

**Associations between Health, Identity Labeling, Sexuality Changes, and
Engagement Status of Sexual Orientation Change Efforts**

Christopher H. Rosik^{1,2}, A. Lee Beckstead³, and G. Tyler Lefevor⁴

¹ Link Care Foundation

² Department of Psychology, Fresno Pacific University

³ Salt Lake City, Utah, United States

⁴ Department of Psychology, Utah State University

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Correspondence concerning this article should be addressed to Christopher H. Rosik, Link Care Foundation, 1734 W. Shaw Avenue, Fresno, CA 93711. Email: christopherrosik@linkcare.org

Abstract

We analyzed a socio-politically diverse sample ($N = 1412$) of adults who reported experiencing or having experienced same-sex attractions to compare the degree of depression and flourishing between three statuses of sexual orientation change efforts (SOCE): No SOCE ($n = 329$), Ongoing SOCE ($n = 326$), and Ended SOCE ($n = 757$). ANCOVA results controlling for age indicated that the participants with Ongoing SOCE reported greater depression and less flourishing than participants in either the group with No SOCE or the group who had Ended SOCE, who had similar health outcomes, with small effect sizes. A chi-square analysis with a medium effect size indicated that the majority of participants (48.6%) in the Ongoing SOCE group did not identify as LGBQ+ while 62.9% of participants in the Ended SOCE group identified as LGBQ+. Overall, 16% (173/1083) of participants exposed to SOCE reported having developed sufficient other-sex sexual attraction to enjoy other-sex sexual behavior, though 11.7% (127/1083) indicated the ability to enjoy heterosexual sex pre-SOCE. Further, 5.8% (19/329) of participants not exposed to SOCE reported experiencing developing sufficient other-sex sexual attraction to enjoy other-sex sexual behavior. Duration of SOCE was not associated with health outcomes and the number of years elapsed following SOCE was not correlated with health outcomes after controlling for age. We conclude by discussing important limitations and cautions for interpreting our findings, potential clinical implications, the benefits of adversarial collaboration, and recommendations for future research.

Key words: sexual orientation change efforts, LGBQ+, health, sexual identity, adversarial collaboration

Associations between Health, Identity Labeling, Sexuality Changes, and Engagement Status of Sexual Orientation Change Efforts

Sexual orientation change efforts (SOCE) refer to attempts to eliminate, suppress, or reduce same-sex sexual attractions and behaviors and develop or enhance other-sex sexual attractions and behaviors, often with the assistance of a therapist or religious counselor (APA, 2009, 2021). SOCE are characterized by a variety of practices, including religious and spiritual practices (e.g., praying for a reduction in same-sex attraction), private practices (e.g., avoiding contact with others experiencing same-sex attraction), and therapeutic practices (e.g., treating trauma related to childhood sexual abuse or a same-sex parent's rejection to reduce the experience of same-sex attraction). Of these practices, religious/spiritual and private are most employed (Dehlin et al., 2015) and studied in the scientific literature (Glassgold, 2022).

SOCE have been widely considered to result in serious psychological harm to minors and adults alike, which has to date resulted in 22 states banning licensed therapists from assisting in SOCE for minors, with ongoing discussions of ways to prohibit SOCE among clients of all ages (Movement Advancement Project, n.d.). An increase in depressive symptoms and suicidality are among the many adverse effects reported to occur when persons with stigmatized sexualities are exposed to or engage in SOCE (Glassgold, 2022), leading major mental health associations to take positions against the use of SOCE by mental health professionals (Gamboni et al., 2018). An expert report submitted to the Human Rights Council of the United Nations described SOCE, along with gender identity change efforts, as amounting to torture (U.N., 2020). This report noted how physical violence and other aversive methods are often used with SOCE globally.

Sexual Minority Stress and SOCE

Meyer (2003), building on the pioneering work of Brooks (1981), theorized that distal and proximal experiences of minority stress account for the greater prevalence of mental health issues among persons with stigmatized sexualities. Distal stressors in the social contexts of persons with stigmatized sexualities include developmental and ongoing experiences of prejudice, discrimination, harassment, victimization, ostracization, and neglect for being same-sex attracted and not being exclusively heterosexual. Proximal components related to the individual's internal navigation of their stigmatized sexuality include expecting rejection, ruminating on how to meet social expectations, concealing one's sexual orientation, and struggling with internalized homonegativity/stigma. SOCE are generally considered a significant minority stressor (Meyer et al., 2021), conceivably both at distal and proximal levels.

SOCE might be experienced as distal stressors as SOCE may include coercive and unwanted change efforts and/or being provided with pejorative, false, and incomplete information about the lives of lesbian, gay, bisexual, queer (LGBQ+) individuals by a mental health or religious counselor (Haldeman, 2022). SOCE might be experienced as proximal stressors as SOCE might occur when persons with stigmatized sexualities try to change their attractions and behaviors to mitigate rejection and/or conform to negative beliefs about same-sex behavior (Jones et al., 2021). In this regard, such distal and proximal stressors can restrict persons with a stigmatized sexuality from freely exploring, choosing, and expressing their sexuality without prejudice, fear of ostracization, and self-criticism (International Psychoanalytical Association, 2022). Simultaneously or entirely separately, SOCE may be experienced as a self-determined course of action that represents sincerely held personal and/or religious convictions about same-sex sexual attraction or behavior (cf. Yarhouse & Zaporozhets, 2019).

SOCE and Health Outcomes

SOCE have repeatedly been associated with a variety of negative health outcomes. These include increased anxiety, depression, substance disorders, and/or sexual dysfunction from increased feelings of self-blame, inappropriate guilt, self-hatred, shame, hopelessness/despair, loneliness, loss of faith and trust, and suicidality from failing to change (APA, 2009, 2021). In the present study, we focus on two health-related measures as they relate to SOCE: depression and psychosocial flourishing.

Most studies report that engaging in SOCE is associated with increased depression and suicidality among adults (Dehlin et al., 2015; Flentje et al., 2013; Lee et al., 2021; Ogunbajo et al., 2022) and adolescents (Green et al., 2020; Ryan et al., 2020). A smaller minority of studies have found SOCE to result in decreased depression and suicidality. This has been attributed to the beneficial strategies employed within SOCE, such as receiving support, meeting similar others, and/or addressing trauma (Bradshaw et al., 2015; Kartan & Wade, 2010).

At least one reanalysis of an earlier SOCE study (i.e., Blosnich et al., 2020) has illustrated that studies on SOCE may be limited by the assumptions of the research team who carries them out (Sullins, 2022, 2023). In this reanalysis, Sullins found that controlling for pre-SOCE suicidality would have eliminated differences in suicidality between participants who did and did not engage in SOCE. This reanalysis has ignited a healthy debate about whether or not any methodological limitations of the literature are overshadowed by ethical concerns and putative human rights violations associated with SOCE (Blosnich et al., 2023; Rosik, 2023; Strizzi & Di Nucci, 2022). In addition, Rivera and Beach (2022) have criticized Sullins' reanalysis as biased and significantly flawed. They also acknowledged the same criticisms apply

to Blosnich et al.'s original study, suggesting the need for better research to understand the SOCE-suicide association more definitively.

Engaging in SOCE has also been described as socially isolating due to being restricted from meaningful connection with similar others, romantic partners, and LGBTQ+-affirming communities (Goodyear et al., 2021). Researchers have posited the negative sequelae of SOCE, such as depression, can last far into the future and become long-term inhibitors of emotional health (Meanley et al., 2020).

Some individuals who engage in SOCE report experiencing a “honeymoon” period during which time they feel positive and optimistic about their SOCE (Shidlo & Schroeder, 2002). However, this phase appears to give way to disillusionment and distress when they realize their expectations for change will not be met, and they are blamed and/or blame themselves for failing to change (Beckstead & Morrow, 2004). In response, many of these individuals may come to identify as LGBTQ+ and connect with affirming LGBTQ+ individuals and communities, leading to resilience against stigma and a reduction in their distress (Jones et al., 2021). In the context of the present study, we note it is this subset of LGBTQ+-identified sexual minorities that is overwhelmingly the focus of research about SOCE, making studies that include participants who do not identify as LGBTQ+ critical in discerning the extent to which their exclusion is an important omission in the current literature.

Persons who report benefiting from SOCE describe being able to (a) develop self-acceptance; (b) reduce their preoccupation with same-sex sexual fantasies and behaviors; (c) experience a lessening of their same-sex sexual attractions; (d) reduce same-sex sexual behaviors; (e) improve psychological, interpersonal, and spiritual well-being; and (f) develop positive, nonsexual relationships with same-sex peers (Beckstead & Morrow, 2004; Dehlin et al.,

2015; Flentje et al., 2014; Stanus, 2018; Sullins & Rosik, 2024). These experiences with SOCE may lead to resilience against social stigma and reduction in minority stress in ways that fit these same-sex attracted persons. For example, connecting with similar others may reduce their feelings of shame and isolation for experiencing same-sex attractions, which may help them be more capable of making choices about their attractions (Beckstead & Morrow, 2004). Research comparing the experiences of sexual minorities in The Church of Jesus Christ of Latter-day Saints (LDS) with non-LDS sexual minorities found that, while internalized heterosexism was associated with depression for LDS sexual minorities, aspects of religion/spirituality—such as the meaning that religion/spirituality often provides—buffered other aspects of minority stress (Lefevor et al., 2021).

Conservative religion for sexual minorities can be both a source of stress and a source of wellbeing. However, the consensus among scholars is that engaging in SOCE will exhibit a negative relationship with measures of positive mental health. As Powell and Stein (2014) stated, “We are unlikely to promote human flourishing for minorities by denying key aspects of their experience” (p. S37). Yet, studies of SOCE typically focus on negative health outcomes rather than measures of well-being, and it cannot be assumed that these foci operate inversely regarding their associations with change efforts. Moreover, no studies to our knowledge have examined how the duration of or elapsed time since SOCE may impact current health ratings associated with SOCE.

Taken together, the weight of the extant literature on depression and suicidality suggests that engaging in SOCE is likely to increase depressive symptoms for most who try to change their sexual attractions and behaviors. Although there is scant literature to rely upon, minority stress theory would also predict that SOCE would be associated with decreased psychosocial

flourishing. Further, it seems likely that persons with stigmatized sexualities who never engaged in SOCE would exhibit fewer depressive symptoms and more psychosocial flourishing than those who engaged in SOCE but stopped.

SOCE Status, Sexual Identity Labeling, and Reports of Change

We also seek to identify the distribution of two important status variables according to SOCE. First, according to an emerging literature, sexual identity labeling may serve as a useful marker for a constellation of characteristics with notable pertinence to the study of SOCE. As early as 2002, Shidlo and Schroeder observed, "...we have found that conversion therapists and many clients of conversion therapy steadfastly reject the use of *lesbian* and *gay*" (p. 249, authors' emphases). Crowell et al. (2015) similarly noted that persons with stigmatized sexualities active in conservative faiths often consider their LGBTQ+ identity secondary to their religious identity. This rejection makes sense, given the stigmatizing messages and reactions associated with LGBTQ+ experiences that can occur within conservative faith settings. Indeed, recent cross-sectional, quantitative research with the present sample suggests that individuals who reject an LGBTQ+ identity appear to be (a) more active in conservative religious settings, (b) full members of their faith, (c) less sexually active, (d) more likely to be single and celibate or in mixed-orientation relationships, (e) less accepting of their same-sex attractions, (d) experience greater other-sex attractions, and (e) place more importance on a family and child-centered life (Lefevor et al., 2020; Rosik et al., 2021a).

Many of these characteristics are common among persons who pursue SOCE (APA, 2009), but, as noted earlier, such persons are often excluded from research about SOCE, whether purposely or inadvertently. This may limit the generalizability of current research. For example, another cross-sectional, quantitative study of our participants found persons with stigmatized

sexualities who reject an LGBTQ+ identity reported some change-oriented psychotherapy goals as modestly or moderately helpful to them, compared to LGBTQ+ identified persons who reported these same goals as modestly to moderately harmful to them (Rosik et al., 2021b).

We are also interested in the ways in which persons with stigmatized sexualities experience change of sexual attractions during their use of SOCE (Jones & Yarhouse, 2011; Kartan & Wade, 2010; Sullins & Rosik, 2024). Although there is no way to determine from our data if sexual attractions actually have changed, it makes intuitive sense that those persons who perceive the ability to experience change in their attractions would be more likely to pursue and persist in their SOCE.

The Present Study

We seek to advance the literature in the present study through several unique features. First, our measure of SOCE adheres most closely to the definition as advanced by the APA (APA, 2009), encompassing a variety of methods and providers. We also avoid language that implies such efforts have been coerced so that individuals who may not have had that experience and self-initiated their change effort would not feel excluded. The current literature on SOCE does not distinguish between socially-initiated versus self-initiated change efforts, and many scholars suggest that SOCE cannot ever be self-initiated given current restrictions in many political, religious, and familial environments (Haldeman, 2022). Nevertheless, our use of SOCE leaves open the possibility that voluntary, self-initiated SOCE exist and that definitions of SOCE that imply pressure or coercion may unnecessarily restrict the scope of SOCE being studied.

Further, by studying *engagement* with SOCE in a broad manner (defined as efforts to reduce, change and/or eliminate same-sex sexuality), we focus our analysis not on the content of SOCE per se (e.g., beliefs about gender/sexual diversity, congruence with conservative religious

beliefs) but on the self-rejecting and self-accepting *processes* that likely underly many of the harms and benefits reported from engagement with SOCE (which studied variously as broad efforts to reduce/change/eliminate an aspect of self and narrowly as specific methods with differing power-dynamic processes of negating and affirming clients and their gender/sexual diversity).

Furthermore, we utilized questions that would allow our analyses to move beyond engagement with SOCE versus non-exposure dichotomies (e.g., Blosnich et al., 2020; Meanley et al., 2020) by comparing three groups: those who never pursued SOCE, those currently pursuing SOCE, and those who engaged in SOCE in the past but ended their efforts. As SOCE are almost always studied in a binary, retrospective fashion, this limits what can be gleaned from these studies and can subject results to retrospective biases (APA, 2009). The inclusion of an ongoing SOCE group means this group of participants was at least partially providing current rather than retrospective evaluations of their change efforts.

In addition, our questions enabled us to quantify and examine the duration of SOCE and years since ending SOCE. Finally, we sampled a socio-politically diverse group of persons with same-sex attractions who reported varying degrees of same-sex sexual attraction, same-sex sexual behavior, and sexual identity (Lefevor et al., 2019), many who did not identify as LGBTQ+. We recruited these individuals through a variety of conservative and liberal networks and venues, increasing the likelihood that our data would capture a broad range of experiences with SOCE. These features of our data enable greater nuance and complexity to the nature and impact of SOCE and clarify the degree of heterogeneity regarding same-sex attracted persons who try to change their sexual orientation.

Consistent with our assessment of the literature on SOCE, we predict:

H₁: Participants currently engaged in SOCE (Ongoing SOCE) would report higher levels of depressive symptoms than participants who had finished their SOCE (Ended SOCE), who would, in turn, report more depression than participants who had never engaged in SOCE (No SOCE).

H₂: Participants with No SOCE history would report greater flourishing than participants who had Ended SOCE, who in turn would report greater flourishing than participants still engaged in Ongoing SOCE.

H₃: More participants who reject an LGBTQ+ Identity would be found in the Ongoing SOCE group than in the No SOCE group, which in turn would have more non-LGBTQ+-identified participants than the Ended SOCE group.

H₄: More participants who report some change of their sexual attractions would be found in the Ongoing SOCE group than in the No SOCE group, which in turn would have more participants who report some change of their sexual attractions than the Ended SOCE group.

Taken together, these predictions highlight our literature-based expectations that individuals currently engaged in SOCE will evidence the worst health outcomes while also being most likely to reject an LGBTQ+ identity and report change.

Method

Research Team

In the spirit of adversarial collaboration (Ceci et al., 2024), a socio-politically diverse team of researchers was recruited to reduce bias and increase generalizability. All team members support the right of persons with stigmatized sexualities to pursue their self-determined identities, both sexual and religious. The team was primarily same-sex attracted (SSA)/LGBTQ+ identified, and some members have held leadership positions or are well respected in both liberal

and conservative organizations, such as North Star, the Alliance for Therapeutic Choice and Scientific Integrity, Affirmation, and the LGBTQ-Affirmative Therapist Guild of Utah. By having at least some researchers known to and trusted by sexual minorities in both LGBTQ+ and conservative religious communities, we believe this diverse team provided access to a more representative and ecologically valid sample of sexual minority persons, hence enhancing generalizability. Additional details regarding the formation and composition of the research team can be found in Lefevor et al. (2019).

Survey Design

Participants were directed to take part in a survey administered through SurveyMonkey.com (4OptionsSurvey.com). The survey was securely designed to identify important aspects of life and relationships for those who experience (or have experienced) same-sex sexual attraction and were involved in one of four relationship options (i.e., single and celibate; single and non-celibate; heterosexual, mixed-orientation relationship; same-sex relationship). We utilized the terminology of same-sex attraction (“SSA”) after feedback from conservative stakeholders in the study indicated this would feel inclusive and encourage participation by many of our religiously conservative participants who do not identify as LGBTQ+ and therefore might otherwise not partake in the study. Such individuals often use this language to reflect a prioritization of a religious/spiritual identity over an LGBTQ+ identity (Lefevor et al., 2020).

The first and second sections of the survey were mandatory for all participants who desired to take part in the study and included demographics, health indicators, and questions related to 10 specific domains (e.g., relational satisfaction, religious identity, values). The third section was optional, consisting of additional questions related to each domain, and items from

this section were not examined in the present study. Participants were informed they could withdraw from taking the survey at any time. A description of the survey can be found in Lefevor et al. (2019).

Procedure

Data collection and recruitment

We obtained approval from the Idaho State Institutional Review Board prior to commencing this study. Data collection occurred from September 2016 to June 2017. This involved invitations through (a) news media in Utah; (b) email lists, Facebook groups, and conventions; (c) psychological associations and support networks; and (d) mental health providers. Organizations and networks utilized for recruitment ranged from religiously and/or conservatively oriented to LGBTQ+-affirming. To be included in the dataset, participants must have (a) been at least 18 years of age, (b) experienced same-sex sexual attraction at some point in their life, (c) identified their relationship status, and (d) completed the first two sections of the survey. Complete details about participant recruitment can be found in Lefevor et al. (2019).

Measures

The survey included both measures created specifically for this study as well as pre-existing measures and was designed to provide data to inform several studies. The present research incorporated the following variables.

Depressive Symptoms

Current depressive symptoms were measured using the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001), composed of 9 items, including how often during the past two weeks participants had been bothered by “feeling down, depressed, or hopeless.” Items were rated from 0 = *Not at all* to 3 = *Nearly every day*. Total scores could range from 0 to 27, with

higher scores reflecting greater depression. The PHQ-9 has good concurrent validity with the Short Form-20 (SF-20) and diagnosis of major depressive disorder (Kroenke et al., 2001).

Cronbach's alpha for the present study was .90.

Flourishing

Psychosocial flourishing was measured using the Flourishing Scale (Diener et al., 2009), an 8-item measure of self-perceived success in areas such as relationships, purpose, and optimism rated on a 7-point Likert scale with anchors of 1 = *Strongly disagree* to 7 = *Strongly agree*. Total flourishing scores could range from 8 to 56, with higher scores indicating greater flourishing. The Flourishing Scale is psychometrically validated and comparable to other psychosocial well-being measures. Cronbach's alpha for the present study was .91.

SOCE Engagement

We utilized existing items in the survey to compute three engagement groups with SOCE comprised of participants who indicated never engaging in SOCE (No SOCE), currently engaged in SOCE (Ongoing SOCE), and having ended their SOCE (Ended SOCE). The question inquiring about engagement in SOCE stated:

How much time have you spent trying to **reduce, change, and/or eliminate** your same-sex attractions, behavior, or orientation (for example, using avoidance, denial, self-control, religion/faith, counseling/programs, etc.)?

Participants were then asked to answer three age/time-oriented response items:

Starting at what age (if you never have tried, indicate 0):

Ended at what age:

I am **still trying** to reduce, change, and/or eliminate my same-sex sexual attractions, behavior, or orientation (indicate "still trying):

Participants who entered 0 for when they started SOCE comprised the No SOCE group ($N = 329$). The Ongoing SOCE group was comprised of participants who indicated they were still

trying to change ($N = 326$). The Ended SOCE group was comprised of participants who reported they had ended their SOCE ($N = 757$).

For participants who had or were still engaged in SOCE, we computed the duration of their SOCE by subtracting the age they ended SOCE (using the participants' current age if they were still engaged in SOCE) from the age they began SOCE. For participants who reported having stopped SOCE, we computed the years since SOCE by subtracting their current age from their age at the time they reported ending their pursuit of SOCE.

Sexual Identity Labeling

Participants were provided with 27 options for their sexual identity, which we collapsed into a binary variable comparing non-LGBQ+-identified (e.g., heterosexual with same-sex attraction; same-sex or same-gender attracted; heterosexual/straight; non-heterosexual; do not use a label; $n = 420$) with LGBQ+-identified ($n = 992$).

Change of Sexual Attractions

Participants were asked, "Which of these statements describe you? (check any that apply to you)." Seven options were provided regarding sexuality, including currently being contented with one's sexuality ($n = 899$), focusing on managing or seeking recovery in one's sexual addition rather than changing sexuality ($n = 314$), and one's sexual abuse history as continuing to affect sexuality ($n = 188$) or rarely if ever negatively effecting sexuality ($n = 100$). Two options were examined in this study: (a) "I have always had enough sexual attractions to the other sex to make heterosexual sex enjoyable" ($n = 212$) and (b) "I have been able to develop enough sexual attraction to the other sex to make heterosexual sex enjoyable" ($n = 210$). In addition, we assessed Kinsey ratings (Kinsey et al., 1948) of past year engagement in same-sex sexual behavior ($n = 1145$) as well as past year experiences of same-sex sexual attraction, fantasies, and

romantic desires ($n = 1382$) on a scale of 0 = *Exclusively heterosexual with no homosexual* to 6 = *Exclusively homosexual with no heterosexual*.

Analytic Strategy

Due to age being associated with the dependent variables (depressive symptoms and flourishing), we analyzed H₁ and H₂ utilizing two one-way ANCOVAs, with SOCE status as the independent variable and the health measures as the dependent variables, controlling for age. H₃ involves two nominal variables, which we examine through X^2 statistics, which were also conducted for H₄, along with nonparametric tests for the Kinsey ratings by SOCE group comparisons. Secondary analyses to gain insight into any dose effects of the duration of SOCE and persistence versus declines in adverse health effects of SOCE utilized t -scores and partial correlations.

Data Analysis and Statistics

All analyses were conducted using SPSS Statistics 26. Univariate analyses supported the linearity and normality of all our continuous variables. All variables were within the acceptable range of skewness less than 2 and kurtosis less than 4 (West et al., 1995). These impressions were confirmed by examination of residuals. Means, standard deviations, and zero-order correlations of our continuous variables are presented in Table 2.

For the one-way ANCOVAs, we assessed for equality of variances using Levene's test. Heteroscedasticity was examined through use of the White and Breusch-Pagan tests and examination of residuals. We examined the interaction between covariate and independent variables to assess the homogeneity-of-slopes assumption, which would not be met were a significant interaction identified. Our checks of these assumptions indicated ANCOVA was appropriate for our outcome measures. Group comparisons were undertaken using Bonferonni

adjustment with $p < .05$. We use Cohen's (1988) effect size guidelines for interpreting partial η^2 (η^2_p), where .01 = small effect, .06 = medium effect, and .14 = large effect. For our X^2 analyses examining whether sexual identity labels as well as pre-existing and developed ability to enjoy other-sex sexual behavior differed by engagement with SOCE, we again used Cohen's (1988) effect size guidelines for Cohen's d , where .2 = small effect, .5 = medium effect, and .8 = large effect.

Results

Participants

A total of 1499 respondents completed all mandatory questions. Examination of the data identified 27 participants who reported having no experience of same-sex sexual attraction, fantasies, or behaviors throughout their lives. An additional 60 participants responded in a contradictory manner to one or more questions about SOCE engagement (e.g., indicating they were still pursuing SOCE but also that they had ended SOCE at an earlier age). These participants were removed from the present study sample, leaving a total N of 1412.

Demographic characteristics of the sample can be found in Table 1. The average age of participants was 38.66 years ($SD = 14.23$). White (90.9%) and male (70.6%) participants were overrepresented. A slight majority of our sample were affiliated with The Church of Jesus Christ of Latter-day Saints (LDS) while sexual identity labels were divided relatively evenly between those who identified as LGBTQ+ and those who did not. Additional sample information can be found in Table 2.

SOCE Engagement and Health

Depressive Symptoms

Table 3 presents the adjusted means and standard errors for depressive symptoms and flourishing across the three groups. The covariate, age, was significantly related to depressive symptoms, $F(1,1408) = 63.85, p < .001, \eta^2_p = .04$. There remained a significant though small effect for SOCE status after accounting for age, $F(2, 1408) = 8.90, p < .001, \eta^2_p = .01$. Group comparisons indicated participants in the group with Ongoing SOCE reported more depressive symptoms than those in either the group with no SOCE or the group that had ended SOCE, which did not significantly differ from each other. This result provides partial support for our first hypothesis. Table 2 also highlights the lack of relationship between depressive symptoms and duration of engagement in SOCE. Although years since SOCE was negatively related to depressive symptoms ($r(756) = -.18, p < .001$) for those who discontinued their change attempts, this association was completely attenuated when controlling for age ($r(756) = -.06, p = .13$). Quartile analysis revealed that for years 0-2 following SOCE the mean depression score was 9.02 ($SD = 6.53, n = 216$), followed in order by $M = 6.44 (SD = 5.72, n = 194)$ for years 3-5, $M = 5.54 (SD = 5.16, n = 164)$ for years 6-12, and $M = 5.50 (SD = 5.62, n = 182)$ for years 13+.

Flourishing

Age as a covariate was also significantly related to flourishing, $F(1,1408) = 20.02, p < .001, \eta^2_p = .01$. Once again, there remained a small but significant effect for flourishing after controlling for age, $F(2,1408) = 6.56, p = .001, \eta^2_p = .01$. Group comparisons for flourishing indicated participants in the group with ongoing SOCE reported significantly less flourishing than either of their counterparts in the group with no SOCE or that had ended SOCE, which were similar to one another. This finding provided partial support to our second hypothesis.

As with depressive symptoms, we found no relationship between flourishing and length of engagement in SOCE (Table 2). Although years since SOCE was positively related to

flourishing for those who discontinued their change attempts ($r(756) = .13, p < .001$), this association was also completely diminished when controlling for age ($r(756) = .03, p = .37$). Quartile analysis revealed that for years 0-2 following SOCE the mean flourishing score was 45.17 ($SD = 7.02, n = 216$), followed in order by $M = 46.30$ ($SD = 7.45, n = 194$) for years 3-5, $M = 47.39$ ($SD = 7.40, n = 164$) for years 6-12, and $M = 48.18$ ($SD = 6.67, n = 182$) for years 13+.

Sexual Identity Labeling, Pre-Existing and Developed Ability to Enjoy Other-Sex Sexual Behavior

Our third hypothesis was partially confirmed, as participants who rejected an LGBQ+ identity were most likely to be found in the ongoing SOCE group (48.6%, $n = 204$). Contrary to our expectation, however, more participants did not identify as LGBQ+ who had ended SOCE (31.7%, $n = 133$) than had never engaged in SOCE (19.8%, $n = 83$). By contrast, two-thirds of the LGBQ+-identified participants had ended their involvement in change efforts. There was a medium effect size for the difference in distributions between the sexual identity groups.

We predicted participants in the group with Ongoing SOCE would report having the highest degree of other-sex sexual attraction to make other-sex sexual behavior enjoyable. This fourth hypothesis was partially supported. As seen in Table 4, there were significant group differences between participants ($n = 192$) who reported having developed enough other-sex attraction to enjoy heterosexual sex, with 27% of Ongoing SOCE participants indicating such change, followed by those in the Ended SOCE group (11.2%), which in turn was significantly greater than the Never SOCE group (5.8%). Overall, 16% who had ended or were still pursuing change reported they had developed enough other-sex attractions to make other-sex behavior enjoyable. Participants reporting always having sufficient other-sex sexual attraction to enjoy

heterosexual sex ($n = 195$) were most prevalent in the group who had never engaged in SOCE (20.7%), followed by the Ongoing SOCE group (13.8%), and least prevalent (though not significantly so) among the Ended SOCE group (10.8%). Effect sizes for these differences were generally of small to medium magnitude.

Regarding sexual behavior in the past year, the Ongoing SOCE group reported the least same-sex sexual behavior ($n = 236$; $M = 2.26$, $SD = 2.38$), followed by the Never SOCE participants ($n = 262$; $M = 3.69$, $SD = 2.71$), with the greatest same-sex sexual behavior reported in the Ended SOCE group ($n = 647$; $M = 4.47$, $SD = 2.36$). Due to the lack of homogenous variances, we utilized the Kruskal-Wallis test to assess differences and found significant differences between the groups, $X^2(2) = 134.52$, $p < .001$, with a mean rank sexual behavior score of 378.80 for the Ongoing SOCE group, 562.65 for the Never SOCE group, and 648.03 for the Ended SOCE group. Pairwise comparisons through Mann-Whitney tests indicated significant differences between all three groups at $p < .001$.

The Never SOCE group reported, on average, the greatest degree of other-sex sexual attractions ($n = 318$; $M = 4.14$, $SD = 2.03$), followed by the Ongoing SOCE group ($n = 317$; $M = 4.47$, $SD = 1.46$), with the Ended SOCE participants reporting the least experience of other-sex sexual attractions ($n = 748$; $M = 5.07$, $SD = 1.29$). The Kruskal-Wallis test again was significant, $X^2(2) = 72.64$, $p < .001$, with a mean rank sexual attraction score of 605.97 for the Never SOCE group, 589.62 for the Ongoing SOCE group, and 771.96 for the Ended SOCE group. Mann-Whitney tests indicated group differences were significant at $p < .001$, except the Never SOCE and Ongoing SOCE comparison, where the difference was nonsignificant.

Discussion

We found that participants engaged in SOCE reported significantly more depressive symptoms and less flourishing than either those who had stopped pursuing change or those who had never actively pursued it. This finding supports the conceptualization of SOCE as a distal and proximal stressor (Meyer, 2003), which may have mental health consequences for same-sex attracted persons.

SOCE and Harm

The clearest explanation for these findings is that continuing to feel depressed and not flourishing and deciding to stop trying to reduce, change, or eliminate their same-sex sexual experiences was a health-promoting decision for the majority of our participants. This explanation resonates with the APA's (2021) resolution on sexual orientation change efforts and other studies showing that, for most people who have been studied, trying to reduce, change, or eliminate same-sex sexuality is harmful (Dehlin et al., 2015; Flentje et al., 2013; Lee et al., 2021; Ogunbajo et al., 2022). This finding of harm is particularly notable given the imprecision with which we measured our variables: SOCE were measured as a lifetime variable, but health outcome variables were measured in the past 2 weeks. The fact that there is a relationship between an individual's efforts to change their sexuality over their lifetime and current mental health suggests that these efforts may cause some degree of lasting damage, for example by increasing chronic exposure to minority stress, which can affect subsequent mental health (Pachankis, 2015)

At the same time, we recognize several alternative or additional explanations for our findings. First, it is possible that the relationship between SOCE, depressive symptoms, and flourishing could be explained by one or more preexisting or intervening variables. For example, it may be that individuals who are most distressed about their sexual orientation are most likely

to engage in SOCE and then, in doing so, many become disillusioned with their SOCE and feel better about themselves for ending such efforts and exploring other options (Beckstead & Morrow, 2004). Alternatively, it may be that some individuals who persist with SOCE have more distress prior to their SOCE than those who ended their change efforts and continue in their SOCE because they still find benefit in it, regardless of any experience of change (Sullins, 2022). Future work is needed to examine these possibilities.

Second, each of our three SOCE groups evidenced substantial variation within the group, meaning that at least some participants who were currently engaged in SOCE reported increased flourishing and decreased depression. Finally, we note that although we found statistical significance between our groups, the group differences may not be clinically significant. Based on published scale norms, we observe the means of all three groups were in similar range for both dependent variables: depression in the mild range (i.e., 5-10; Kroenke et al., 2001) and flourishing at “typical” levels of flourishing (Deiner et al., 2009, 2010). Thus, although there may be statistically significant differences between the groups, it may be difficult to observe differences between the groups clinically.

SOCE and Identification

Approximately 32% of participants who had ended their SOCE did not identify as LGBQ+. Not identifying as LGBQ+ has been associated with greater religious activity and more conservative theological orientation (Lefevor et al., 2020; Rosik et al., 2021a). Though there are other reasons why participants may not have identified as LGBQ+ (e.g., general dislike for labels, neoliberal conceptions of sexuality), this robust percentage may suggest that many who ended their SOCE were, after an average of almost nine years, not alienated from their conservative faith regardless of any experience of change. Some of these individuals’ change

efforts (e.g., not engaging in same-sex sexual behavior) may have been subsumed into a broader pursuit of religious discipleship.

The distribution of sexual identity labels between the two groups involving SOCE partially confirms our third prediction and is consistent with prior observations that individuals who are same-sex attracted and reject an LGBTQ+ identity are more likely to pursue and continue to pursue some form of SOCE compared to their LGBTQ+ counterparts. At least for our sample, the results are also consistent with the proposition that many persons with stigmatized sexualities who may not have achieved their goals for change come to adopt an LGBTQ+ identity.

SOCE and Change

Regarding reports of change, our fourth prediction was supported in part. As we predicted, those in ongoing SOCE were more likely to report the development of enough other-sex sexual attraction to enjoy other-sex sexual behavior than those with no SOCE history. Over a quarter of those in ongoing SOCE (27%) reported developing this level of other-sex attraction. However, those who had ended SOCE were also more likely to report having developed other-sex attraction than were those with no SOCE (11.2% versus 5.8%), the opposite of what we predicted, although much less prevalent than those in ongoing SOCE. Overall, 16% (172/1083) of participants who tried to reduce, change, or eliminate their same-sex sexuality reported developing sufficient other-sex attraction to enjoy heterosexual sex. Although we did not ask about efforts to develop other-sex sexual attractions, these trends may reflect that many people who were trying to reduce, change, or eliminate their same-sex sexuality may also have been trying to enhance their other-sex sexuality.

Based on these statistics, 16% is the most conservative estimate of participants who are seeking to reduce, change, or eliminate their same-sex sexuality who also report having

developed sufficient other-sex attraction to enjoy heterosexual sex. This figure might be slightly more than 16% if any of those who reported already having sufficient other-sex attraction to enjoy heterosexual sex experienced further strengthening of their other-sex attractions during their SOCE. Such an estimate would be in line with one of the few SOCE studies that considered changes in other-sex attractions (Jones & Yarhouse, 2011).

Of course, these figures must be viewed with caution. We do not know if SOCE influenced this change, particularly because we did not inquire whether participants were seeking to develop other-sex sexual attractions. Nor can these changes, if they occurred, be definitively equated with a change in sexual orientation, as is suggested by the Kinsey ratings. Developing enough sexual attraction to enjoy heterosexual sex also does not necessarily imply that these participants could or would have enjoyed or been able to sustain heterosexual relationships. Similarly, we do not know the final outcomes of those participants who remained in their SOCE, which could increase or decrease these percentages. Given the 15+ years average of SOCE duration for our participants, effort justification may also distort reports of change, as people seek to justify the time and effort they have invested in their SOCE. Furthermore, we did not assess the degree to which participants may have perceived a diminishing of same-sex sexual attractions and/or behavior, which, even in the absence of increased other-sex sexual attraction, might have strengthened a conservative religious identity or heterosexual marriage for many participants. However, the majority of our participants appear to have not experienced enough other-sex sexual attraction to enjoy other-sex sexual behavior in the course of their SOCE, and many of these may maintain or adopt an LGBTQ+ identity.

Our findings regarding participants' past year sexual behavior is consistent with the view that those still engaged in SOCE were limiting their behavioral expression of their same-sex

sexual attractions, while individuals who had ended their change efforts were more likely to engage in same-sex sexual relationships. *Post-hoc* analyses indicated that after controlling for age, Kinsey sexual behavior ratings were positively associated with the years elapsed since ending SOCE, $r(629) = .26, p < .001$, suggesting some movement toward increased same-sex sexual behavior once efforts to reduce, change, or eliminate same-sex sexuality were ceased. Yet, the only significant increase in same-sex behavior for this group came 13+ years after ending SOCE. Furthermore, 54.7% ($n = 129$) of the Ongoing SOCE participants reported a Kinsey score of 0 or 1 compared to only 21.7% ($n = 140$) of the Ended SOCE group and 35.8% ($n = 94$) of the Never SOCE group. This may also suggest that roughly one-fifth of our sample participants who ended their change effort continued to attempt to live within the sexual behavior prescriptions of their conservative religion.

As pertains to the experience of sexual attractions, it may be that participants who did not use SOCE experienced enough (more than incidental) other-sex sexual attraction to enable them to function adequately within their preferred choice of relationships and religious and/or LGBTQ+ communities, making the use of SOCE less needed. Participants who ended their involvement with SOCE reported, on average, only incidental other-sex sexual attractions, consistent with the probability that many of these participants did not experience change and adopted an LGBTQ+ identity. Those who were still engaged in their change efforts appear to have experienced more other-sex sexual attractions than those who ended their SOCE and may be continuing to evaluate their satisfaction with their current sexual and religious identities. However, it bears mentioning and is consistent with our findings on the difficulty of developing sufficient other-sex sexual attraction to make other-sex sexual behavior enjoyable that although 15.4% ($n = 49$) of the Never SOCE group reported a Kinsey attraction rating of 0 or 1, only 6.9% ($n = 22$) of the Ongoing

SOCE participants and 3.2% ($n = 24$) of the Ended SOCE participants did so. These results are at least partially consistent with our third and fourth predictions. Of course, our findings are only averages, and it is reasonable to expect there are many trajectories regarding the change and/or stability of same-sex sexual behavior, attraction, and identity.

Additional Observations

Duration of SOCE

Our findings did not suggest that the length of time participants pursued change was associated in a dose-specific manner with depressive symptoms or flourishing. These results are consistent with recent prospective research (Pela & Sutton, 2021) and may suggest perceived benefits or harms from SOCE are connected to the methods that persons with same-sex attractions utilize to address their sexual orientation distress rather than the length of time they engage in those methods (Rosik et al., 2023). Yet, another interpretation of these findings could be that some participants ended their SOCE and some continued their SOCE due to other variables besides their method of change. For example, in our sample, the mean SOCE duration was 21.70 ($SD = 14.47$) years for those still using SOCE and 13.35 ($SD = 10.25$) years for those who had ended their SOCE. Future research would ideally investigate which SOCE and other variables influence persistence and termination of SOCE for which clients.

Post-SOCE Experience

Among participants who had completed their use of SOCE, our bivariate correlations indicate that longer elapsed time following SOCE was associated with less depression and greater flourishing. Depressive symptoms were greatest and flourishing lowest during the first two years following SOCE, with minimal change in the years that followed. Two considerations argue against making any conclusions from these findings. First, the relationship between years

following SOCE and the health indicators appears to be a byproduct of age, as this association no longer existed when age was considered. Second, quartile analysis found the changes in indicators of depression and flourishing after SOCE nevertheless remained in a similar interpretive range, based on the comparison of means with scale norms. Thus, we did not find evidence that, on average, our participants reported clinically worse outcomes immediately after SOCE that improved over time or had experiences where reported positive initial health outcomes grew worse over time post-SOCE. However, these results do not negate the likelihood that some participants may have felt worse or did not improve during their SOCE but felt better post-SOCE.

Future SOCE Research

Several aspects of our methodology allowed for more accurate and nuanced findings concerning SOCE. We encourage researchers in this area to utilize socio-politically diverse research teams and sexual minority recruitment networks, as well as participants who have not adopted an LGBTQ+ sexual identity. Our experience as a research team has always been collegial but, at times, challenging in arriving at consensus language. In the present study, for example, we experienced differences over the degree to which statistical versus clinical significance should be stressed in the interpretation of our results. Multiple rounds of draft reviews by all team members meant the process of manuscript development could be more labor-intensive. However, any loss of time was more than offset by being able to identify and adjust language and interpretations that might cause LGBTQ+ or conservatively religious communities to feel their experiences were not being accurately represented. Similarly, we received important feedback prior to data collection by sharing our initial questions with our diverse colleagues and asking for feedback. We also conducted a trial study that asked participants for feedback about our questions and the

comprehensiveness of the survey. In addition, the socio-political differences among researchers meant that different principal authors were interested in different aspects of the data, so that the studies generated by the research team seemed likely to embody better the breadth of insights that could be gleaned from our dataset. If adopted on a broader scale within the field, such research endeavors might aid in identifying potential oversights within the SOCE literature, ensuring the complexities of experiences with SOCE among sexual minorities are more fully captured.

We believe our research team is the first to engage in such “adversarial collaboration” (Kahneman, 2003) in this literature. Adversarial collaboration is an underutilized method of encouraging scholars with significantly different perspectives and experiences to work together to resolve or at least build some consensus around a scientific dispute (Lefevor et al., 2019). Among its many virtues, adversarial collaborations can mitigate confirmation bias, reduce socially motivated research, constrain unfounded researcher interpretations of findings, prevent straw man and *ad hominin* characterizations of ideological opponents, develop otherwise improbable professional relationships and networks, provide a check on questionable research practices, and build greater (if rarely complete) consensus (Ceci et al., 2024; Clark et al., 2022; Duarte et al., 2015). In addition, funders of adversarial collaborations can distinguish themselves as supporting accuracy-seeking research over performative research. We have found our sociopolitical diversity to be a strength of our approach that we think deserves replication.

Adversarial collaboration is an improvement over the standard comment-rejoinder format represented elsewhere (see Blosnich et al., 2023; Glassgold & Haldeman, 2023; Strizzi & Nucci, 2023; Sullins, 2022; 2023), as peer review is built into the research process. We believe further efforts along these lines within this field of study are desirable and hold promise in decreasing

the cultural and political polarization around change efforts that currently exists. There is further ground available for consensus building, provided researchers and other community stakeholders are willing to venture out beyond their ideological silos and meaningfully engage with one another.

Finally, we also believe that research on SOCE should more regularly utilize psychometrically established health scales with available normative information to avoid questionable interpretations such as those associated with the high-low fallacy (Reyna, 2017). In this fallacy, significant differences between groups at one end (or interpretive range) of a scale are treated as if they represented conceptual differences between groups that are psychometrically represented as opposite ends (or different interpretive ranges) of the scale. Attention to such details can assist researchers in discerning where statistical significance may not reflect clinical significance (Hojat & Xu, 2004). We believe such considerations will more fully and accurately capture and contextualize the heterogeneous experiences of same-sex attracted persons who pursue sexual orientation change.

Clinical Implications

We currently do not know which intervention(s), if any, could change reliably a person's sexual orientation. Similarly, we currently do not know which individual characteristics, if any, will determine if a person with a stigmatized sexuality will persist in their SOCE and rejection of an LGBQ+ identity and who will report benefit, effectiveness, and harm from such efforts and from believing in an LGBQ-negating ideology (APA, 2009). Because of this ambiguity and potential for iatrogenic harm, therapists should not bring up SOCE or pressure a client to attempt SOCE. Therapists should also exercise caution when speaking with clients about their personal SOCE and should seek to promote client self-determination and autonomy surrounding SOCE by

focusing instead on clients' hopes and expectations of SOCE. As our results indicated, some who use SOCE also reported flourishing. Although therapists often discourage clients from taking a course of action that has no evidence base and has the potential to do harm, becoming contrary and argumentative and telling a client that they should stop their efforts will likely disrupt the therapeutic relationship. This may also occur when therapists encourage an LGBTQ+ identity and same-sex sexual behavior to clients who remain committed to their conservatively religious value system (Rosik et al., 2023).

Instead, when clients are distressed with their sexual orientation and/or seek SOCE, therapists may find that exploring and assessing the implications of the client's historical and current SOCE on the client's self-development, sexuality, and health to be more effective than engaging with a client about whether to use SOCE. This openness to clients' unique experiences with their SOCE can help therapists understand with clients how the client's motivations, efforts, and successes and failures with change impact clients' self-concept, sexuality, relationships, and health.

Our results align with the APA's (2009) recommendation for providers to focus on facilitating clients' unique identity development and meaningful social support and intervene where minority stress and mental distress impact clients' lives. This includes assessing with each client which aspects of their conservative religion and SOCE may be sources of stress and which increase their flourishing. For example, experiencing a sense of belonging in the LDS church can reduce suicidality by reducing internalized heterosexism (Skidmore et al., 2023; see also Barringer & Gay, 2017, and Rosik et al., 2022). Similarly, therapists should emphasize using interventions to reduce the distress associated with the client's sexual attractions and behaviors and assess the impact on the client's sexuality and flourishing (Rosik et al., 2023). Mindfulness

and self-compassion, for instance, have been shown to help people struggling with their sexuality by reducing internalized stigma, increasing awareness and integration, and improving emotional regulation and adaptive sexual functioning (Brotto et al., 2016; Brown & Maragos, 2023; Pepping et al. 2018).

Due to bisexual erasure and invisibility, little is known about sexual fluidity and the range of plurisexual orientations and experiences (e.g., mostly straight/gay, bisexual, fluid, pansexual, omnisexual, heteroflexible, queer, heterosexual with same-gender attractions, rejects a label) and which variables (e.g., emotional, romantic, sexual, relational, biological, social, trauma) influence each identity and any changes within each plurisexual orientation. As Choi et al. (2019) emphasized, persons who are plurisexual "...experience unique psychosocial vulnerabilities and their mental health needs and social identity remain underserved and understudied, respectively" (p. 113). Therefore, therapists working with clients distressed with their same-sex attractions can counter bisexual/plurisexual erasure/invisibility by talking with their clients about bisexuality/fluidity/plurisexuality and including methods to account for a bisexual orientation and shifts within a bisexual/fluid/plurisexual spectrum. Examples include talking with clients about any shifts in sexuality they may be experiencing or have experienced and exploring whether clients have a sense that something they did or experienced prompted any shifts and, if so, what meaning that has for them and their self-concept, sexual identity, and relationships.

Some sexual minority clients may perceive their developmental and/or traumatic experience as influencing their other-sex and/or same-sex attractions and behaviors and seek (at least in part) some change from therapy in their attractions and/or behaviors. Verbal exploration of issues that clients believe have influenced the development of their attractions and behaviors

may create some shifts in how clients perceive and relate to their sexuality. Some clients may not understand the strengths, persistence, and any fluidity of their sexual, romantic, and emotional attractions and aversions, including how anxiety, depression, and sexual trauma may affect their desires and insecurities. Therefore, we encourage therapists working with persons with a stigmatized sexuality seeking SOCE to discuss in their informed consent process this range of plurisexual and monosexual orientations and experiences and how minority stress has limited our understanding of such diversity. This informed consent process would also involve remaining respectful of clients from conservative religious backgrounds who express having made a self-initiated choice to pursue congruence between their religious identity and their sexuality. In this informed consent process, therapists can encourage clients who express an interest in SOCE to use reliable methods to reduce their distress and increase their self-determination (e.g., mindfulness, self-acceptance, self-compassion, evaluation of negative beliefs about self and gender/sexual diversity, social support, trauma resolution). Working from a clinical model that ignores variations in outcomes and instead focuses on estimates of average expected treatment effects is wrong for this population. Averages, norms, and statistics ignore and invalidate outliers and increase minority stress. Sexual identity development depends on facilitating individualized client trajectories. The results of this study suggest therapists remain open, person-centered, and exploratory, as if each client's sexual orientation and flourishing identity trajectory are new territories to discover.

Results from exploratory studies involving the current sample suggested the following identity and social variables associated with health and satisfaction, regardless of participants adopting or rejecting an LGBTQ+ identity: (a) meet needs for connection, intimacy, and mutual understanding; (b) experience an authentic sexual expression; (c) resolve conflicts with religion;

(d) reduce depression and anxiety; (e) develop self-acceptance; and (f) feel positive about being a sexual minority, in whatever ways that feel congruent to the person (Lefevor et al., 2019).

Limitations

Some limitations of the present study should be emphasized. The cross-sectional nature of the research design does not allow for causative attributions. For example, as noted, we cannot determine whether participants still engaged in SOCE had more depressive symptoms because of their SOCE or before their pursuit of SOCE. Similarly, participants were asked to retrospect about their engagement with SOCE, which they may remember differently based on their current value commitments. However, one-quarter of our sample was still engaging in SOCE, a group rarely examined in this literature. Furthermore, this study offers no information as to whether sexual orientation can change during the use of SOCE, only that a minority of participants may report this in terms of increased other-sex sexual attractions sufficient to enjoy other-sex sexual behavior, while a smaller minority who did not use SOCE also reported this increase without such efforts. Given the length of participants' change efforts, it is possible that factors other than SOCE might have contributed to the reports of change (e.g., non-SOCE related psychotherapy, change in romantic relationships, reduction of shame). In this regard, our results may reflect sexual fluidity, which is generally not recognized to be a result of personal agency nor to necessarily constitute a change in sexual orientation (APA, 2021; Diamond, 2008).

Our study also did not assess participant motivations for using SOCE, which might shed further light on the question of harm. Although internalized homophobia (IH) and sexual orientation concealment are plausible motivations for many of our participants, we think it is good practice not to overgeneralize constructs developed for and with LGBTQ+-identified groups onto sexual minorities who may prioritize their conservatively religious identities (see Maassen

et al., 2023). There is a temptation in the SOCE field to interpret this latter group's motivations according to what social scientists believe about them rather than what they actually believe about themselves. For example, given the religious motivations of a large portion of those using SOCE (APA, 2009), it is possible that for some individuals IH may reflect a self-determined adherence to conservative religious teachings on sexuality rather than an indicator of heightened shame and self-loathing (Lefevor et al., 2020; Rosik et al., 2022; see also Rosik, 2007a, 2007b, for an example of such worldview considerations related to homophobia).

In addition, our measure of depression was relatively narrow in its measurement timeframe (i.e., last 2 weeks). A broader window of assessment, such as one year or lifetime occurrence, would admittedly be desirable in future research to establish the degree of robustness in our findings. That said, however, we also note this is a limitation shared by much of the literature about SOCE, which includes use of the PHQ-9 (e.g., Chan et al., 2022; Salim et al., 2023; Tran et al., 2024), the Kessler Psychological Distress Scale (a 30-day timeframe; e.g., Higbee et al., 2022; Jones et al., 2022; Mammadli et al., 2024; Veale et al., 2022), and time at self-report assessments of distress (e.g., Bradshaw et al., 2015; Salway et al., 2020). We would not want to dismiss this literature *en masse* solely based on this limitation.

Our operationalization of SOCE via engagement status did not allow us to examine the effects of specific SOCE strategies, which is a common limitation in the literature with a few exceptions (Bradshaw et al., 2015; Rosik et al., 2023). We were unable to disentangle the potential differential impact of change efforts facilitated by licensed therapists versus religious counselors, a limitation also shared by many SOCE studies (e.g., Blosnich et al., 2020; Green et al., 2020; Higbee et al., 2022; Meanley et al., 2022). Unlike some SOCE research (e.g., Blosnich et al., 2020; Higbee et al., 2022; Ogunbajo et al., 2022), our operationalization of SOCE did not

imply coercion or social pressure, which may also influence outcomes. Future research could investigate which efforts and which aspects of SOCE impact which aspects of mental health and flourishing.

The three types of SOCE engagement we examined also limit our ability to make direct comparisons with other SOCE research, although a rough comparison might be obtained by focusing only on the Never SOCE (i.e., no exposure) and Ended SOCE (i.e., exposure) groups. It is noteworthy that the current study found these groups to have approximately similar distress levels, which may partially be a function of the purposeful inclusion of non-LGB+-identified participant experiences.

Although our definition of SOCE was consistent with that of the APA, we recognize the operationalization of SOCE in this literature has heretofore lent itself to findings that may lack reliability, validity, and hence generalizability. For example, del Rio-Gonzalez et al. (2021) note their definition of SOGICE "...may encompass a wide variety of change efforts, ranging from prayer to shock therapies as well as variation in frequency, duration, and voluntariness" (p. 470). This definitional underspecification has likely contributed to SOCE prevalence estimates that range from 3.5% (Salway et al., 2020) to 73% (Dehlin et al., 2015). In general, we believe the field will benefit from a more standardized approach to defining and contextualizing SOCE. Finally, our sample contained a majority of participants who were White, college-educated, and affiliated with The Church of Jesus Christ of Latter-day Saints and, hence, our results may not generalize to other ethnic, socioeconomic, or conservatively religious faiths.

Overall, the research methods in current studies about SOCE, including this one, are limited by their research designs (e.g., correlational, limited samples, over-reliance on self-report measures and measures of unknown validity and reliability). The 2009 APA report on SOCE

concluded, “Given the limited amount of methodologically sound research, we cannot draw a conclusion regarding whether recent forms of SOCE are or are not effective” (p. 43). This report further concluded,

Across studies, it is unclear what specific individual characteristics and diagnostic criteria would prospectively distinguish those individuals who will later perceive that they have succeeded and benefited from nonaversive SOCE from those who will later perceive that they have failed or been harmed. (p.43)

Therefore, given SOCE’s unknown reliability/validity and potential for self-reported harm, therapists should exercise caution when speaking with clients about their personal SOCE and should seek to promote client self-determination and autonomy surrounding by focusing with clients on their hopes and expectations of SOCE. Clinical approaches should facilitate the unique identity development of each client seeking SOCE.

Conclusion

We analyzed three groups of adults who reported experiencing or having experienced same-sex attractions based on their engagement with SOCE (No SOCE, Ongoing SOCE, and Ended SOCE). ANCOVA results controlling for age indicated that participants with Ongoing SOCE reported greater depressive symptoms and less flourishing than participants in either the group with No SOCE or who had Ended SOCE, who had similar health outcomes. Chi-square analyses indicated that participants rejecting an LGBQ+ identity were disproportionately found in the group with Ongoing SOCE while over 60% of LGBQ+-identified participants reported having ended their SOCE. A relatively small minority of SOCE participants reported either already having or developing sufficient other-sex sexual attraction to enjoy other-sex sexual behavior, while a smaller few reported changing without SOCE. However, we caution against

interpreting this finding as a definitive indicator of change, as some individuals who are engaged with SOCE may have faced increased pressure to report other-sex sexual attractions without experiencing them. Duration of SOCE was not associated with health and the number of years elapsed following SOCE was not correlated with health after controlling for age.

Persons who try to change their same-sex sexual attractions and/or behaviors are a highly heterogeneous group, and research methods that capture the greatest degree of this diversity are likely to provide the most accurate accounting of this diversity and the effects of SOCE. Our findings suggest there is more complexity going on than the current narratives around SOCE allow. SOCE can certainly cause harm, but we hope future research builds upon our findings and (a) attends to scale norms, (b) uses socio-politically diverse research teams (adversarial collaboration) and recruits religiously diverse samples, (c) moves beyond exposure versus non-exposure analyses, (d) accounts for age as well as the range of plurisexual and monosexual orientations and experiences, (e) uses comprehensive pre- and post-assessments about distress and flourishing and (f) examines specific methods of SOCE and (g) affirmative methods. We encourage therapists to focus on providing interventions to (a) reduce clients' experience with minority stress, (b) increase emotional well-being, and (c) remain agnostic about the client's identity trajectory.

Declarations

Consent to participate: Informed consent was obtained from all survey participants.

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Table 1

Participant Demographic Characteristics

Characteristic	<i>n</i>	%	Characteristic	<i>n</i>	%
Gender			Religious Affiliation		
Male	997	70.6	Latter-day Saint/Mormon	736	52.1
Female	327	23.2	None/Unaffiliated	323	22.9
Transwoman	18	1.3	Multiple/Other	95	6.7
Genderqueer	14	1.0	Looking, exploring	45	3.2
More male than female	11	.8	Catholic	39	2.8
Gender fluid	10	.7	Evangelical Protestant	38	2.7
All others	35	2.5	Judaism	18	1.3
			Baptist	16	1.1
			Jehovah's Witness	14	1.0
			Methodist	12	.8
			Episcopalian	11	.8
			Pentecostal	11	.8
			All others	54	3.8

Race**Relationship Status**

White/Caucasian	1283	90.9	Single and celibate	336	23.8
Multi-ethnic/None apply	45	3.2	Single and not celibate	344	24.4
Latina(o)/Hispanic	44	3.1	Heterosexual relationship	407	28.8
Black/African-American	13	.9	Same-sex relationship	325	23.0
Asian/Asian-American	9	.6			
Middle Eastern	6	.4			
All others	12	.8			

Table 2

Means, Standard Deviations, Range, and Zero-Order Correlations for Continuous Variables

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5
1. Depression	6.93	6.03	0-27	----				
2. Flourishing	46.30	7.76	8-56	-.56***	----			
3. Age	38.66	14.23	18-80	-.20***	.11***	----		
4. SOCE Duration	15.87	12.29	0-65	-.04	.03	.62***	----	
5. Years Since SOCE	8.86	9.71	0-53	-.18***	.13***	.63***	-.07*	----

Note: $N = 1412$. * $p < .05$. *** $p < .001$.

Table 3

*Estimated Means and Standard Errors for Depression and Flourishing as a Function of SOCE**Engagement Status*

SOCE Status	<i>N</i>	<u>Depression</u>			<u>Flourishing</u>	
		<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	
No SOCE	329	6.44	.32	46.63	.42	
Ongoing SOCE	326	8.14	.33	44.90	.43	
Ended SOCE	757	6.63	.21	46.75	.28	

Note: Means are adjusted for age. SOCE = Self-initiated sexual orientation change effort.

Table 4

Reported Other-Sex Attraction Presence and Development by SOCE Engagement Status

SOCE engagement status				None:	None:	Ongoing:
				Ongoing	Ended	Ended
				P(Difference in proportion)		
Effect size (Cohen's <i>d</i>)						
	Always had enough OSA to enjoy heterosexual sex?					
	Yes	No	All			
	N (%)	N (%)	N (%)			
No SOCE	68 (20.7%)	261 (79.3%)	329 (100%)	.02	.000	.16
Ongoing SOCE	45 (13.8%)	281 (86.2%)	326 (100%)	-.18	-.29	-.09
Ended SOCE	82 (10.8%)	675 (89.2%)	757 (100%)			
Total	195 (13.8%)	1,217 (86.2%)	1,412 (100%)			
	Developed enough OSA to enjoy heterosexual sex?					
	Yes	No	All			
	N (%)	N (%)	N (%)			
No SOCE	19 (5.8%)	310 (94.2%)	329 (100%)	.000	.005	.000
Ongoing SOCE	88 (27.0%)	238 (73.0%)	326 (100%)	.60	.19	-.44
Ended SOCE	85 (11.2%)	672 (88.8%)	757 (100%)			
Total	192 (13.6%)	1,220 (86.4%)	1,412 (100%)			

SOCE = Self-initiated sexual orientation change efforts; OSA = Other-sex attraction.