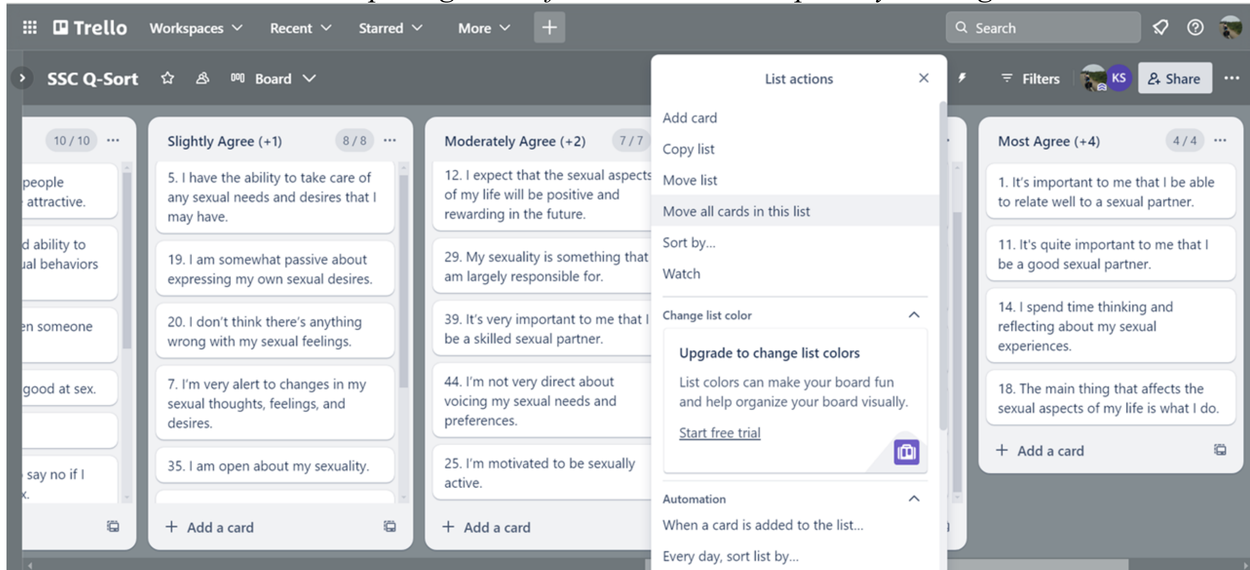


Note. Participant sorting the cards from the initial "*Disagree*" list into the other lists such as "*Slightly Disagree*" or "*Moderately Disagree*".

We conducted a semi-structured interview with each participant, asking them to explain the meaning of each card and their sorting choices. After debriefing, we saved the audio recording to a password-protected folder, deleted the video, and logged the sort distribution into a password-protected Excel file for later analysis using PQMethod. To reset the Trello board, we moved all cards back to the initial list and sorted them by date created to maintain order (Figures 3.5 and 3.6). This ensured that the board was consistent and ready for the next participant.

Figure 3.5

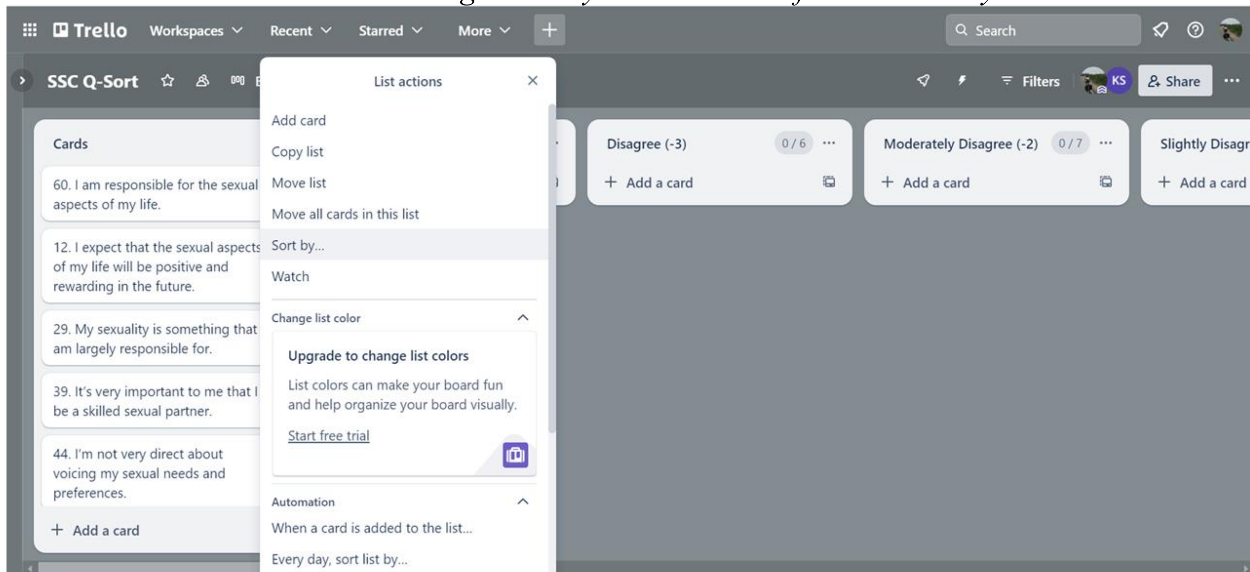
Trello Board Mid-Reset: Preparing Cards for the Next Participant by Sorting to Initial List



Note. Researcher preparing the Trello board for the next participant by moving all cards back to the initial "*Cards*" list.

Figure 3.6

Trello Board Final Reset: Cards Organized by Creation Date for Consistency



Note. Researcher preparing the Trello board for the next participant by sorting all cards in the initial "*Cards*" list by date.

Successes

Adapting Q Methodology to an online format using Trello and Zoom proved effective. Participants fully engaged with the sorting task, using Zoom's remote-control feature for independent sorting. Conducting the study online expanded our reach to a diverse group of women across Canada, increasing participation. The convenience of completing the study from home was preferred by many. Using Trello and institutionally supported Zoom subscriptions kept costs low and enabled efficient data collection. The study attracted a varied sample, providing rich data for analysis, with participants generally well versed in Zoom, ensuring smooth operation.

Challenges and Adaptations

Despite the successes, there were challenges. Participants were advised to use laptops or desktop computers with a mouse, which most followed, ensuring a smooth process. However, some used their phones, leading to difficulties with the small screen and touchscreen interface. We manually sorted cards based on their verbal instructions, which was effective but time-consuming. Future researchers should emphasize using appropriate devices for easier clicking and moving of items on a screen.

Some participants would join and realize that they had connectivity issues. These participants inevitably needed to leave and rejoin from a different device. This almost always became evident at the beginning of the session; there was no interference with data collection. Future researchers should consider highlighting in their information letter the importance of having a stable and reliable internet or data connection when starting the study.

Despite our information letters emphasizing the need for participants to join Zoom calls from private and secure environments, some joined from public places or busy homes, leading to

various disruptions (e.g., mail deliveries, pets, and noise). These disturbances hindered our ability to maintain a quiet and private setting for interviews. Additionally, participants in public or shared spaces were less forthcoming during semi-structured interviews. Future researchers should stress the importance of a private environment in their information letters to ensure clear and transparent interviews.

Our P set was young and tech savvy, making Zoom and Trello easy to use. However, with older participants, additional support and training on these tools might be necessary. Ensuring that participants understand and follow sorting instructions may require more detailed guidance, patience, and reminders. Future researchers should consider the extra time needed for this training and adjust their study plans accordingly.

Section Summary

- The Zoom setup allowed for real-time clarification and a smooth transition to the Q-sorting task, ensuring that participants understood the study's procedures.
- The online format was effective and efficient, allowing for cost-effective data collection and management.
- Some participants faced issues due to device limitations and environmental distractions.
- Future researchers should emphasize the importance of appropriate devices, stable internet connections, and private environments for conducting interviews.

Conclusion

Adapting Q Methodology to an online format proved practical and effective for exploring the SSCs of lesbian women. Our past work revealed that existing SSC measures lack construct-validity evidence for sexually minoritized women. It was crucial to develop a measure built on

the unique thoughts, feelings, and experiences of this group. Q Methodology, with its ability to capture diverse and nuanced perspectives, was the ideal method.

The online adaptation of Q Methodology allowed us to recruit participants across Canada, extending beyond the local Ottawa area. This approach facilitated the inclusion of a hard-to-reach population, enhancing the diversity and representativeness of our study sample. Additionally, it likely increased participation as many preferred the convenience of completing the study from home. Further, the use of Trello and institutionally supported Zoom subscriptions kept costs low and allowed for efficient data collection and management.

We learned several important lessons throughout the process. We encountered challenges regarding participants' device choices, internet connections, and environmental distractions. It is crucial to strongly emphasize the importance of using laptops or desktops with a mouse in all communication, including invitations, consent forms, and instructional materials. Providing additional training sessions or detailed guides on using the required digital tools also could help participants who are less familiar with the technology.

Implementing ethical practices in online research is crucial for ensuring data confidentiality and participant privacy. Zoom's features, such as creating private meetings, enabling waiting rooms, and unchecking the option to display participants' names in recordings, help maintain secure communication. Trello's privacy settings, including private boards and two-factor authentication, protect data integrity. It is also up to the researchers to provide clear information about the study, obtain verbal consent, and securely manage data. Together these steps foster a safe environment, protecting both participant privacy and data confidentiality and ensuring a robust ethical framework for online research.

Discussion Questions

1. What are the potential ethical challenges when conducting research on sensitive topics in mixed environments?
2. In what ways can the use of free or low-cost digital tools enhance or hinder the quality of Q Methodology research?
3. How might the use of online platforms for Q Methodology impact participant engagement and data quality in diverse and geographically dispersed populations?
4. How could researchers mitigate the influence of environmental distractions when conducting online Q Methodology sessions to ensure consistent data quality?
5. In what ways can post-sort interviews be used to enhance the interpretation of Q Methodology results, particularly when exploring nuanced subjective perspectives?

Multiple Choice Quiz Questions

1. What is a key challenge when using free online tools such as Trello for Q sorting in research?
   A. The lack of automated analysis features commonly found in paid platforms
   B. The potential for limited engagement due to the tool's overly simplistic design
   C. Ensuring that participants follow the correct sorting procedure without direct oversight (CORRECT)
2. What is a key ethical consideration when conducting online SSC interview-based studies?
   A. Ensuring that the study is completed within a short timeframe
   B. Maintaining participant privacy and data security (CORRECT)
   C. Avoiding the use of video recordings entirely

3. What is a common limitation when adapting in-person research methodologies such as Q Methodology to an online format?
   A. The inability to gather any qualitative data
   B. Difficulty ensuring consistency in the participant experience across different devices (CORRECT)
   C. Increased time required for participant recruitment
4. How can researchers enhance data quality when conducting remote Q-sorting studies?
   A. By providing detailed instructions and clear expectations for using the digital tools (CORRECT)
   B. By simplifying the research questions to avoid confusion
   C. By conducting shorter, less detailed follow-up interviews
5. What is a potential benefit of using remote tools such as Zoom for participant interviews?
   A. The ability to monitor participants without needing direct interaction
   B. Increased accessibility for geographically dispersed populations (CORRECT)
   C. Reduced need for ethical considerations in online environments

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Transition Text 2

In Article 2, I adapted Q Methodology to an online format to address the challenges of recruiting women participants from hard-to-reach populations. The online approach enabled broader recruitment across Canada, enhancing the diversity and representativeness of my sample. Accessible tools like Trello and Zoom made this adaptation practical, cost-effective, and ethical, particularly during the COVID-19 pandemic. In Article 3, I apply the method that I adapted and described in Article 2 to examine how women conceptualize and operationalize SSC. Study 1 involved women sexuality researchers providing feedback on the items identified at the end of Article 1 (see Transition text 1) using a card-sort task online. We used the results to select items with the highest consensus for their relevance and representativeness based on the researchers' expert-informed perspectives. In Study 2, we applied the Q Methodology design from Article 2 using the items identified in Study 1 to explore how sociodemographic factors (e.g., gender/sex, sexual identity, race/ethnicity, age) and context (in-person vs. technology-mediated) influence SSC definitions. Using an intracategorical intersectional lens, we investigated whether sexually minoritized women's SSC definitions differed from those of sexually majoritized women. This approach centred on marginalized perspectives, revealing how intersecting identities shape SSC. Together, the studies in Article 3 demonstrate the power of combining innovative methodologies with inclusive and intersectional approaches to advance SSC research. They highlight how perspectives from both researchers and participants can contribute to improving construct validity and fostering a deeper understanding of SSC.

Article 3

What is Sexual Self-Concept?: A Q Methodology Study

This article has been submitted to *Self & Identity* and is currently under peer-review:

Ashley, M., Cappelletti, L., Kudinova, G., Noorishad, P. G., & Shaughnessy, K. (Under Revision). What is Sexual Self-Concept?: A Q Methodology Study. *Self & Identity*

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Abstract

Sexual self-concept (SSC) is fundamental to self-identity, shaping how people understand their sexuality. Researchers often generalize women as a homogenous group, overlooking minoritized perspectives in SSC studies. We conducted two studies to explore if SSC differs across socio-demographic backgrounds and contexts (in-person vs. technology-mediated). In Study 1, 35 women sexuality researchers completed a sorting task, identifying 60 SSC items. In Study 2, 20 women completed a Q Methodology study, sorting these items into ranked categories and completing interviews. Our analysis revealed three SSC definitions: Confident and Partner-Focused; Reserved and Morally-Aligned; and Emerging, Trust-Focused, and Self-Conscious. Most participants focused on in-person contexts, with varied views on technology-mediated SSC. We discuss inclusive approaches to enhance construct validity for concepts related to the self.

Keywords: sexual self-concept, Q Methodology, sexual identity, technology, LGBTQ2S+

What is Sexual Self-Concept?: A Q Methodology Study

In psychology research, women are regularly treated as a homogenous group. This approach does not account for the unique perceptions that different groups of women may have regarding aspects of the self. Sexual self-concept (SSC) is the domain of self-concept focused on sexual aspects of the self. SSC is typically studied as a multidimensional construct that reflects people's perceptions, thoughts, and feelings about themselves as sexual beings. The most common methods involve self-report questionnaires designed to measure various dimensions of SSC. In our comprehensive method review (Ashley et al., 2024), we found that most SSC researchers did not adhere to best practices in construct validation to create their measures. Specifically, we found that many of the SSC measures lacked a theoretical foundation and did not consider the context of measure development. Yet, strong construct validity -- the degree to which a measure/scale can capture a concept accurately and consistently (Loevinger, 1957) – begins with a substantive phase, requiring a theoretical foundation for the construct and consideration of the context, including the population with whom the measure of the construct is created (Cronbach & Meehl, 1955; Flake et al., 2017). Researchers have not included the perspectives of marginalized groups such as sexually minoritized[6] women, and gender/sex[7] minoritized people in developing most SSC measures. An accurate understanding of SSC requires that researchers acknowledge how power dynamics and oppression relate to one's identities and shape their self-concepts. Additionally, it remains unclear whether these perceptions are consistent when women consider their SSC in a technology-mediated context

[6] We use "minoritized" instead of "minority" to emphasize that citizens are actively constructed as a minority by the dominant group (Williams, 2000).
[7] Gender/sex is an umbrella term used to capture the intertwined relation between sex (i.e., bodily features relating to maleness, femaleness, and sex diversity) and gender (i.e., social, cultural, and/or learned phenomena relating to femininity, masculinity, and gender diversity) and how they can not always be neatly separated (Van Anders, 2015). We use this term to acknowledge this ambiguity.

(i.e., environments where people interact, communicate, or express themselves through digital technologies) as opposed to an in-person one. Technology has become integrated into people's sexual lives (Döring et al., 2021; Shaughnessy & Braham, 2021). Therefore, understanding the interplay between technology-mediated (e.g., online communities, dating apps, gaming environments) and in-person contexts is crucial in understanding SSC. The purpose of this work was to contribute to improving SSC knowledge and construct validation by exploring diversity in women's perspectives of SSC.

Sexual Self-Concept's Construct Validity

SSC as a construct does not have a strong theoretical foundation. The first phase of construct validity is the substantive phase, used to establish the theoretical footing for a measure. A method review (Ashley et al., 2024) revealed that past researchers had a common conceptual definition of SSC: a person's perceptions (e.g., thoughts, feelings, cognitive generalizations, views) of themself as a sexual being/person. However, not all researchers agreed on the aspects that extended this definition, particularly regarding the role of gender/sex, SSC development, and influenced behaviours. Additionally, it was clear that there is a lack of consensus among researchers regarding the operational definition of SSC – that is, how it is measured. In previous studies, researchers have used over 30 distinct measures to assess SSC, indicating the absence of a standardized approach in this regard (Ashley et al., 2024; Astle et al., 2023). Some SSC measures also have atheoretical subscales, including sexual anxiety, sexual depression, and sexual satisfaction (e.g., Aubrey, 2007; Rostosky et al., 2008; Snell, 1998; Snell & Papini, 1989). According to different theories of self-concept, these concepts are better understood as outcomes of self-concept rather than aspects of self-concept (e.g., self-concept theory [Rogers, 1961]; self-discrepancy theory [Higgins et al., 1985]; self-concept clarity [Campbell, 1990]; self-complexity

model [Linville, 1987]). For example, in self-discrepancy theory, if someone's actual self-concept (i.e., who they actually are) does not match their ideal self-concept (i.e., who they wish to be), then they would experience dissatisfaction and depression. If someone's actual self-concept does not match their ought self-concept (i.e., who they believe they should be), then they would experience anxiety. Applying this theory to SSC, people's SSCs would therefore predict sexual satisfaction, sexual depression, and sexual anxiety, rather than these being subdomains of SSC in and of itself (Higgins et al., 1985). Further, satisfaction, depression, and anxiety about one's sex life are not in line with notions of self as a sexual being. Therefore, current measures of SSC are limited in terms of their substantive validity evidence. The problem with atheoretical constructs and research is that it is prone to Type I error (i.e., false positives), which in turn can create empirical findings that researchers cannot replicate (Oberauer & Lewandowsky, 2019).

Who is represented in SSC measures?

Another threat to SSC's substantive construct validity is the lack of diverse perspectives in SSC research. Construct validity is context-dependent; that is, how well a measure captures the construct under investigation varies across contexts and populations (Flake et al., 2017). Thus, it is vital that researchers evaluate the psychometric properties of measures in multiple samples that likely differ from each other (e.g., gender/sex, sexual identity, race/ethnicity[8], age). Method and literature reviews suggest that SSC measures largely represent white, female, North American perspectives (Ashley et al., 2024; Astle et al., 2023). Yet, socio-cultural factors likely lead women with varied socio-demographic backgrounds to have diverse ideas of SSC. Indeed, past definition studies show that people from different socio-cultural groups define sexuality constructs (e.g., sexual satisfaction [McClelland, 2014], rough sex [Svetina Valdivia et al.,

[8] Considering the fuzzy distinction between the ways ethnicity and race socially construct difference, we use the two concepts interchangeably (Hall, 1989).

2022], sexual partner(s) [Fahs & Swank, 2023]) differently. These differences likely reflect nuances in people's lived, sexual, and social experiences that shape how different groups understand their sexuality.

People's intersecting identities, the power structures effecting these identities, and the social contexts they exist within likely lead to differences in what SSC means to people. Intersectionality recognizes how intersecting oppressions shape vulnerability to harm and the legal or social intelligibility of that harm (Crenshaw, 1991). There are three essential elements to intersectional research (Choo & Ferree, 2010; Cole, 2009). First, there must be a focus on the experiences and meanings of simultaneously belonging to multiple intertwined social categories (Else-Quest & Hyde, 2016). These social categories include, but are not limited to, gender/sex, sexual identity, race/ethnicity, age, immigration status, nationality, ability/disability, and class. Each category should not be considered as static and ahistorical but rather constructed through historical and ongoing social practices (McCall, 2005). Second, we need to understand the connection between these social categories and power. Each category has a power structure where some groups hold more power than others. The concept of the "matrix of domination" helps explain these power relations (hooks, 2000; Hill Collins, 1990). This matrix relies on understanding identities as binary groups to create a privileged, majoritized, center; and an oppressed, minoritized, margin. People in the center of the matrix enjoy advantages and privileges due to these power dynamics (Warner, 2008). Some examples of privilege include being male, cisgender, heterosexual, white, young, and having no physical disabilities (Perry, 2011). Last, it's important to consider these identities both as personal attributes and within their social context (Collins 1990; Stewart & McDermott, 2004). The significance of these categories can vary depending on the situation. For instance, in Canada, legal protections provided by laws

like the Canadian Human Rights Act (1985), supportive legal precedents such as the Egan v. Canada case (1995), and positive public opinion and social acceptance (Flores, 2021) protect LGBTQ2S+[9] people from discrimination. However, in other countries like Russia (Federal Law No. 135-FZ, 2013), Nigeria (Same-Sex Marriage Act, 2013), and Saudi Arabia (Saudi Arabian Penal Code, Article 346), there are laws that actively discriminate against LGBTQ2S+ people. Consequently, lesbian women in Canada likely experience less discrimination compared to lesbian women in Russia (for example). From a cognitive perspective, we can understand the intersectionality of identities as a form of concept combination. This means that when two or more identities (such as sexuality and gender) combine, they create a new, interconnected identity that includes elements of each original concept as well as new, emergent characteristics that arise from their interaction (Hampton, 1987; Smith & Osherson, 1984; Storms et al., 1998). This process reflects how our minds integrate complex identities to form a cohesive self-concept. There are many implications for the use of this theory when looking to understand SSC. For one, studying SSC using an intersectional approach allows for a more nuanced understanding of peoples' lived experiences. In this study, we opted to target three socio-demographic aspects that create sets of intersecting majoritized and minoritized identities: gender/sex, sexual identity, and age.

Gender/Sex

Gender/sex group memberships influence how people conceptualize and operationalize their SSCs. Traditional gender roles and sexual scripts often shape women's and men's sexual interactions differently (Crawford & Popp, 2003; Simon & Gagnon, 1986; Wiederman, 2005). These roles and scripts influence both sexually majoritized and sexually minoritized people

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[9] Lesbian, Gay, Bisexual, Transgender, Queer, Two-Spirit, and other sexually and gender/sex minoritized folks.

(Courtice & Shaughnessy, 2018; Sanger & Lynch, 2018; Shaughnessy et al., 2017; Tabatabai, 2012). Research suggests that men and women perceive their SSCs differently (Deutsch et al., 2014; Garcia, 1999; Guyon et al., 2020; Shepler et al., 2017). However, SSC research has largely neglected transgender and nonbinary people, who often hold more negative perceptions of their SSC compared to cisgender people (Kennis et al., 2022a, 2022b). Therefore, it is crucial to learn from women, including transgender and nonbinary women, what SSC means to them, to evaluate how current operational definitions align with their perspectives.

Sexual Identity

Sexually minoritized women (e.g., lesbian women, bisexual women) likely have differing perceptions of SSCs than sexually majoritized women. There is very little empirical research on sexually minoritized women's SSC. The research that does exist is mixed and focused on the extent to which SSC is positive/negative rather than how sexually minoritized women define or understand SSC. In two of the three relevant studies we found, sexually minoritized women reported more positive SSC compared to sexually majoritized women (Marengo et al., 2019; Parent et al., 2015). In the third, there were no differences (Shepler et al., 2017). However, the researchers did not operationalize SSC in the same way. Further, we cannot be sure that sexually minoritized women define their SSC in similar ways to sexually majoritized women. Indeed, no measures of SSC have been developed with sexually minoritized women's perceptions at the forefront. Researchers have also not evaluated the psychometric properties of SSC measures with a sample consisting primarily of sexually minoritized women (Ashley et al., 2024). These distinctions are important to make because many sexually minoritized women live their lives differently from sexually majoritized women (Halberstam, 2003). For example, sexually minoritized women might encounter prejudice, discrimination, or invalidation of their

relationships due to societal heteronormativity (Platt & Lenzen, 2013; Shelton & Delgado-Romero, 2013; Witcomb & Cooper, 2023). They may need to negotiate and navigate different sets of expectations, norms, and stereotypes within both LGBTQ2S+ communities (Stone, 2020) and broader society (Nadal, 2013). These unique dynamics can impact their experiences of dating, forming partnerships, maintaining long-term relationships, and perhaps their SSC perceptions (Ferris & Duguay, 2020; Song et al., 2020). The absence of tailored research and measures for sexually minoritized women's SSC represents a crucial gap in the literature.

Age

Women likely have differing SSCs across their lifespan. On the one hand, their age may lead to these differences. To this point, researchers have developed SSC measures specific to women of different ages (e.g., adolescents, young women, adults; O'Sullivan et al., 2006; Vickberg & Deaux, 2005; Zimmer-Gembeck et al., 2015). Most SSC research with a developmental focus has been conducted with adolescent girls. This research has largely shown that as adolescent girls age, their SSC evolves and becomes more positive (Biney, 2016; Hensel et al., 2011; Hewitt-Stubbs et al., 2016; O'Sullivan et al., 2006; Stoeber & Harvey, 2016). These findings may indicate that increased sexual experience leads to more positive SSCs. On the other hand, women born in different generations have experienced distinctive, formative events during the development of their SSC. For example, at the time of conducting this research the oldest members of Generation Z are 25 years old (born 1997 to 2012; Statistics Canada, 2022). As such, many have just started to experiment with their sexual and gender/sex expression and may not have had any sexual experiences before (Brewster et al., 2021; de Graaf et al., 2021; Tan & Gun, 2018). Alternatively, this group has also experienced more openness and acceptance towards non-heteronormative gender and sexual identities compared to those born in earlier

generations (e.g., Millennials, Generation X; Eisenberg et al., 2017; Watson et al., 2020). Thus, these younger women may define their SSC with more positive aspects than older women. To fully understand how SSC is defined and experienced by women we must consider both age and generational influences.

How do technology-mediated contexts impact SSC?

It is possible that a person's definition of SSC may change when they consider technology-mediated contexts. Globally, the internet has seen remarkable adoption with approximately 4.9 billion people, representing about 63% of the global population, using it as of September 2021 (World Bank, 2023). It is essential to recognize that people's in-person and technology-mediated lives are not isolated spheres; instead, they are intricately interconnected. The fusion of these contexts is particularly evident as many people integrate technology into their in-person experiences including their sexual experiences (Shaughnessy & Braham, 2021). People may perceive their SSC in technology-mediated contexts as an extension of or similar to their in-person SSC. Research by Mateizer et al. (2022) found that in-person SSC and technology-mediated SSC are positively related, suggesting that SSC should not differ significantly between these contexts. However, some people might integrate new or different elements into their SSC when considering technology-mediated contexts. Mateizer et al. (2022) also found that those unable to integrate their technology-mediated sexual self with their in-person sexual self experienced a weaker sense of sexual identity, less sexual satisfaction, and fewer partnered online interactions. This suggests that for some, SSC in technology-mediated contexts is distinct. Additionally, many may not consider technology when defining their SSC at all. Overall, it is unclear whether women consider the same elements or different ones in their SSC across contexts.

Current Research

The purpose of this work was to contribute to improving SSC knowledge and construct validation by exploring diversity in women's perspectives of SSC. Currently, many SSC measures lack construct validity and are based on the perspectives and experiences of majoritized populations. These practices have led to narrow conceptual and operational definitions that likely do not apply to minoritized groups and varied contexts. Thus, we prioritized the perspectives and expertise of women to strategically position ourselves to develop a more robust understanding of SSC from their viewpoint. This deliberate choice recognizes that minoritized voices often hold crucial insights into complex phenomena such as sexuality (Collins & Bilge, 2020). Women of varied identities bring invaluable perspectives by drawing from their unique lived experiences. These perspectives can unveil nuances and intricacies that researchers may have overlooked in past SSC research. Centering these voices allows us to enhance the validity and reliability of our research within the subject of SSC and ensure that we ground our methodologies and interpretations in diverse realities.

To address these gaps, we conducted two mixed-methods studies. In Study 1, we used a card sort method to explore how women sexuality researchers conceptually define SSC (Objective 1; O1) and operationally define SSC (Objective 2; O2) to identify which existing SSC items are most representative of the construct. These findings laid the groundwork for Study 2, where we used the identified SSC items to examine how women define and perceive their SSC. Using Q Methodology, we aimed to answer whether women with diverse socio-demographic backgrounds (e.g., gender/sex identity, sexual identity, age, ethnicity) define their SSC differently from each other (Research Question 1; RQ1). Further, we examined whether sexually minoritized women had different definitions and perceptions of SSC compared to sexually

majoritized women (Objective 3; O3). Additionally, we explored whether women's SSC definitions remain consistent across in-person and technology-mediated contexts (Research Question 2; RQ2).

Study 1: Card Sort

Currently, the variability in how researchers conceptually and operationally define SSC poses a problem to its construct validity (see Ashley et al., 2024). These definitions also lack perspectives from minoritized groups, particularly gender/sex and sexually minoritized women. In this first study, we explored women sexuality researchers' conceptual (O1) and operational (O2) definitions of SSC. We selected items with the highest level of consensus to ensure that the elements we included were consistently categorized. By doing so, we aimed to reflect the variety of perspectives and lived experiences of women represented in this study.

Method

Participants

Initially, 67 sexuality researchers consented to complete our survey. After data cleaning and screening[10], we used the responses from 35 researchers. All the researchers identified as women (e.g., cis woman, woman, cissexual femme, female). They ranged in age from 24 to 71 years old (M = 38.4, SD = 11.9). Most identified as gender/sex majoritized (n = 29, 82.9%), sexually minoritized (n = 20, 57.1%), and ethnically/racially majoritized (n = 30, 85.7%). The majority were married/common law/de facto/in a life partnership (n = 18, 51.4%) and preferred a monogamous relationship model (n = 25, 71.4%). Most worked as student researchers (n = 18, 51.4%) and everyone's primary research position was in a Western country (e.g., Canada, United States, United Kingdom). We present additional sociodemographic information in Table 4.1.

[10] We removed participants that (1) consented but provided no further data, n = 6; (2) provided no card sort data, n = 12; (3) failed more than half of the directed response questions, n = 14.

Table 4.1

Researcher's Demographics and Background

Demographic		*n*	%
Age			
	Generation Z (born 1997 – 2012)	5	14.3%
	Millennial (born 1981 – 1996)	21	60.0%
	Generation X (born 1965 – 1980) - Baby Boomers (born 1946 – 1954)	9	25.7%
Gender/Sex			
	Gender/Sex Majoritized	29	82.9%
	Gender/Sex Minoritized	5	14.3%
	Prefer not to Respond	1	2.9%
Sexual Identity			
	Sexually Majoritized	14	40.0%
	Sexually Minoritized	20	57.1%
	Missing Response	1	2.9%
Ethnicity/Race			
	Ethnically/Racially Majoritized	30	85.7%
	Ethnically/Racially Minoritized	5	14.3%
Relationship Status			
	Married/common law/de facto/in a life partnership	18	51.4%
	Committed relationship	7	20.0%
	Single (no relationships, some sexual contacts)	5	14.3%
	Other specified (e.g., Dating, Polyamorous, Open Relator)	5	14.3%
Preferred Relationship Context			
	Monogamous	25	71.4%
	Consensual Non-Monogamous	9	25.7%
	Other	1	2.9%
Research Position			
	Professor (adjunct, assistant, associate)	16	45.7%
	Student (Master's, Ph.D., Post-Doctoral)	18	51.4%
	Other	1	2.9%
Country of Employment			
	Western Country	35	100.0%

Note. Total percentages may not equal 100 due to rounding. Gender/sex majoritized participants included women with cisgender and binary identities and gender/sex minoritized participants included women with transgender or allogender and nonbinary or allobinary identities (Van Anders, 2015). We operationalized sexually majoritized participants to include women with heterosexual/straight identities and sexually minoritized participants to include women with bisexual, lesbian, gay, queer, pansexual, and other minoritized identities (Beischel et al., 2023). We operationalized ethnically/racially majoritized participants to include women with Caucasian/white identities and ethnically/racially minoritized participants to include women

from communities of colour (e.g., African, North American, Caribbean, East Asain, South Asian).

Measures

Background and Demographics

Researchers responded to 13 closed- and open-ended questions that assessed demographic (e.g., age, gender, sexual identity, ethnicity/race) and background information (e.g., research position, country of employment).

Open-ended SSC Definitions

To gather conceptual definitions, we asked the researchers: "*In your own words, please define sexual self-concept*". They typed their response into an open text box that did not have an imposed character or word count.

Card Sort

Items. We developed a set of 101 card sort items to understand how researchers operationally define SSC. We used an item bank of over 500 items, representing 17 subscales, that were developed and used in published measures of SSC. We started shortening the item set by (a) removing any items that corresponded to an atheoretical SSC subdomain (i.e., sexual anxiety, sexual depression, and sexual satisfaction are outcomes not domains of the self according to self-discrepancy theory; Higgins et al., 1985); (b) removing one of two items that were synonymous with each other (e.g., "*I refuse to have sex if I don't want to*" [Loshek & Terrell, 2015] and "*I refuse to have sex if I don't want to, even if my partner insists*" [Morokoff et al., 1997]); (c) removing items that were not linked to sexuality (e.g., "*When I get dressed up, I feel good about the way I look*" [Zeanah & Schwarz, 1996]); and (d) removing items that were not about self-concept (e.g., "*I am in love*" [Vickberg & Deaux, 2005]). Next, we conducted a two-step pilot sorting task with five women researchers. They ranked the remaining items in

each subdomain[11] in a two-step process. First, they identified whether items were applicable to the subdomain ("*yes*" or "*no*"). Second, they ranked the applicable items from most to least representative. We selected ten items for each of the ten subdomains of SSC based on two criteria: items had to be endorsed as applicable and ranked in the top five by at least one researcher. For instance, in the Sexual Assertiveness subdomain, all five researchers identified 15 items as applicable. We narrowed these to 10 by excluding the five items not ranked in the top five by any researcher. This process resulted in a total of 101 items. For the full list of items included at each stage of our analysis, please refer to our OSF (https://osf.io/tme8w).

Task. There were 107 items (101 SSC items and six directed response items) in the card sort task. To mitigate survey attrition and survey fatigue we separated our card sort task into two versions: Card Sort 1 and Card Sort 2. We split the 107 items in half, Card Sort 1 contained 54 items (51 SSC items and 3 directed response items) and Card Sort 2 contained 53 items (50 SSC items and 3 directed response items). For the sorting task, we presented participant researchers with names and definitions of subdomains of SSC (based on empirical research). We asked them to click and drag each SSC item into the box they thought best represented the subdomain that the item fit with. On the same page, we asked them to indicate the five items they thought best represented each subdomain by ordering the items in each column from 1 = *"most representative"* to 5 = *"least representative"*. If they believed that an item was not representative of someone's SSC, we provided them the option to put the item in a "*Not Applicable*" section. If they believed that an item represented someone's SSC, but did not represent one of the subdomains provided, we gave them the option to put the item in an "*Other*"

[11] We identified ten SSC subdomains: (1) Positive regard for sexual self; (2) Sexual motivation; (3) Interpersonal sexual self; (4) Fear of sex; (5) Sexual responsibility; (6) Sexual consciousness; (7) Sexual assertiveness; (8) Sexual self-esteem; (9) Sexual judgement; (10) Sexual self-efficacy.

section. We employed skip logic to display these "*Other*" items on the following page, where we asked the researchers to write in the subdomain they thought these items fell under and briefly describe this subdomain.

Procedure

We recruited sexuality researchers between January and February 2023 by using social media, Listservs, and invitation emails. We also posted online advertisements for our study on public social media accounts (i.e., Twitter and Instagram). We sent invitation emails to university and sexuality association listservs (e.g., International Academy of Sex Research, Canadian Sex Research Forum, International Academy of Relationship Research) when approved by the listserv managers. We sent invitation emails to specific sexuality researchers using their professional emails listed on their institution's or lab's websites. We targeted researchers whose profiles suggested they identified as women and were racially minoritized because this group is underrepresented in academia and research (CAUT, 2018; National Center for Education Statistics, 2024). We invited all sexuality researchers to take part in an anonymous, online survey study where they would "*provide an expert opinion on the definition of SSC and the items used to measure it*". Those who wanted to complete this study were provided with a link to the online survey, hosted on Qualtrics. After obtaining their consent, we directed them to a background and demographic questionnaire. On the next page, we asked for researchers' conceptual definitions. On the third page, we randomly assigned them to either complete Card Sort 1 or Card Sort 2. Fifteen researchers completed Card Sort 1 and 20

completed Card Sort 2[12,13]. On the final page, we thanked them for their time and gave more information about the study. On average, the full survey took 1.1 hours (*SD* = 2.0) to complete.

Data Analysis

Qualitative

To address O1, we used content analysis methods (Erlingsson & Brysiewicz, 2017) to maximize flexibility and produce a representative definition of SSC. This approach allowed us to connect similar elements and map different ones to create a broad conceptual definition. Responses were imported directly from Qualtrics into Microsoft Excel, where we confirmed data saturation and divided responses into smaller sections (meaning units) while preserving the original meaning. Each meaning unit was labeled with codes, which were then grouped into categories (Erlingsson & Brysiewicz, 2017). We compared definitions to each other to identify common significant elements (Vaismoradi et al., 2013). To maintain validity and accountability, we implemented a structured and iterative coding process involving two coders, the first author and a PhD student with SSC expertise. Initially, each coder independently coded half of the definitions into meaning units. We then exchanged sets, with Coder 1 assigning initial codes to Coder 2's meaning units and vice versa. After this, we exchanged sets again, with Coder 1 organizing Coder 2's codes into higher-order categories and vice versa. Throughout the process, we regularly met to discuss and resolve discrepancies, ensuring inter-coder reliability. This iterative process enhanced the consistency and accuracy of the coding, contributing to the robustness of our findings.

[12] The optimal number of participants needed in a card sorting task is between 10 and 15 (Lantz et al., 2019).
[13] There was not a statistically significant difference between the distribution of minoritized vs. non-minoritized (e.g., heterosexual, white, cisgender-binary) participants represented in Card Sort 1 compared to Card Sort 2 (chi-square tests $p > .05$).

Quantitative

To address O2, we analyzed the card sort data using frequency and descriptive analyses in IBM SPSS (Version 29.0). Items were considered most representative of a specific SSC subdomain based on their percent agreement among researchers. For inclusion in Study 2, an item needed at least 50% agreement.

Results

Qualitative

All 35 researcher participants provided a written definition of SSC. Researchers' definitions ranged in length from five words to 105 words (M = 29.1, SD = 24.8). Within the definitions, we identified four main categories (i.e., Thinks, Feels, Experiences, Sexual Being). The "Thinks" category provided a comprehensive framework for understanding the mental dimensions of SSC, describing the mental processes by which people understand and conceptualize their own sexuality (e.g., perceptions, values). The "Feels" category included the subjective experiences and psychological responses related to people's SSC (e.g., emotions, feelings). The "Experiences" category included the subjective encounters and activities people undergo in relation to their sexual selves, highlighting both solo and partnered sexual experiences as essential elements of SSC (e.g., behaviours, activities). The category "Sexual Being" places researchers' definitions within a *sexual* framework (e.g., sexually, erotic). Together, these categories provided us with a foundational definition of SSC: how a person thinks, feels, and experiences themselves as a sexual being.

All 35 definitions of SSC aligned with our foundational definition by including at least one of the main categories related to aspects of SSC (i.e., Thinks, Feels, Experiences) and the "Sexual Being" category. On one hand, there was strong agreement among researchers on the

"Sexual Being" category (*n* = 35, 100%) and the "Thinks" (*n* = 34, 97.1%) categories. These findings highlight that a central component of SSC's conceptual definition in sexuality research is the understanding of self-concept within a sexual framework, emphasizing the cognitive aspects involved in SSC. Indeed, only one definition did not include a "Thinks" meaning unit. On the other hand, there was varied consensus on the integration of experiential and emotional elements in SSC's conceptual definition. Nearly half (*n* = 16, 45.7%) of the researchers included an "Experiences" meaning unit in their definitions, and similarly, a little less (*n* = 15, 42.9%) included a "Feels" meaning unit. These results suggest that while emotions and experiential elements are recognized, they are less emphasized compared to cognitive and sexual self-identity aspects in defining SSC.

There was substantial variation in the language researchers used to communicate their SSC definitions, with 159 meaning units existing within 19 codes. Definitions often deviated from the foundational definition. Nearly half (*n* = 17, 48.6%) of the researchers discussed contextual factors influencing SSC. Additionally, some researchers (*n* = 13, 37.1%) discussed the dimensionality of SSC by highlighting the multifaceted nature of how people perceive their sexual selves. These inconsistencies in language and focus reflect the diverse conceptual definitions within SSC research. See Table 2 for a comprehensive breakdown of our content analysis categories, codes, and examples of meaning units. For a detailed exploration of the meaning units within each code, please consult our OSF (https://osf.io/dsgqj).

Table 4.2

Categories, Codes, and Meaning Units

Category	Code	Number Of Meaning Units Within Codes	Examples of Meaning Units Within Codes
Thinks			
	Cognitions	31	thoughts, beliefs, understandings
	Perceptions	18	see, view, perceive
	Preferences	11	sexual desires, orientations, values
	Self-Profile	19	sexual self-efficacy, sexual strengths, abilities
Feels			
	Emotions	2	emotions, emotes
	Feelings	6	sexual feelings, feels
Experiences			
	Behaviours	7	behaviours, actions, sexual behaviour
	Experiences	5	solo or partnered sexual experiences, activities
	Interactions	5	sexual interactions, whether they have sex at all
Sexual Being			
	Intrinsic Sexual Nature	10	sexual person, sexual creature, erotic being
	Sexual Terminology	3	sexual terms, sexually
Context			
	External Factors	7	messages, other person elements, past experiences
	Identity/Orientation	9	gender, sex, relationship orientation
	Interpersonal Relations	5	as an individual in relation to others, relationship to others
	Life Development	2	any point in life trajectory, vary across the lifespan
	Personal Attributes	4	personality, physicality
	Social Constructs	5	ableism, racism, patriarchy
Dimensionality			
	Interconnectedness	2	come together, in relation to
	Multiplicity	8	multiple levels, aspects, may include but not limited to

Quantitative

We ran two, two-way mixed-effects, absolute agreement, intraclass correlations to assess inter-rater reliability between the researchers who completed Card Sort 1 and Card Sort 2, respectively. There was good agreement between the 15 researchers on Card Sort 1, ICC = .9 (95% CI, .8 to .9), $p < .001$, and good agreement between the 20 researchers on Card Sort 2, ICC = .9 (95% CI, .8 to .9), $p < .001$ (Portney & Watkins, 2009). Of the 101 SSC items, 74 (73.3%) had an agreement of 50% or more on which SSC subdomain they represented. We dropped the 27 items with lower agreement from further analyses. We ran the two intraclass correlations to reassess inter-rater reliability between the researchers on just the 74 items with higher agreement. There was excellent agreement between the 15 researchers on Card Sort 1, ICC = .9 (95% CI, .9 to 1.0), $p < .001$, and excellent agreement between the 20 researchers on Card Sort 2, ICC = .9 (95% CI, .9 to 1.0), $p < .001$ (Portney & Watkins, 2009). From those 74 items, we selected 58 items based on (1) having the highest agreement rate above 50%, and (2) needing 60 items for Study 2, 6 per each of the 10 subdomains (see Table 4.3 for the selected items). Of the 10 subdomains, nine had six items that scored above 50%. One subdomain, sexual motivation, only had four. As such we created two reverse worded items of the two highest agreed upon items in this subdomain. Specifically, we added *"I'm not motivated to be sexually active"* and *"I do not have a desire to be sexually active"* that we adapted from *"I'm motivated to be sexually active"* and *"I have a desire to be sexually active"*.

Table 4.3

Highest Percent Agreement on SSC Items and their Corresponding Subdomain

Item	% Agreement	Subdomain
I'm very assertive about the sexual aspects of my life.	100.0	assertiveness
I do not hesitate to ask for what I want in a sexual relationship.	93.3	assertiveness
I ask for what I want during a sexual relationship.	90.0	assertiveness
It is easy for me to say no if I don't want to have sex.	90.0	assertiveness
I'm not very direct about voicing my sexual needs and preferences. (R)	80.0	assertiveness
I am somewhat passive about expressing my own sexual desires. (R)	80.0	assertiveness
I am very aware of my sexual feelings and needs.	100.0	consciousness
I am very aware of my sexual motivations and desires.	100.0	consciousness
I am very aware of the sexual aspects of myself (e.g., habits, thoughts, beliefs).	100.0	consciousness
I'm very alert to changes in my sexual thoughts, feelings, and desires.	93.3	consciousness
I tend to think about my own sexual beliefs and attitudes.	86.7	consciousness
I spend time thinking and reflecting about my sexual experiences.	80.0	consciousness
I have a fear of sexual relationships.	100.0	fear of sex
I am fearful of engaging in sexual activity.	100.0	fear of sex
I am afraid during sex.	95.0	fear of sex
I am likely to be anxious about having sex.	95.0	fear of sex
I am afraid of becoming sexually involved with another person.	93.3	fear of sex
I don't have much fear about engaging in sex.	53.3	fear of sex
I am insensitive about my partner's sexual needs. (R)	95.0	interpersonal
I am sensitive to my partner's sexual needs.	85.0	interpersonal
It's important to me that I be able to relate well to a sexual partner.	80.0	interpersonal
It's important to me that I am able to "connect" well with a sexual partner.	80.0	interpersonal
It's quite important to me that I be a good sexual partner.	66.7	interpersonal
It's very important to me that I be a skilled sexual partner.	53.3	interpersonal
My sexual behaviours are in line with my moral values.	100.0	judgement
Some of the things I do in sexual situations are morally wrong. (R)	95.0	judgement
I feel it's wrong for me to have sex.	85.0	judgement
I don't think there's anything wrong with my sexual feelings.	60.0	judgement
I feel guilty about my sexual thoughts and feelings. (R)	60.0	judgement

I have punished myself for my sexual thoughts, feelings, and/or behaviours. (R)	60.0	judgement
I'm motivated to be sexually active.	100.0	motivation
I have a desire to be sexually active.	100.0	motivation
I strive to keep myself sexually active.	86.7	motivation
I'm motivated to devote time and effort to sex.	80.0	motivation
I expect that the sexual aspects of my life will be positive and rewarding in the future.	73.3	positive regard
I believe that in the future the sexual aspects of my life will be healthy and positive.	73.3	positive regard
I am likely to enjoy sex.	60.0	positive regard
I am open about my sexuality.	60.0	positive regard
I am sensual.	55.0	positive regard
I think I have a good number of qualities in the sexual field.	55.0	positive regard
My sexuality is something that I am largely responsible for.	100.0	responsibility
I am responsible for the sexual aspects of my life.	93.3	responsibility
The sexual aspects of my life are determined in large part by my own behaviour.	86.7	responsibility
I am careful about sex.	80.0	responsibility
The main thing which affects the sexual aspects of my life is what I do.	73.3	responsibility
I am responsible for protection from pregnancy or sexually transmitted infections.	70.0	responsibility
I have the skills and ability to ensure rewarding sexual behaviours for myself.	93.3	self-efficacy
I have the ability to take care of any sexual needs and desires that I may have.	66.7	self-efficacy
I believe in my abilities and sexual skills.	65.0	self-efficacy
I am able to cope with and to handle my own sexual needs and wants.	60.0	self-efficacy
I perform well in the sexual realm.	60.0	self-efficacy
I feel I am pretty good at sex.	60.0	self-efficacy
I worry about my sexual attractiveness. (R)	85.0	self-esteem
I am surprised when someone finds me attractive. (R)	80.0	self-esteem
I am not concerned about how I look when I am naked.	75.0	self-esteem
I worry that some parts of my body would be disgusting to a sexual partner. (R)	75.0	self-esteem
I believe that other people generally consider me attractive.	73.3	self-esteem
I wish I were sexier.	70.0	self-esteem

Note. 58 items. (R) = reverse worded item.

Discussion

Our findings highlight the complexity and nuances involved in defining and measuring SSC. Although we observed variability in the language, contextualization, and dimensionality used by researchers in their definitions, they shared a foundational conceptual definition of SSC: SSC refers to how a person thinks, feels, and experiences themselves as a sexual being. Further, we found discrepancies in how researchers related items to each SSC subdomain, with a little over a quarter (26.7%) of the items included in our card sort having poor agreement among researchers. However, once we excluded these items from analyses, there was excellent agreement on how the remaining items mapped onto each subdomain. Based on the percent agreement between researchers, we selected the 58 items from Study 1 and developed two new items for further investigation in Study 2. By including items that demonstrated greater consensus, we aimed to ensure the inclusion of consistently classified items, regardless of the intersecting identities of a person.

Study 2: Q-Sort

The purpose of Study 2 was to examine how women define and perceive their SSC, focusing on the extent to which sociodemographic factors (RQ2) and context (i.e., in-person versus technology-mediated; RQ3) might account for variability in these definitions. We further examined if sexually minoritized women's definitions and perceptions of their SSC would differ from those of their majoritized counterparts (O3). To do this, we used a Q Methodology approach (Stephenson, 1953; Watts & Stenner, 2005). The purpose of Q Methodology is to examine the different ways that people interpret a construct. This approach is tailored to exploring diverse ideas that enhance understanding of a construct and reveal how it is perceived by different people. This emphasis is in line with an intracategorical approach to intersectionality

by considering that the intersections of various identities (e.g., gender, sexuality, race/ethnicity, age) can lead to distinct perspectives within women (Bendl, 2000; McCall, 2005). Researchers have argued that Q Methodology aligns research procedures with intersectional insights (e.g., centering marginalized perspectives; Bailey et al., 2019).

Method

Participants

A total of 20 women participated in this study. This sample size fits both (1) the typical Q-sort participant range (i.e., 20 to 40; Brown, 1980); and (2) rules of thumb for Q-sort samples (Webler et al., 2009). To participate, participants had to read and write English at least fairly well; identify as a woman (cisgender, transgender, allogender); and be 18 years of age or older. Participants ranged in age from 18 to 47 years old (M = 25.2, SD = 7.8). Most identified as gender/sex majoritized (i.e., cisgender women; n = 16, 80.0%), sexually minoritized (n = 12, 60.0%), and ethnically/racially majoritized (i.e., white; n = 14, 70.0%). There was considerable variation in participants' relationship statuses (e.g., 40.0% Single, 30% married/common law/de facto/in a life partnership), but most reported a preference for monogamy (n = 18, 90.0%). Most participants were born in Canada (n = 18, 90.0%), with the remaining two (20.0%) holding permanent resident status.

Measures

Demographics

Participants responded to 15 closed- and open-ended questions that assessed demographic information (e.g., age, gender, sexual identity, ethnicity/race).

Open-ended SSC Definitions

We asked participants to define *Sexual Self-Concept* using an open text box that did not have an imposed character or word count. Specifically, we asked, "*In your own words, please define sexual self-concept*". This question was used to focus our participants on the topic of this study (Rubin & Rubin, 2005).

Q-Sort Items

We selected 58 SSC items from Study 1 for the Q-sort and created two additional new items based on Study 1 results. These items represented 10 SSC subdomains, with six items for each subdomain (see Study 1, Table 2 for the full list of the SSC subdomains and the selected items). Participants sorted each item onto one of 60 places on a normal-distribution grid representing *"Most Disagree"* to *"Most Agree"* (see Figure 4.1).

Figure 4.1

Q-Sort Distribution Grid for Sorting SSC Items

Most Disagree (-4)	Disagree	Moderately disagree	Slightly disagree	Neutral (0)	Slightly agree	Moderately agree	Agree	Most Agree (+4)

Note. The dark squares represent the 60 separate spaces where participants could place a single card. The light squares are non-selectable and serve only as visual placeholders.

Procedure

We recruited participants to take part in a study about how women perceive themselves as sexual people from August to October 2023. We recruited participants in two ways: from the

University of Ottawa undergraduate student pool (*n* = 10), and through social media and physical advertisements (*n* = 10). We compensated undergraduates with 1.5 course credits and community participants with $15 CAD. For both recruitment methods, we used a purposive sampling technique to include specific demographic criteria related to age, gender/sex, and sexual identity (see our purposive sampling guide on OSF: https://osf.io/h2bv8).

Once registered for the study, women completed either an in-person (*n* = 2) or online (*n* = 18) Q-sort task and subsequent semi-structured interview. See (Ashley & Shaughnessy, In Press – Article 2) for details on adapting our in-person procedure to an online format. For both in-person and online versions of this study, the first author met with the participants to complete the study tasks. Upon arrival in-person or joining the scheduled Zoom meeting online, participants completed the informed consent form through Qualtrics. The form provided details on the study goals, procedure, potential risks and benefits, and participant rights. Selecting "*Yes*" indicated informed consent to participate, be recorded, and be quoted anonymously in research publications.

After consenting to all the options, participants were automatically brought to a new page of the Qualtrics survey where they completed the demographic questionnaire. On the next page, they wrote out how they define SSC. This question was used to focus our participants on the topic of this study (Rubin & Rubin, 2005). On average, this survey took in-person participants 6.2 minutes (*SD* = 2.7) and online participants 4.9 minutes (*SD* = 2.0).

After completing the Qualtrics survey, we provided participants with 60 items to read, consider, and sort. We provided in-person participants with laminated cards and a grid for sorting; online participants used Trello for a similar sorting task via Zoom screen-share. If technical issues arose, the researcher assisted by sorting the cards as directed by the participant.

On average the sorting task took in-person participants of 25.9 minutes (*SD* = 1.2) and online participants 35.3 minutes (*SD* = 7.2).

After completing the Q-sort, participants engaged in a semi-structured interview to discuss – in this order – their SSC definitions (e.g., *"What is your general understanding of SSC"*), how these may differ in online contexts (e.g., *"How would your understanding of SSC change when thinking about your sexual self-concept online?"*), and their sorting decisions (e.g., *"What were you thinking of when you decided to place the cards in the agree sections?"*; see our interview protocol on OSF: https://osf.io/zt694). We audio-recorded the interviews and later transcribed them for analysis. On average, this task took in-person participants 18.9 minutes (*SD* = 5.0) and online participants 22.4 minutes (*SD* = 8.7).

After completing the interview, we debriefed and compensated participants. On average, the full study took online participants 57.7 minutes (*SD* = 13.3) and in-person participants 44.8 minutes (*SD* = 6.2). This study was approved by the Research Ethics Board at the University of Ottawa, Canada.

Data Analysis and Results

To address RQ2 and O3, we first identified SSC definitions from participants' Q-sorts. Then, we visually examined the sociodemographic characteristics of participants within each definition. Finally, we interpreted the definitions using data from the Q-sorts and semi-structured interviews.

Identifying Definitions

We used PQMethod software (PQMethod 2.35; Schmolck & Atkinson, 2014) to analyze participants' Q-sorts and identify SSC definitions. We performed a correlation analysis of the 20 Q-sorts and then a Principal Components Analysis (PCA) to extract definitions. Each definition

is a shared subjective perspective of SSC: participants included in each definition placed the items in the Q-sort in a similar location, meaning that they consistently agreed or disagreed that the same items represented (or not) their SSC. The PCA revealed eight definitions. Applying the Kaiser-Guttman criterion (eigenvalues > 1; Cliff, 1988; Guttman, 1954; Kaiser, 1960), we focused on four definitions (see Table 4.4 for the unrotated factor matrix). We then applied a Varimax rotation to maximize statistical differences (Watts & Stenner, 2005). This process resulted in a matrix correlating the 20 Q-sorts with the four rotated definitions.

Table 4.4

Unrotated Factor Matrix

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Eigenvalues	8.9	2.2	1.6	1.1	0.9	0.8	0.7	0.7
% explained variance	44	11	8	6	5	4	3	3

Note. Eight initial factors. Eigenvalues greater than 1 were retained based on the Kaiser-Guttman criterion.

Who Represents these Definitions?

We manually flagged participants who endorsed the definitions based on the significance of their loadings onto each definition. Loadings greater than 0.4 were significant at the $p < .001$ level (i.e., 3.3(1/√60); Ghasemi & Zahediasl, 2012; Watts & Stenner, 2005). We excluded six confounding participants (i.e., load greater than 0.4 on more than one definition) from interpreting the definitions. Since Q Methodology aims to identify patterns rather than represent all participants, this exclusion did not impact our findings. We also removed the fourth definition as it had only one significant participant (Watts & Stenner, 2005). We conducted a second Varimax rotation on the three remaining interpretable definitions. We then examined the demographic characteristics associated with each definition using frequency distributions to determine if specific groups primarily endorsed each definition (see Table 4.5).

Table 4.5

Q-sort Participants' Demographics

Participant ID	Gender/Sex	Sexual Identity	Age	Race/Ethnicity
Definition 1				
M_{Age} = 25.0, *SD* = 4.0; 57.1% gender/sex majoritized; 85.7% sexually minoritized; 85.7% ethnically/racially majoritized				
002	Cisgender	Lesbian/queer	29	White – North American
004	Cisgender	Queer	28	White – North American
006	Cisgender	Bisexual	22	East Asian
007	Femme, nonbinary	Queer	24	White – North American
009	Genderqueer and/or nonbinary	Queer	28	White – North American
010	Genderqueer	Lesbian/queer	26	White – North American
012	Cisgender	Heterosexual	18	White – European
Definition 2				
M_{Age} = 21.3, *SD* = 4.2; 100.0% gender/sex majoritized; 66.7% sexually majoritized; 66.7% ethnically/racially minoritized				
005	Cisgender	Heterosexual	26	Latin American
015	Cisgender	Heterosexual	20	South East Asian
017	Cisgender	Lesbian	18	White – North American
Definition 3				
M_{Age} = 21.0, *SD* = 4.7; 75.0% gender/sex majoritized; 50.0% sexually minoritized; 75.0% ethnically/racially majoritized				
008	Cisgender	Bisexual	28	White – North American
011	Cisgender	Heterosexual	18	White – North American
014	Cisgender	Heterosexual	19	Black – Caribbean
019	Agender, female	Demisexual	19	White – North American
Cross-loaders				
M_{Age} = 30.2, *SD* = 11.7; 100.0% gender/sex majoritized; 50.0% sexually minoritized; 66.7% ethnically/racially majoritized				
001	Cisgender	Heterosexual	28	South Asian
003	Cisgender	Heterosexual	41	White – North American
013	Cisgender	Lesbian	19	White – North American
016	Cisgender	Heterosexual	28	White – North American
018	Cisgender	Lesbian	18	White – European
020	Cisgender	Lesbian	47	First Nations

Note. At time of data collection aged 18 – 26 = Generation Z; 27 – 42 = Millennial; 43 – 58 = Generation X.

Seven participants endorsed Definition 1. Generally, those endorsing this definition had varied socio-demographic backgrounds surrounding their gender/sex and age but largely identified as racially/ethnically majoritized with sexually minoritized identities. Three participants endorsed Definition 2. This group predominantly comprised racially/ethnically minoritized women from Generation Z who identified as gender/sex and sexually majoritized. Four participants endorsed Definition 3. Generally, those endorsing this definition had varied socio-demographic backgrounds surrounding their sexual identity, but were largely gender/sex majoritized, younger, and racially/ethnically majoritized. Six participants significantly loaded on more than one definition (i.e., cross-loaded or confounded) and were not retained for analysis. These participants had varied sexual identities but were older, gender/sex majoritized, and predominantly racially/ethnically majoritized.

Interpreting Definitions

The three-definition solution accounted for 64% of the explained variance and 14 (70%) participants' Q-sorts. To understand the SSC perceptions these three definitions represented, we used two types of data: the Q-sort items and the interviews. PQMethod generated a composite Q-sort for each of the three definitions, representing the overall perspective of all participants associated with each definition. Each definition had four *"Most Agree"* items and four *"Most Disagree"* items, representing the items that participants felt most strongly about. The PQMethod output file also provided a list of distinguishing items for each definition. An item is *distinguishing* if its z-scores across definitions are statistically different. PQMethod provides distinguishing items up to a *p*-value of .01 and we also calculated z-score differences at thresholds of .001 to ensure high statistical significance. This approach allowed us to pinpoint

the most robust differences between the three definitions, enhancing the reliability of our analysis by focusing on the most significant *"Agree"* and "*Disagree"* items.

We used the interview data to help us understand what participants understood the *"Most Agree", "Most Disagree"* and distinguishing *"Agree"* and *"Disagree"* items meant and why they placed these items where they did. Three researchers that were part of this project examined transcribed interviews to identify key elements of each definition using Braun and Clarke's (2006) thematic analysis method. We began the thematic analysis by individually reviewing the data and generating initial codes to capture patterns in the SSC definitions. Afterward, we collaborated to merge these codes into themes, refining them to ensure each theme was distinct. Finally, the first author drafted the definitions to ensure clarity and coherence, creating a narrative that effectively explained how women define their SSC. Cohen's Kappa = 0.8 indicated excellent agreement between coders. Based on these analyses we labeled the three definitions: (1) Confident and Partner-Focused; (2) Reserved and Morally-Aligned; and (3) Emerging, Trust-Focused, and Self-Conscious.

Definition 1: Confident and Partner-Focused Sexual Self-Concept

This definition highlighted six of the 10 SSC subdomains, with participants prioritizing their interpersonal sexual self, sexual consciousness, sexual self-efficacy, and positive regard for sexual self within their SSCs and stating that fear of sex and sexual judgement did not fit within their thoughts, feelings, or experiences as sexual beings. See Table 4.6 for the *"Most Agree", "Most Disagree"* and distinguishing *"Agree"* and *"Disagree"* items.

Table 4.6
Distinguishing Items for Definition 1

Most Agree	**Most Disagree**
11. It’s quite important to me that I be a good sexual partner.* 3. I am likely to enjoy sex.** 20. I don’t think there’s anything wrong with my sexual feelings.*	56. I have a fear of sexual relationships.*
Agree	**Disagree**
54. I am very aware of my sexual feelings and needs.** 33. I believe in my abilities and sexual skills.**	41. I am afraid of becoming sexually involved with another person.* 4. I feel guilty about my sexual thoughts and feelings.*

Note. * = significant at .01; ** = significant at .001.

The Importance of Being a Good Sexual Partner. Those endorsing this definition highlighted the importance of being a good sexual partner and placed value on satisfying their partner's needs and desires, as well as their own. Participant 006 explained, *“I think being in a relationship - that’s something that I do value, because I do care about my partner and their needs and wants as much as mine are important.”* Participants noted that their confidence in their sexual skills facilitated their ability to be a good sexual partner, for example *“I’m confident in my skills. I guess being aware of my partners, I feel like I’m a giver a lot, and I’m really in tune to that. [It’s] less about my needs, I think and more about theirs.”* (P002). Their emphasis on mutual satisfaction and desire to contribute positively to sexual relationships reflects a sense of responsibility and dedication to fostering healthy and fulfilling sexual experiences for everyone involved.

Rejection of Negative Feelings About Their SSCs. Participants rejected negative feelings about their SSCs, indicating a lack of guilt or fear about their sexual selves. Instead, they embraced positive and affirming attitudes towards their sexual thoughts, feelings, and experiences, emphasizing the validity and importance of their own sexual identity. In discussing feelings of guilt, some participants reflected on their past experiences and how they have shaped

their current attitudes towards sex. For instance, those who had religious or conservative upbringings acknowledged that it had been a journey from guilt to self-acceptance of their SSC. Participant 004 expressed *"So, I grew up super Christian, really like conservative and up until I was 23, I thought my sexual feelings and needs were so bad and made me feel so guilty for so long. So that one was there because that's one of the things that I value the most, like there's literally nothing wrong with me being me."* Further, participants reported not feeling afraid of sexual relationships or activities and described themselves as confident and comfortable with their sexual lives. Participant 009 mentioned *"*'I have a fear of sexual relationships'*... I don't really fully know why I was so adamant about putting the fearful parts in there [the* Most Disagree *section] but I have a lot of positive feelings about my current sex life, so I think all of those like afraid and fear kind of got tossed into there."* Instead, participants reported a strong enjoyment and positive experience with sex. They highlighted that they enjoy sex and see it as an integral and pleasurable part of their lives and who they are. Overall, participants endorsing Definition 1 had views that reflected a progressive and accepting understanding of themselves as sexual beings.

Definition 2: Reserved and Morally-Aligned Sexual Self-Concept

This definition highlighted seven of the 10 SSC subdomains, with participants prioritizing sexual responsibility, interpersonal sexual self, sexual self-esteem and sexual judgement within their SSCs and stating that sexual assertiveness, sexual self-efficacy, and sexual motivation did not fit within their thoughts, feelings, or experiences as sexual beings. See Table 4.7 for the *"Most Agree", "Most Disagree"* and distinguishing *"Agree"* and *"Disagree"* items.

Table 4.7
Distinguishing Items for Definition 2

Most Agree	Most Disagree
60. I am responsible for the sexual aspects of my life.	33. I believe in my abilities and sexual skills.*
1. It's important to me that I be able to relate well to a sexual partner.	27. I'm motivated to devote time and effort to sex.**
49. My sexual behaviours are in line with my moral values.*	40. Some of the things I do in sexual situations are morally wrong.
Agree	**Disagree**
44. I'm not very direct about voicing my sexual needs and preferences.*	50. I have a desire to be sexually active.**
	38. I wish I were sexier.**

Note. * = significant at .01; ** = significant at .001.

Autonomy. Those endorsing this definition placed emphasis on autonomy and nuanced moral reasoning in shaping their SSCs. Participants expressed a strong sense of personal responsibility for their sexual lives. They affirmed their autonomy and agency in decision-making, asserting that they alone are accountable for the choices they make in sexual contexts. Participant 015 shared *"In terms of my sexual life in general that's me and it's always my decision, no one else can say no for me, no one else can say yes for me, so in the end of the day if I do something it was because my own decision so I don't think that should fall on anybody else's plate."*

Morality. Participants demonstrated a nuanced understanding of morality, acknowledging societal norms and religious influences while also asserting their own moral compass. In terms of their personal moral compass, participants underscored the importance of mutual understanding and compatibility in their sexual relationships. Participant 017 stated, *"I only really have sex with someone if I connect with someone not just sexually but just as a person, if we get along well, and we have similar interests and that sort of thing and like we really connect sort of in a in that way."* Although participants recognized the importance of aligning their sexual behaviours with their moral values, they also emphasized the complexity of

moral judgments in sexual situations, indicating a thoughtful and introspective approach to ethical considerations.

Reservedness. Participants tended to describe themselves as somewhat hesitant or indirect in voicing their preferences, suggesting a degree of shyness in sexual communication. Additionally, they expressed a lack of strong motivation or desire for sexual activity. This outlook indicates a passive attitude towards engaging in sexual encounters. Further, they expressed reservations about their sexual abilities and skills by connecting their lack of experience in sexual situations leading to self-doubt and low confidence. However, participants showed contentment with their physical appearance. They expressed satisfaction with their body image and rejected the notion of needing to appear sexier. For example, Participant 005 shared *"I'm not concerned about how I look, I'm pretty comfortable. Sometimes we're alone, my boyfriend and I, I'm just like, naked with him. So yeah, we're very comfortable about it."* Overall, participants that endorsed Definition 2 had a nuanced understanding of their SSCs. They emphasized sexual values, responsibilities, and self-acceptance in their sexual lives.

Definition 3: Emerging, Trust-Focused, and Self-Conscious Sexual Self-Concept

This definition highlighted six of the 10 SSC subdomains, with participants prioritizing sexual responsibility, interpersonal sexual self, sexual motivation, and sexual self-esteem within their SSCs and stating that fear of sex and sexual consciousness did not fit within their thoughts, feelings, or experiences as sexual beings. See Table 4.8 for the *"Most Agree", "Most Disagree"* and distinguishing *"Agree"* and *"Disagree"* items.

Table 4.8
Distinguishing Items for Definition 3

Most Agree	Most Disagree
1. It's important to me that I be able to relate well to a sexual partner. 9. I am responsible for protection from pregnancy or sexually transmitted infections. 52. I am sensitive to my partner's sexual needs.	31. I do not have a desire to be sexually active.
Agree	**Disagree**
30. I worry that some parts of my body would be disgusting to a sexual partner.** 38. I wish I were sexier.** 10. I worry about my sexual attractiveness.**	17. I am very aware of the sexual aspects of myself (e.g., habits, thoughts, beliefs).** 48. I don't have much fear about engaging in sex.*

Note. * = significant at .01; ** = significant at .001.

Lack of Self-Esteem. In interviews with participants who endorsed this definition, their responses to item placements revealed a deep-seated concern about their physical appearance and sexual attractiveness. They expressed a level of insecurity and fear of rejection based on physical attributes. Additionally, the desire to have sexual partners perceive them as sexier reflected a longing for validation and acceptance. This longing connected to underlying feelings of inadequacy or dissatisfaction with their self-image. They noted that societal standards and expectations impacted their concerns about their sexual attractiveness and caused them to grapple with internalized notions of desirability and attractiveness. Participant 019 observed:

> *"Right now, we're at that age of young adulthood where you're mentally comparing yourself ... you have all those words at the back of your mind in your head like am I good enough? Am I pretty enough? You know, if someone doesn't want me is it because of my looks or because my personality? I'm in my head a lot, so even when I feel great, and I'm dressed great, and I'm like I look hot AF right now, and my friends are like wow girl you look good today, I'm always scared when I walk out in public because I'm like what if people think that this is gross? You know because I*

> *am a bit of a bigger woman, so I feel sometimes very self-conscious wearing quote unquote sexy clothing. Because even though it's not inappropriate, because I'm still fully clothed, it feels wrong in a way. So, I think that's why I agreed with it very highly because, I just wish I weren't so much in my head, and I wish society didn't have this like picture of the perfect woman*."

Trust and Connection with A Sexual Partner. Participants emphasized the importance of trust and connection with a sexual partner, which can lead to mutual comfort and satisfaction. The importance placed on their interpersonal sexual self was evident as three of their four *"Most Agree"* items were from this corresponding SSC subdomain. Participant 011 explained *"I want to be able to relate to them and know who they are. I don't just want some random person just 'cause I don't feel safe and you don't really know who they are."* Concurrently, they expressed a strong sense of accountability for protection and safety in sexual encounters, viewing it as a shared responsibility. Participant 014 noted *"I'm worried about teen pregnancies and stuff. That's something that I'm worried about because it's something that has been prone in my family. So, it's not something that I want to fall into. However, it's kind of a two-way street too, like you can be safe but it's also a two people thing. It's more like, more than just one person so more than just your job too to make sure you're responsible and safe."* This emphasis on interpersonal dynamics not only reflected their desire for relational depth but also informed their approach to responsibility by ensuring that concerns around protection and safety are met within the context of meaningful connections with their partners.

Emerging Sexual Self. Participants indicated they were exploring who they were as sexual beings. They noted they had a desire to be sexually active, but that they were not yet very aware of the sexual aspects of themselves. Participant 008 explained *"I feel like I understand my*

own sexual self-concept more as I get older. I found putting them [the cards] in boxes was kind of hard. I never really thought about a lot of these things that hard. I feel like you're just starting out figuring it out so- there's maybe more unknown or options, but I feel like now I have a better understanding of these things." Despite this evolving awareness, participants expressed difficulty in thinking about and categorizing their sexual thoughts and beliefs. This exploration and evolving understanding underscore a dynamic process of sexual self-discovery.

Similarities Across Definitions

All three definitions were positively correlated with each other (0.3 to 0.5, medium effect sizes; Cohen, 1992) indicating considerable similarities across them. We identified four consensus items (i.e., items that participants placed in similar positions across all three factors, $p > .05$) on the extremes of the distribution grids. These consensus items reveal aspects of SSC that participants consistently valued and emphasized in their definitions (see Table 4.9 for the specific items and response options chosen). Combined with thematic analyses, these results indicate that all three definitions included physical and emotional connection, comfort, and well-being, all achieved through effective communication and trust.

Table 4.9
Consensus Items for Definitions 1, 2, and 3

Item	Q-Sort Placement		
	Definition 1	Definition 2	Definition 3
55. It's important to me that I am able to "connect" well with a sexual partner.	Most Agree	Most Agree	Most Agree
13. I feel it's wrong for me to have sex.	Most Disagree	Disagree	Most Disagree
23. I am insensitive about my partner's sexual needs.	Most Disagree	Disagree	Most Disagree
22. I am afraid during sex.	Most Disagree	Most Disagree	Most Disagree
Correlation Coefficients			
Definition 1	1.0		
Definition 2	.3	1.0	
Definition 3	.5	.4	1.0

Note. Significance of correlation coefficients are not presented in PQMethod output.

Most participants reported not experiencing fear during sexual activity and rejecting insensitivity to a partner's sexual needs. They attributed both to open communication and trust with their partners to ensure both could express their desires comfortably. Participants also expressed strong disagreement with the notion that it is wrong for them to have sex. They viewed sex as natural and emphasized their right to explore their sexuality without feeling guilt or shame and argued that sex is a fundamental aspect of human biology and should not be morally condemned. They also viewed sex as an avenue for self-exploration and fulfillment, asserting their autonomy to engage in sexual activities that align with their desires and values. Participants acknowledged the possibility of making mistakes in sexual encounters but emphasized the importance of self-acceptance and learning from past experiences.

In-person and Technology-Mediated SSCs

Most participants (n = 17) indicated that when they were completing the sort they were not considering their SSC in a technology-mediated context, with eight noting they would have a different SSC in this context, five stating their SSC would not differ between these contexts, and

four stating their SSC would not fit in a technology-mediated context at all. Further, three participants stated they had considered a technology-mediated context while completing their sorts. These responses indicate that some participants' SSCs were consistent across technology-mediated and in-person contexts, while others experienced incongruence between the two.

Incongruent SSC in in-person and technology-mediated contexts

Participants who stated they would have a different SSC in technology-mediated contexts discussed that these contexts can be impersonal, ingenuine, and insincere – leading to tailored and/or conservative SSCs. Participant 003 explained:

> *"I think that there's an entirely different experience of someone's [SSC] in-person than there is online. The one in-person is more authentic. As much as a person is authentic in their written communications or photos or the exchange of voice notes or whatever, it's always filtered. Even if you don't mean to filter it is somewhat filtered… Vulnerability is lacking because you have time to adapt, to change your message. You can take a thousand photos before you choose one to send for example*."

Two gender/sex and sexually minoritized participants (009 and 010) viewed technology-mediated contexts as affording opportunities for broader connection and SSC exploration. Participant 009 mentioned:

> *"I think people generally feel a bit more free to do things online than in-person, whether that be just in terms of conversations with people online or comments or whatnot. I think, for a lot of people, it can also be kind of a free way of expressing their sexual activities but more so [their] desires. I suppose if we're talking about*

somebody who's questioning themselves well that can be an avenue to take and kind of open things up which would be for a lot of people very difficult to do in-person."

Participants that stated their SSC would not fit in a technology-mediated context at all mentioned their limited use of social media and dating apps. They highlighted concerns about the authenticity, security, and safety of technology-mediated interactions. Participant 018 stated:

"Being online can be dangerous as a young person when it comes to sexual encounters and stuff like that. With technology, you can put out anything that you want and someone else can do the same. So, catfishing and predators being online and stuff like that is a scary concept for me… So, as of right now I don't think it [Technology] plays a huge role for me."

Congruent SSC in In-Person and Technology-Mediated Contexts

For some women, their SSC holds constant across contexts. These participants highlighted a sense of consistency by viewing their SSCs as stable and all-encompassing. Participant 005 observed *"I like to think that I am the same person everywhere every time. So, I would say that it [my SSC] is the same*."

The women who considered a technology-mediated context while completing their sorts were sexually, gender/sex, and racially/ethnically majoritized. They thought of this context when they were considering their sexual self-esteem (e.g., "*I wish I were sexier"*, *"I worry that some parts of my body would be disgusting to a sexual partner"*). Participant 012 noted *"the ones that said,* 'I wish I were sexier', *I put in* slightly agree *because I thought of all these pretty girls online - it's like, I wish I looked like them sometimes"*.

Impact of Technology on Societal Sexual Norms

Addressing RQ3, some participants (n = 4) discussed the impact of technological spaces on SSC generally. Participants attached both positive and negative connotations to how technology shapes societal norms, perceptions, and expectations around sexuality. Two participants noted this impact can lead to unrealistic sexual expectations and sexual self-esteem issues. Participant 006 said:

> *"With the onslaught of social media and the way that technology has upgraded so much, there's just so many ways for you to learn about sex, and that can really impact how you view yourself sexually. There's porn everywhere, but there's also the way your body's supposed to look, and how you're supposed to behave sexually… Women nowadays - I think there's a lot of pressure to perform well in sex and there's an expectation for men to expect almost like a show from watching things like porn. So, I think technology and the internet has definitely shaped the way that someone can view themselves as a sexual person."*

The other two noted that technology-mediated spaces can afford exposure to diverse perspectives, promote inclusivity, and normalize previously stigmatized sexual identities. Participant 014 discussed:

> *"For me, it's more so awareness towards how you view yourself, and social media does play a big, big role in teaching younger kids, young audiences, what should be considered normal, what should not be considered normal, or what people find attractive, not attractive… now there's more inclusivity I suppose you could say, towards what's considered normal, and more normalization of things that used to be like, looked down upon."*

Discussion

The goal of Study 2 was to understand how women define and perceive their SSC. We identified three distinct SSC definitions based on how participants thought, felt, and experienced their sexual selves: (1) Confident and Partner-Focused; (2) Reserved and Morally-Aligned; and (3) Emerging, Trust-Focused, and Self-Conscious. There were similarities between the definitions as indicated by moderate positive relations and consensus items indicating the importance of connecting well with a sexual partner, refuting sentiments of sex being wrong, being insensitive to their partner's sexual needs, and being afraid during sex. It became clear that there are several common elements in women's SSC definitions, with some nuances between socio-demographic groups. In line with O3, we observed that sexually minoritized women predominantly represented the "Confident and Partner-Focused" definition. However, sexually minoritized participants also endorsed the other two definitions. Additionally, three sexually minoritized participants cross-loaded across our three definitions, indicating that their SSC perceptions represented more than one definition. These results suggest that we can start to see patterns in how women with identities that intersect in similar ways define their SSC. At the same time, we cannot conclude that any specific intersecting identity consistently endorses one definition of SSC; all three definitions included varied combinations of age, gender/sex, sexual identity, and racial/ethnic backgrounds. Finally, most participants did not consider their SSC in a technology-mediated context, focusing instead on an in-person context. Those that did primarily linked technology to sexual self-esteem. When prompted to consider technology-mediated contexts, some participants noted that these contexts can hide or accentuate one's SSCs. Others maintained that their SSCs remained consistent across both contexts. A few participants believed that their SSC did not fit in technology-mediated contexts at all, citing concerns about

authenticity and safety. These findings indicate a relation between SSC and context, with both consistencies and variations based on individual perspectives and socio-demographic backgrounds.

General Discussion

The purpose of this research was to improve SSC knowledge and construct validation by exploring diversity in women's perspectives of SSC. In Study 1, we found that women sexuality researchers shared a basic conceptual definition of SSC (i.e., *how a person thinks, feels, and experiences themselves as a sexual being*), but when it came to expanding on this definition there was variability in language, context, and dimensionality used. Similarly, we observed both commonalities and differences in how women defined their SSC in Study 2, leading to the identification of three distinct definitions. Both studies provide evidence for a core conceptual definition of SSC that integrates cognitive, affective, and behavioural components. Further, our findings indicate the potential for developing a unified measure of SSC. However, it is crucial to recognize that the effectiveness of such a measure depends on the socio-demographic backgrounds of participants and the context in which SSC is being assessed. Overall, our findings and their grounding in intersectionality improve understandings about how women of varied backgrounds experience their SSC and highlight the need for inclusive measures that reflect these nuanced perspectives.

Conceptually Defining SSC

Our findings reveal a core conceptual definition of SSC that includes cognitive, emotional, and experiential components. Previous SSC studies have focused heavily on thoughts and feelings in conceptualizing SSC (Ashley et al., 2024). Our findings from both studies expanded on this conceptualization by indicating that researchers and participants include an

experiential domain in their definitions. In Study 1, sexuality researchers introduced the core, integrative definition of SSC. Most focused on the cognitive aspects, highlighting the importance of thoughts in defining SSC. Emotional and experiential elements were included by fewer researchers: close to half touched on these components indicating that - although less emphasized - they remain important aspects of SSC that should not be overlooked. Study 2 further reinforced the core conceptual definition. Participants from varied socio-demographic backgrounds endorsed three distinct definitions of SSC, featuring different item placements in their sorts, and revealing nuanced perspectives of SSC. However, all three definitions consistently integrated thoughts, feelings, and behaviours. Participants universally rejected themes of sexual guilt and fear (feelings) and strongly endorsed the themes of open communication and mutual understanding (behaviours). Beliefs about the naturalness of sex and the right to explore their sexuality (thoughts) were also central across the three definitions. These shared responses highlight the stability of this core conceptual SSC definition across socio-demographic contexts.

Grounding the conceptual definition of SSC in well-established self-concept theories strengthens its validity by showing that SSC is not an isolated construct but part of a broader understanding of self. Specifically, self-concept research emphasizes the cognitive, emotional, and experiential aspects that shape how people perceive and engage with themselves (Burns, 1982; Greenwald & Pratkanis, 1984; Guntrip, 1971; Higgins, 1987; Kihlstrom & Cantor, 1984; Markus & Wurf, 1987; Neisser, 1997; Pajares & Schunk, 2005). Building our definition on these theoretical foundations provides substantive validity evidence - a prerequisite for achieving structural and external validity (Flake et al., 2017; 2022). By incorporating these elements, the

definition of SSC is positioned to capture the complexity of sexual identity, promoting a comprehensive and multidimensional understanding of how women experience their sexuality.

It is essential to highlight this clear, core conceptual definition of SSC to avoid confusion in future research. As we saw in Study 1, researchers used varied language to describe the same cognitive, affective, and behavioural elements of SSC, which led to inconsistencies in defining the construct. This lack of uniformity can blur the meaning of SSC and undermine the cohesiveness of the construct, making it more difficult to build a clear, standardized understanding within the field (Podsakoff et al., 2016). Standardizing the terminology across studies will improve clarity, enhance the construct's validity, and help distinguish SSC from other related concepts, such as sexual subjectivity and sexual self-schema (Andersen et al., 1999; Horne & Zimmer-Gembeck, 2006). Formal conceptual definitions are essential for theory-building empirical research and construct validity (Wacker, 2004). Thus, consistency is critical for advancing understanding in this field.

Operationally Defining SSC with Women of Varied Backgrounds

Findings from the two studies provide evidence of an overarching operational definition along with context dependence in how women define SSC. Study 1 allowed us to identify items with strong content validity, grounded in a core conceptual definition. We derived consensus on items that accurately captured ten SSC subdomains based on the researchers' responses, highlighting the importance of content validity in preserving the construct's integrity (DeVellis & Thorpe, 2021; Sireci, 1998). These items laid the groundwork for further exploration. Study 2 demonstrated the potential for using these items in a measure of SSC that applies across varied socio-demographic groups. Both sexually minoritized and majoritized women showed commonalities in the items they believed represented (and did not represent) their SSCs. This

consistency extended to gender/sex and age considerations, highlighting intersections between these identities and shared themes in SSC perceptions. The absence of exclusive endorsement of any single SSC definition across groups, consistent rankings for four key items, and meaningful correlations between all three definitions provide further evidence of the shared aspects of SSC. These findings indicate that despite socio-demographic differences, there are fundamental elements of SSC that resonate broadly, offering a strong foundation for creating a universal, context-sensitive measure.

When measuring SSC, it is essential to consider participants' socio-demographic backgrounds. Study 2 provided valuable insights into how SSC is operationalized across different populations, showing that women from various socio-demographic backgrounds prioritize SSC items in different ways. These results align with intersectional research showing that different groups understand their self-concepts in unique ways (Deutsch et al., 2014; Kennis et al., 2022; Postigo et al., 2022). For instance, sexually minoritized women were more likely to endorse the "Confident and Partner-Focused" SSC. However, they also endorsed other SSC definitions and cross-loaded across multiple definitions, reflecting patterns like those seen in sexually majoritized women. This finding suggests that sexual identity does not dictate a singular way in which women define their SSC. Applying an intersectional lens to our analysis did not reveal consistent patterns in SSC definition endorsement. Though certain SSC definitions were predominantly endorsed by women with similar intersecting identities, participants from different identity groups occasionally disrupted these trends. For example, the Reserved and Morally-Aligned SSC definition was primarily endorsed by gender/sex majoritized, sexually majoritized, and racially/ethnically minoritized women, but one participant with differing intersecting identities disrupted this otherwise consistent pattern. The absence of clear patterns

may be due to our limited sample size, indicating that larger studies are needed to explore these nuances fully. Additionally, past research suggests that factors such as body image and mental health could be crucial in understanding women's SSC further (e.g., Gooran et al., 2020; Potki et al., 2017; Steinke et al., 2008).

Our findings provide preliminary evidence that SSC may be influenced by context. While our results suggest that SSC's conceptual and operational definitions remain relatively stable across different environments, how participants rate items within these definitions are likely to differ based on the context they are contemplating. Study 2 revealed that most participants naturally considered in-person interactions when reflecting on their SSC, but for some, technology-mediated contexts—particularly in relation to sexual self-esteem—also played a role. This variation aligns with research showing that digital spaces can influence SSC, often affecting self-perception and identity expression in different ways (Lou et al., 2022; Valkenburg et al., 2017). Some sexually minoritized women in our study highlighted their use of digital spaces for SSC exploration, reflecting findings from prior research that identifies both opportunities and challenges in these environments for shaping sexual identity (Bates et al., 2020; Colosi et al., 2023). Even though our data is limited and does not fully capture the extent of context's influence on SSC, we know enough to suggest that failing to specify context can lead to inconsistent findings. Participants may default to in-person or technology-mediated contexts based on their assumptions, which could skew the results. Therefore, it is crucial for future research to provide clear instructions on the context participants should consider when evaluating SSC. Without this clarity, the outcomes may reflect conflicting interpretations of SSC across different settings, making it difficult to draw accurate conclusions.

Q Methodology is not conventionally used for measure development, it can serve as a form of expert review and evidence of substantive validity (DeVellis & Thorpe, 2021; Gehlbach & Brinkworth, 2011). However, researchers must ensure that any measures derived from this work undergo the structural phase of construct validity testing. Measurement invariance will be crucial to determine if these items function differently among different populations and if they capture context-specific nuances. Ultimately these steps will lead to more accurate tools for measuring SSC.

Limitations and Future Directions

This study has several limitations. In Study 1, the number of student researchers in our sample may have affected the robustness of feedback on SSC definitions, given their limited experience with sexuality research compared to faculty (DeVellis & Thorpe, 2021; Flake et al., 2017; Gehlbach & Brinkworth, 2011). Study 2's focus on diverse ideas, rather than generalizability, likely overlooked other identity intersections (e.g., race, class, neurodiversity), and volunteer bias may have skewed results toward more positive sexual attitudes (Bogaert, 1996; Dawson et al., 2019). Furthermore, relying on items from past SSC measures, which primarily focus on cognitive and affective domains, may have limited representation of SSC's behavioural component. Despite these limitations, our research significantly advances the understanding of SSC by offering a comprehensive framework that captures varied perspectives. Future SSC work should explore how the behavioural component of SSC manifests, moving beyond typical focus on cognitive and affective dimensions. Investigating how different socio-demographic groups experience and express behavioural aspects of SSC will be crucial. Ensuring these behavioural expressions are captured accurately and meaningfully across varied

populations will strengthen the substantive validity of SSC measures and help create a more comprehensive understanding of SSC.

Conclusion

Our study advances SSC knowledge by providing a comprehensive framework that connects SSC to broader self-concept theories, emphasizing sexuality as a critical dimension of the self. By linking SSC to these established frameworks, we expand the understanding of self-concept to include sexual identity and behaviours, urging both self-concept and sex researchers to integrate SSC into their work. This research also highlights the importance of developing inclusive psychological tools that capture the diversity of women's experiences. These insights can inform more accurate and inclusive SSC measures for future studies. Additionally, although digital spaces played a minor role in shaping SSC for our sample, future research should explore how digital spaces shape sexual identity, as the integration of in-person and technology-mediated contexts provides a new layer of complexity in understanding SSC. Researchers and practitioners alike can apply these findings to better understand and support women in developing healthy sexual identities in today’s complex, technology-driven world.

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Transition Text 3

The findings from Article 3 allowed us to develop the SSC measure used in Article 4. In Article 3, I identified three distinct SSC definitions—Confident and Partner-Focused, Reserved and Morally-Aligned, and Emerging, Trust-Focused, and Self-Conscious. These definitions informed the creation of a 30-item SSC measure, carefully designed to reflect the diversity of perspectives uncovered through Q Methodology. To ensure the measure was as inclusive as possible, I selected items with the highest agreement across all three definitions – as all were endorsed by at least one sexually minoritized woman. Additionally, some sexually minoritized participants were identified as cross-loaders, meaning their perspectives overlapped across multiple definitions. To preserve their unique insights, I incorporated the most agreed-upon items from their individual sorts. This process ensured the final measure captured the nuanced ways participants conceptualize SSC, especially those from underrepresented groups. In Article 4, I used this measure to examine SSC (in)congruence among lesbian women across in-person and technology-mediated contexts. Prior to using the measure for hypothesis testing, I examined the psychometric properties of the measure (i.e., internal consistency and structure). The results are included in Article 4. They suggested that the items were cohesive in measuring a single construct. I then used the measure to respond to the study research questions, objectives, hypotheses.

Article 4

Understanding Lesbian Women's Sexual Self-Concept (In)Congruence in Technology-Mediated and In-Person Spaces

Marilyn Ashley (B.Sc) and Dr. Krystelle Shaughnessy

Abstract

Sexual self-concept (SSC) reflects how people think, feel, and experience themselves as sexual beings. According to self-discrepancy theory, people have an actual self-concept (i.e., who they are), an ideal self-concept (i.e., who they aspire to be), and an ought self-concept (i.e., who they feel they should be). Greater congruence between these components—particularly between actual and ideal SSC—has been linked to higher satisfaction and lower distress. Incongruence has been associated with depression and anxiety. Whether SSC functions similarly among lesbian women remains unexplored. Congruence or incongruence may also differ across in-person and technology-mediated contexts, where technology can enable freer expression of ideal or ought SSC. This study examined SSC (in)congruence across contexts in 290 lesbian women using four indices: item score difference, perceived similarity, distance, and inconsistency. Logistic regressions identified no significant predictors of (in)congruence group membership from identity, technology, or social support variables. MANCOVA analyses found no significant psychosexual outcome differences between groups, but post-hoc analyses suggested that incongruent SSCs were associated with higher relationship satisfaction. These findings suggest that incongruence may reflect adaptive flexibility for lesbian women navigating heteronormative pressures. Future research should further explore these dynamics in larger, diverse samples.

Keywords: sexual self-concept, self-discrepancy, technology, psychosexual health, lesbian women

Understanding Lesbian Women's Sexual Self-Concept (In)Congruence in Technology-Mediated and In-Person Spaces

It is necessary to understand the role sexual self-concept (SSC) plays in shaping people's psychosexual health outcomes. SSC is how a person thinks, feels, and experiences themselves as a sexual being (Ashley et al., Under Revision). A positive SSC is crucial for sexual, relationship, and general life satisfaction, as well as for less anxiety and depression (Antičević et al., 2017; Brown, 2018; Greene & Faulkner, 2005; Heidari et al., 2017; Impett & Tolman, 2006; Mainella, 2019; Labrecque, 2021; Lee, 2017; Salehi et al., 2015; Shepler et al., 2018; Snell et al., 1991). SSC congruence is how closely a person's actual SSC (i.e., who they actually are as a sexual person) aligns with their ideal SSC (i.e., who they wish to be as a sexual person) or ought SSC (i.e., who they feel they should be as a sexual person). Researchers have applied self-discrepancy theory (Higgins, 1987) to sexuality research, showing that SSC incongruence is associated with more negative outcomes in young women (Katz & Farrow, 2000), women with and without genital pain (Dewitte et al., 2017), and transgender people (Kennis et al., 2022). These studies support the idea that SSC congruence may be more impactful than simply having a positive SSC. However, much of the research on SSC has not represented the perspectives of sexually minoritized people, particularly lesbian women (Ashley et al., 2024). This narrow focus leaves a significant gap in understanding how SSC functions in these populations who experience unique life stressors and social environments that are distinct from their heterosexual counterparts (Halberstam, 2003; Hughes et al., 2020; Nicholson et al., 2022; Porsch et al., 2023). Emerging technologies often provide lesbian women with anonymous spaces for self-expression, which may influence their SSC (Bates et al., 2020; Bianchi et al., 2017). Despite this, there is little research on how SSC incongruence may manifest in technology-mediated contexts, particularly

among sexually minoritized groups (for an exception, see Mateizer et al., 2022). The overarching goal of this study was to examine SSC (in)congruence between in-person and technology-mediated contexts among lesbian women.

SSC Among Lesbian Women

To understand people's SSCs we must consider their unique identities. SSC is a comprehensive construct, integrating mental processes, emotional responses, and lived experiences. This conceptualization aligns with existing research on general self-concept, which recognizes cognitive (Greenwald & Pratkanis, 1984; Kihlstrom & Cantor, 1984; Neisser, 1997), affective (Guntrip 2008; Pajares & Schunk, 2005), and experiential dimensions (Burns, 1982; Markus & Wurf, 1987; Purkey, 1988) as integral to understanding the self. However, much of the research on SSC has either overlooked the sexual identity of participants or has focused on sexually majoritized populations (Ashley et al., 2024). Group affiliations, social comparisons, and external social interactions shape a person's self-concept (Tajfel, 1978; Festinger, 1954; Cooley, 1902). To this point, sexually minoritized people form a unique group, differentiating themselves from sexually majoritized people through their distinct life experiences (Halberstam, 2003). It is necessary to evaluate SSC among lesbian women because there are distinctive factors that differentiate this group from other sexually minoritized people and sexually majoritized women (i.e., sexual-minority stressors; Meyer, 2003).

Understanding lesbian women's SSC is essential to advancing inclusive psychosexual research. Yet, current research has conflicting findings. Some studies suggest that sexually minoritized women have differing views of their sexual selves compared to heterosexual women (Parent et al., 2015; Sweeney et al., 2015). Specifically, in this research, lesbian women have higher sexual self-efficacy (i.e., a person's perceived capability in their ability to perform

sexually), sexual consciousness (i.e., a person's self-reflexivity and awareness of the sexual aspects of themselves), and sexual motivation (i.e., motivation to be sexually active). However, other research suggests sexually minoritized and majoritized women do not significantly differ in their SSCs (Ketz, 2002; Shepler et al., 2015). These inconsistencies highlight a need for more focused research. In this study, we specifically examined the SSC of lesbian women to gain a deeper understanding of their sexual thoughts, feelings, and experiences in different contexts.

Self-Discrepancy Theory and SSC (In)Congruence

SSC congruence is likely a critical factor for promoting positive sexual and mental health. In self-discrepancy theory, a person must maintain congruence between their self-image (i.e., who they actually are) and their ideal self (i.e., the person they wish to be) or their ought self (i.e., the person they believe they should be) to have a positive self-concept (Higgins, 1987; Rogers, 1959). According to this theory, when people focus their attention on themselves, they tend to compare their actual behaviours against their internal standards that make up their ideal and/or ought self. When people perceive that these selves match - that is, are congruent - they experience positive emotions (e.g., joy, relief, relaxation; Higgins, 1987). Conversely, when people perceive a discrepancy between their actual and ideal selves - that is, they are incongruent - they experience dejection-related emotions (e.g., depression, dissatisfaction). When they perceive that their actual and ought selves are incongruent, they experience agitation-related emotions (e.g., anxiety). Existing studies indicate that SSC incongruence is linked to negative sexual outcomes in minoritized groups, such as increased sexual depression and anxiety, and decreased sexual esteem (Dewitte et al., 2017; Holmes, 2002; Katz & Farrow, 2000; Kennis et al., 2022). Despite these findings, research has yet to explore SSC (in)congruence in lesbian

women, leaving a critical gap in understanding its role in their unique psychosexual health outcomes.

For lesbian women, alignment with the ought self may be harmful because of marginalization in society. Heteronormativity refers to societal norms and expectations that prioritize heterosexuality and traditional gender roles as the default or "normal" way of being (Myers & Raymond, 2010; Oswald et al., 2009). The presumption and privileging of heterosexuality is a deeply ingrained system within cultural, institutional, and social practices. This ingraining sustains structures that regulate and constrain sexually minoritized identities and their behaviours (Herz & Johansson, 2015; Ward & Schneider, 2009). For lesbian women, aligning their SSC with the ought self may mean conforming to these heteronormative standards. This conformity may skew specific subdomains of SSC in harmful ways. For example, lesbian women with actual/ought congruent SSCs may have their sexual assertiveness undermined, feeling less empowered to express their sexual preferences or say no to unwanted advances (Frederick et al., 2018; May & Johnston, 2022). Their focus on meeting societal expectations decreases awareness of their authentic sexual needs and reduces intrinsic motivation to explore their sexuality on their terms (Holland et al., 2016; Sanchez et al., 2005). Additionally, heteronormative pressures foster feelings of inadequacy or the belief that lesbian women are "wrong" for not fitting societal ideals of femininity or heterosexuality (Hatzenbuehler, 2009; Meyer, 2003). In turn, lesbian women's sexual self-efficacy and self-esteem may suffer (Strukelj, 2019). Thus, actual/ought congruence may intensify minority stress for lesbian women by reinforcing societal expectations that invalidate their authentic sexual selves. Despite these potential harms, little attention has been given to SSC incongruence in sexually minoritized groups.

Emerging Technologies and SSC (In)Congruence

Lesbian women likely display their actual SSC in in-person contexts. Indeed, past research has shown that people's actual selves are more present in in-person contexts compared to technology-mediated contexts (Bargh et al., 2002; McKenna, 1998; Przybylski et al., 2012). People tend to create their technology-mediated self as 'better than' their in-person self, such that their technology-mediated self would resemble the ideal self more closely than the actual self (for reviews see: Gabarnet et al., 2023; Sibilla & Mancini, 2018). Considering SSC, Mateizer et al. (2022) found a strong relationship between adult men and women's in-person and technology-mediated SSCs. However, most participants located their "actual" SSC in in-person settings compared to technology-mediated ones. Thus, lesbian women can experience actual/ideal or actual/ought congruence or incongruence between these environments (see Table 5.1).

Table 5.1

Possible SSC (In)Congruence Pairs

SSC (In)Congruence Pair	Description
Actual/in-person vs ideal/technology-mediated congruent	When a lesbian woman's actual SSC in in-person contexts aligns closely with her SSC in technology-mediated contexts, which represents who she wishes to be as a sexual person: her ideal SSC.
Actual/in-person vs ideal/technology-mediated incongruent	When a lesbian woman's actual SSC in in-person contexts does not align with her SSC in technology-mediated contexts, which represents who she wishes to be as a sexual person: her ideal SSC.
Actual/in-person vs ought/technology-mediated incongruent	When a lesbian woman's actual SSC in in-person contexts does not align with her SSC in technology-mediated contexts, which represents who she feels she should be as a sexual person: her ought SSC.
Actual/in-person vs ought/technology-mediated congruent	When a lesbian woman's actual SSC in in-person contexts aligns closely with her SSC in technology-mediated contexts, which represents who she feels she should be as a sexual person: her ought SSC.

Note. SSC (in)congruence pairs describe the alignment or misalignment between a lesbian woman's actual SSC in in-person contexts and her ideal or ought SSC in technology-mediated contexts.

Predictors of SSC (In)Congruence

Social support, technology-related concerns, and identity-related influences likely shape SSC (in)congruence between in-person and technology-mediated contexts. The affordances and constraints of these contexts may influence whether lesbian women experience their actual SSC as closer to their ideal SSC (i.e., who they wish to be as sexual beings) or their ought SSC (i.e., who they feel they should be as sexual beings; Bargh et al., 2002; McKenna et al., 2002; Rogers, 1951).

Social Support. Social support may serve as a determinant in whether lesbian women can express an SSC aligned with their ideal self rather than conforming to external heteronormative pressures. Social support has been conceptually defined as the perceived or

actual exchange of instrumental and emotional resources (e.g., practical assistance, emotional comfort) between trusted people or social networks, aimed at improving the well-being of the recipient (Lin et al., 2013; Shumaker & Brownell, 1984; Tardy, 1985). Lesbian women who feel safe and supported by the people in their lives will likely express their SSC closer to who they wish to be because they feel more accepted and comfortable being open about their SSC (Bargh et al., 2002; Rogers, 1951). Alternatively, lesbian women who do not feel safe or supported by the people in their lives may feel like they need to conform to heteronormative standards (Frost & Meyer, 2012; Ribeiro-Gonçalves et a., 2019). Thus, they will likely express their SSC closer to an ought SSC.

Technology-Related Concerns. Smartphones are the primary tool for integrating in-person and technology-mediated activities (Klimmt et al., 2017; Wenz & Keusch, 2023). Frequent smartphone use may promote SSC congruence by allowing lesbian women to align their actual, ideal, and ought selves across contexts. However, increased smartphone use may also contribute to SSC incongruence. Technology-mediated contexts provide opportunities for exploring flirtation, sex roles, and alternative self-presentations (Cooper et al., 1999; Courtice et al., 2021; Maes & Vandenbosch, 2022; Subrahmanyam et al., 2004). These experimentations may diverge from in-person SSC.

Technology-mediated spaces play a dual role for lesbian women, offering opportunities and challenges in expressing their SSCs. On the one hand, the affordances of these spaces, such as anonymity and varied types of platforms (Bargh et al., 2002; Turkle, 1995), provide a safer environment for expressing their ideal SSC. In these contexts, lesbian women can navigate their SSCs without the risk of social consequences often present in in-person settings, such as bullying or unintended disclosure of their sexual identity (Bates et al., 2020; Bianchi et al., 2017). In this

case, lesbian women may express their SSC in technology-mediated spaces in ways that reflect their ideal selves. On the other hand, these same spaces can pressure lesbian women to conform to expressing their ought SSC given the potential for hate speech, harassment, and threats (Scheuerman et al., 2018; Todd, 2021). Researchers have found that many sexually minoritized people adjust their technology-mediated sexual identity presentations to align with heteronormative standards (Duguay, 2016; Hanckel et al., 2019; McConnell et al., 2017; Vivienne & Burgess, 2012). These adjustments can include actions such as enacting privacy and security controls, carefully monitoring self-expression, managing friendship networks, creating multiple profiles, and editing or restricting personal photographs. In this case, lesbian women may express their SSC in technology-mediated spaces in ways that reflect their ought self. Therefore, lesbian women with high technology-related privacy and security concerns may have an actual/ought congruent SSC.

Identity-Related Factors. Acceptance of one's sexual identity and rejection of heteronormative beliefs likely enable lesbian women to embrace their ideal sexual selves. Identity pride refers to the acceptance and positive affirmation of one's sexual identity (Mohr & Fassinger, 2000). Conversely, internalized homonegativity encompasses the negative beliefs and attitudes toward homosexuality that sexually minoritized people internalize as a result of living in a heteronormative society (Mohr & Fassinger, 2000). Research suggests that internalized homonegativity may be a factor that can prevent sexually minoritized people from being their authentic selves (Ceatha et al., 2021; Petrocchi et al., 2020; Rubino et al., 2018). Thus, lesbian women with low identity pride and high internalized homonegativity may adopt actual/ought congruent SSCs, aligning their sexual identity with societal expectations due to internalized stigma and a reduced sense of self-worth. In contrast, high identity pride and low internalized

homonegativity may result in lesbian women developing actual/ideal congruent SSCs because openness and acceptance allow them to resist societal pressures and embrace their authentic sexual selves.

Psychosexual Outcomes of SSC (In)Congruence

The degree of SSC (in)congruence that lesbian women experience likely has implications for their psychosexual outcomes. Self-discrepancy theory argues that psychological harmony is achieved when a person's self-perception is consistent (Higgins, 1987). Evidence indicates that SSC incongruence is associated with negative outcomes, such as lower sexual and relationship satisfaction and increased anxiety and depression (Boyle & Omoto, 2014; Moretti & Higgins, 1999). An actual/ideal congruent SSC would likely be associated with higher levels of sexual satisfaction, relationship satisfaction, general life satisfaction, and lower levels of anxiety and depression. As previously mentioned, actual/ought congruence may seem beneficial in theory but may result in significant psychosexual distress for lesbian women. This outcome is particularly concerning for lesbian women, who already face elevated risks of mental health issues due to societal stigma and minority stress (Bostwick et al., 2010; Hatzenbuehler & McLaughlin, 2017).

Several variables influence psychosexual outcomes and must be controlled to isolate the effects of SSC (in)congruence. Specifically, body satisfaction has been identified as both an outcome and a subdomain of SSC, with evidence suggesting that positive body image is related to greater sexual satisfaction and fewer appearance-related distractions during sexual activity (e.g., Aubrey, 2007; Cleary & Hegarty, 2011; Palmer & Murry, 1995). Better sexual functioning and stronger relationship commitment are strongly tied to both better individual well-being and more positive relational outcomes (e.g., Impett & Tolman, 2006; Potki et al., 2020). Given these associations, we controlled for body satisfaction, sexual functioning, and relationship

commitment to ensure a more accurate understanding of how SSC (in)congruence uniquely impacts psychosexual health outcomes.

The Current Study

The goal of this study was to examine SSC (in)congruence between in-person and technology-mediated contexts among lesbian women. Specifically, we focused on identifying distinct SSC (in)congruence groups (Objective 1; O1) and understanding the predictors (Objective 2; O2) and psychosexual health outcomes (Objective 3; O3) of these group memberships. Based on self-discrepancy theory, minority stress theory, and past research, we hypothesized that:

Hypothesis 1a (H1a): Lesbian women who receive high social support will have an actual/ideal congruent SSC.

Hypothesis 1b (H1b): Lesbian women who receive low social support will have an actual/ought congruent SSC.

Hypothesis 2a (H2a): Lesbian women with high technology-related privacy and security concerns may have an actual/ought congruent SSC.

Hypothesis 2b (H2b): Lesbian women with low technology-related privacy and security concerns may have an actual/ideal congruent SSC.

Hypothesis 3a (H3a): Lesbian women with high identity pride and low internalized homonegativity will have an actual/ideal congruent SSC.

Hypothesis 3b (H3b): Lesbian women with low identity pride and high internalized homonegativity will have an actual/ought congruent SSC.

Hypothesis 4a (H4a): In line with minority stress theory, lesbian women with actual/ought congruent SSCs will experience the lowest sexual satisfaction, relationship satisfaction, and general life satisfaction compared to the other three (in)congruence groups.

Hypothesis 4b (H4b): In line with minority stress theory, lesbian women with actual/ideal congruent SSCs will experience the highest sexual satisfaction, relationship satisfaction, and general life satisfaction compared to the other three (in)congruence groups.

Hypothesis 5a (H5a): In line with self-discrepancy theory, lesbian women with actual/ought incongruent SSCs will experience the highest anxiety compared to the other three (in)congruence groups.

Hypothesis 5b (H5b): In line with self-discrepancy theory, lesbian women with actual/ideal incongruent SSCs will experience the highest depression compared to the other three (in)congruence groups.

Method

Participants

We recruited participants in three ways: from our institution's undergraduate student pool; through Prolific; and social media and print poster advertisements. A total of 609 people consented to participate in this online survey study. To be included in analyses, participants were required to be Canadian, speak and write English well, be 18 years of age or older, identify as a woman (cisgender, transgender, neither cisgender nor transgender), and identify as a lesbian[14]. Of the participants who consented to participate, we excluded 123 who did not meet the

[14] To be inclusive of gender/sex identities, our definition of lesbian identity was an umbrella that encompassed the idea that participants (1) identify as a woman (e.g., transgender woman, cisgender woman, neither transgender nor cisgender woman) or non-binary person (e.g., agender, genderfluid, polygender, trans masc, trans femme, demi boy, demi girl, etc.) and (2) were exclusively attracted to women and/or non-binary people.

inclusion criteria[15], 23 who did not meet our insufficient effort responding criteria (Ashley & Shaughnessy, 2023)[16], and 13 whom we identified as potential bots (Storozuk et al., 2020). We also excluded 160 participants who only completed the first half of the study (i.e., data was 100% missing after the survey midpoint). This data cleaning left us with 290 participants (Prolific: *n* = 50, 17.2%; Undergraduate Student Pool: *n* = 40, 13.8%; Community: *n* = 200, 69.0%).

Participants ranged in age from 18 to 65 years old (*M* = 27.5, *SD* = 10.0). Most participants could read (95.9%) and write (90.0%) English very well. All participants identified as women, most of whom identified as cisgender binary (70.0%). All participants identified as lesbians. Most participants were in a committed relationship (33.8%), had a European/North American cultural background (54.8%), and came from community recruitment (69.0%). We present detailed participant sociodemographic information in Table 5.2.

Table 5.2
Participant Demographic Statistics

Variable		Subsample Size (*n*)	Proportion of Total Sample (Valid %)
English Reading			
	Read well	12	4.1
	Read very well	278	95.9
English Writing			
	Write well	29	10.0
	Write very well	261	90.0
Gender/Sex			
	Cisgender binary	203	70.0
	Transgender binary	11	3.8
	Cisgender nonbinary	1	0.3
	Transgender nonbinary	22	7.6
	Allogender nonbinary	15	5.2
	Cisgender allobinary	7	2.4
	Allogender allobinary	5	1.7

[15] 5 noted poor English abilities, 7 younger than 18 years old, 111 did not identify as lesbian women.
[16] 4 had low self-reported levels of effort and attention, 4 engaged in longstring responding, 15 failed more than half of the attention check questions.

	Unsure	6	2.1
	Prefer not to respond	20	6.9
Relationship Status			
	Married/Common Law/De facto/Life Partnership	50	17.2
	Committed relationship	98	33.8
	Dating but not in a committed relationship	18	6.2
	Single (no relationships, some sexual contacts)	27	9.3
	Single (no sexual or romantic contacts)	90	31.0
Cultural Background			
	African	7	2.4
	East Asian	23	7.9
	European/North American	159	54.8
	First Nations/Indigenous	11	3.8
	Middle Eastern	12	4.1
	South Asian	9	3.1
	South-East Asian	7	2.4
	Other (e.g., Caribbean, Haitian)	24	8.3
	Prefer not to respond	10	3.4

Note. Demographic categories with $n < 5$ are not presented to maintain participant confidentiality. $N = 290$.

Power

There were two key components of this study: (1) to predict (in)congruence groups and (2) to examine group differences between the (in)congruence groups. We used Hosmer and Lemeshow's (1980) guidelines to determine the target sample size for conducting logistic regressions. Specifically, they suggest aiming for a sample size of at least 10 participants per predictor variable per outcome category. This calculation resulted in a sample size of 240 participants for our analysis. We used G*Power, a statistical software for apriori and post-hoc power analysis commonly used in social science and psychology research (Faul et al., 2007), to estimate the target sample size for conducting multivariate analyses of covariance (MANCOVA). Since G*Power does not have a direct option for MANCOVA, we approximated the sample size by calculating the requirements for four ANCOVAs. These calculations were

based on a minimum power of 80%, a significance level of .01 (Bonferroni-adjusted for four dependent variables), a moderate effect size, four groups, and three covariates. The analysis recommended a sample size of 254 participants. To align with these two recommendations and best practices in scale development (Boateng et al., 2018), we aimed to recruit 300 participants. The post-hoc observed power for each analysis is reported in the results section.

Measures

Background Demographic Questionnaire

Participants responded to 11 closed- and open-ended questions that assessed demographics (e.g., age, gender/sex, sexual identity) and background information (e.g., cultural background, relationship status).

Sexual Self-Concept

We created the 30-item SSC measure used for this study (see OSF for full measure: https://osf.io/xa26d). In keeping with recommended guidelines for construct validity (Boateng et al., 2018; Flake et al., 2017), we used our method review (Ashley et al., 2024) and card sort and Q Methodology (Ashely et al., In Review) findings as part of our substantive phase for developing this measure's item pool. Specifically, with our method review we identified SSC items from previously published SSC measures to create an item pool of over 500 items. In our card sort study (Ashley et al., Under Revision – Study 1) we had 35 sexuality researchers identify 60 SSC items most they deemed as most representative. In our Q Methodology study (Ashley et al., Under Revision – Study 2), 20 women completed a Q Methodology study, sorting those 60 items into ranked categories and completing semi-structured interviews. From this sorting, we identified three unique SSC definitions. We then selected the items that participants felt most strongly represented their SSCs based on these definitions. Specifically, we included

the four items with the highest agreement ("*Most Agree*") and six additional items with strong agreement ("*Agree*") that aligned with each definition. This process resulted in an initial 23-item measure. However, the Q Methodology analysis revealed that three participants, who identified as sexually minoritized women, had responses that cross-loaded onto multiple definitions, causing us to lose these perspectives in the initial measure. To address this, we included the most agreed-upon items from these participants' sorts. This addition allowed us to preserve their unique perspectives. The final measure had 30 items that reflect those that sexually minoritized women most strongly agreed were representative of their SSCs.

We asked participants to complete the SSC measure twice, once when thinking about their SSC in an in-person/offline context (SSC in-person) and once when thinking about their SSC in a technology-mediated/online context (SSC technology-mediated). All items on the SSC measure were presented to participants in a random order, alongside the following instructions: "*Below are different statements that you may or may not agree with when you consider how you think, feel, and experience yourself as a sexual person when you are* ***in-person or offline*** *(SSC in-person) OR* ***online*** *(SSC technology-mediated). For each, please select the option that best indicates how much you agree with each statement*." Participants used a seven-point scale to rate their agreement with each item (1 = *Strongly Disagree*, 4 = *Neutral,* 7 = *Strongly Agree*). Participants were also able to select an eighth option, "*This question does not apply to me*", which we used to flag potentially unclear or irrelevant items.

We examined item-level information and factor structure to evaluate our SSC measure before using it in hypothesis testing. We did this for both the in-person and technology-mediated measures separately. First, we reverse-scored items that were negatively worded so that all items were coded so that higher scores reflected a positive SSC valence. We then examined the

corrected item-scale and inter-item correlations, identifying any items that correlated poorly (i.e., $r < .30$) or negatively with the total scale score and the other items in the measure. Next, we examined item distributions, variances, and means to assess for extremely skewed items (i.e., $>$ abs2), items with poor variability, non-central means, and/or ceiling or floor effects. Finally, we assessed if participants indicated that the item did not apply to their SSC, flagging items as potentially problematic if more than 10% of participants stated this for an item (see OSF for the list of items and flagging of problems: https://osf.io/4qs37).

In determining the factorability of our measure, we assessed the Kaiser-Meyer-Olkin (KMO) Test, Bartlett's test of sphericity, and the determinant of the correlation matrix for each context separately. For the in-person context measure with all 30 items included, there was a KMO = .90, Bartlett's test of sphericity was statistically significant, $\chi2\ (435) = 3999.86$, $p < .001$, and a determinant of the correlation matrix = 5.69^{-7}. The KMO and significance of Bartlett's test indicated that the data was likely able to be factored. However, the determinant being less than 1^{-5} suggests that the correlation matrix is nearly singular, meaning that there is likely strong multicollinearity among all the items (Field, 2024). We then assessed the 19 items that were not flagged as problematic in the item-level examination. For this, we found perfect singularity (i.e., KMO = .90; $\chi2\ (171) = 2337.34$, $p < .001$; determinant = .000). To address the low determinant, we examined the correlation matrix for highly correlated items ($r > .90$), seeking to remove items that were measuring the same thing. However, no items had correlation coefficients above .70, indicating they were tapping into unique elements of people's SSC. We found similar information for the technology-mediated context measure with all 30 items (i.e., KMO = .93; $\chi2(435) = 6450.03$, $p < .001$; determinant = 8.51^{-11}) and the 19 non-problematic items (i.e., KMO = .93; $\chi2(171) = 3580.73$, $p < .001$; determinant = 3.05^{-6}, items correlated $< .70$). Given this

information, the 19-item measure appears to be unidimensional and demonstrated strong internal consistency across both the in-person (α = .90, ω = .89) and technology-mediated (α = .94, ω = .94) contexts (see OSF for factor analysis and reliability information: https://osf.io/g2qpe). We used the 19-item measure for each context to calculate our SSC (in)congruence indices specified in our data analysis section.

Sexual Self-Concept Congruence

We assumed that participants in-person SSC was their "actual" self. We made this assumption because past research consistently demonstrates that people's actual selves are more prominently expressed in in-person contexts than in technology-mediated ones (Bargh et al., 2002; McKenna, 1998; Przybylski et al., 2012). In contrast, technology-mediated contexts often serve as a space for crafting a self that aligns more closely with one's ideal or ought self, presenting a 'better than' version of their in-person self (Gabarnet et al., 2023; Sibilla & Mancini, 2018). Thus, to assess how much participants' technology-mediated SSC reflected their ideal and ought SSCs we used sliding scales. Participants used two sliding scales ranging from 0 (*0%*) to 100 (*100%*). One scale measured how much their SSC reflected who they **wished to be** as a sexual person, representing their ideal self; the other measured how much their SSC reflected who they **should be** as a sexual person, reflecting their ought self. We programmed these scales so that the total score across both scales in each context had to add up to 100, ensuring that participants proportionally distributed their responses to represent the relative importance of each aspect of their SSC. We also made it so that participants could not set the two scales to 50-50; that is, participants needed to identify their technology-mediated SSC as being either dominated by their ideal or ought self.

Using these sliding scales, we created a dichotomous variable to determine if participants' technology-mediated SSC was primarily driven by their ideal or ought self-concept. A score greater than 50 on the ideal scale indicated that the participant's SSC was primarily driven by their ideal self-concept. A score greater than 50 on the ought scale indicated that the participant's SSC was primarily driven by their ought self-concept.

Predictor Variables

Smartphone Use. We used the 10-item general use subscale of the Smartphone Use Questionnaires (SUQ-G; Marty-Dugas et al., 2018) to measure participants' general smartphone usage. Participants used a 7-point Likert scale ranging from *Never* (1) to *All of the Time* (7) to rate how frequently experienced actions related to their smartphone use in a typical day. We conducted a CFA, and the unidimensional model demonstrated excellent fit (Hu & Bentler, 1999; see OSF for detailed model fit information: https://osf.io/efycv). We summed ratings for the ten items to create a total score between 10 and 70, with higher scores indicating greater general smartphone use. In previous studies, the SUQ-G has demonstrated acceptable internal consistency (α ranging from .77 to .83; Davidson et al., 2020; Ellis et al., 2019; Marty-Dugas et al., 2018). In our study, we found acceptable internal consistency ($\alpha = .74$; $\omega = .74$).

Online Privacy Concerns. We used the 16-item Online Privacy Concern Questionnaire (OPC; Buchanan et al., 2007) to measure participants' online privacy concerns. Participants used a 4-point Likert-type scale ranging from *Not at All* (0) to *Very Much* (3) to rate the privacy concerns they have when online. We conducted a CFA and the unidimensional model demonstrated excellent fit (Hu & Bentler, 1999). We summed ratings for the 16 items to create a total score between 0 to 48, with higher total scores indicating greater privacy concerns when online. In previous studies, the OPC has demonstrated acceptable internal consistency (α ranging

from .75 to .95; Buchanan et al., 2007; Joinson et al., 2010; Shane-Simpson et al., 2018). In our study, we found excellent internal consistency ($\alpha = .91$; $\omega = .91$).

Cybersecurity. We used the four-item confidentiality subscale of the cybersecurity scale (CS-S; Arpaci & Sevinc, 2021) to measure participants' perceived ability to protect online content. Participants responded using a 5-point Likert scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (5) to rate their agreement with each security statement. We conducted a CFA, and the unidimensional model demonstrated excellent fit (Hu & Bentler, 1999). We summed ratings for all four items to create a total score ranging from 4 to 20, with higher scores indicating greater levels of caution and privacy consciousness when sharing personal information in cyberspace. In previous studies, the confidentiality subscale of the CS-S has demonstrated acceptable internal consistency (ɑ value of .80; Arpaci & Sevinc, 2021). In our study, we found moderate internal consistency ($\alpha = .61$; $\omega = .61$).

Identity Pride and Internalized Homonegativity. We used the three-item Identity Affirmation subscale (IAS) and the three-item Internalized Homonegativity subscale (IHS) of the Lesbian, Gay, and Bisexual Identity Scale (LGBIS; Mohr & Kendra, 2011) to measure participants' levels of identity pride and internalized homonegativity, respectively. Participants responded using a 6-point Likert scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (6). We conducted a CFA, and the two unidimensional models demonstrated excellent fit (Hu & Bentler, 1999). We summed the ratings for each subscale to create two total scores, each ranging from 3 to 18. Higher scores on the IAS indicated greater LGB identity pride; higher scores on the IHS indicated greater internalized homonegativity. Consistent with past research, the two subscales were moderately and negatively correlated ($r = -.58$, $p < .001$), suggesting an inverse relationship (Anderson & Tram, 2022; Kranz et al., 2023). In previous studies, the IAS and IHS

have demonstrated acceptable internal consistency (ɑ ranging from .89 to .94 for the IAS, and .76 to .93 for the HIS; Mohr & Kendra, 2011; Shepler et al., 2018). In our study, we found acceptable internal consistency for the IAS (α = .79, ω = .80), and good internal consistency for the IHS (IHS α = .86, ω = .87).

Social Support. We used the 12-item Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988) to measure participants' perceptions of the availability and adequacy of the support they receive from friends (4 items), family (4 items), and significant others (4 items). Participants used a 7-point Likert scale ranging from *Very Strongly Disagree* (1) to *Very Strongly Agree* (7) to rate their perceptions of the availability and adequacy of support they receive in various situations. We conducted a CFA, and the three-factor model demonstrated excellent model fit (Hu & Bentler, 1999). We summed ratings for the 12 items to create a total score between 12 and 84, with higher scores indicating greater perceived social support. The MSPSS has previously demonstrated acceptable internal consistency (ɑ ranging from .88 to .94 [Westcott & Rocconi, 2024; Zimet et al., 1988]; ω ranging from .87 to .94 [Keleher et al., 2010; Osman et al., 2014; Westcott & Rocconi, 2024]). In our study, we found good internal consistency (ω = .85).

Outcome Variables

Sexual Satisfaction. We used the Global Measure of Sexual Satisfaction (GMSEX; Lawrance & Byers, 1995) to measure participants' feelings of satisfaction with their sexual life overall. Participants used a 7-point Likert scale to rate their overall sexual relationship with their current sexual partner on five bipolar items: *Good-Bad*, *Pleasant-Unpleasant*, *Positive-Negative*, *Satisfying-Unsatisfying*, and *Valuable-Worthless*. We conducted a CFA, and the unidimensional model demonstrated excellent fit (Hu & Bentler, 1999). We summed ratings for all five items to

create a total score between five and 35, with higher scores indicating greater sexual satisfaction. In previous studies, the GMSEX has demonstrated high internal consistency (α ranging from .90 to .96) and construct validity (Byers, 2005; Cohen & Byers, 2014; Lawrance & Byers, 1995; Mark et al., 2014). In our study, we found excellent internal consistency (α = .92; ω = .92).

Relationship Satisfaction. We used the Global Measure of Relationship Satisfaction (GMREL; Lawrance & Byers, 1995) to measure participants' overall satisfaction with their current romantic relationships. Participants used a 7-point Likert scale to rate their overall romantic relationship on five bipolar items: *Good-Bad*, *Pleasant-Unpleasant*, *Positive-Negative*, *Satisfying-Unsatisfying*, and *Valuable-Worthless*. We conducted a CFA, and the unidimensional model demonstrated excellent fit (Hu & Bentler, 1999). We summed ratings for all five items to create a total score between five and 35, with higher scores indicating greater relationship satisfaction. In previous studies, the GMREL has demonstrated high internal consistency (α ranging from .91 to .96) and construct validity (Lawrance & Byers, 1995; Prekatsounaki & Enzlin, 2024). In our study, we found excellent internal consistency (α = .96; ω = .96).

General Life Satisfaction. We used the five-item Satisfaction with Life Scale (SWLS; Diener et al., 1985) to measure participants' overall satisfaction with their life. Participants used a 7-point Likert scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (7) to rate their satisfaction. We conducted a CFA, the unidimensional model demonstrated excellent fit (Hu & Bentler, 1999). We summed ratings for all five items to create a total score between five and 35, with higher scores indicating greater life satisfaction. In previous studies, the SWLS has demonstrated high internal consistency (α ranging from .87 to .90; Balsam & Mohr, 2007; Diener et al., 1985; Keleher et al., 2010). In our study, we found good internal consistency (α = .88; ω = .88).

Anxiety and Depression. We used the 7-item anxiety and 7-item depression subscales of the short-form Depression, Anxiety, Stress Scales (DASS-21; Antony et al., 1998) to measure participants' levels of anxiety and depression over the past week. Participants used a 4-point Likert scale ranging from "*Did Not Apply to Me at All"* (0) to "*Applied to Me Very Much, or Most of the Time"* (3) to rate how much each symptom of anxiety and depression applied to them in the previous week. We conducted CFAs and both unidimensional models demonstrated excellent fit (Hu & Bentler, 1999). We summed ratings for both subscales, to create two total scores ranging from 0 to 21, with higher scores indicating higher anxiety or depression, respectively. In previous studies, the DASS-21 has demonstrated high internal consistency (α ranging from .85 to .87 for the anxiety subscale, and .91 to .96 for the depression subscale; Antony et al., 1998; Cramer et al., 2017; McLaren, 2005). In our study, we found good internal consistency for the anxiety subscale ($\alpha = .84$; $\omega = .86$) and excellent internal consistency for the depression subscale ($\alpha = .93$, $\omega = .93$).

Control Variables

Sexual Functioning. We used the 19-item Female Sexual Function Index (FSFI; Rosen et al., 2000) to assess participants' sexual functioning. Modifications were made following Lynch et al.'s (2023) recommendations for use with sexual and gender minority people or those without a partner. Changes included replacing "sexual stimulation" and "intercourse" with "sexual activity (alone or with a partner)," broadening the definition of "vaginal penetration," and adding skip logic for participants with no sexual activity. We removed three sexual satisfaction items to avoid confounding this outcome, as sexual satisfaction was a variable of interest. Additionally, due to a programming error, the four-item lubrication domain was omitted. Participants responded using Likert scales ranging from 1 to 5 to rate their levels of sexual desire, arousal,

orgasm and pain. We conducted a CFA and the four-factor model achieved a good fit (Hu & Bentler, 1999). We summed ratings for the 12 items to create a total score between 12 and 60, with higher scores indicating better sexual functioning. Participants who noted they had not engaged in sexual activity (alone or partnered) in the last three months (n = 21) completed the first two items (i.e., the sexual desire domain) of the measure only, as such they could only receive a score between two and 10. Thus, we adjusted these participants' scores using proportional scaling to bring them to the same scale as participants who completed the full measure, allowing for more consistent comparison. In previous studies, the 19-item FSFI has demonstrated high internal consistency (α ranging from .82 to .97; Peixoto, 2021; Rosen et al., 2000). In this study, the adapted version of the FSFI had good internal consistency (total scale ω = .83; desire α = .89; arousal α = .89, ω = .89; orgasm α = .88, ω = .89; pain α = .83, ω = .83).

Body Satisfaction. We used the seven-item Appearance Evaluation subscale of the Multidimensional Body Self-Relations Questionnaire (AES-MBSRQ; Brown et al., 1990) to measure participants' body satisfaction. Although the MBSRQ comprises ten subscales capturing various dimensions of body self-relations (e.g., fitness orientation, health evaluation), the AES is specifically designed to assess feelings of physical attractiveness and satisfaction with one's appearance. This focus aligns directly with our research objectives, which emphasize participants' perceptions of their physical appearance rather than their fitness, health, or grooming behaviours. Additionally, The AES-MBSRQ has been used as a measure of body satisfaction in several studies of lesbian women's body image (Gettelman and Thompson, 1993, Peplau et al., 2009, Wagenbach, 1997). Participants responded using a 5-point Likert scale ranging from *Definitely Disagree* (1) to *Definitely Agree* (5) to items that assess participants' feelings of physical attractiveness and satisfaction with their appearance. After re-coding the two

reverse-worded items, we conducted a CFA; the unidimensional model demonstrated excellent fit (Hu & Bentler, 1999). We summed ratings for all seven items to create a total score between 7 and 35, with higher scores indicating greater happiness with one's physical appearance. In previous studies, the AES-MBSRQ has demonstrated acceptable internal consistency (α ranging from .89 to .92; Alvy, 2013; Shepler et al., 2018). In our study, we found good internal consistency (α = .89; ω = .89).

Relationship Commitment. We used the seven-item Commitment Subscale (CS) of the Investment Model Scale (Rusbult et al., 1998) to measure participants' relationship commitment. Participants responded using a 9-point Likert scale ranging from *Do Not Agree at All* (1) to *Completely Agree* (9) to indicate the degree to which they agreed with statements regarding their current relationship. After re-coding two reverse-worded items, we conducted a CFA. We removed the problematic item 3 *("I would not feel very upset if our relationship were to end in the near future"*) to achieve excellent fit for the unidimensional model (Hu & Bentler, 1999). We then summed ratings for the remaining six items to create a total score between 6 and 54, with higher scores indicating greater levels of relationship commitment. In previous studies, the CS has demonstrated excellent internal consistency (α ranging from .90 to .95; Rusbult et al., 1998; Shepler et al., 2018). In our study, we found acceptable internal consistency (α = .74; ω = .74).

Data Quality

Directed Questions and Catch Questions. We included five directed questions (e.g., *"Please answer this question with '*Very True'*"*) and ten catch questions (e.g., *"I am paid biweekly by leprechauns"*) throughout the survey to identify participants who were not paying attention. Participants who did not provide the correct answer received a score of 1 and participants who answered correctly received a score of 0. We then summed the scores from all

15 items to create a total score ranging from 0 to 15, with higher scores indicating greater data quality concerns. These scores were used to screen out participants with low data quality.

Data Quality Questions. We used three self-report questions adapted from Meade and Craig's (2012) indicators to assess data quality directly, focusing on participants' effort, attention, and perceived data usability. Participants rated their effort and attention on a 5-point Likert scale from *Almost no* (1) to *A Lot* (5). For these two questions, participants who selected less than 3 received a score of 1, indicating lower effort or attention. Participants who selected 3 or more received a score of 0, indicating acceptable effort or attention. For perceived data usability, participants answered a yes/no question about whether their data should be used in the study. A *"No"* response received a score of 1, indicating potential low-quality data and a *"Yes"* response received a score of 0, indicating better quality data. We summed the scores from all three items to create a total score ranging from 0 to 3, with higher scores indicating greater data quality concerns. These scores were used to screen out participants with low data quality.

Procedure

We recruited participants to take part in an online survey "*to help us better understand sexual self-concept*" from February – September 2024. We used one survey for all three recruitment channels. The first page of the survey was an Informed Consent Form, which provided information about the study, participants' rights, compensation, privacy, confidentiality, and information about data management and storage. Participants actively clicked to indicate consent and then moved on to the survey questions and scales. The study proceeded in this order: Background and Demographic Questionnaire, Sexual Self-Concept (in-person and online in a randomized order), Sexual Self-Concept Congruence, Sexual Satisfaction, Relationship Satisfaction, General Life Satisfaction, Anxiety and Depression, Smartphone Use,

Online Privacy Concerns, Cybersecurity, Identity Pride and Internalized Homonegativity, Social Support, Sexual Functioning, Body Satisfaction, Relationship Commitment, and Data Quality Questions. On the final page of the survey, we provided participants with debriefing information. Undergraduate participants received 1 course credit, Prolific participants were paid approximately $7.10 CAD, and community participants were entered into a draw to win one of ten $15 CAD Amazon.com gift cards. Our institution's Research Ethics Board approved this study (https://osf.io/njhac). The median response time was 29.2 minutes to complete the study.

Data Analysis

Preliminary Analyses

We used SPSS (Version 29.0) to examine the statistical assumptions required to conduct our analyses. We checked for missing data patterns and addressed them using multiple imputation where appropriate. Additionally, we assessed the factor structure of our SSC measure across both contexts with Exploratory Factor Analyses, and the remaining measures in our study with Confirmatory Factor Analyses (see *Measures* section).

Calculating (In)Congruence Indices

We used SPSS and Python (Version 3.13) to address O1. Specifically, we used participants' SSC measure scores and SSC congruence sliding scale responses to identify distinct SSC congruence and incongruence groups. We calculated four indices to measure the degree of (in)congruence in SSC between in-person and technology-mediated contexts: Item Score Difference, Perceived Similarity, Distance, and Inconsistency. We describe each index below and provide a summary in Table 5.3. We ran point-biserial correlations to explore the relation between these four indices. In the correlations, we used a Bonferroni correction to account for the increased risk of Type I errors ($\alpha = 0.05/10 = 0.005$) from multiple analyses and performed

stratified bootstrapping (2000 bootstrap samples). This analysis allowed us to assess the consistency of these indices and determine how well they captured overlapping and distinct dimensions of SSC (in)congruence.

SSC Item Score Difference. Using Achenbach and Zigler (1963) and Rogers and Dymond's (1954) disparity approach, we counted the number of times a response to an in-person SSC item was different from the response to the corresponding technology-mediated item. We then summed these values to create a total score. This score (SSC_{ISD}) represents the item-level divergence in how participants perceive their SSC across the two settings. Scores can range from 0 (indicating perfect congruence between contexts) to 19 (indicating complete incongruence). We created a dichotomous variable for participants, in which we classified participants' scores below 10 (i.e., selected a different score on less than half of the SSC items) as congruent and values equal to or greater than 10 as incongruent.

SSC Perceived Similarity. Using Campbell and colleague's (2003) perceived similarity approach, we calculated the correlation between each participant's in-person and technology-mediated SSC. This score (SSC_{PS}) represents the degree of association between participants' in-person and technology-mediated SSCs. Values can range from $r = 1$ (indicating perfect congruence) and $r = -1$ (indicating perfect incongruence). We then created a dichotomous variable for participants, in which we classified participants scores between 1 to 0.50 as congruent and 0.49 to -1 as incongruent. We selected this threshold based on previous researchers' interpretations of correlation coefficients (e.g., Dancey & Reidy, 2007; Cohen, 1988).

SSC Distance. Using Donahue et al.'s (1993) absolute difference approach, for each participant we computed the standard deviation for each SSC item across the two contexts. We

then calculated the average of these standard deviations to create a single score. This score (SSC_D) represents the extent that participants' SSC had deviated when describing themselves across in-person and technology-mediated contexts. Values can range from 0 (indicating perfect congruence) to 4.95 (indicating perfect incongruence). We created a dichotomous variable in which we classified participant scores equal to or below one as congruent and values greater than one as incongruent. We chose this threshold based on previous researchers' standard deviation interpretations (Cohen, 1988).

SSC Inconsistency. Using Block's (1961) non-shared variance approach, for each participant we intercorrelated their in-person and technology-mediated SSC scores. We then extracted the shared variance using factor analysis, in which the first principal component represents the shared variance and the remaining non-shared variance. This score (SSC_{VAR}) represents the extent of inconsistency between a participant's in-person and technology-mediated SSCs. Values can range from 0% (indicating perfect congruence) to 100% (indicating perfect incongruence). We created a dichotomous variable for participants in which we categorized values equal or less than 50% as congruent and values greater than 50% as incongruent. We chose this threshold based on previous researchers' interpretations of principle components (e.g., Jolliffe, 2002; Tabachnick & Fidell, 2019).

Table 5.3

Classification of SSC (In)Congruence Across Indices and Alignment Types

	Classification		
Index	Alignment	Congruent	Incongruent
SSC_{ISD}			
	Actual-Ideal	$SSC_{ISD} < 10$; SSC_{TM} Ideal-Driven	$SSC_{ISD} \geq 10$; SSC_{TM} Ideal-Driven
	Actual-Ought	$SSC_{ISD} < 10$; SSC_{TM} Ought-Driven	$SSC_{ISD} \geq 10$; SSC_{TM} Ought-Driven
SSC_{PS}			
	Actual-Ideal	$.50 \leq SSC_{PS} \leq 1$; SSC_{TM} Ideal-Driven	$-1 \leq SSC_{PS} < 0.50$; SSC_{TM} Ideal-Driven
	Actual-Ought	$.50 \leq SSC_{PS} \leq 1$; SSC_{TM} Ought-Driven	$-1 \leq SSC_{PS} < 0.50$; SSC_{TM} Ought-Driven
SSC_{D}			
	Actual-Ideal	$SSC_{D} \leq 1$; SSC_{TM} Ideal-Driven	$SSC_{D} > 1$; SSC_{TM} Ideal-Driven
	Actual-Ought	$SSC_{D} \leq 1$; SSC_{TM} Ought-Driven	$SSC_{D} > 1$; SSC_{TM} Ought-Driven
SSC_{VAR}			
	Actual-Ideal	$SSC_{VAR} \leq 50\%$; SSC_{TM} Ideal-Driven	$SSC_{VAR} > 50\%$; SSC_{TM} Ideal-Driven
	Actual-Ought	$SSC_{VAR} \leq 50\%$; SSC_{TM} Ought-Driven	$SSC_{VAR} > 50\%$; SSC_{TM} Ought-Driven

Note. ISD = Item Score Difference. PS = Perceived Similarity. D = Distance. VAR = Inconsistency. TM = Technology-Mediated

Predicting (In)Congruence Group Membership

We used SPSS (Version 29.0) to address O2 and test hypotheses H1a, H1b, H2a, H2b, H3a, and H3b. Due to small sample sizes in the incongruence groups for the SSC_{PS} and SSC_{D} indices, analyses were limited to the SSC_{ISD} and SSC_{VAR} indices. Thus, for SSC_{ISD} and SSC_{VAR} indices, we applied multinomial logistic regressions to predict membership across all four groups. Specifically, we regressed participants SSC (in)congruence group (0=actual/ideal congruent, 1 = actual/ideal incongruent, 2 = actual/ought incongruent, and 3 = actual/ought congruent) onto smartphone use, online privacy concerns, cybersecurity, identity pride, internalized homonegativity, and social support. All variables were mean-centered and standardized (z-scores) to ensure commensurability (Tabachnick & Fidell, 2019). We evaluated

model fit using the likelihood ratio chi-square test and Nagelkerke's R^2, with stratified bootstrapping (2000 samples) and Bonferroni adjustments to mitigate Type I error risks.

Comparing Psychosexual Outcomes Across (In)Congruence Groups

We used SPSS (Version 29.0) to address O3 and test hypotheses H4a, H4b, H5a, and H5b. Due to small sample sizes in the incongruence groups for the SSC_{PS} and SSC_{D} indices, analyses were limited to the SSC_{ISD} and SSC_{VAR} indices. To examine differences in psychosexual outcomes (i.e., sexual satisfaction, relationship satisfaction, life satisfaction, anxiety, and depression) across SSC (in)congruence groups, we conducted two sets of one-way MANCOVAs for each index. First, we included only participants in a relationship and used sexual functioning, body satisfaction, and relationship commitment as covariates. This accounted for potential influences on psychosexual outcomes specific to participants with relationship dynamics. Second, we included all participants but removed relationship-related variables from the analysis. This allowed us to assess psychosexual outcomes across a broader sample without the influence of relationship-specific factors. We applied stratified bootstrapping (2000 samples) and Bonferroni adjustments to reduce the risk of Type I errors.

Results

Preliminary Analyses

Our missing value analysis showed that 19.3% of participants had missing data, with each variable having less than 5% missing. Little's MCAR test indicated that the missing data pattern was likely random, $\chi^2(7512) = 546.59$, $p = 1.00$. To address the missing values, we used multiple imputation with twenty iterations, applying the OMS method to calculate the mean for scale variables and the mode for nominal and ordinal variables. This approach ensured a complete dataset for subsequent analyses.

We present the scale-level means, standard deviations, ranges, skewness, kurtosis, and significance values of the Shapiro-Wilk tests for each measure in Table 5.4. All but the Online Privacy Concern measure had skewed distributions. We transformed variables using logarithmic, square-root, Two-Step Normality Transformation (Templeton, 2011), and the Box-Cox transformation (Box & Cox, 1964) to try to achieve normality. However, many of our variables maintained significant Shapiro-Wilk tests scores. Given normality of individual variables is not an assumption for our analyses of interest we chose to proceed with the non-transformed variables.

Table 5.4
Descriptive Statistics for Study Variables

Variable	Mean (SD)	Range	Skewness (SE)	Kurtosis (SE)	Shapiro-Wilk (*p*)
Smartphone Use	49.2 (7.2)	32 - 66	.055 (.143)	.020 (.285)	.030
Online Privacy Concerns	26.5 (9.1)	4 - 48	-.060 (.143)	-.295 (.285)	.219
Cybersecurity	14.7 (2.5)	9 - 20	-.091 (.143)	-.261 (.285)	< .001
Identity Pride	15.9 (2.1)	11 - 18	-.654 (.143)	-.675 (.285)	< .001
Internalized Homonegativity	5.0 (2.4)	3 - 10	.934 (.143)	-.433 (.285)	< .001
Social Support	65.2 (12.2)	35 - 84	-.670 (.143)	.004 (.285)	< .001
Sexual Satisfaction	44.9 (9.6)	12 - 60	-1.031 (.143)	1.338 (.285)	< .001
Relationship Satisfaction	26.2 (8.2)	5 - 35	-.622 (.143)	-.645 (.285)	< .001
General Life Satisfaction	22.5 (7.0)	5 - 35	-.482 (.143)	-.446 (.285)	< .001
Anxiety	6.1 (4.6)	0 - 19	.649 (.143)	-.337 (.285)	< .001
Depression	5.5 (5.0)	0 - 17	.899 (.143)	-.167 (.285)	< .001
Sexual Functioning	35.1 (8.8)	10 - 50	-.526 (.143)	-.104 (.285)	< .001
Body Satisfaction	22.5 (6.13)	7 - 35	-.390 (.143)	-.347 (.285)	< .001
Relationship Commitment	41.1 (8.7)	6 - 54	-.159 (.143)	2.202 (.285)	< .001
IP SSC	96.8 (17.8)	1 – 133	-1.399 (143)	4.830 (.285)	< .001
TM SSC	92.1 (25.6)	1 - 133	-1.813 (143)	3.813 (.285)	< .001

Note. *N* = 290; Relationship satisfaction and commitment variables were analyzed with a subsample (*n* = 200). IP = In-Person; TM = Technology-Mediated.

For our logistic regression analyses, we ensured the data met key assumptions to maintain the validity of our results. We confirmed the absence of univariate and multivariate outliers by inspecting standardized residuals and using Mahalanobis distance. Multicollinearity was evaluated using Variance Inflation Factors (VIF) and tolerance values, with all VIFs below 10 and tolerance values above 0.1, in line with recommendations by Allison (2012) and Myers (1990). Additionally, we tested the assumption of a linear relationship between continuous predictor variables and the logit transformation of the dependent variable using the Box-Tidwell procedure (Box & Tidwell, 1962). All analyses indicated that these assumptions were satisfied, ensuring the robustness of our logistic regression models.

Our data satisfied several key assumptions required for conducting MANCOVA, as outlined by Tabachnick and Fidell (2019). To confirm linear relationships, we examined scatterplot matrices with loess lines for each pair of dependent variables within each group of the independent variable, as well as between the covariate and each dependent variable across all groups. These visualizations demonstrated clear linear trends, meeting this assumption. We also tested for homogeneity of regression slopes by assessing the interaction terms between the covariate and group membership; all interactions were non-significant, indicating that the relationship between the covariate and each dependent variable was consistent across groups. Homogeneity of variances and covariances was evaluated using Box’s M Test of Equality of Covariance Matrices and Levene’s Test of Equality of Variances, both of which yielded non-significant results. To address univariate outliers, we inspected standardized residuals for each dependent variable within each group and found no cases exceeding acceptable thresholds. Multivariate outliers were assessed using Mahalanobis distances, with no cases exceeding the critical χ^2 value for the relevant degrees of freedom. Additionally, multivariate normality was

verified by inspecting normal Q-Q plots and ensuring that the skewness and kurtosis of standardized residuals were within the acceptable range of ±1. Finally, multicollinearity among dependent variables was ruled out based on variance inflation factors and tolerance values, all of which fell within acceptable limits. Collectively, these steps confirmed that the data met the necessary assumptions for MANCOVA, ensuring the validity of our analyses.

Calculating (In)Congruence Indices

SSC_{ISD} scores ranged from 0 to 19 ($M = 9.3$, $SD = 3.8$), with 136 incongruent and 154 congruent participants. SSC_{PS} scores ranged from -.60 to .99 ($M = .59$, $SD = 0.30$), with 85 participants categorized as incongruent and 205 as congruent. SSC_{D} scores ranged from 0.0 to 4.4, resulting in 40 participants categorized as incongruent and 250 as congruent. SSC_{VAR} scores ranged from 1.3 to 100.0, with 143 participants categorized as incongruent and 147 as congruent. Participants' technology-mediated SSC was evenly distributed, with 132 (45.5%) aligning with their ideal self and 158 (55.5%) aligning with their ought self.

We examined the relationships between participants' dichotomous congruence scores across the four SSC (in)congruence indices using point-biserial correlations. Our SSC (in)congruence indices were significantly correlated with each other ($p < .005$), with correlations ranging from $r = .41$ to $r = .65$ (see Table 5.5). Based on Cohen's (1988) general rule of thumb, these point-biserial correlations indicate medium to large effect sizes (Gliner et al., 2001). These results suggest that these indices capture overlapping yet distinct SSC (in)congruence facets.

Table 5.5

Point Biserial Correlations Between SSC (In)Congruence Indices

SSC Index	1	2	3	4
1. SSC_{ISD}	-			
2. SSC_{PS}	.43* [.33, .52]	-		
3. SSC_{D}	.41* [.33, .48]	.53* [.43, .63]	-	
4. SSC_{VAR}	.44* [.34, .55]	.65* [.59, .72]	.41* [.34, .47]	-

Note. * $p < .005$ for all significant correlations. Confidence intervals are presented in parentheses. ISD = Item Score Difference. PS = Perceived Similarity. D = Distance. VAR = Inconsistency. Values in square brackets indicate the 95% confidence interval.

We used participants' scores on their SSC (in)congruence indices and their sliding scale values to categorize them into four groups (see Table 5.6). We analyzed the agreement between SSC (in)congruence indices using Krippendorff's alpha (1970) and Cohen's Kappa (1960). Krippendorff's alpha revealed a relatively high agreement across the four indices ($\alpha = .87$, $p < .001$; Hayes & Krippendorff, 2007). Cohen's Kappa values for pairwise comparisons ranged from 0.75 to 0.87 ($p < .001$). These findings indicate that the indices exhibit significant overlap – consistent with the congruent-incongruent point biserial correlations.

Table 5.6

Frequencies of Participant SSC (In)Congruence Categorization Indices

	SSC (In)Congruence Indices			
	SSC_{ISD}	SSC_{PS}	SSC_{D}	SSC_{VAR}
Actual/Ideal Congruent	69 (23.8%)	93 (32.1%)	110 (37.9%)	71 (24.5%)
Actual/Ideal Incongruent	63 (21.7%)	36 (12.4%)	19 (6.6%)	58 (20.0%)
Actual/Ought Incongruent	73 (25.2%)	49 (16.9%)	21 (7.2%)	85 (29.3%)
Actual/Ought Congruent	85 (29.3%)	112 (38.6%)	140 (48.3%)	76 (26.2%)

Note. $N = 290$. Actual is always the in-person context for SSC. Ideal or Ought was assigned based on how participants rated their technology-mediated SSC. ISD = Item Score Difference. PS = Perceived Similarity. D = Distance. VAR = Inconsistency.

SSC Descriptive Information

Participants' in-person SSC scores ranged from 0 to 133 with an average of 96.8 (*SD* = 17.8). Participants' technology-mediated SSC scores ranged from 0 to 133 with an average of 92.1 (*SD* = 25.6). These two scores were significantly related ($r_s(290) = .65$, $p < .001$). In-person SSC scores varied across the SSC categorization indices, with no single group consistently reporting the highest (more positive) or lowest (more negative) scores across all indices (see Table 5.7). This lack of pattern highlights variability across groups, with some indices showing closer averages across groups than others.

Table 5.7

Descriptive Statistics of In-Person SSC Scores Across SSC (In)Congruence Categorization Indices

SSC Group	SSC_{ISD}		SSC_{PS}		SSC_{D}		SSC_{VAR}	
	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)	*n*
Actual/Ideal Congruent	101.5 (13.4)	69	95.6 (15.8)	93	97.6 (15.6)	110	95.3 (15.4)	71
Actual/Ideal Incongruent	93.0 (18.5)	63	101.2 (18.1)	36	94.8 (21.7)	19	99.5 (17.8)	58
Actual/Ought Incongruent	95.7 (14.0)	73	96.5 (23.2)	49	99.3 (14.6)	21	97.1 (20.5)	85
Actual/Ought Congruent	96.7 (22.4)	85	96.4 (16.6)	112	96.1 (19.4)	140	95.7 (16.8)	76

Note. *N* = 290. ISD = Item Score Difference. PS = Perceived Similarity. D = Distance. VAR = Inconsistency.

Technology-mediated SSC scores varied across the SSC categorization indices (see Table 5.8). Actual/ought incongruent participants most frequently reported the lowest scores across indices, while actual/ideal congruent participants often reported the highest scores.

Table 5.8
Descriptive Statistics of Technology-Mediated SSC Scores Across SSC (In)Congruence Categorization Indices

SSC	SSC_{ISD}		SSC_{PS}		SSC_{D}		SSC_{VAR}	
	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)	*n*	Mean (SD)	*n*
Actual/Ideal Congruent	102.7 (13.3)	69	97.2 (15.8)	93	99.5 (15.3)	110	96.8 (14.6)	71
Actual/Ideal Incongruent	82.3 (31.2)	63	83.8 (37.5)	36	58.6 (36.7)	19	89.4 (32.5)	58
Actual/Ought Incongruent	83.8 (25.9)	73	78.5 (37.5)	49	54.8 (35.3)	21	85.4 (31.6)	85
Actual/Ought Congruent	97.8 (23.7)	85	96.3 (17.4)	112	96.3 (20.0)	140	97.1 (17.3)	76

Note. *N* = 290. ISD = Item Score Difference. PS = Perceived Similarity. D = Distance. VAR = Inconsistency.

Predicting (In)Congruence Group Membership

We conducted multinomial logistic regressions to predict (in)congruence group membership (O2, H1a, H1b, H2a, H2b, H3a, H3b). Due to small sample sizes in the incongruence groups for the SSC_{PS} and SSC_{D} indices, analyses were limited to the SSC_{ISD} and SSC_{VAR} indices. We describe the observed descriptive differences across (in)congruence groups for all four indices.

SSC Item Score Difference (SSC_{ISD})

We conducted a multinomial logistic regression to identify the variables that best predicted between participants assigned to the actual/ideal congruence, actual/ideal incongruence, actual/ought incongruence, and actual/ought congruence groups using the SSC_{ISD} index. The logistic regression model with smartphone use, online privacy concerns, cybersecurity, identity pride, internalized homonegativity, and social support entered as continuous predictors was not significant (Nagelkerke R^2 = .05, $\chi^2(18)$ = 13.08, *p* =.787) and gave an overall correct prediction rate of 31.4% of cases. Post hoc power analyses indicated our

observed power was 63.4%[17]. Table 5.9 presents the mean scores for predictor variables across SSC (in)congruence groups.

SSC Perceived Similarity (SSC_{PS})

The small sample sizes in the incongruence groups for the SSC_{PS} index did not meet the assumptions required for a multinomial logistic regression. Therefore, we provide only the descriptive information in Table 5.9.

SSC Distance (SSC_D)

The small sample sizes in the incongruence groups for the SSC_D index did not meet the assumptions required for a multinomial logistic regression. Therefore, we provide only the descriptive information in Table 5.9.

SSC Inconsistency (SSC_{VAR})

We conducted a multinomial logistic regression to identify the variables that best predicted between participants assigned to the actual/ideal congruence, actual/ideal incongruence, actual/ought incongruence, and actual/ought congruence groups using the SSC_{VAR} index. The logistic regression model with smartphone use, online privacy concerns, cybersecurity, identity pride, internalized homonegativity, and social support entered as continuous predictors was not significant (Nagelkerke R^2 = .03, $\chi^2(18)$ = 7.73, p =.982) and gave an overall correct prediction rate of 33.1% of cases. Post hoc power analyses indicated our observed power was 65.3%[18]. Table 5.9 presents the mean scores and standard deviations for our predictor variables across SSC (in)congruence groups.

[17] Due to the low statistical power of the full multinomial logistic regression models, we conducted follow-up analyses using separate single-predictor regressions for each predictor variable. Despite these efforts, results from the single-predictor models were not significant.
[18] Due to the low statistical power of the full multinomial logistic regression models, we conducted follow-up analyses using separate single-predictor regressions for each predictor variable. Despite these efforts, results from the single-predictor models were not significant.

Table 5.9

Descriptive Statistics for Predictor Variables by SSC (In)congruence Group

		SSC_{ISD}		SSC_{PS}		SSC_{D}		SSC_{VAR}	
Predictor Variables	SSC (in)congruence groups	M (SD)	*n*	M (SD)	*n*	M (SD)	*n*	M (SD)	*n*
Smartphone Use									
	Actual/Ideal Congruent	49.6 (7.0)	69	49.4 (7.0)	93	49.4 (7.0)	110	49.5 (6.9)	71
	Actual/Ideal Incongruent	48.9 (7.1)	63	48.6 (7.4)	36	48.1 (7.8)	19	48.8 (7.4)	58
	Actual/Ought Incongruent	48.7 (7.8)	73	48.3 (7.0)	49	48.7 (6.2)	21	48.9 (7.1)	85
	Actual/Ought Congruent	49.4 (6.9)	85	49.5 (7.4)	112	49.2 (7.4)	140	49.5 (7.4)	76
OPC									
	Actual/Ideal Congruent	25.7 (8.1)	69	25.8 (7.8)	93	26.3 (8.3)	110	26.3 (7.8)	71
	Actual/Ideal Incongruent	26.5 (8.8)	63	26.5 (9.9)	36	24.2 (9.0)	19	25.6 (9.1)	58
	Actual/Ought Incongruent	27.1 (8.8)	73	26.4 (8.9)	49	23.6 (5.8)	21	26.5 (9.8)	85
	Actual/Ought Congruent	26.6 (10.4)	85	27.1 (10.0)	112	27.4 (10.0)	140	27.3 (9.5)	76
Cybersecurity									
	Actual/Ideal Congruent	14.7 (2.4)	69	14.8 (2.4)	93	14.8 (2.4)	110	14.8 (2.4)	71
	Actual/Ideal Incongruent	15.0 (2.3)	63	15.0 (2.4)	36	15.0 (2.2)	19	14.9 (2.4)	58
	Actual/Ought Incongruent	14.6 (2.7)	73	14.4 (2.4)	49	14.8 (2.0)	21	14.7 (2.6)	85
	Actual/Ought Congruent	14.7 (2.5)	85	14.8 (2.7)	112	14.7 (2.7)	140	14.7 (2.6)	76
Identity Pride									
	Actual/Ideal Congruent	16.1 (2.0)	69	16.1 (1.9)	93	16.1 (2.0)	110	16.2 (1.8)	71
	Actual/Ideal Incongruent	16.1 (2.0)	63	15.9 (2.1)	36	15.9 (2.2)	19	16.0 (2.2)	58
	Actual/Ought Incongruent	15.9 (2.1)	73	15.7 (2.2)	49	15.8 (2.1)	21	15.7 (2.2)	85
	Actual/Ought Congruent	15.7 (2.2)	85	15.9 (2.1)	112	15.8 (2.2)	140	16.0 (2.2)	76
Internalized Homonegativity									
	Actual/Ideal Congruent	4.8 (2.4)	69	4.7 (2.2)	93	4.8 (2.3)	110	4.6 (2.2)	71
	Actual/Ideal Incongruent	4.8 (2.4)	63	5.0 (2.6)	36	4.7 (2.7)	19	5.1 (2.5)	58
	Actual/Ought Incongruent	5.3 (2.6)	73	5.0 (2.5)	49	4.3 (2.2)	21	5.3 (2.6)	85
	Actual/Ought Congruent	5.2 (2.4)	85	5.3 (2.5)	112	5.4 (2.5)	140	5.1 (2.4)	76
Social Support									
	Actual/Ideal Congruent	67.5 (10.8)	69	64.8 (12.3)	93	65.4 (11.7)	110	65.4 (10.7)	71

Actual/Ideal Incongruent	62.6 (13.1)	63	66.3 (12.0)	36	64.4 (15.2)	19	65.0 (13.9)	58
Actual/Ought Incongruent	64.0 (13.2)	73	63.7 (12.5)	49	66.4 (8.8)	21	64.4 (13.0)	85
Actual/Ought Congruent	66.3 (11.6)	85	65.8 (12.2)	112	65.0 (12.8)	140	66.0 (11.6)	76

Note. N = 290. ISD = Item Score Difference. PS = Perceived Similarity. D = Distance. VAR = Inconsistency.

Summary

There were no statistically significant multivariate effects when examining smartphone use, OPC, cybersecurity, identity pride, internalized homonegativity, and social support as predictors of SSC (in)congruence group membership. However, descriptive statistics revealed consistent patterns across all indices. Participants whose scores reflected actual/ideal congruence consistently reported higher smartphone use, lower OPC, higher identity pride, and lower internalized homonegativity than the other three (in)congruence groups. Participants with actual/ideal incongruence consistently reported the highest cybersecurity scores compared to the other three groups. Participants whose scores reflected actual/ought incongruence consistently demonstrated the lowest smartphone use (similar to actual/ideal incongruent participants), the lowest cybersecurity, the lowest identity pride, and the highest internalized homonegativity. Participants whose scores reflected actual/ought congruence reported higher smartphone use (similar to actual/ideal congruent participants), the highest OPC scores, and higher internalized homonegativity (similar to actual/ought incongruent participants). Although these patterns suggest potential relationships between (in)congruence group membership and these predictor variables, the differences were small.

Comparing Psychosexual Outcomes Across (In)Congruence Groups

We conducted MANCOVAs to examine differences in psychosexual outcomes across (in)congruence groups (O3, H4a, H4b, H5a, H5b). Due to small sample sizes in the incongruence groups for the SSC_{PS} and SSC_{D} indices, MANCOVAs were limited to the SSC_{ISD} and SSC_{VAR} indices. For both indices, we ran two MANCOVA analyses: one including relationship variables (commitment and satisfaction) for participants in relationships and one excluding these variables

to include all participants. We describe the observed descriptive differences across (in)congruence groups for all four indices.

SSC Item Score Difference (SSC_{ISD})

Participants in Relationships. There was not a statistically significant multivariate effect of SSC (in)congruence group membership as identified by the SSC_{ISD} index on psychosexual health outcomes (sexual satisfaction, relationship satisfaction, life satisfaction, anxiety, and depression) after controlling for covariates (body satisfaction, sexual functioning, and relationship commitment), $F(15, 522.15) = 1.34$, $p = .176$; Wilk's Lambda = 0.901, partial $\eta^2 = .034$, observed power = 82.2%. See Table 5.10 for a summary of descriptive statistics across (in)congruence groups for each psychosexual health outcome for participants in relationships.

All participants excluding relationship variables. There was not a statistically significant multivariate effect of SSC (in)congruence group membership as identified by the SSC_{ISD} index on psychosexual health outcomes (sexual satisfaction, life satisfaction, anxiety, and depression) after controlling for covariates (body satisfaction and sexual functioning), $F(12, 743.75) = 1.67$, $p = .068$; Wilk's Lambda = 0.932, partial $\eta^2 = .023$, observed power = 86.3%. Table 5.11 provides a detailed summary of the descriptive statistics across (in)congruence groups for each psychosexual health outcome for all participants.

SSC Perceived Similarity (SSC_{PS})

The small sample sizes in the incongruence groups for the SSC_{PS} index did not meet the assumptions required for a MANCOVA. Therefore, we provide only the descriptive information for participants in relationships in Table 5.10 and all participants excluding relationship variables in Table 5.11.

SSC Distance (SSC_D)

The small sample sizes in the incongruence groups for the SSC_D index did not meet the assumptions required for a MANCOVA. Therefore, we provide only the descriptive information for participants in relationships in Table 5.10 and all participants excluding relationship variables in Table 5.11.

SSC Inconsistency (SSC_{VAR})

With Relationship Variables. There was not a statistically significant multivariate effect of SSC (in)congruence group membership as identified by the SSC_{VAR} index on psychosexual health outcomes (sexual satisfaction, relationship satisfaction, life satisfaction, anxiety, and depression) after controlling for covariates (body satisfaction, sexual functioning, and relationship commitment), $F(15, 522.15) = 1.44$, $p = .124$; Wilk's Lambda = 0.894, partial η^2 = .037, observed power = 81.5%. See Table 5.10 for a summary of descriptive statistics across (in)congruence groups for each psychosexual health outcome for participants in relationships.

Without Relationship Variables. There was not a statistically significant multivariate effect of SSC (in)congruence group membership as identified by the SSC_{VAR} index on psychosexual health outcomes (sexual satisfaction, life satisfaction, anxiety, and depression) after controlling for covariates (body satisfaction and sexual functioning), $F(12, 743.75) = 1.09$, $p = .365$; Wilk's Lambda = 0.955, partial η^2 = .015, observed power = 84.3%. Table 5.11 provides a detailed summary of the descriptive statistics across (in)congruence groups for each psychosexual health outcome for all participants.

Summary

There were no statistically significant multivariate effects of SSC (in)congruence group membership on psychosexual health outcomes after controlling for covariates. However,

descriptive statistics revealed consistent patterns across all indices. These patterns were similar when the analyses focused on participants in relationships and when all participants were included. Participants in the actual/ought incongruent group generally reported the most favorable outcomes, including the highest levels of sexual, relationship, and life satisfaction, and the lowest depression across indices. However, those in relationships within this group reported higher anxiety on the SSC_{ISD} and SSC_{D} indices. In contrast, the actual/ideal incongruent group tended to report lower anxiety across indices. Yet, participants in this group in relationships showed the highest depression levels on the SSC_{ISD} and SSC_{D} indices. The actual/ought congruent group consistently reported the lowest sexual and relationship satisfaction compared to other groups. Meanwhile, the actual/ideal congruent group showed the lowest life satisfaction across indices. Although these patterns suggest potential links between SSC (in)congruence and psychosexual health, the differences were modest.

Table 5.10

Descriptive Statistics for Psychosexual Health Outcomes for Participants in Relationships by SSC (In)Congruence Group

		SSC_{ISD}		SSC_{PS}		SSC_{D}		SSC_{VAR}	
Dependent Variables	SSC (in)congruence groups	M (SD)	*n*	M (SD)	*n*	M (SD)	*n*	M (SD)	*n*
Sexual Satisfaction									
	Actual/Ideal Congruent	29.6 (4.8)	43	28.8 (5.0)	56	28.8 (5.0)	72	28.1 (5.1)	43
	Actual/Ideal Incongruent	27.7 (5.6)	45	28.4 (5.7)	30	28.1 (6.2)	14	29.3 (5.2)	43
	Actual/Ought Incongruent	28.2 (5.7)	58	29.5 (4.7)	42	29.5 (4.5)	20	29.1 (5.0)	64
	Actual/Ought Congruent	28.4 (5.8)	54	27.4 (6.2)	72	27.9 (5.9)	94	27.1 (6.4)	50
Relationship Satisfaction									
	Actual/Ideal Congruent	29.0 (6.8)	43	28.9 (6.5)	56	29.4 (6.4)	72	28.1 (6.9)	43
	Actual/Ideal Incongruent	30.0 (5.9)	45	30.8 (5.5)	30	30.5 (5.4)	14	31.1 (5.1)	43
	Actual/Ought Incongruent	29.8 (6.3)	58	31.6 (3.9)	42	32.1 (2.7)	20	31.1 (4.9)	64
	Actual/Ought Congruent	29.2 (7.1)	54	28.2 (7.8)	72	28.9 (7.3)	94	27.4 (8.3)	50
Life Satisfaction									
	Actual/Ideal Congruent	24.4 (6.5)	43	22.8 (7.1)	56	22.8 (6.7)	72	22.7 (7.6)	43
	Actual/Ideal Incongruent	21.3 (6.8)	45	23.0 (6.4)	30	23.6 (7.6)	14	23.1 (6.1)	43
	Actual/Ought Incongruent	23.5 (6.2)	58	24.7 (5.7)	42	24.7 (5.1)	20	24.7 (6.2)	64
	Actual/Ought Congruent	24.5 (6.3)	54	23.4 (6.5)	72	23.7 (6.4)	94	22.8 (6.2)	50
Anxiety									
	Actual/Ideal Congruent	4.6 (3.9)	43	6.1 (4.7)	56	5.6 (4.6)	72	6.3 (4.7)	43
	Actual/Ideal Incongruent	6.5 (5.0)	45	4.6 (4.2)	30	5.6 (4.7)	14	4.8 (4.4)	43
	Actual/Ought Incongruent	6.8 (4.5)	58	5.8 (4.2)	42	6.2 (4.3)	20	5.7 (4.4)	64
	Actual/Ought Congruent	5.2 (4.4)	54	6.2 (4.7)	72	6.0 (4.6)	94	6.5 (4.7)	50
Depression									
	Actual/Ideal Congruent	4.2 (3.7)	43	5.0 (4.4)	56	4.8 (4.3)	72	5.1 (4.6)	43
	Actual/Ideal Incongruent	5.8 (5.0)	45	4.9 (4.7)	30	6.0 (5.2)	14	4.9 (4.4)	43
	Actual/Ought Incongruent	5.7 (4.3)	58	4.4 (3.8)	42	4.6 (3.1)	20	4.6 (4.1)	64
	Actual/Ought Congruent	3.8 (4.0)	54	5.0 (4.5)	72	4.8 (4.5)	94	5.0 (4.5)	50

Note. $N = 200$. ISD = Item Score Difference. PS = Perceived Similarity. D = Distance. VAR = Inconsistency.

Table 5.11

Descriptive Statistics for Psychosexual Health Outcomes for All Participants by SSC (In)Congruence Group

		SSC_{ISD}		SSC_{PS}		SSC_{D}		SSC_{VAR}	
Dependent Variables	SSC (in)congruence groups	M (SD)	*n*	M (SD)	*n*	M (SD)	*n*	M (SD)	*n*
Sexual Satisfaction									
	Actual/Ideal Congruent	26.7 (6.1)	69	25.4 (6.7)	93	26.0 (6.5)	110	25.1 (6.5)	71
	Actual/Ideal Incongruent	25.3 (6.9)	63	27.4 (6.1)	36	26.1 (6.9)	19	27.1 (6.5)	58
	Actual/Ought Incongruent	26.8 (5.9)	73	28.3 (5.3)	49	29.1 (4.8)	21	27.1 (6.1)	85
	Actual/Ought Congruent	25.7 (6.8)	85	25.3 (6.6)	112	25.8 (6.5)	140	25.2 (6.6)	76
Life Satisfaction									
	Actual/Ideal Congruent	23.1 (6.9)	69	21.7 (7.5)	93	22.0 (7.0)	110	22.0 (7.5)	71
	Actual/Ideal Incongruent	20.8 (7.3)	63	22.8 (6.3)	36	22.0 (8.4)	19	22.0 (7.0)	58
	Actual/Ought Incongruent	22.8 (6.8)	73	24.0 (5.9)	49	24.7 (5.0)	21	23.5 (6.7)	85
	Actual/Ought Congruent	23.2 (6.4)	85	22.6 (6.7)	112	22.8 (6.7)	140	22.4 (6.3)	76
Anxiety									
	Actual/Ideal Congruent	5.1 (4.2)	69	6.3 (4.8)	93	5.9 (4.7)	110	6.5 (4.7)	71
	Actual/Ideal Incongruent	6.8 (5.1)	63	5.0 (4.6)	36	6.1 (5.2)	19	5.3 (4.7)	58
	Actual/Ought Incongruent	6.8 (4.5)	73	6.1 (4.1)	49	6.0 (4.4)	21	5.7 (4.2)	85
	Actual/Ought Congruent	5.7 (4.4)	85	6.2 (4.5)	112	6.2 (4.4)	140	6.7 (4.6)	76
Depression									
	Actual/Ideal Congruent	4.8 (4.0)	69	5.4 (4.4)	93	5.1 (4.3)	110	5.3 (4.5)	71
	Actual/Ideal Incongruent	5.7 (4.8)	63	4.7 (4.4)	36	5.9 (5.1)	19	5.1 (4.3)	58
	Actual/Ought Incongruent	6.3 (4.9)	73	5.1 (4.7)	49	4.4 (3.1)	21	5.2 (4.9)	85
	Actual/Ought Congruent	4.7 (4.8)	85	5.6 (4.9)	112	5.6 (5.1)	140	5.8 (4.9)	76

Note. $N = 290$. ISD = Item Score Difference. PS = Perceived Similarity. D = Distance. VAR = Inconsistency.

Post Hoc Analyses

Given the non-significant results of the primary analyses, we conducted additional post hoc tests, including binary logistic regressions and two-way MANCOVAs, to examine whether broader distinctions between congruent and incongruent participants were more predictive of outcomes. We performed binary logistic regression analyses to predict SSC congruence versus incongruence using continuous predictors: smartphone use, online privacy concerns, cybersecurity, identity pride, internalized homonegativity, and social support. Across all SSC indices, the models were not statistically significant.

We conducted two-way MANCOVAs to examine the main effects of (in)congruence (congruent vs. incongruent), self-discrepancy type (ideal vs. ought), and their interaction on the dependent variables. Analyses that included all participants but excluded relationship variables (e.g., commitment and satisfaction) did not yield significant results. Similarly, no significant effects were observed in the two-way MANCOVAs for the SSC_{ISD} and SSC_{D} indices when relationship variables were included. However, significant results were identified in the analyses for the SSC_{PS} and SSC_{VAR} indices including relationship variables, as detailed below.

For the SSC_{PS} index, we found a significant main effect of (in)congruence, $F(5, 189) = 2.47$, $p = .034$; Wilks' Lambda = 0.939, partial $\eta^2 = .061$, observed power = 76.8%, but no significant main effect of ideal-ought self-discrepancy type, $F(5, 189) = 0.95$, $p = .452$, Wilks' Lambda = 0.976, partial $\eta^2 = .024$, nor a significant interaction, $F(5, 189) = 0.775$, $p = .569$, Wilks' Lambda = .980, partial $\eta^2 = .020$. Follow-up univariate tests revealed that (in)congruence had a significant effect on relationship satisfaction, $F(1, 193) = 10.91$, $p = .001$, partial $\eta^2 = .053$, but not on sexual satisfaction, life satisfaction, anxiety, or depression (all *p*s > .05). Pairwise comparisons indicated that participants in the incongruent group reported significantly

higher relationship satisfaction (*M* = 31.2, *SE* = 0.7) compared to those in the congruent group (*M* = 28.5, *SE* = 0.5, *p* = .001).

For the SSC_{VAR} index, we found a similar results. There was a significant main effect of (in)congruence, $F(5, 189) = 3.16$, $p = .009$; Wilks' Lambda = 0.923, partial $\eta^2 = .077$, observed power = 87.5%, but no significant main effect of ideal-ought self-discrepancy type, $F(5, 189) = 0.85$, $p = .513$; Wilks' Lambda = 0.978, partial $\eta^2 = .022$, nor a significant interaction, $F(5, 189) = 0.46$, $p = .803$; Wilks' Lambda = 0.988, partial $\eta^2 = .012$. Follow-up univariate tests revealed that (in)congruence status had a significant effect on relationship satisfaction, $F(1, 193) = 11.98$, $p < .001$, partial $\eta^2 = .058$, but not on sexual satisfaction, life satisfaction, anxiety, or depression (all *p*s > .05). Pairwise comparisons indicated that participants in the incongruent group reported significantly higher relationship satisfaction (*M* = 30.79, *SE* = 0.54) compared to those in the congruent group (*M* = 28.05, *SE* = 0.57, $p < .001$). See OSF for additional details (https://osf.io/sdgbu).

Discussion

The overall goal of this study was to examine SSC (in)congruence between in-person and technology-mediated contexts among lesbian women. We used a new measure of SSC with instructions specified for in-person and technology-mediated contexts separately. Consistent with self-discrepancy theory, we identified four SSC (in)congruence groups: (1) actual/ideal congruent, (2) actual/ideal incongruent, (3) actual/ought incongruent, and (4) actual/ought congruent. Logistic regression analyses were not statistically significant, indicating that the predictors did not strongly differentiate SSC (in)congruence groups. We conducted one-way MANCOVAs to test whether SSC (in)congruence group membership predicted psychosexual outcomes. The results showed no significant effects, indicating that group membership did not

predict these outcomes after accounting for covariates. In post-hoc analyses, we used two-way MANCOVAs to examine the main effects of congruence and self-discrepancy type. Participants in relationships with incongruent SSCs reported significantly higher relationship satisfaction than those with congruent SSCs. We found no main effect of self-discrepancy type or interaction effect, suggesting that the alignment of technology-mediated SSC with ideal or ought selves did not influence psychosexual outcomes. Our inspection of means revealed descriptive differences in patterns between groups. These patterns suggested that actual/ought incongruent participants generally reported the most positive psychosexual outcomes (e.g., higher sexual, relationship, and life satisfaction, and lower depression); whereas actual/ought congruent participants tended to report more negative outcomes (e.g., lower sexual and relationship satisfaction). Although these differences were small and not statistically significant, they highlight the complexity of SSC (in)congruence, particularly in sexually minoritized populations. A strict reliance on statistical significance testing can sometimes obscure subtle but theoretically meaningful patterns, particularly in complex psychological phenomena. By considering these descriptive trends alongside theoretical expectations, we aim to foster a richer, more nuanced understanding of SSC (in)congruence (Amrhein et al., 2019; Lederman & Lederman, 2016; Visentin et al., 2020). These findings suggest that technology-mediated spaces may uniquely influence SSC expressions and justifies the need for further research

Rethinking SSC (In)Congruence in Lesbian Women

Our findings indicate that distinctions between in-person and technology-mediated SSCs may not be strong for many people. We calculated four indices that each provided unique insights into SSC (in)congruence (i.e., difference, distance, inconsistency, perceived similarity). Our results confirmed the existence of four SSC (in)congruence groups using each index.

However, across all indices, more participants were categorized as congruent than incongruent. This finding was particularly evident in the SSC_{PS} and SSC_{D} indices. Moreover, participants' SSCs were generally consistent between the in-person and technology-mediated contexts. Participants who rated their SSC more positively in-person also did so in the technology-mediated context. Mean SSC scores were also positively skewed, reflecting a general trend toward consistency. These trends suggest that, regardless of how we operationalized SSC (in)congruence, participants were likely to experience their SSC in a generally consistent manner across in-person and technology-mediated contexts. The patterns of SSC congruence in this study reflect self-discrepancy theory's notion that people are motivated to integrate their self-concept across different contexts (Higgins, 1987). Indeed, our results align with prior research showing that people generally maintain stable self-concepts across social contexts, such as different roles or settings (e.g., Bunker & Kwan, 2024; Funder & Colvin, 1991; Michikyan, 2020; Roberts & Donahue, 1994). These findings build on our earlier Q Methodology study, where most participants had not considered their SSC in a technology-mediated context (Ashley et al, Under Revision). This consistency challenges older research suggesting that sexually minoritized people often experience their online self-concept differently from their in-person self-concept (Bargh et al., 2002).

Our findings may reflect generational differences in technology use. Younger participants, overrepresented in our sample, may perceive less distinction between in-person and technology-mediated worlds. Research on "digital natives" supports this, showing that those who grew up with digital technology often integrate their in-person and technology-mediated identities (Horan, 2011; Pisano et al., 2017). In contrast, "digital immigrants" (i.e., those who adopted technology later in life) often view their technology-mediated presence as distinct from

their in-person presence (Cheng et al., 2023; Hage et al., 2020; Lei et al., 2024). Thus, for digital natives, their technology-mediated SSC is likely an extension of their in-person SSC, reflecting their seamless integration of digital and offline worlds. Older research on SSC and related constructs likely focused on digital immigrants, as the internet only became publicly available in 1993. This generational shift highlights the need for future research to account for cohort differences in SSC experiences across contexts.

Age differences may also have impacted our findings, given that SSC is a developmental and dynamic construct. Like sexuality and self-concept more broadly, SSC evolves over time and is influenced by people's sexual experiences, cognitive development, and physiological changes (Rostosky et al., 2008; Shapka & Keating, 2005). As people age, their self-concept tends to become more complex and multidimensional, shaped by a broader range of social roles, life events, and internal reflections. Future research should consider not only age as a variable but also how developmental stages influence the experience and expression of SSC across different contexts.

Our descriptive findings provide a valuable starting point for understanding SSC (in)congruence group membership and its potential implications. Although our findings were not significant, we intentionally reported and interpreted these results because relying solely on p-values can lead to misleading conclusions (Amrhein et al., 2019; Lederman & Lederman, 2016; Visentin et al., 2020). We found some evidence of patterns in how lesbian women navigate their SSC across contexts. For instance, smartphone use was higher among congruent groups, suggesting frequent phone use may help align in-person and technology-mediated SSCs. Actual/ought congruent participants reported the highest online privacy concerns, possibly reflecting efforts to avoid expressing their ideal SSCs online due to adherence to

heteronormative standards (Fox & Warber, 2015; Geeng & Hiniker, 2021; Yao et al., 2023). In contrast, the actual/ideal incongruent group showed the highest cybersecurity concerns, which could suggest taking steps to protect their ideal self-expression online from blending with their in-person identities (Bouma-Sims et al., 2024; Marwick & Boyd, 2011). Identity pride was highest among the actual/ideal congruent group, reinforcing the link between ideal SSC alignment and positive identity affirmation. Conversely, actual/ought congruence was tied to the highest internalized homonegativity, suggesting external conformity may be linked to societal stigma. Unexpectedly, people in the actual/ought incongruence group reported somewhat higher sexual, relationship, and life satisfaction and lower depression than the other three groups. These results may suggest that expressing a more authentic, ideal-aligned sexual self in face-to-face contexts may buffer against the negative psychological effects of conforming to heteronormative pressures online. There is likely a complex interplay of protective and restrictive factors in SSC navigation, emphasizing the importance of nuanced research designs. Although our results are preliminary and exploratory, they provide critical insights into how lesbian women may navigate SSC across contexts, laying the groundwork for further exploration of these dynamics and potentially more tailored interventions.

We challenge the applicability of self-discrepancy theory to explain psychosexual outcomes in lesbian women. Our group-difference hypotheses were not supported. One-way MANCOVAs were not statistically significant. In post-hoc analyses, two-way MANCOVAs revealed that participants in relationships with incongruent SSCs reported significantly higher relationship satisfaction than those with congruent SSCs. There were no main effects of self-discrepancy type or interaction effects, indicating that whether technology-mediated SSCs aligned with ideal or ought selves did not influence psychosexual outcomes. These findings

contradict literature that links having a consistent self-perception across contexts to better psychological outcomes (Bixter et al., 2020; Donahue et al., 1993; Sedikides et al., 2023; Sokol & Serper, 2017, 2019). They also challenge studies that have linked SSC congruence to positive outcomes (Dewitte et al., 2017; Katz & Farrow, 2000; Kennis et al., 2022). One possible explanation is that the link between congruence and authenticity is primarily a Western construct. In Western contexts, knowing and behaving in ways that deviate from one's "true self" (Rogers, 1961; Deci and Ryan, 1985; Barrett-Lennard, 1998; Harter, 2002; Wood et al., 2008) are often seen as inauthentic due to cultural norms that equate consistency with authenticity (Sheldon et al., 1997; Suh, 2002). However, for minoritized groups, such as lesbian women or biculturals (i.e., people who identify with two or more cultural groups), flexibility in behaviour and self-expression can be a vital adaptation to navigating heteronormative social expectations (Jones, 2018: Nguyen & Rule, 2020). These shifts may not signal inauthenticity but instead reflect a dynamic integration of multiple overlapping identities across contexts. For instance, bicultural people often adjust their behaviour to align with specific cultural norms, a skill that fosters belonging and competence in distinct contexts (Hong et al., 2000; LaFromboise et al., 1993; Mistry & Wu, 2010). Similarly, lesbian women may adapt their SSC to align with the differing social norms and affordances of in-person and technology-mediated contexts. For example, a lesbian woman might embody her ideal SSC in-person by openly rejecting heteronormativity. However, in technology-mediated spaces she might adopt an ought SSC, prioritizing caution and conformity to mitigate risks of discrimination, surveillance, and violence (Chandra & Hanckel, 2024; Formby, 2022; Talbot et al., 2022). These adaptations, although creating an incongruent SSC, are not necessarily negative. Instead, they reflect a pragmatic response to the distinct social norms and risks of these contexts. By reframing inconsistency and

adaptability as strengths, this work highlights the resilience of minoritized groups in managing complex identities. Challenging self-discrepancy theory's relevance to lesbian women, we offer a more inclusive framework for understanding incongruence as adaptive strategies in sexually minoritized populations.

Traditional linear models may not capture the complex interplay between identity, technology, and social support variables influencing SSC (in)congruence. Our predictive hypotheses were not supported. This result indicates that identity, technology, and social support variables did not strongly differentiate SSC (in)congruence groups. These results may stem from the interdependent nature of our predictors. For example, identity pride and internalized homonegativity likely work together to shape SSC congruence. Research shows that identity pride can reduce the effects of internalized homophobia by providing a buffer against negative outcomes (Goffnett et al., 2022; Rubino et al., 2018). Further, the conceptual overlap between ideal and ought SSCs may have complicated our predictions. Tangney et al. (1998) found that participants struggled to distinguish between ideal and ought selves. This confusion raises questions about how these constructs are internalized and expressed in real-world contexts. Such ambiguity may obscure clear patterns in SSC (in)congruence and limit the explanatory power of current predictors. Future research should adopt more nuanced approaches to capture these variables' dynamic and interdependent nature. Models that examine interactions between predictors or qualitative methods probing subjective SSC experiences could address these challenges in understanding the data. Despite our non-significant statistical findings, this study highlights the complexity of SSC (in)congruence and provides a foundation for more sophisticated research into the unique experiences of sexually minoritized populations.

Limitations and Future Directions

The current research contributes to the still-emerging literature on SSC (in)congruence in in-person and technology-mediated contexts by exploring its classification, predictors, and outcomes in a sample of lesbian people. Several limitations in our methodology highlight areas for future research. Although our SSC indices effectively categorized participants, our use of thresholds for congruence and incongruence may have diluted group differences. Specifically, participants with scores just above or below the cutoffs were categorized as congruent or incongruent, potentially masking subtle variations in SSC. This rigid classification likely diluted our ability to detect meaningful differences in our predictors and outcomes. Future research should exclude participants near cutoff points for greater group separation or treat congruence as a continuum to better capture nuanced differences.

Several factors limited the statistical power of our analyses. Small sample sizes, particularly in incongruence groups, and low effect sizes suggest that our included predictors had minimal explanatory power, raising doubts about the utility of pursuing statistical significance in this context. Instead, alternative predictors or exploratory methods may offer more meaningful insights. Additionally, the high scores of identity pride, social support, and psychosexual well-being observed in our sample suggest positive trends in the lives of lesbian women, which is encouraging. However, these uniformly high scores also limited the variability in our data, which constrained our ability to detect meaningful patterns and differences across SSC (in)congruence groups. Future studies may benefit from sampling more diverse populations, such as lesbian women living in highly religious regions or countries with restrictive policies toward sexually minoritized people (e.g., Marcus et al., 2020; Neufeld & Wiedlack, 2020; Rufino et al., 2022).

These contexts might yield greater variability, potentially revealing more pronounced group differences.

Assuming homogeneity within SSC (in)congruence groups may have oversimplified the variability within these four categories. Each group may contain latent subgroups that differ in meaningful ways, such as varying levels of congruence severity or unique patterns of predictor relationships. Advanced techniques like CART and MIXDA address this issue by uncovering hidden subcategories and complex, non-linear relationships that logistic regression cannot detect (Finch et al., 2014). CART works by dividing participants into groups that are as similar as possible based on the outcome you are studying. It does this step by step, using predictor variables to split the data into smaller and more similar groups until it can't make the groups any more alike (Breiman, 1984). MIXDA is a type of analysis that allows for hidden subgroups within larger categories. Unlike traditional methods that assume groups are uniform, MIXDA identifies these subgroups by modeling group membership as a mix of smaller, overlapping distributions (Hastie & Tibshirani, 1996). We did not use CART or MIXDA due to limitations in sample size, which would not have been sufficient for reliable subgroup identification (Berk, 2008; Pan & Shen, 2007). Future research with larger samples could explore these statistical techniques to provide a more nuanced understanding of SSC (in)congruence. Using CART or MIXDA may improve classification accuracy, reveal hidden patterns, and deepen insights into the variability within SSC (in)congruence groups.

Conclusion

This study advances SSC research by focusing on lesbian women, a population often overlooked in psychosexual research. By exploring the nuances of SSC (in)congruence in this group, we provided valuable insights into the interplay between identity, context, and

psychosexual health. Our findings highlight the need to adapt SSC (in)congruence frameworks to better capture the experiences of sexually minoritized groups. Specifically, we suggest that incongruence may serve as an adaptive strategy for navigating minority stressors both in in-person and technology-mediated spaces. Our work represents an important step toward a more inclusive understanding of SSC and its implications, paving the way for future research that prioritizes the well-being and authenticity of sexually minoritized people.

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General Discussion

The goal of this dissertation was to better understand how lesbian women's SSC manifests across in-person and technology-mediated contexts. My dissertation comprises four articles that build toward a conceptually grounded and theory-driven examination of lesbian women's SSCs. In this dissertation, I advance empirical understanding of SSC by improving its construct validity. Specifically, I focused on refining the conceptualization and measurement of SSC to support its inclusivity to lesbian women and applicability across in-person and technology-mediated contexts. Additionally, I applied self-discrepancy theory to examine how lesbian women's SSC aligns or diverges across in-person and technology-mediated contexts. This framework allowed me to explore the connections between SSC (in)congruence and psychosexual health outcomes. Throughout this dissertation, I demonstrated and underscored the importance of applying methodological rigour to examinations of SSC. I outline future directions and applications of my research for researchers, clinicians, and social advocates.

Contributions

Improving SSCs Construct Validity

The studies in this dissertation contribute to improving the construct validity of SSC. Construct validation assesses how effectively a test measures the concept it is designed to capture (Loevinger, 1957). The process of construct validation is intended to follow three systematic phases: substantive, structural, and external (Flake et al., 2017; Loevinger, 1957). In Article 1, I identified critical gaps in SSC construct validity across these phases. Past research lacked conceptual clarity, consistent operational definitions grounded in theory, and sufficient psychometric testing. To address these issues, I first focused on the substantive phase - the theoretical base of a measure. Theory is essential in measurement because it provides a

framework to distinguish SSC from related constructs. Without theory, SSC measures risk conflating constructs, which leads to unreliable findings and limits the applicability of these measures to different populations (Oberauer & Lewandowsky, 2019). Based on Article 1, I clarified what SSC is and is not by removing atheoretical dimensions (e.g., sexual satisfaction, sexual anxiety, sexual depression). Rather, these domains are better understood as outcomes of having a negative or incongruent self-concept (Higgins et al., 1985). Additionally, I differentiated SSC from related constructs. Past researchers would use SSC, sexual subjectivity, and sexual self-schema interchangeably. For example, some researchers would state they were measuring SSC but then use a measure of sexual self-schema (Cleary et al., 2011; Lotfollahi et al., 2021). With these methodological inconsistencies in mind, I identified essential components of SSC and created a comprehensive, theoretically grounded item pool. In Article 3, I refined the SSC items through expert feedback and participant input. Sexuality researchers with diverse sociodemographic backgrounds provided conceptual definitions of SSC and reviewed the item pool for relevance and representativeness. Using Q Methodology, women of varied ages, gender/sex identities, and sexualities identified which refined items best aligned with their sexual thoughts, feelings, and experiences. The resulting conceptual definition included cognitive (i.e., what people think about their sexual selves), emotional (i.e., how people feel about their sexual selves), and experiential (i.e., how people express and engage with their sexual selves through actions and interactions) components. This conceptual definition aligns SSC with self-concept theory (Burns, 1982; Greenwald & Pratkanis, 1984; Markus & Wurf, 1987; Pajares & Schunk, 2005). Grounding SSC in self-concept theory provided strong substantive validity evidence by reducing subjectivity in its definition. It also strengthened SSC's relevance by tying it to extensively studied theoretical principles (Flake et al., 2017; 2022). Additionally, qualitative

results suggested that SSC's conceptual and operational definition applied to in-person and technology-mediated contexts even if participants experienced their SSC differently across these contexts. Together, I used these findings to create a novel self-report measure of SSC that includes lesbian women's perspectives.

In Article 4, I collected structural validity evidence for this measure. Lesbian women completed the SSC measure while considering both in-person and technology-mediated contexts. I used exploratory factor analysis, Cronbach's alpha (Cronbach, 1951), and McDonald's omega (McDonald, 1970) to assess the measure's structure and internal consistency. These analyses provided initial evidence of acceptable psychometric properties for a unidimensional measure of SSC in both contexts. To assess external validity, I examined the predictive validity of the measure by using technology, identity, and social support variables to predict SSC (in)congruence. Although these results were not significant, they provide a foundation for future research. Refining this measure and gathering additional validity evidence—such as confirmatory factor analysis, test-retest reliability, and convergent and discriminant validity—will strengthen its applicability. Collectively, this dissertation establishes a more robust and theoretically grounded framework for SSC. It addresses critical gaps in past research, offers a novel self-report measure tailored for lesbian women, and advances construct validity through systematic and theory-driven methods. Future researchers should build on this work to further refine this SSC measure and explore its applicability across different populations and contexts.

Our construct validation steps mark progress toward a more inclusive approach to measuring SSC. In Article 1, I identified significant issues with inclusivity in SSC research. Few studies included samples of gender/sex or sexually minoritized people. Most SSC measures were not developed for these populations or evaluated for use with them. These findings align with

Astle et al.'s (2023) systematic review, which revealed that SSC and sexual self-schema studies overwhelmingly focused on gender/sex and sexually majoritized people. Minoritized groups are often difficult for researchers to access and include in studies (Brackertz, 2007). This difficulty is in part due to gender/sex and sexually minoritized women making up a small portion of Canada's population (i.e., less than 4%; Statistics Canada, 2023). Additionally, past researchers have identified specific challenges in recruiting these participants, such as the persons concerned not wishing to be contacted (Guillory et al., 2018; Russomanno et al., 2019). For my following Articles, I needed to use a methodology that would address these recruitment barriers while still answering my research questions. I turned to Q Methodology because it is a systematic and participatory method that allows participants to sort and rank items based on their subjective perspectives. However, conducting an in-person Q Methodology study with gender/sex and sexually minoritized participants would have been logistically challenging. Thus, I adapted Q Methodology for online use to make the approach more efficient, effective, and economic. This adaptation allowed me to recruit participants more broadly, bypassing traditional geographic and logistical barriers. In Article 2, I describe how I adapted Q Methodology for online use to recruit hard-to-reach populations. In Article 3, I used this innovation to recruit and collect data from women with varied identities. I found three definitions of SSC and identified fundamental elements of SSC that resonated broadly. These shared elements provided a strong foundation for developing a universal SSC definition and measure. In Article 4, I used this measure with a sample of Canadian lesbian women. I found psychometric support for the use of this measure with my sample. However, it is unclear whether these items would function equivalently across different groups of women. Future researchers should conduct measurement invariance testing to examine whether this measure holds the same meaning and measurement across groups (Schmitt

& Ali, 2014). When measures lack invariance, replicability suffers because comparisons between groups become conceptually meaningless or lead to inflated Type I error rates (McCoach & Adelson, 2010; Nye et al., 2018; Vandenberg & Lance, 2000). For SSC, measurement invariance testing is essential to evaluate whether the universal elements identified in Article 3 and tested in Article 4 apply across populations or if some aspects of SSC are population-specific. This step is crucial for developing any self-report measures that are both inclusive and empirically robust.

Tying Theory to SSC Research

Without a robust theoretical foundation, researchers risk overlooking the sociocultural nuances that shape SSC, particularly for sexually minoritized populations. Across this dissertation, I sought to incorporate theory to address this gap. In Article 1, I clarified the theoretical basis of SSC. With Article 3, I aligned participants' perspectives with theory through expert review and Q Methodology. With this approach, I identified SSC items that were relevant and representative of SSC. I found that participants defined their SSCs in three unique ways. There were some patterns in how intersecting identities shaped these SSC definitions. But no single identity consistently aligned with one definition. Instead, SSC definitions reflected a mix of socio-demographic factors, highlighting the complexity and diversity of SSC experiences. These findings are consistent with social identity theory (Tajfel, 1978) and intersectionality (Crenshaw, 1989), showing that group membership and intersecting identities shape SSC definitions. By integrating participant perspectives with theory, I challenged traditional, overly generalized SSC conceptualizations. In Article 4, I applied self-discrepancy theory (Higgins, 1987) to examine SSC (in)congruence across contexts. The results did not fully support the theory. Instead, I reported nuanced patterns that challenge Western assumptions about the benefits of congruence and the harms of incongruence. These results highlight the limitations of

applying Western theoretical frameworks without critical evaluation and underscore the importance of testing and refining theory within specific populations (Sue et al., 2022; Weber, 2017). With my dissertation, I underscore how theory ensures SSC measures capture the complexities of sociocultural nuances.

My findings highlight the limitations of Western-centric theories that prioritize internal consistency and authenticity. Western-centric theories, such as Higgins' (1987) self-discrepancy theory and Rogers' (1959) self-theory, prioritize individuality, autonomy, and internal consistency as central to psychological well-being. Incongruence is conceptualized as inherently negative and associated with depression, anxiety, and dissatisfaction. However, some research suggests that this perspective may not capture how SSC develops and functions in non-Western and multicultural Western contexts. In interdependent self-construals, relational harmony, group membership, and situational adaptability are prioritized (Markus & Kitayama, 1991; Triandis, 1989). Within these frameworks, incongruence may be seen as flexible and adaptive rather than harmful (Markus & Kitayama, 1991; Oyserman et al., 2002).

My dissertation results suggest that incongruence may also be adaptive for sexually minoritized (specifically lesbian) women. In Article 3, participants who identified differences in their SSC in-person from their SSC in technology-mediated contexts highlighted the potential adaptability of incongruence across contexts. Some viewed technology-mediated contexts as impersonal and filtered, leading to tailored or conservative SSCs. In contrast, other participants - particularly gender/sex and sexually minoritized women - viewed technology-mediated spaces as opportunities for exploration of their SSCs. In Article 4, lesbian women who reported SSC incongruence between in-person and technology-mediated contexts had significantly higher relationship satisfaction than those who reported congruent SSCs. Further, our inspection of

means revealed that actual/ought incongruent participants generally reported the most positive psychosexual outcomes (e.g., higher sexual, relationship, and life satisfaction, and lower depression). These findings suggest that incongruence can serve an adaptive purpose for sexually minoritized and lesbian women: incongruence may represent flexibility that enables them to navigate heteronormative pressures while maintaining psychological well-being. For sexually minoritized groups, shifts in SSC across contexts offer opportunities for self-expression and exploration that may not be possible in stigmatized or non-affirming spaces (Berger et al., 2022; Jenzen & Karl, 2014).

With these results, I raise an important question: can Western theories developed from majoritized perspective of self-consistency adequately explain SSC in minoritized populations? My findings suggest they may not. Instead, incongruence can reflect resilience and strategic adjustment rather than psychological distress. Future research should move beyond Western assumptions that self-consistency is ideal. Culturally grounded and intersectional approaches are necessary to understand how SSC (in)congruence functions across diverse populations. Integrating frameworks such as interdependent self-construals (Markus & Kitayama, 1991), queer theory (Butler, 1990), or Bicultural Identity Integration (Benet-Martínez & Haritatos, 2005) may better capture the relational and contextual dimensions of SSC. This approach will provide a more inclusive and nuanced understanding of SSC and its role in psychosexual health across sociocultural contexts.

Limitations and Future Directions

I used a mixed-methods approach to address my research questions and hypotheses in this dissertation. Overall, the chosen methodologies across the three studies (presented as four articles) effectively addressed my research goals. However, there are limitations to this research

that require attention and can be addressed in future studies. I discussed each study's limitations and future directions in their respective Articles. In this section, I focus on broader limitations and future directions relevant to my dissertation as a whole.

Future researchers should take steps to address response and sampling biases that likely influenced the findings of this dissertation. Volunteer and self-selection biases are common in sexuality research, where participants tend to have more sexual experience, hold more liberal sexual attitudes, and feel more comfortable discussing sexuality than non-participants (Bogaert, 1996; Dawson et al., 2019). Social desirability bias also likely impacted how participants responded to questions about their sexual thoughts, feelings, and behaviours (King, 2022; Meston et al., 1998). This bias often leads to overreporting positive outcomes, such as satisfaction, and underreporting negative outcomes like anxiety and depression (Caputo, 2017; Meston et al., 1998; Santos-Iglesias, 2024). In Article 3, Study 2, the Confident and Partner-Focused SSC definition was primarily endorsed by sexually minoritized women who volunteered for this study. This definition may reflect the perspectives of those who feel comfortable sharing their sexual selves, while others—especially those with less positive or more conflicted SSCs—may have been underrepresented. Participants were also more likely to agree with positively worded SSC items, such as "*It's important to me that I am able to 'connect' well with a sexual partner,"* while disagreeing with negatively framed items, like *"I feel it's wrong for me to have sex"* or *"I am afraid during sex."* This pattern shaped the SSC measure in Article 4 in which negatively framed items were largely excluded, and the SSC subdomain "Fear of Sex" was almost entirely absent. In Article 4, these biases may have contributed to the predominantly positive profile observed across the sample. Participants reported high satisfaction levels—sexual, relationship, and general life—and low levels of anxiety and depression. Identity pride

scores were elevated, whereas internalized homonegativity was low. These findings likely reflect an overrepresentation of people who were more open about their SSC and sexuality. In contrast, lesbian women with greater internalized stigma, less satisfaction, or more mental health challenges may have been less likely to participate or less likely to want to report these negative experiences. As a result, the findings may not accurately reflect the diversity of SSC experiences, and the ability of individual experience variables to predict (in)congruence, particularly among those who experience greater incongruence, or more negative outcomes. To try and mitigate these biases, I ensured anonymity and confidentiality for participants and offered incentives to encourage broader participation. I also collected responses for Article 4 online because research has shown that self-administered (versus interviewer-administered) surveys generally result in less measurement error attributable to socially desirable responding (Krumpal, 2013). Future research should adopt random probability sampling methods designed to engage participants with varied comfort levels regarding their sexual selves, identities, and lives (Fenton et al., 2001; Bouchard, 2019). Future researchers should include social desirability measures with recent validity evidence - particularly in sexually minoritized populations - to assess and control for this bias. These steps would improve the sensitivity and inclusivity of future findings.

More research is needed to determine whether the findings of this dissertation generalize to underrepresented and minoritized populations. I used targeted recruitment strategies and diverse platforms, including social media, Listservs, email invitations, and physical posters. Despite these efforts, reliance on relatively small convenience samples limits the generalizability of the results. In Article 3, participants were primarily sexuality researchers (Study 1) and women (Study 2) recruited through professional networks, social media, and advertisements. The card sort and Q Methodology provided detailed, qualitative insights into SSC definitions but

relied on small samples. Although these methods were appropriate for exploring complex constructs, the small samples limited the generalizability of the findings. For instance, the SSC definitions identified may not fully capture the diversity of experiences among intersectionally minoritized populations. Indeed, the perspectives of racialized and transgender lesbian women were underrepresented. I used these definitions to develop the SSC measure applied in Article 4. As a result, the measure may not fully capture the perspectives and experiences of racialized and transgender women included in the Article 4 sample. In Article 4, recruitment relied on undergraduate student pools, Prolific, and community-based methods. These approaches to recruitment likely shaped the sociodemographic composition of the samples. Participants were younger on average compared to Canadian population estimates (Statistics Canada, 2023). Most were white, cisgender, and English-speaking. Overall, the sociodemographic homogeneity of the samples likely restricted the diversity of SSC perspectives captured. Future research should prioritize intersectionally diverse samples to provide a more inclusive understanding of SSC.

Future research on SSC and technology contexts should prioritize addressing the lack of participation from minoritized groups. This gap may stem from technological disparities, as majoritized groups often have privileged access, skills, and capabilities in using digital technologies (Choi & DiNitto, 2013; Deloitte, 2022; Scheerder et al., 2017; Wang et al., 2024). Older LGBTQ2S+ people often face barriers to accessing digital technologies and the Internet due to technical issues (e.g., costs and lack of knowledge), physical limitations, cognitive impairments, environmental conditions, and psychological constraints (Hunsaker & Hargittai, 2018; Marciano & Nimrod, 2021). Transgender people may face harassment or exclusion in online communities - including LGBTQ2S+ communities, which can lead to a sense of isolation and limit their ability to access digital resources (Hernandez, 2023). Research on Black,

Indigenous, and People of Color (BIPOC) communities suggests that initial disparities in technology access have decreased (Pew Research Center, 2024). However, maintaining consistent access to Internet-based technologies remains challenging due to external costs. Expenses such as replacing outdated hardware or paying for ongoing Internet subscriptions can make it difficult for people to stay connected (Gonzales, 2016). These various barriers can combine and reinforce each other, making it even more challenging for minoritized groups to overcome these digital disparities (Suntai & Beltran, 2023). These disparities in access, capabilities, and skills may prevent older, gender/sex, racially/ethnically, and sexually minoritized groups from engaging in or expressing their SSC in technology-mediated contexts. These differences in access to technology, digital capabilities, and online engagement could have skewed my findings to reflect experiences specific to majoritized lesbian women and exclude minoritized lesbian women's unique challenges and opportunities for SSC congruence. Future researchers should address these barriers to participation for older, racially minoritized, and gender-diverse people to better capture the breadth of SSC experiences across different contexts.

Future researchers should consider measuring constructs separately for in-person and technology-mediated contexts. I measured satisfaction (sexual, relationship, and life), anxiety, and depression as overall constructs without distinguishing between in-person and technology-mediated contexts. In-person psychosexual constructs may be distinct relative to their technology-mediated counterparts. Prior research shows that well-being outcomes can differ depending on context. For example, relationship and sexual satisfaction tend to be lower in romantic relationships maintained online versus in person (Blunt-Vinti et al., 2016). Additionally, a dissertation exploring people's motives for engaging in technology-mediated sexual interactions with a committed romantic partner found evidence suggesting that technology-

mediated sexual satisfaction and sexual desire were distinct from in-person sexual satisfaction and sexual desire (Courtice, 2023). By measuring outcomes only at a general level, I may have missed how in-person and technology-mediated contexts uniquely affect participants' psychosexual health.

Applications and Conclusion

The results of this dissertation underscore the benefits of conducting inclusive, context-sensitive research, particularly for SSC. This approach benefits researchers, clinicians, and social advocates. For researchers, my work makes significant contributions to improving the construct validity of SSC. I developed a measure specifically tailored to reflect the experiences of a diverse group of lesbian women. I also incorporated technology-mediated contexts into both the conceptual and operational definitions of SSC, ensuring the construct reflects modern, context-dependent realities. Furthermore, I introduced theoretical grounding to a domain of psychology that has often lacked a strong theoretical foundation. Beyond SSC, I advanced research methods by demonstrating how diverse methodologies can be applied in cost-effective ways while promoting greater inclusion of minoritized perspectives across psychological research. For clinicians, the findings provide tools for developing tailored interventions. These interventions can address specific profiles of SSC incongruence and their psychological outcomes, such as anxiety or depression. This work can support minoritized people in navigating the challenges of maintaining SSC across different contexts. I also emphasize how technology can be both a space for exploration and a source of incongruence. Thus, clinicians should consider strategies to balance these benefits and risks. For social advocates, I underscore the importance of creating affirming environments. Such environments reduce stigma and promote positive SSC

development. These findings provide a foundation for advancing an inclusive and nuanced understanding of SSC and its implications for psychosexual health.

James (1890) warned us over a century ago that selfhood is "the most puzzling puzzle with which [social] psychology has to deal" (p. 330). When I began this dissertation, I hoped it might help piece together parts of that puzzle. I believe it has done that, but I also recognize that I may have added new pieces that require more research to find their place. By improving the conceptualization, measurement, and theoretical grounding of SSC, my work highlights the complexity of SSC, particularly for lesbian women across in-person and technology-mediated contexts. These findings provide important insights into SSC (in)congruence and its links to psychosexual health outcomes, but they also raise new questions that demand further exploration. Moving forward, researchers, clinicians, and advocates must continue this work to foster inclusive, affirming environments where lesbian women can develop and express positive SSCs. The puzzle remains unfinished, but we move closer to understanding the many dimensions of selfhood with each step.

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