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HIDING THE AUTHENTIC SELF: CONCEALMENT OF GENDER AND SEXUAL IDENTITY AND ITS CONSEQUENCES FOR AUTHENTICITY AND PSYCHOLOGICAL WELL-BEING

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HIDING THE AUTHENTIC SELF:
CONCEALMENT OF GENDER AND SEXUAL IDENTITY AND ITS CONSEQUENCES FOR
AUTHENTICITY AND PSYCHOLOGICAL WELL-BEING

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Hiding the authentic self: Concealment of gender and sexual identity and its consequences for authenticity and psychological well-being

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Abstract

Background: Concealment of gender and sexual identity is a reaction to societal stigma against gender and sexual minority (GSM) identities. Despite initially protecting against stigma, concealment has long-term psychological consequences. These consequences are potentially attributable to the psychological damage incurred from a reduced sense of authenticity among those who conceal their gender and sexual identity. Authenticity is compromised by concealment, serving to disrupt a person’s self-concept, as external behavior and an innate sense of self diverge. On top of that, an individual’s mental and emotional states may be impacted by these discrepancies. Additionally, concealment undermines the pursuit of intrinsically-motivated, goal-directed behavior and deprives individuals of a sense of belongingness, both of which are essential to a sense of authenticity. An individual who experiences such intrapersonal, motivational, and interpersonal disruption is bound to experience detriments to their psychological well-being. Concealment and authenticity both comprise important cognitive, affective, and behavioral domains, and this psychological overlap may serve to clarify factors, such as internalized stigma, contributing to health disparities among GSM individuals compared to their cisgender and/or heterosexual counterparts. Utilizing a novel instrument, the current study aimed to explore the relationship between concealment of gender and sexual identity and authenticity. I hypothesized that authenticity would moderate the relationship between concealment and well-being as well as between concealment and self-stigma.

Methods: The analytic sample was comprised of 517 GSM participants (Mage = 24.32, SD = 7.76), all of whom were recruited using nonprobabilistic sampling methods via an online social network. They consented to participate in an online survey, querying social and demographic data, concealment experiences, authenticity pertaining to their GSM identity, internalized stigma, and overall well-being. In exchange, they were eligible to enroll in a drawing for 10 $20 gift cards to an online retailer. The Extent of Concealment measure, which was developed and piloted as a precursor to the current study, was subjected to several validation procedures, namely a confirmatory factor analysis, analyses for convergent and discriminant validity, and an analysis of concurrent validity regarding psychological distress, authenticity, and internalized stigma.

Results: The four-factor model of concealment showed excellent fit for the data, convergent validity with one other measure of concealment, and strong concurrent validity through prediction of the dependent variables. The measure did not discriminate from other measures of proximal stress processes. Authenticity attenuated the relationship between both concealment and psychological distress as well as concealment and self-stigma.

Discussion: This study extends the literature by validating a comprehensive measure of concealment and by exploring whether authenticity is implicated in the pathway between concealment of gender and sexual identity and psychological well-being. It also clarifies that authenticity may be a possible avenue for intervention for individuals who are currently concealing or who have concealed their gender and/or sexual identity in the past.
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Hiding the authentic self: Concealment of gender and sexual identity and its consequences for authenticity and psychological well-being

Introduction

Concealment of gender and sexual identity is common among populations of gender and sexual minority (GSM) individuals. GSM individuals engage in concealment behaviors as a means of averting societal stigma directed at individuals who do not identify as cisgender or heterosexual. Colloquially, this is often referred to as “being closeted” or “being in the closet.” As such, concealment is treated as a key proximal stress process in the minority stress model, a framework linking GSM identities with certain health disparities (Meyer, 1995, 2003). In this model, concealment is an internal process that may mediate the relationship between the identity and particular health outcomes. Concealment is a rational and adaptive response to the reality of stigma. Engaging in concealment behaviors has the potential to protect individuals with concealable stigmas, like GSM populations, from overt victimization and discrimination. However, the reality is that concealment’s effectiveness at offsetting these dangers may be outweighed by the negative health impacts to which it may contribute.

Several important developments have occurred in the study of concealment in recent years. Firstly, the construct itself has become more clearly fleshed out with the development of the comprehensive cognitive-affective-behavioral process model of concealable stigma (Pachankis, 2007). This process model coalesces disparate literatures on concealment, which have focused on the cognitive and affective processes intrinsic to concealment behaviors as well as the antecedents and consequences of the construct. Inspired by this comprehensive conceptualization, new approaches to measurement of the construct have been pursued, particularly the Extent of Concealment measure (Brennan, 2019). This measure was intended to be a valid instrument for assessing the cognitive, affective, and behavioral factors of concealment of gender and sexual identity among gender minority (GM) and sexual minority (SM) individuals. Although concealment also pertains to the experience of GM individuals who may hide their gender identity, this group had not been previously included in empirical studies of
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concealment until the development of the Extent of Concealment measure. The first aim of this study was to further validate and refine this measure with an additional sample of GSM individuals.

Secondly, earlier forms of measurement of concealment either assessed the construct of disclosure instead (i.e., concealment measured solely as the inverse of disclosure), or did not assess the three components of concealment comprehensively; therefore, the construct’s actual impact on mental health outcomes is lacking. Adopting an instrument like the Extent of Concealment measure will potentially systematize study and provide a clearer picture of the effects of this proximal stress process. Thus far, application of the model to a GSM sample has shown an important link between the extent of concealment across the cognitive, affective, and behavioral components and mental health outcomes, such as depression, anxiety, and substance use (Brennan, 2019). These relationships have been demonstrated for both SM as well as GM participants. This study aimed to build upon these initial findings by relating the Extent of Concealment measure to current psychological distress and self-stigma.

Thirdly, the cognitive-affective-behavioral process model of concealable stigma proposes possible mechanisms through which cognitive, affective, or behavioral concealment, or their additive impact, could confer risk for deleterious health outcomes. Further explication of the construct enables systematic exploration of these hypothesized mechanisms. In this study, I proposed that concealment compromises a sense of one’s authenticity, which detracts from overall well-being and psychological health. Most notably, concealment alienates individuals from themselves by compromising a person’s sense of their own authenticity. Instead of living according to a felt sense of their own identity, GSM individuals often behave in accordance with societal norms that were established by the majoritarian population, comprised of cisgender and heterosexual people. As this behavior diverges from internal inclinations or motivations, GSM individuals experience a sense of inauthenticity. On top of these inauthentic behaviors, GSM individuals may engage in or experience cognitive and affective processes that augment a sense of inauthenticity, such as preoccupation with concealment or negative affect. A
third aim of this study was to test whether authenticity moderated the relationship between concealment and well-being.

Fourthly, the clarification of the psychological components of concealment and the elucidation of potential mechanisms for the development of psychopathology provide tentative explanations for how concealment may be related to the other two proximal stress processes in the minority stress model: internalized stigma and expectations of rejection. Concealing an identity and the resulting feelings of inauthenticity may interact to lay the foundation for internalization of stigma, as people who keep a secret may become ashamed of themselves just by virtue of having something to keep secret. This shame may generalize to the extent that stigma seems justified to the stigmatized individual. In addition to the intrapersonal effects concealment has, it also impedes authentic and self-driven, goal-directed behavior as well as meaningful social affiliation with an individual’s direct community, from which the stigma stems, or with fellow stigmatized individuals, who may be out of reach or avoided altogether. Both values-driven behavior and social connection are essential protection against the internalization of stigma, and thus being deprived of these resources may serve to exacerbate the impact of concealment. The fourth and final aim was to see whether authenticity moderated the relationship between concealment and internalized stigma.

**Literature Review**

Gender and sexual identity are key aspects of overall identity. Gender identity refers to the sense of one’s own gender. This sense may or may not coincide with the person’s biological markers of sex (e.g., chromosomes), physical anatomy (e.g., genitalia), or social role. Sexual identity is a composite construct including self-identification, sexual behavior (including attractions and fantasies), and relational preferences. For the majority of the population, gender and sexual identity are taken for granted since they align with socially prescribed roles (i.e., cisgender or heterosexual) and development of these identities may follow well-established conventions. For those individuals who identify as a gender and/or
sexual minority, gender and/or sexual identity may take on additional prominence given the fact that these identities are considered to diverge from norms regarding gender and sexuality. For clarification, “gender minority” (GM) refers to individuals who identify as non-cisgender, that is, their gender identity is not the same as the sex they were assigned at birth (James et al., 2016). They may use the following terms to identify, among others: transgender, intersex, nonbinary, gender nonconforming, or genderqueer, etc. The label “sexual minority” (SM) describes any individual who identifies their sexual identity as non-heterosexual. They may adopt identity labels such as lesbian, gay, bisexual, queer, or pansexual (among other self-identifiers). An identity may be less informed by the label and more defined by engagement in sexual behaviors with, attractions towards, fantasies about, or displays of other emotional, romantic, or social preferences for individuals of the same sex, same gender, multiple genders, or others who identify as a gender or sexual minority person (Sell, 1997). Collectively, this group is referred to as the gender and sexual minority (GSM) population. Given that these identities are different from the majoritarian population, they are often stigmatized. As a result, GSM individuals commonly conceal these important aspects of their overall identity.

Why Conceal?

Identity constructs like gender or sexual identity do not necessarily have externally visible markers and therefore may not be outwardly perceptible to others; thus, they are considered concealable (Goffman, 1963; Pachankis, 2007; Quinn et al., 2017). In many contemporary societies, GSM individuals may conceal their identity in response to persistent stigmatization of non-cisgender and non-heterosexual gender and sexual identities (Meyer, 2003). A stigma refers to an attribute that is discreditable by society, being viewed as other and less than the comparative dominant social category (Goffman, 1963). In the case of GSM individuals, the discreditable attribute is their gender and/or sexual identity, which is stigmatized as a result of its difference from the normative gender and sexual identity (i.e., cisgender and heterosexual). Unlike those with visible stigmas (e.g., physical disabilities, and racial or ethnic affiliation), GSM individuals can potentially avoid the repercussions of stigma (e.g., victimization or
discrimination) through concealment; therefore, they are considered to have a concealable stigma (Goffman, 1963).

In the context of GSM populations, concealment refers to the active, conscious, and purposeful withholding of information about a non-cisgender gender and/or non-heterosexual sexual identity from one’s peers, families, and communities, often out of fear of reprisal or a sense of shame (Diamond & Savin-Williams, 2009; Meyer, 1995, 2003). For instance, a young transgender woman may have a sense of her own gender identity (female), yet continue to wear clothes consonant with the sex she was assigned at birth (male). Or, a concealed gay man may refer to his boyfriend with female pronouns while engaged in a conversation with coworkers in order to insinuate he is a member of a heterosexual couple. In both cases, the individual actively, consciously, and purposefully conceals possibly revelatory information from others. Concealment can either be deployed to self-protect against an external, environmental threat, or it might serve as a psychological response indicating difficulty accepting a stigmatized core aspect of oneself (Mohr & Kendra, 2011).

People are compelled to conceal personal information that is intrapersonally distressing and socially compromising. Across a variety of samples, researchers have found that the more distressing or socially compromising the personal information is, the greater the imperative to conceal, and the more likely the individual is to do so (Larson & Chastain, 1990). In the case of GSM individuals, their gender and/or sexual identity may be intrapersonally distressing as a result of the reality of stigma, and it may seem to threaten existing relationships and social standing. The threat of social opprobrium, or worse, the danger of explicit victimization and discrimination, further raises the stakes, making the imperative to conceal stronger and the likelihood an individual will conceal greater. This has recently been demonstrated clearly in a study of Indian SM individuals conducted after the passage of a law outlawing sexual activity between individuals of the same gender. Those individuals who were more afraid of the impact of the new law were far more likely to conceal their sexual identity (Rao & Mason, 2018). In the United States after the election of President Trump, concealment increased within a new political context.
that was perceived to be less hospitable to GSM identities, thus increasing the imperative of concealment and the likelihood that individuals will conceal (Garrison, Doane, & Elliott, 2018).

The Nitty-Gritty of Concealment of Gender and Sexual Identity

Given the impulse to conceal in a stigmatizing environment, gender and sexual minority individuals are very likely to hide their identity for at least a period of time. The following sections will cover the prevalence of concealment among GSM individuals, which justifies its inclusion as a key stress process in the minority stress model. Other elements of concealment will also be reviewed including differences in concealment among different GSM populations and its deployment over time. Finally, a comprehensive process model of concealable stigma is outlined as well as the construct’s cognitive, affective, and behavioral components.

Prevalence of concealment among sexual and gender minority individuals. Although no population-based estimates exist, a significant portion of GSM populations are believed to conceal their identities for at least a year, such as 88 percent of one sample of both gender and sexual minority individuals (Brennan, Livingston, & Cochran, 2017). “Being closeted” refers to the act of concealing a GSM identity and “being in the closet” refers to the period of time an individual conceals their identity. These both are common tropes among GSM populations, and “coming out of the closet” stories have become a ubiquitous tradition for GSM individuals to describe the way they publicly claimed their identity (Rossi, 2010). Studies on concealment have mostly focused on SM populations, and it appears that the presumption in these studies is that the vast majority of the sample will have concealed at some point in these lives. There may be some empirical support for this presumption given the percentage of participants in samples endorsing some degree of concealment. For instance, in one study, three-quarters of a sample of gay men reported at least one concealment behavior (Pachankis & Goldfried, 2004). In studies of adolescents, most of the youth who engage in non-heterosexual sexual behavior concurrently identify as heterosexual (Diamond & Savin-Williams, 2009). At least for a portion of these youth, this sexual behavior may reveal a latent SM identity, thus indicating a degree of identity concealment. Less is
known about prevalence of concealment with GM individuals; however, in one recent study, the entire sample, which consisted of a variety of gender-minority identities, concealed to some extent (Rood et al., 2018). Of this same sample, 26 percent concealed infrequently, whereas 74 percent concealed more frequently.

**Differential concealment based on identity.** Concealment is common to the experiences of both GM and SM individuals. However, concealment of gender and sexual identity can appear differently depending on the individual and their identity/identities. For GM individuals, concealment can be a complex phenomenon. Over the course of the lifespan, GM individuals may conceal different aspects of their identities variably throughout their gender identity development (Rood et al., 2017). For instance, in the early stages, a GM individual may conceal their gender identity and live outwardly according to the sex they were assigned at birth. This may be true for gender identities from across the gender spectrum. Later in a transition, particularly if this person undergoes gender-confirmation treatment and “passes” or “blends” as their gender identity, they may later conceal the fact that they are transgender. This later form of concealment may be phenomenologically different than the earlier form as it is identity-affirmative rather than identity-covering (Rood et al., 2017). For those GM individuals who are gender nonconforming or non-binary, concealing their non-cisgender gender identity may be less of an option. Their approaches to gender expression are not conforming to larger societal standards, and part and parcel of having such an identity may include devaluing conformity to gender norms (Austin & Goodman, 2018).

Likewise, concealment may be more feasible or “successful” for some GSM individuals than others. For instance, more masculine SM men concealed more and over a longer period of time than more feminine SM men in one study (Pachankis et al., 2018). In contrast, among some GSM individuals (or those perceived to be GSM), gender non-conforming behaviors and physical characteristics associated with stigmatized identities may incite victimization, regardless of self-identification (Carragher & Rivers, 2002; Garrison, Doane, & Elliott, 2018; Rieger, Linsenmeier, Gygax, & Bailey, 2008). For SM
individuals who do not identify as exclusively gay or lesbian (e.g., bisexual or pansexual), evidence suggests greater concealment, as these individuals may hide their identities from both gay and straight communities due to bi-prejudice found in both communities (Balsam & Mohr, 2007; Dyar et al., 2015; Feinstein et al., 2017; Feinstein & Dyar, 2017; Puckett et al., 2016).

Concealment over time. As noted, “being in the closet” denotes a period of time, and GSM individuals may begin concealing as early as their first decade of the lifespan. As research often treats concealment as a norm in the lives of GSM individuals, it is also treated as a de facto state in the initial stages of developmental models of gender and sexual identity development. Individuals are assumed to conceal as soon as they notice being different from their peers or families, which then leads to growing in their awareness of this difference (Cass, 1984; K. M. Cohen & Savin-Williams, 1996; Coleman, 1982; Diamond & Savin-Williams, 2009; Grace & Wells, 2015; Lev, 2004; Levitt & Ippolito, 2014; Rood et al., 2017; Troiden, 1988). As a result, they may begin to self-label and self-identify, and respond to the reality of their identity and its potential social consequences. Dimensional models of identity development see concealment as less a discrete period and more as a situationally-deployed strategy that could last throughout the lifespan (Cohen & Savin-Williams, 1996; Legate, Ryan, & Weinstein, 2012; Lev, 2004; Pachankis, 2007; Ragins, Singh, & Cornwell, 2007). Both types of models treat concealment as a developmental process over time, which can continue even after a person has “come out,” that is, disclosed their identity publicly.

Using the difference between identity milestones, researchers have assessed the duration of concealment among GSM populations. Among a sample of gay men, Pachankis and Hatzenbuehler (2013) found the average concealment to be over five years from first awareness of their sexual orientation to first disclosure. In another study assessing the duration of concealment from first wondering about their identity to first disclosure to another person, GM participants concealed their gender identity for an average of five years ($M = 5.24, SD = 7.22$), and SM participants concealed their sexual identity for an average of four years ($M = 4.33, SD = 4.49$) (Brennan, 2019). Differences in
duration of concealment have been found amongst different gender and sexual identities and cohorts of GSM individuals (e.g., D’Augelli, Pilkington, & Hershberger, 2002; Fredriksen-Goldsen et al., 2013).

**Concealment as a proximal stress process.** Due to the prevalence of concealment experiences and behaviors and given its deployment over time and throughout the lifespan, concealment has been located as a key proximal stress process in the minority stress model (Meyer, 2003). The minority stress model (see Figure 1) is a framework to explain the disproportionate rates of mental and physical health issues among GSM populations compared to their cisgender and/or heterosexual counterparts (Budge, Adelson, & Howard, 2013; Cochran, Sullivan, & Mays, 2003; Cochran & Mays, 2000a; Cochran & Mays, 2000b; Hatzenbuehler, 2009; Hatzenbuehler, Corbin, & Fromme, 2008). Stigma-related stress is a byproduct of an aversive social reality and the mechanism through which experiences unique to GSM individuals result in psychopathology and physical health symptoms. The model identifies two unique sets of stress processes for GSM individuals, namely distal (i.e., explicit prejudice events like victimization and discrimination) and proximal (i.e., the internalization of distal stressors through expectations of rejection, internalized stigma, and concealment) stress processes. The compounding of these processes is theorized to account for the higher level of stress among GSM populations that then leads to increased morbidity.
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Figure 1. Gender and sexual minority stress model (Meyer, 2003).

Hatzenbuehler (2009) proposed an additional layer to the minority stress model that incorporates more general psychological processes (e.g., coping styles, emotion regulation, social and interpersonal interactions, and cognitive processes) as mediators between stigma-related stress and psychopathology. This framework conceptualizes the transactional nature of stress, relating environmental conditions (distal factors) and stress appraisals (proximal factors) in predicting outcomes. See Figure 2 for a visualization. As a case in point, concealment comprises numerous psychological processes, behavioral patterns, and safety behaviors linked to various forms of psychopathology (Lane & Wegner, 1995). Better clarifying these links may provide greater insight into the ways that stigma-related stress is internalized and becomes pathological. Therefore, we can anticipate stigma-specific and more general psychological impacts as a result of concealing a stigma.
Consequences of concealment. Concealment is a key proximal stress process in the minority stress model and thus a key contributor to health disparities among GSM populations (Meyer, 2003). The psychological mediation framework further identifies psychological mechanisms for the conferment of health risk (Hatzenbuehler, 2009). Concealment occupies an interesting place in these models because, on the one hand, it can enable GSM individuals to avert discrimination and victimization due to their identities. As experiences of these explicit prejudice events have been shown to have crippling effects on victimized individuals, concealment may serve as an effective buffer for stress responses to overt violence. On the other hand, concealment has demonstrated broad impacts on physical and mental health.
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despite potentially protecting against targeted discrimination and victimization, and it has been shown to be a key risk factor for a wide range of negative health outcomes. Thus, there appear to be important elements of concealment that promote distress regardless of its role as a protective factor against distal stressors.

Given the realities of societal stigma against GSM individuals, there is an implicit rationale to concealment as a strategy of avoiding explicit prejudice and discrimination. In this way, it appears to be adaptive, as evidence suggests a negative relationship between concealment of sexual identity and related victimization and discrimination (Edwards & Sylaska, 2013; Puckett et al., 2016). Another study found that concealment seemed to inoculate closeted men from minority stressors (Pachankis, Hatzenbuehler, et al., 2015). In a study using ecological momentary assessment over 14 days, GSM individuals who concealed more, as measured by the Outness Inventory at one time point, reported that they had fewer instances of explicit prejudice events (verbal, physical, or sexual assault) previously (Livingston et al., 2020). This was also borne out in an international study across 28 countries (Pachankis & Bränström, 2018). In countries with high structural stigma, SM individuals with higher concealment had less exposure to discrimination and victimization. Concealment appears to be more common in places across the world with more structural stigma (i.e., a variable reflecting the prevalence of discriminatory laws, policies, and cultural stigma) with as many as 80 percent of SM individuals being out to either a limited number of people, or none at all, of their social circle (Pachankis & Bränström, 2018). The opposite relationship may also be true: GSM individuals who are more open about their identities have greater exposure to distal stressors (Fingerhut et al., 2010). Even when trying to conceal, SM individuals who have physical characteristics or behaviors (e.g., vocal intonation or motor behavior) that suggest a possible SM identity experience higher rates of explicit prejudice events (Baams et al, 2013). Even for those who do conceal at higher rates, the impact of an experience of discrimination appears to be greater based on measurement of momentary increases in anxiety and depressed mood; thus, the protective role of concealment has its limits (Livingston et al., 2020).
For GM individuals, the relationship between concealment and victimization is less clear. One study explored the relationship between investment in passing (as an indicator of an individual’s desire to live undetected as their gender identity), outness (as a GM individual), as well as enacted- versus felt-stigma based on their gender identity (Bockting et al., 2013). Both passing and outness were positively associated with a greater number of discrimination events and greater experience of enacted stigma, yet outness predicted discrimination more for transgender men than for transgender women. However, this study assessed a commitment to passing rather than actual success in passing as one’s gender identity; thus, it is possible that the ability to avert experiences of stigmatization for GM individuals depends on how “successfully” or “convincingly” the individual is able to conceal their gender minority status based on societal gender norms (Hoy-Ellis, 2016; Legate et al., 2012; Meyer, 2003). This may also be the case among SM individuals who try, but fail, to conceal (Sylva et al., 2010). Even when not experiencing explicit prejudice events, GM individuals who were more out at work experienced higher cortisol levels and negative affect at work compared to the days they were at home (Huebner & Davis, 2005). This could potentially be due to anticipated stigma, or the expectation of victimization due to greater exposure based on their level of outness (Quinn et al., 2014). An additional aspect of concealment that is specific to GM individuals - particularly those who seek to undergo gender-confirmation procedures like hormone-replacement therapies, etc. – is that post-transition, GM individuals living in accordance with their gender identity may conceal that they are a gender minority and ostensibly present themselves as cisgender (Rood et al., 2017). This is potentially protective against explicit anti-transgender prejudice, and may also be gender-confirming, thus conferring positive psychological benefits for post-transition GM individuals (Clements-Nolle et al., 2006).

Yet, the ability to avoid detection of one’s identity may not mitigate the psychological distress of hiding (Brennan et al., 2019; Livingston et al., 2020). Concealment is the product of distress – distress resulting from an awareness of the societal stigma towards their identity, expectations of rejection from loved ones and community upon disclosure, as well as other threats that may result subsequently from
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discovery (e.g., victimization and discrimination) (Meyer, 2003; Pachankis, 2007). It also causes further distress – distress resulting from having to maintain a concealed identity, feeling distant and alienated from others, or internalizing negative views of the self. This distress no doubt detracts from psychological well-being and contributes to pathology. Evidence suggests that individuals with concealable stigmas, as well as those who conceal more generally, experience impacts on well-being, more intense psychological symptomatology, and worse physical health effects compared to the general population (see Pachankis, 2007 for a review).

In regard to impacts on well-being, concealment of gender and sexual identity has been linked to reduced life satisfaction (Bachmann & Simon, 2014; Hu et al., 2013; Jackson & Mohr, 2016; Prell & Traen, 2018), perceived stress for older transgender adults (Fredriksen-Goldsen et al., 2014), lower eudaimonic well-being (Douglass et al., 2019), and disordered eating as well as body image concerns (Mason et al., 2018). Using data collected from SM individuals in 28 countries, concealment completely mediated the relationship between country-level structural stigma and life satisfaction, indicating that lower life satisfaction in countries with more structural stigma can be explained by greater concealment (Pachankis & Bränström, 2018).

Individuals who conceal their gender and/or sexual identity are at greater risk of depression, anxiety, and substance use. Studies have shown direct and indirect links to depression symptoms in samples of SM adults (Frost et al., 2007; Frost & Bastone, 2008; Jackson & Mohr, 2016; Lehavot & Simoni, 2011; Pachankis, Hatzenbuehler, et al., 2015; Talley & Bettencourt, 2011), SM veterans (Cochran et al., 2013), SM male youth (Bruce et al., 2015), bi+ individuals (i.e., bisexual, pansexual, queer, and fluid) (Dyar & Davila, 2019), bisexual but not lesbian women from Norway (Prell & Traen, 2018), as well as older transgender adults (Fredriksen-Goldsen et al., 2014) and mixed samples of GSM adults (Brennan, 2019; Livingston et al., 2020). In one study of 200 SM adolescent and emerging-adult males, participants with higher variable levels of concealment stress had four times the likelihood of experiencing major depression (Bruce et al., 2015). Concealment, measured as the inverse of disclosure
and outness, mediated the relationship between depression and stigma in adult gay men (Frost et al., 2007) as well as depression and social-psychological resources (i.e., social support and spirituality) for SM women (Lehavot & Simoni, 2011). It appears that the longer an individual has concealed their gender and/or sexual identity, the more severe current depression symptoms are, although this has not been a consistent finding (Brennan et al., 2017, 2019).

Concealment of gender and sexual identity is also associated with higher endorsement of anxiety symptoms across various anxiety disorders, including generalized anxiety disorder, social anxiety, and panic disorder (Brennan et al., 2019; Cohen, Blasey, Barr Taylor, Weiss, & Newman, 2016; Dyar & Davila, 2019; Livingston et al., 2019; Meidlinger & Hope, 2014). In a sample of 640 GSM adults, past concealment of gender and sexual identity was positively associated with anxiety (focused on physiological, situational, and subjective experiences of anxiety) and social anxiety, accounting for over nine and five percent of the variance in average symptom scores, respectively (Brennan, 2019).

Higher rates of substance use may be related to greater concealment of gender and sexual identity. Individuals with a tendency to conceal personal information (not necessarily specific to gender and sexual identity) may be more likely to engage in impulsive drinking (J. D. Hartman et al., 2015). In addition, those who self-conceal may drink more frequently at greater quantities and experience more alcohol-related problems (Hartman et al., 2015). Potentially, these alcohol use behaviors can be attributed to the consequences of concealment on self-regulatory behaviors (Burns et al., 2012; Cortopassi et al., 2017). Among GSM populations, rates of substance use are high (Hughes & Eliaison, 2002) and appear to be higher among “closeted” (i.e., concealed) SM individuals than their uncloseted peers (Stall et al., 2001). SM individuals may use alcohol as a coping mechanism for experiences of discrimination (Hatzenbuehler et al., 2008). Brennan (2019) found that past concealment of gender and sexual identity predicted current overall alcohol use, alcohol consumption, and drug use, but only marginally predicted alcohol dependence and alcohol-related problems. There is conflicting evidence about whether concealment duration predicts current alcohol use (Brennan, 2019; Brennan et al., 2017).
It is important to note that these symptoms may continue on even after the cessation of concealment. Extent of concealment continued to predict depression, anxiety, and substance use, even though most of the participants had disclosed their identity to at least one person (Brennan, 2019). Likewise, Pachankis, Cochran, and Mays (2015) noted that anxiety posed a persistent problem for SM individuals past the time they were concealing.

Indeed, concealment of sexual orientation has been linked with worse physical outcomes. Studies have shown greater disease incidence (e.g., cancer, pneumonia, and tuberculosis) among those who concealed more (Cole, Kemeny, Taylor, & Visscher, 1996) as well as faster progression to AIDS and reduced life expectancy (Cole, Kemeny, Taylor, Visscher, et al., 1996). Another study found lower CD4+ count for those with greater levels of concealment of sexual identity and higher CD4+ count for those with lower concealment among a subsample who reported higher social support satisfaction (Ullrich et al., 2003). Higher cortisol levels were measured among those with lower disclosure of their sexual orientation (Juster et al., 2016).

As shown, concealment of gender and sexual identity can be a protective factor against distal stressors. Yet, this protection does not extend to other psychological and physical health impacts, such as lower well-being, depression, anxiety, substance use, disease incidence, HIV/AIDS progression, and stress levels. This reality further substantiates concealment’s role as a key proximal stress process, deserving of additional specification and study.

**A comprehensive cognitive-affective-behavioral process model of concealable stigma.**

Concealment, like other stress processes in the minority stress model, is a response to environmental conditions (i.e., societal stigma), an adaptation to avoid victimization and discrimination, and a key variable in the process of internalizing stress, all of which may contribute to health disparities. Despite the fact that concealment of gender and sexual identity is a key proximal stress process in the minority stress model, it has received relatively less attention in the literature compared to other stress processes. As a result, measurement of the construct has been underdeveloped and lacked uniformity in the field.
An important development in the study of concealment is its conceptualization as a multidimensional process in the comprehensive cognitive-affective-behavioral process model of concealable stigma (Figure 3) (Pachankis, 2007). In developing a comprehensive process model of concealable stigma, Pachankis (2007) drew from previous work on theories of concealment including communication privacy management, strategic perception management, identity management theory, and cognitive theories of secrecy. Although Pachankis (2007) refers to the antecedents, consequences, and implications of the cognitive, affective, and behavioral processes involved in concealment, some of the research he draws from more explicitly treated these processes as component parts of the construct itself, working in parallel. Thus, concealment has been conceptualized as having cognitive, affective, and behavioral components, and this has enabled new approaches to measurement of the construct (Brennan, 2019). To conceal, GSM individuals engage in multiple psychological cognitive and affective processes and enact a wide range of behaviors (Brennan, 2019; Pachankis, 2007). Below, each of these components of concealment is explored in turn and applied to the experiences of GSM populations.
Cognitive Concealment. Concealment has been conceptualized as a conscious process involving the recognition of a subset of private information about oneself, an assessment of the potentially compromising nature of that information (e.g., embarrassing, shameful, highly intimate, negatively valenced, or stigmatized), and engagement in keeping that information secret from others (Goffman, 1963; Larson et al., 2015; Larson & Chastain, 1990). Thus, concealment engages a wide range of cognitive processes: preoccupation, vigilance, and suspiciousness (Pachankis, 2007). By its very nature, each of these processes entails near-constant activation of cognitive resources during concealment and thus, may lead to depletion. Furthermore, each of these processes may be interdependent.
Preoccupation may play two roles in concealment, firstly, to suppress distressing thoughts about one’s identity, and secondly, to maintain vigilance of possible threats of discovery. In the former process, thought suppression results in greater thought intrusion and hyperaccessibility of the identity being concealed (Lane & Wegner, 1995; Major & Gramzow, 1999; Uysal et al., 2010). GSM participants in one mixed-methods study referenced struggles with obsessive thinking about their identity, thought intrusions, and difficulty distracting themselves from thoughts about their identity (Brennan, 2019). Regarding the latter process, preoccupation is also useful in maintaining vigilance. This has been demonstrated through experimental studies in which concealing individuals attended to and monitored other people in order to detect any hints that the other person had perceived their concealable stigma (Critcher & Ferguson, 2014; Pachankis, 2007). For instance, a GSM individual may pay special attention to the content of their speech in order to redact any indications of their identity, such as interests or relationships that imply another gender or sexual identity other than cisgender or heterosexual. Or, regardless of the topic being discussed, they may be attuned to indicators that another person is scrutinizing them. Brennan (2019) found evidence that participants performed mental checks of their appearance (to appear “normal”), mannerisms, attractions, and speech content to preempt compromising their concealed GSM identities. Vigilance of others also included perceptions of how others “saw them” and indicators of (in)tolerance to GSM identities (Brennan, 2019). Among SM individuals, there is evidence to suggest a greater sensitivity to detecting others’ sexual orientation without verbal cues, a phenomenon colloquially referred to as “gaydar” (Levounis & Anson, 2012; McAdams-Mahmoud et al., 2014). This increased observational capacity may be a byproduct of vigilance and an adaptation to discern like-minded others, who may also be concealing.

Such vigilance may emerge from a tendency toward suspiciousness among stigmatized individuals, who assume that others are actually intent on discovering and revealing the hidden identity (Pachankis, 2007). This pattern was demonstrated in one experimental study in which women role-played concealing a lesbian identity and reported greater engagement in paranoid social cognition compared to
controls who either disclosed their identity or were not asked to adopt a stigmatized identity (Santuzzi & Ruscher, 2002).

In summary, concealment implicates important cognitive processes, such as preoccupation, self-regulation, vigilance, and suspiciousness. Their relationship to concealment has been demonstrated experimentally, and shown particular relevance to concealment of sexual identity. These cognitive processes may confer risk for negative health outcomes vis-à-vis cognitive overload and cognitive depletion. Furthermore, they are pathognomonic for internalizing disorders, such as depression and anxiety (Bedrosian & Beck, 1980; Eaton et al., 2010; Krueger et al., 1998). Specification of these processes is a crucial contribution to more deliberate exploration of the components of concealment and the mechanisms that impact health.

**Affective Concealment.** Concealment also engages affective processes, such as negative affect, emotion regulation, and somatization. More generally, secret-keeping has been conceptualized as mostly negatively valenced and stress-inducing (Kelly, 2002; Pachankis, 2007). Given the stakes of keeping one’s gender or sexual identity a secret, it is no surprise that concealment has been shown to be associated with negative affect (Nouvilas-Pallejà et al., 2017). In one experiment involving lesbian, gay, and bisexual Dutch individuals, the experimental group reported less positive affect and more negative affect after recalling a past experience of concealing their sexual identity in the workplace compared to the control group, which was asked to recall revealing one’s identity at work instead (Newheiser et al., 2017). In addition to more general negative affect, concealment also appears to relate to specific negative emotions, such as shame (Mereish & Poteat, 2015; Pineles et al., 2006), guilt (Chaudoir & Quinn, 2016), frustration (McAdams-Mahmoud et al., 2014), fear of disclosure and expectations of rejection (Cruddas et al., 2012; Murphy et al., 2012), or repressed anger (Hendy et al., 2016). Additionally, GSM respondents endorsed sadness, anxiety, emotional withdrawal, jealousy, hopelessness, emptiness, loneliness, a sense of being lost, and a feeling of being unsafe while concealing their gender and sexual identity (Brennan, 2019). Lesbian, gay, and bisexual participants in one sample who were more motivated at baseline to
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conceal their sexual identity in the workplace experienced greater anxiety, anger, and fatigue after an event in which they concealed their identity (Mohr et al., 2019).

In their model of self-concealment, Larson and Chastain (1990) understand emotional suppression to be a key component of concealment as a means of controlling or avoiding emotional and behavioral regulation. Concealment of an identity requires suppression of emotional expression, self-silencing, and emotional control in high-stakes situations (Larson et al., 2015). In a meta-analysis of the relationship of self-concealment (which differs from the current study’s operationalization of concealment) and these suppression-related constructs, there was a strong positive correlation (r+ = .52) (Larson et al., 2015). Brennan (2019) also found references to emotional suppression in his study. As one bisexual transman described poignantly, he suppressed “everything to the point where I cauterized my sense of vulnerability” (Brennan, 2019, p. 76).

GSM individuals qualitatively described somatization or physicalization of negative emotions while concealing (Brennan, 2019). Participants described a heaviness, a feeling of suffocation, chronic tension, claustrophobia, a sense of being trapped, and feeling tired or sick.

In summary, negative affect, difficulties with emotion regulation, and increased somatization of anxiety have been documented in samples of individuals concealing their identities or other personal aspects of themselves. Each of these affective processes has been associated with psychopathology and is symptomatic of a wide range of psychological diagnoses, such as depression, anxiety, and posttraumatic stress disorder. As concealment is further complexified as a construct, researchers can gain clearer insight into possible mechanisms for conferment of risk for negative health outcomes.

Behavioral Concealment. Concealment engages a wide range of behaviors, namely inhibition, counterfeiting, and avoidance (Cain, 1991; Jackson & Mohr, 2016; Pennebaker, 1985). According to the behavioral inhibition model of concealment, concealment occurs to protect sensitive, and perhaps shameful, information about oneself from being disclosed (Pennebaker, 1985). GSM individuals may
engage in behavioral inhibition as a means of coping with their concealable stigma through self-silencing, speech alterations, and evasion.

Self-silencing is a form of behavioral inhibition that consists of a reticence to be emotionally expressive and to be open about one’s true self within close relationships (Lattanner & Richman, 2017). GSM individuals may self-silence in different ways, such as avoiding correcting others who misgender them, or by inhibiting expression of attraction to others (Cole, Kemeny, Taylor, & Visscher, 1996; Perry et al., 2017). For individuals concealing a mental health status, there was a positive relationship between self-silencing and level of concealment (Lattanner & Richman, 2017).

When not self-silencing, individuals may make speech alterations, that is, a deliberate modification of speech content, as a means to evade detection of their concealable stigma (Critcher & Ferguson, 2014; Omurov, 2017). For GM individuals, they may use pronouns that are inconsistent with their gender identity but align better with their external gender presentation (Perry, Chaplo, & Baucom, 2017). SM individuals may use the opposite gender pronouns for a romantic partner, or deliberately make the gender of a partner ambiguous, in order to conceal the true gender, so as not to reveal a same-sex romantic partnership (Malterud & Bjorkman, 2016). When pressed on their concealable stigma, individuals may rely on deliberate deception in order to maintain concealment. A majority of LGBT employees who completely conceal at work lied to coworkers about their personal lives (Human Rights Campaign, 2014). In another study, participants described lying directly about their identity, their activities (especially if LGBT-related), and the nature of their relationships (Brennan, 2019). In some cases, these deceptive responses and speech alterations may occur automatically. Respondents in one qualitative study of concealing Norwegian gay and lesbian individuals claimed to deny that they were gay instinctively when explicitly questioned about their sexual identity (Malterud & Bjorkman, 2016).

As demonstrated above, concealment behaviors could imply non-disclosure, yet can also include counterfeit behaviors. These behaviors are deceptive or compensatory and go beyond concealment in order to create the appearance that the GSM individual is, in fact, cisgender and/or straight (Carragher &
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Rivers, 2002; Kahn & Hessling, 2001). They are modeled off of prototypical behavior based on cisgender or heterosexual norms (Anderson et al., 2001; Money et al., 1975). For instance, SM individuals may date members of the opposite sex, and GM individuals may dress in particular ways to “blend” in (Brennan, 2019; Money et al., 1975; Rood et al., 2017). Other examples might include modifying the tone of one’s voice, or the ways one walks and dresses (Brennan, 2019). These behaviors are also called “passing” as cisgender and/or heterosexual, or “covering” any indicators of a GSM gender or sexual identity (Anderson et al., 2001; Rood et al., 2017). While concealing, other GSM individuals may go to greater lengths to distance themselves from any association with openly GSM individuals. This could include engaging in discriminatory behavior like telling heterosexist/transphobic jokes and other emotional, physical, or sexual harassing behavior aimed at actual or perceived GSM individuals (Carragher & Rivers, 2002).

Avoidance is a common concealment behavior. This can include avoiding potentially revealing topics of conversation, specific people, or situations that might compromise the secret. Respondents in one qualitative study of concealing Norwegian gay and lesbian individuals claimed to be adept at steering the conversation away from revealing topics, such as whether they were seeing anyone romantically (Malterud & Bjorkman, 2016). In addition, individuals may avoid situations which devalue a particular attribute or identity, or in which the risk of devaluation or victimization is high (Carragher & Rivers, 2002; Corrigan et al., 2013). In the context of GSM individuals, these avoidance behaviors have been described as aimed at self-preservation and can include social isolation and withdrawal, feigned illness, and truancy (Carragher & Rivers, 2002). In earlier work, Carragher (1999) found that 43% of a sample of gay men avoided extracurricular activities that might have implicated or revealed their sexual identity in some way. Avoidance may appear in other ways, such as avoiding other individuals who identify as LGBT so as not to be associated with them. Those who may have disclosed their GSM identity to others may avoid people from their past who are unaware of their GSM identity or those who may be
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particularly prejudicial. Particularly after a gender-affirmative transition, GM individuals may cease contact with people from their past (Katz-Wise & Budge, 2015; Money et al., 1975; Rood et al., 2017).

In summary, multiple behaviors are associated with concealment of gender and sexual identity. These include behavioral inhibition, counterfeiting, and avoidance. These behaviors appear to have psychological, physiological, and behavioral consequences. Concealing behaviors may enhance negative self-evaluations and augment social alienation, contributing to depression and anxiety (Brennan, 2019). Associations with negative health outcomes may also be attributable to intensive physical and physiological activation (Cole, Kemeny, Taylor, & Visscher, 1996; Pennebaker, 1985). As shown in experiments, participants have experienced response latency, decreased eye contact, as well as cardiovascular and respiratory changes while concealing (Pachankis, 2007; Pennebaker, 1985). Behaviorally, individuals engage in externalizing behaviors like substance use (Brennan et al., 2019), in fewer help-seeking behaviors (Quinn et al., 2014), and in unsafe sex practices (Frankis & Flowers, 2009; Frost et al., 2007). Behavioral concealment is a key aspect of the comprehensive process model and may play a key role in impacting daily functioning for those concealing.

Summary. In the preceding sections, concealment has been shown to be prevalent among GSM populations and to be commonly deployed over time. Given its prevalence, it has been named a key proximal stress process in the minority stress model, indicating that concealment may mediate the relationship between a GSM identity and a variety of significant negative health outcomes. This relationship exists despite the fact that concealment can mitigate the incidence of distal stressors like victimization. Thus, there must be aspects of the experience of concealment that continue to have deleterious impacts despite an absence of explicit prejudice events.

To better illuminate these aspects, the comprehensive process model of concealable stigma laid out a framework for components of concealment and how they may collectively and individually impact health. This model outlines how concealment implicates cognitive and affective processes and engages specific behaviors. Cognitive processes aim to maintain the secret through preoccupation and vigilance
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as well as to monitor whether others are perceiving the secret as credible or dubious. Concealment may be motivated by certain affective processes, such as shame; may require emotional suppression in order to maintain an undetectable exterior despite internal conflict and suffering; and may result in negative affect. Behaviors serve to lessen the likelihood of discovery through inhibition, counterfeiting, or avoidance. These three components also interdepend and impact one another. For instance, an individual may wear certain clothes or present in a certain way in order to avoid discovery of their identity (behavioral concealment), and this behavior is dependent on cognitive processes, such as strategizing and self-monitoring, as well as affective processes, such as negative affect or shame (Pachankis, 2007). Thus, concealment of gender and sexual identity is a complex and multidimensional proximal stress process. Furthermore, each of these components comprise psychological elements that are pathognomonic for numerous types of mental and physical morbidity. Exploring these aspects of concealment and their impacts serves to catalyze better measurement of the construct.

Measurement of Concealment

As discussed, concealment is a multidimensional construct comprising cognitive, affective, and behavioral aspects, yet existing measurement does not reflect this complex reality. For one thing, different measures have been used to assess each aspect individually, yet never collectively. For another, measures have used alternative and more limited conceptualizations of concealment, or they have assessed concealment as the inverse of disclosure rather than as a distinct and separate construct. The merits of these different measures are explored below.

The cognitive, affective, and behavioral aspects of concealment have been studied independently in both GSM and non-GSM populations, but never collectively. In GSM samples, studies have focused on one aspect of concealment, mainly concealment behaviors, without assessing for the concurrent cognitive and affective aspects of concealment. For instance, the Workplace Sexual Identity Management Measure, devised by Anderson and colleagues (2001), combines a measure of “covering” behaviors (e.g., avoid socializing with coworkers or associations with issues relevant to sexual orientation) as well as
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implicit (e.g., reference a partner without identifying the person as their partner) and explicit (e.g., disclose identity to coworkers) indicators of a sexual minority identity. Other measures survey concealment stress (Bruce et al., 2015), counterfeit and avoidance behaviors (Bachmann & Simon, 2014; Jackson & Mohr, 2016), identity management strategies (e.g., counterfeiting, acknowledging, advocating, and avoiding) (Button, 2004), visibility management (Lasser et al., 2010), concealment motivation (Mohr & Kendra, 2011), passing as one’s gender identity (Bockting et al., 2013; Testa et al., 2015), social constraints (Beals et al., 2009), and self-monitoring (Lennox & Wolfe, 1984). The wide range of approaches to concealment listed here demonstrate the wide range of conceptualizations of the construct, which were drawn from to develop the comprehensive process model of concealment (Pachankis, 2007). Each of these measures and approaches captures an important component of concealment, yet falls short of assessing the breadth of the construct.

Another common measure is the Self-Concealment Scale (SCS), which treats concealment as trait-like (Larson & Chastain, 1990). In this view, a tendency toward secrecy and non-disclosure of personal details motivates specific and patterned behaviors and emotion-regulation strategies, and these patterns will remain consistent over time, with only some variability due to situational influences (Larson et al., 2015). The model of self-concealment presupposes that some individuals may be dispositionally more or less concerned with social evaluation, theorizing that those with a tendency to conceal are characterized as being interpersonally sensitive and thus more concerned with the evaluation of others. This conceptualization is potentially inappropriate for assessing those with concealable stigmas, nor was it designed to do so. The SCS does not take into account the particular situational constraints that might motivate concealment of a gender or sexual identity apart from a general tendency or disposition to conceal. Furthermore, this measure does not specify particular concealment strategies or experiences of GSM individuals. Nevertheless, the SCS has been adapted for use with GSM samples, including a recent study measuring gender identity concealment in which the word “secret” was specified to be about gender (Rood et al., 2018).
A more heavily utilized measure of GSM concealment has been the Outness Inventory (OI) and other similar variants (Mohr & Fassinger, 2000). This measure assesses for how open an individual is about their sexual orientation to related others (e.g., parents, siblings, extended family, friends, strangers, etc.). Based on a review of the literature on concealment, 72 studies included the OI or some variant (Brennan, 2019). The OI treats concealment as the inverse of disclosure. The assumption is that if an individual is not “out” to someone, then they must be actively concealing. However, concealment is not simply the inverse of disclosure. An early conception of concealment noted that secret keeping is an active process to conceal information and not simply the lack of disclosure (Jourard, 1971). This has been demonstrated empirically as well, in that concealment and disclosure variables showed differential relationships with outcomes (Larson et al., 2015; Meidlinger & Hope, 2014). Treating concealment and disclosure like two sides of the same coin conflates both constructs and fails to capture the specific impacts of concealment behaviors and the cognitive and affective processes implicated therein (Jackson & Mohr, 2016). Use of the OI to infer about concealment is thus problematic. Furthermore, besides the Outness Inventory itself, there has been wide use of non-standardized variants of the measure (e.g., reducing the number of relationships queried), thus making comparisons and replications difficult (Meidlinger & Hope, 2014). The OI has been used with both gender and sexual minority samples (Brewster et al., 2012; Heck et al., 2013).

The Nebraska Outness Scale (NOS) attempts to rectify the empirical issues associated with conflation of concealment and disclosure of sexual orientation by providing both disclosure and concealment subscales (Meidlinger & Hope, 2014). The measure queries how aware individuals think others are of their sexual orientation (as opposed to how open they actually are about their sexual orientation) and how often these participants avoid topics that pertain to or indicate their sexual orientation, respectively. Both list a spectrum of possible close relationships (e.g., parents, siblings) who might be aware of their identity or with whom they might avoid disclosure. To a certain extent, this measure taps into both cognitive and behavioral processes. Predicting how aware others are of one’s
identity may align with vigilance or monitoring. Also, the prompt for the concealment subscale provides examples of avoidance behaviors related to concealment, such as avoiding discussing a significant other or changing mannerisms, presumably in order to appear “straight.” Yet, the measure does not ask about the frequency with which each of these specific behaviors occur. To my knowledge, this scale has not been adapted for use with GM individuals.

These approaches fall short of capturing the complex phenomenon that is concealment given its multidimensionality. As a result, concealment as a proximal minority stress process has gotten lost in the mix of the minority stress model, and its impact has gone underappreciated. Furthermore, except for sparse examples of adaptations to a GM sample, none of these scales were specifically designed to address the specific concealment experiences of GM individuals empirically despite its inclusion as a minority stress proximal stress for these populations, as well.

**Development of the Extent of Concealment measure.** The Extent of Concealment measure was designed to assess concealment of gender and sexual identity as a multidimensional construct including cognitive, affective, and behavioral aspects (Brennan, 2019). The aim was to create a measure that could assist in standardizing the construct and systematizing study (Pachankis, 2007). Whereas the comprehensive cognitive-affective-behavioral process model of concealable stigma attempted to create a theoretical framework to consolidate disparate literatures on concealment for a wide range of concealable stigmas, the Extent of Concealment measure specified this framework for GSM individuals.

The Extent of Concealment Scale consists of 64 items that cover each of the three components of concealment: 20 cognitive concealment items, 18 affective concealment items, and 26 behavioral concealment items (see Appendix A). These items were derived from 35 quantitative and qualitative studies and theoretical articles by the PI and a research assistant, and assessed for redundancy, clarity, and usefulness by a team of researchers with expertise in LGBT health as recommended for development of a valid instrument (Creswell & Plano Clark, 2017; Worthington & Whittaker, 2006). The methodology for item selection is provided in greater detail elsewhere (Brennan, 2019) and is visualized in Figure 4. For a
breakdown of items and the studies from which they were derived, please see Table 1. By using existing items, albeit adapted for a specific population in this case, the measure was grounded in theory and geared toward providing novel and holistic insight into the construct (Creswell & Plano Clark, 2017; Worthington & Whittaker, 2006). The research team classified the items as cognitive, affective, or behavioral, and provided alternative wording for items (e.g., to specify them for concealment of gender and/or sexual identity or to standardize tense and language, etc.).

**Figure 4.** Methodology for item selection for Extent of Concealment measure (Brennan, 2019).
Preliminary factor analyses. Brennan (2019) collected data for the Extent of Concealment measure from a sample of 640 GSM individuals. The measure was subjected to a principal component analysis (PCA) as a validation strategy for a three-component solution. Sufficient factorability, sampling adequacy, covariance, correlation, and communality were determined amongst the items; thus, assumptions for the PCA were met (Jolliffe, 2002). However, contrary to expectations, the PCA with an oblique rotation identified a one-component rather than the hypothesized three-component solution. This component had an eigenvalue of 34.82 which accounted for 33.88% of the covariance. A second PCA was run with a varimax rotation to account for possible inter-item correlations, yet this analysis also identified a one-component solution. It was theorized that the three components would correspond to the cognitive, affective, and behavioral subscales, yet the identified component did not correspond with any of these subscales in particular. For results of the principal component analysis, see Table 2.

Factor loadings may have been affected by patterns of missing data, which reduced inclusion in the analysis by almost 300 participants. This was attributable mainly to lower response rates for behavioral concealment items. The degree of covariance found among the items in the extent of concealment measure may be explained due to psychological overlap among the three components (i.e., the difficulty in distilling a purely affective versus cognitive experience). As in many psychological phenomena, concealment appears to have tightly integrated cognitive, affective, and behavioral aspects. Despite no current quantitative basis for the three components, the high endorsement of the items on the Extent of Concealment measure indicates that participants recognized and engaged in the cognitive, affective, and behavioral aspects of concealment described in the measure. The content validity of the measure appeared to be supported by convergent qualitative data collected in this study, which is described in the next section.

Mixed methods analysis. The original study that developed the Extent of Concealment measure was based on a fully-integrated convergent mixed methods framework (Brennan, 2019). Thus, qualitative data on concealment were also collected in parallel, analyzed separately, and compared with quantitative
findings to assess for convergence and divergence between the parallel methods (Creswell & Plano Clark, 2017). The structure of the original survey ensured that the qualitative questions were queried first so as to avoid any contamination of qualitative answers based on the items included in the Extent of Concealment measure.

The qualitative data were analyzed for 61 participants. These participants were sampled using stratified purposive sampling, which attempted to be representative of the wide array of identities in the total sample, and extreme-case sampling (Creswell & Plano Clark, 2017). Using a qualitative codebook comprised of rationally-derived codes and subcodes in addition to a code for emerging themes (see Appendix B), two coders coded an initial dataset and assessed for interrater reliability. After satisfying sufficient agreement between the two raters, the rest of the data were analyzed. The validity of the results were further established through exclusion of invalid cases (e.g., those who had not completed the survey or indicated random responding) as well as multiple triangulation procedures, including methods triangulation, triangulation of sources, and analysis of extreme-cases, as recommended to ensure the validity of the results (Creswell & Plano Clark, 2017).

The results of the qualitative analysis indicated convergence between the items of the Extent of Concealment measure and the experiences of concealment described by the participants across the cognitive, affective, and behavioral components of concealment. As theorized, participants described preoccupation with concealment, self-monitoring, vigilance, negative affect, negative self-perceptions, counterfeiting behaviors, behavioral inhibition, and avoidance. This convergence demonstrated some validity for the measure (Creswell & Plano Clark, 2017).

Divergent themes also emerged from the qualitative data. Among cognitive processes, emerging themes included identity ambivalence, anticipation of rejection and victimization, and concealment of an “authentic self.” Emotional suppression, hope for a future without concealment, the thrill associated with effective concealment, and somatization or physicalization of emotional stress emerged from the data as
well. Finally, behavioral themes that emerged included returning to “the closet” after being rejected for a participant’s identity, or concealing instinctively and without conscious awareness.

**Importance of the measure for the study of concealment.** The Extent of Concealment measure was the first of its kind to assess the cognitive, affective, and behavioral components of concealment of gender and sexual identity. Given patterns of endorsement of the items among participants in the preliminary sample, the measure captured myriad experiences these individuals had while concealing their identity. Furthermore, the items converged with the themes raised in the qualitative data.

An average Extent of Concealment score across all 64 items predicted current levels of depression, anxiety, stress, social anxiety, as well as alcohol and drug use based on hierarchical regression models controlling for age, ethnicity, and gender (Brennan, 2019). The results of these regression analyses underscore that assessing the multiple components of concealment has relevance to the mental health of GSM individuals, and that we may be able to gain a better picture of how concealment impacts health outcomes using this method. Furthermore, based on analyses of the relationship between each rationally-derived subscale and the outcomes, there appears to be a pattern in which cognitive, affective, and behavioral concealment each links to internalizing symptoms, like depression and anxiety, whereas behavioral concealment alone predicts externalizing symptoms, like substance use (Brennan et al., 2019). These initial findings are an exciting addition to the literature, and the Extent of Concealment measure may be useful for systematizing study of concealment of gender and sexual identity and further specifying its impacts on the well-being of GSM individuals.

**Concealment and the Inauthentic Self**

The exact mechanisms of how concealment confers risk for psychopathology and the other negative outcomes outlined above are still unclear. In the previous sections, concealment has been presented as a key point of concern for GSM populations. It has been situated as a key proximal stress process and further explicated as comprising cognitive, affective, and behavioral components. Each of these components apparently contribute to the conferment of risk for psychiatric and physical morbidity.
Refinement in the measurement of concealment of gender and sexual identity presents new opportunities for exploring these components and homing in on possible mechanisms through which this proximal stress process results in negative outcomes. Conceptualizing the construct of concealment as one that implicates cognitive, affective, and behavioral processes provides a roadmap for deeper exploration of potential psychological mechanisms through which stress “gets under the skin” (Hatzenbuehler, 2009). In this section, I propose a theory for how the cognitive, affective, and behavioral components of concealment impact GSM individuals intrapersonally, motivationally, and interpersonally, thus laying the theoretical foundation for the present study.

Concealment causes a person to be distracted from their present moment by preoccupation and vigilance, to feel false to themselves and with others, and to behave either contrary to how they might intrinsically or with the aim of appearing as someone other than they are. The state of concealing is not one of mindful presence, embodiment, and goal-directed action – all important for psychological well-being – and instead, is one of inauthenticity. Thus, authenticity – a sense of being one’s true self, living in alignment with that self across situations and environments and in intimate relationships – appears to be an important variable among populations with concealable stigmas (Rivera et al., 2019; Wood et al., 2008). Concealment has been shown to negatively correlate with authenticity, which, in turn, increases self-stigma (King, Mohr, Peddie, Jones, & Kendra, 2017; Larson et al., 2015). Ultimately, concealment behaviors and the cognitive and affective processes that support and drive them divide a person from important aspects of their identity and contribute to feelings of inauthenticity. Conversely, GSM individuals who are more “out” about their identities appear to experience a greater sense of authenticity as well (Riggle, Rostosky, et al., 2017). This sense of authenticity, in turn, increases well-being, reduces depressive symptoms, and decreases perceived stress (Riggle et al., 2017).

In a mixed methods study on the cognitive, affective, and behavioral processes involved in concealment of gender and sexual identity, Brennan (2019) found that authenticity was an emerging theme among the qualitative sample. Several participants lamented that they were not true to themselves
while concealing their identity, or that they lied and presented false selves to others: a non-binary pansexual individual was unable “to be who I am at all times,” a queer genderqueer person said they felt like they were “lying to everyone I was close to,” a pansexual cisgender man described concealment “Like I'm denying a piece of myself,” and a bisexual cisgender man said his “entire life is built on a house of lies.” Inauthenticity also extended to themselves as one lesbian transwoman wrote, “I’m just faking it, lying to myself.”

As demonstrated in these descriptions, concealment of gender and sexual identity causes distress as it compromises individuals’ sense of their own authenticity. By its very nature, concealment creates dissonance as individuals become aware of internal signals (i.e., physiological responses, thoughts, emotions, and conceptions of their own identity), yet keep that internal reality to themselves. Externally, they show a quite different picture to the rest of the world. Numerous theoretical approaches have conceptualized psychopathology as resulting from alienation from a real self, difficulty differentiating between socially implanted and intrinsic conceptions of the self, or the inability to be oneself with others, all of which overlap with the understanding of concealment of gender and sexual identity presented herein (Horney, 1950, Harter, 2002, Sedikides et al., 2019). Impression management and counterfeit behaviors are disruptive intrapersonally, blocking identity exploration, self-acceptance, or self-motivation in pursuit of personal goals. Interpersonally, behavioral inhibition, avoidance, or emotional suppression compromise existing relationships and prevent the establishment of potential social support (e.g., other GSM individuals) (Pachankis, 2007). In their research on authenticity among GSM individuals, Riggle and colleagues (2012; 2015) have found that respondents wish to understand and benefit from their self-identification as a gender or sexual minority. A positive relationship with oneself also enables genuineness with others (Riggle & Rostosky, 2011). Concealment deprives them of these two personal and interpersonal goals. In this context, GSM individuals may long for an authenticity rooted in openness about who they are. Yet, they may feel inhibited in doing so, weighing the costs and benefits of living
openly as themselves given their stigmatized identity in an environment rife with the potential for recrimination and rejection (Meyer, 2003).

Likewise, as shown by the qualitative responses above, concealment behaviors themselves can be stigmatized; thus, concealment itself feels shameful, calling into question whether an individual is an authentic person, a goal for which many strive (Larson & Chastain, 1990). An important aspect of this discussion has been to show the adaptiveness of concealment for GSM individuals in response to an inhospitable social environment. Therefore, this is not a claim that GSM individuals are inauthentic; rather, concealment may cause GSM individuals to feel inauthentic, or, at least, to limit their involvement in a process of building authenticity as they develop and establish their identities intrapersonally and socially.

The following section will cover different theoretical understandings of authenticity. A key part of this review is an exploration of the self-concept and how an individual may feel authentic or not, particularly in regard to their gender or sexuality. Additionally, authenticity and concealment may go hand-in-hand as cognitive, affective, and behavioral concealment compromise one’s sense of their own authenticity. The section will also explore how a sense of authenticity is impacted by social-environmental conditions, especially for those who are stigmatized. In inhospitable environments, stigmatized individuals experience impacts to their self-concept as they are thwarted in their self-expression and freedom to explore their identities. Likewise, goal-directed behavior may be stymied. Socially, individuals may lack a sense of belongingness due to their difference from the majoritarian community, or not receive important positive social feedback. Concealment further intensifies the lack of fit stigmatized individuals experience in general, and thus together may contribute to lower psychological well-being and the internalization of stigma.

**Authenticity.** Authenticity has been a topic of consideration in philosophy as far back as Aristotle, and became an important variable in positive psychology in the 20th century (Kernis & Goldman, 2006). In contemporary psychology, it has been defined in myriad ways. Authenticity has
been understood to stem from a determined “self,” meaning a sense of “who we really are” (Costas & Fleming, 2009, p. 356), “the unobstructed operation of one’s true, or core, self” (Kernis & Goldman, 2006, p. 293), an “inherent quality of some object, person or process” that “cannot be stripped away, nor can it be appropriated” (Vannini & Williams, 2009, p. 2), or “the real me inside,” according to adolescents in one study (Harter, Marold, Whitesell, & Cobbs, 1996, p. 360). The phenomenological theory of psychology, first articulated by Carl Rogers (1951), establishes that individual growth and change are inextricably linked to an individual’s experience of who they are. Thus, authenticity is indivisible from an individual’s sense of their core.

**Self-Concept.** As these definitions reveal, the construct of authenticity obviously assumes the existence of a self, an elusive psychological construct often measured vis-à-vis an individual’s self-concept, that is, their subjective *sense* of self (Mischel & Shoda, 1998; Showers et al., 2004). Self-concept has been differentiated from the concept of the self because self-concept requires a level of perception and conscious processing, whereas contemporary psychology assumes that the self goes beyond conscious perception to implicate predominantly unconscious processes (Jongman-Sereno & Leary, 2018). Although largely conceptualized as a cognitive structure, the self-concept is a cognitive-affective-behavioral system of bidirectional relationships. Cognitively, the self-concept processes self-related information (e.g., personal characteristics), organizes representations of the self, and renders a sense of self-coherency (Tyler, Kramer, & John, 2014). It comprises episodic and semantic memories, cognitive appraisal, identification and generalization of attitudes, concepts, schemata, beliefs, and judgments about the self (Campbell et al., 1996; Tyler, Kramer, & John, 2014). As outlined by the model of “working self-concept,” cognitive information about the self (i.e., self-schemata) becomes salient situationally based on internal and external cues (Chen, 2019; Showers et al., 2004).

Affectively, the self-concept may elicit emotional responses to self-relevant stimuli, or unexpected emotional responses may serve as an alert for potential self-relevancy. Behaviorally, an individual’s unique motivations and goals may be framed by their self-concept, thus prompting specific
behaviors in line with those goals. Given the model is of a “working self-concept,” life experiences and environmental inputs can influence the self-concept. As certain cognitive, affective, and behavioral patterns may result from a self-concept, our cognitions, emotional responses, and behaviors can conversely stimulate self-reflection. This self-reflection can reveal potential action tendencies or behavioral patterns, thus modifying the self-concept accordingly. This cognitive-affective-behavioral system is important for human life as it provides individuals with an enduring, yet flexible, sense of self in an ever-changing world.

An authentic self-concept is proposed to demonstrate alignment between these internal (i.e., cognitive and affective) and external states (i.e., behavioral) (Cable, Gino, & Staats, 2013; Gino, Kouchaki, & Galinsky, 2015; Harter, 2002; Lehman, O’Connor, Kovács, & Newman, 2018). That alignment can be generated prospectively or retrospectively, that is, the self-concept may be helpful in identifying one’s values for prospective action or one’s actions retrospectively illuminate what a person’s values may be, especially given propensity towards certain patterns of behavior. An overall sense of consistency across the cognitive-affective-behavioral system engenders a sense of self-concept authenticity, even if this simply requires rationalizing aberrant or unconscious behaviors to conform with a consistent sense of self.

Additionally, the working self-concept is conceptualized to be multifaceted, particularly given the variety of social roles individuals play. Most people understand themselves to have multiple identities based on the different social identities with which they identify and the multiple roles they may play in their lives (Harner, Bresnick, Bouchey, & Whitesell, 1997). Firstly, self-concept includes and is influenced by group identification and membership (Tyler et al., 2014). Based on identity markers, individuals can self-categorize (e.g., as an American, a Muslim, etc.), and each of these identity markers are then evaluated based on social norms (Riggle et al., 2014). An individual may find self-concept authenticity related to a social identity by conforming their behavior to norms and expectations,
participating in cultural rituals, and reflecting on the importance of these social identities for the individual’s sense of self.

Secondly, human beings are able to adapt behavior to different social contexts based on their social role (e.g., domestically, professionally, romantically). Each of these roles contribute to a person’s understanding of themselves in an emergent way. Social situations, such as in a professional setting, also often require particular behaviors that facilitate social cohesion and lubrication and discourage behaviors that might cause social disruption (Chen, 2019). Although conformity is implied here, which may be at odds with how we define “authentic” behavior below, belongingness also enhances people’s sense of authenticity as important social identities are validated by others, or, in intimate social exchanges, personal aspects of the self can also be verified (Lehman et al., 2018; Schmader & Sedikides, 2018). Evidence suggests that people can make adjustments to their behavioral presentation based on the situation without compromising their sense of integrity (Koydemir et al., 2018). Rather than interpreting this as inconsistent and therefore inauthentic behavior, an individual may understand this as a reasonable expectation of the social situation and simply representative of one of the many different aspects of their self-concept (e.g., my work-self versus my home-self). It is considered a critical developmental task among adolescents to balance intrinsic and extrinsic motivations as they clarify who they are with who they are expected to be (Peets & Hodges, 2018).

**Gender and sexual self-concept.** Gender and sexual identity can be important components of an individual’s self-concept and thus have pertinence to our discussion of authenticity. Both gender and sexual identity constitute core aspects of the self. Gender and psychosexual developmental processes are both prominent in the lifespan, defined by the interplay of several core processes related to gender and sexuality, such as identity exploration and socialization (Hines et al., 2004; Pulice-Farrow et al., 2017). Exploration of the gender and sexual self-concept includes basic questions of “who am I?” as well as “where and with whom do I belong?” (Riggle et al., 2014). There may be no group differences between cisgender and gender minority individuals or heterosexual and sexual minority individuals in terms of the
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timing, sequence, significance, and intensity of self-concept processes. Yet, what is important for this discussion is that GSM individuals may undergo these processes while concealing. Thus, as explored in more depth below, non-GSM individuals may feel more authentic while engaging these processes. Since their gender and sexual identities are socially-sanctioned and normed, they may experience greater fluency given the fit between their self-concept and societal inputs and expectations (Schmader & Sedikides, 2018). They can potentially explore “out in the open” without disruptive social opprobrium. This may not be the case for GSM individuals, who may experience less fluency, as they are more constrained in their ability to engage these processes openly, have fewer role models to emulate, and risk potential harm or social rejection.

Trait and State Models of Authenticity. As noted, the self-concept is a cognitive-affective-behavioral system, thus the notion of an authentic self-concept encompasses a wide variety of human variables. Both trait and state models of authenticity have attempted to account for some of these variables, as explored below.

Trait Models of Authenticity. Wood and colleagues (2008) developed a trait-based, person-centered conception of authenticity based on a tripartite construct theorized by Barrett-Lennard (1998). The fundamental level comprises “actual experience” defined by individuals’ actual physiological states, their emotions, and core cognitions and beliefs. The second exists at the conscious level of awareness of those internal states (similar to the self-concept), and the third pertains to externalization through behavior and emotional expression. The interactions between each level are directly impacted by inputs from the social-environment.

Consistency or inconsistency between level one and two influences levels of self-alienation; that is, the more consistent one’s conscious awareness is with their actual internal states, the lower the sense of self-alienation and vice versa. Social influences may bring into conscious awareness intrapersonal concerns or judgments about certain internal states. As level one and two relate to level of self-alienation in Wood and colleagues’ model, level two and three relate to level of authentic living. The ability to
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conform behavior and emotional expression (level 3) to conscious awareness of internal states (level 2), ostensibly resulting in being true to oneself, leads to a greater sense of authentic living, and vice versa. Again, we see relevance for concealment as concealment behaviors often contradict a GSM individual’s conscious awareness of their gender and/or sexual identity. Enacting concealment behaviors prevents individuals from living in accordance with key aspects of their self-concept. Based on this model, the acceptance of external influence from the social-environment causes an individual to act out of accordance with their internal states or sense of self, thus increasing self-alienation and inauthentic living. However, in Wood and colleagues’ conception, the ideal is for the authentic individual, like Maslow’s self-actualized person (Maslow, 1971), to be “impervious to external or social influence” (Sedikides, Lenton, Slabu, & Thomaes, 2019, p. 74). Yet, concealment is a social phenomenon and is therefore directly impacted by external or social influence in the form of stigma and discrimination. Therefore, concealment is not understood to be a personal failing as much as an adaptive response to a threatening environment.

A second individual-difference model of authenticity was developed by Kernis (2003). In this theory, authenticity comprises four distinct elements: awareness, unbiased processing, action authenticity, and relational authenticity. The first two elements represent the “internal states” or cognitive aspects of authenticity, which depend on cognizance of a “self” and a level of honesty about self-related cognitions. This could pertain to GSM individuals' recognition and acceptance of their gender and/or sexual identity. Action authenticity refers to enacting behaviors that are aligned with this internal self and motivated towards the individual’s goals or values. Authentic behavior is defined by actions that are “phenomenally experienced as being authored by the self or internally caused” (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997, p. 1381), or that are intrinsically motivated (Schmader & Sedikides, 2018). Based on a recognition of a GSM identity, action authenticity could entail living consonantly with one’s gender identity through gender expression, or engaging in romantic or sexual behaviors in line with a sexual identity. The fourth and final element is relational authenticity, which extends a sense of one’s authenticity to relationships, so
that the individual continues to interact in ways consistent with the self, even in the face of social pressures (Kernis & Goldman, 2006). GSM individuals could engage in relational authenticity by proclaiming their identities to their families and friends as well as sharing details of their lived experience. As is evident, concealment negatively impacts all four elements of authenticity in this model.

State Authenticity. Rather than understanding authenticity as an enduring trait, the state model of authenticity conceptualizes authenticity as being dependent on one’s sense that they are currently aligned with their true self in a specific context (Lenton et al., 2013; Sedikides et al., 2017). Conversely, state inauthenticity is the sense that one is not being true to oneself in the given context. Schmader and Sedikides (2018) describe state authenticity as “you know it when you feel it,” a definition which is both intuitive and completely opaque at the same time. According to the model of State Authenticity as Fit to the Environment (SAFE), contexts can evoke varying degrees of authenticity based on their level of self-concept fit, goal fit, and social fit, that is, how well the environmental circumstances align with an individual’s sense of their core characteristics (as shown in Figure 5). Greater fit across each of these domains enhances cognitive, motivational, and interpersonal fluency (Schmader & Sedikides, 2017).
Schmader and Sedikides (2017) describe self-concept fit as the level to which situational cues make the self-concept accessible and salient. In situations that are evocative of state authenticity, cognitive processing becomes more fluent as in a “flow state,” which lacks disruptive and self-alienating meta-cognitions like self-consciousness (Lenton et al., 2013, 2016; Sheldon & Elliot, 1998). Emotions may also tend to be positively valenced. Goal fit refers to the extent that a person’s environment permits the pursuit of an individual’s goals, thus evoking a sense of self-determination and autonomy. Finally, social fit is the level to which other people in the social environment recognize, accept, and embrace an individual’s sense of themselves. Social fit encourages more true expression of one’s social identities. For instance, a child who prefers doing art to playing sports, and has parents that support this pursuit, would have higher goal and social fit than a child who is forced by their parents to abandon art in favor of playing sports.
A sense of state authenticity emerges in situations that are evocative of a default sense of self, that coincide with societal norms, and that elicit validating responses from others. In such a situation, individuals feel truer to themselves and operate with greater behavioral fluency. They may be motivated to pursue their goals based on an increased sense of autonomy as well as an understanding of the intrinsic value of their self-motivated pursuits (Hodgins & Knee, 2002). Finally, they may experience fewer social constraints to embodying their identities. As a result, individuals tend to engage in approach behaviors, such as greater participation and self-expression (Schmader & Sedikides, 2018). The model of state authenticity recognizes that the level of authenticity is contingent upon individuals’ social position. Those with a majoritarian identity, who have more social power, are more likely to experience state authenticity as social environments promote better self-concept, goal, and social fit by reflecting societal power dynamics. On the other hand, those without a majoritarian identity, and thus those with less power, may find it more difficult to achieve a sense of state authenticity. This imbalance is further exacerbated by concealment, eliciting self-concept incongruence, stymying goal-directed behavior, and depriving individuals of social support. Being in this state may reveal how concealment may be so psychologically taxing and damaging.

**Authenticity and concealment.** Reviewing the models outlined above, some key themes emerge with pertinence to concealment of gender and sexual identity. These models highlight the important relationship amongst internal states, conscious awareness, and behavioral and emotional expression. These relationships impact the formulation and expression of the self-concept, and influence whether an individual considers themselves to be authentic or not. These models also describe the interplay with situational and social variables. The SAFE model provides a useful framework for understanding intrapersonal and situational variables that contribute to decreased state authenticity and subsequent concealment behaviors (Schmader & Sedikides, 2018). Being a member of a stigmatized group, in general, can limit opportunities for state authenticity and increase the likelihood of inauthenticity (Schmader & Sedikides, 2018). Using the framework of state authenticity, we can illuminate the
relationship between authenticity and concealment and imagine how these variables interact to impact health outcomes for GSM individuals. Concealment disrupts self-concept fit, goal fit, and social fit in cognitive, affective, and behavioral ways, all of which may contribute to negative health effects. The following sections review the ways that state authenticity and concealment relate to each other overall. In addition, the three ways that state authenticity fits intrapersonally (i.e., self-concept fit), motivationally (i.e., goal fit), and socially (i.e., social fit) are related to the cognitive, affective, and behavioral components of concealment. This demonstrates that concealment may interrupt a sense of authenticity at multiple levels, thus creating vulnerabilities for impacts on well-being, the internalization of stigma, and the development of psychopathology.

*Self-concept fit and concealment.* At the most basic level, concealment requires a sense of self and enough of an awareness of that self, and its related stigma, to motivate concealing behaviors. Therefore, concealment is intricately tied into self-concept for GSM individuals. Concealment disrupts self-concept fit in multiple ways. It impacts the development of a self-concept as well as the integration of one’s identity vis-à-vis the incongruence between internal states and external behaviors. At the same time, concealment results from an awareness of stigma and threat, which further compromises self-concept fit. Throughout this process, concealment interrupts social affiliation and identification, another key aspect of a self-concept. While concealing, the cognitive, affective, and behavioral factors that are engaged, like preoccupation, shame, or inhibition, further reduce a sense of self-concept fit concurrently.

First of all, the reality of having a concealable stigma compromises the development of an authentic self-concept. Given stigma against their identities, there may be greater difficulty in determining a self-concept as it pertains to gender or sexuality for GSM individuals. In the first stages of gender and sexual identity development, individuals may experience *identity awareness* (Lev, 2004) or *identity confusion* (Cass, 1984). During these stages, an individual may realize that their internal sense of their gender does not match their assigned-sex-at-birth, that they may not be heterosexual, or that they are somehow “different” from their peers. This sense of difference may be ambiguous or obscure, and hard
to identify specifically. Among GM individuals, the experience of feeling “different” internally has been conceptualized in numerous ways: as mind-body dissonance, a failure of the body to reflect the self, or gender as a personal aspiration (Atnas et al., 2015). Viewing the world around them, a GSM individual might wonder about their difference from others (e.g., why am I this way?) and whether they could be otherwise (i.e., cisgender or straight).

Many GSM individuals conceal during late childhood and throughout adolescence. Their concealment conflicts with other developmental impulses, such as the desire among many adolescents to differentiate between authentic and inauthentic behavior based on conceptions of their “true” self (Erikson et al., 1959; Grace & Wells, 2015; Harter, 2002; Peets & Hodges, 2018). A sense of inauthenticity might be particularly distressing given that being true to oneself also becomes a valued goal in this developmental period. Like their non-GSM peers, GSM adolescents may also wish to be authentic to their identities. GM individuals may want to feel congruence between their gender identity and physical embodiment, or express their gender in accordance with their subjective conceptualization (Riggle et al., 2011). SM individuals may desire to date and socialize with the people to whom they are attracted. Instead, both groups may conceal to avoid the impacts of stigma, thus preventing such authentic exploration and expressions of identity. Based on responses from a sample of GM individuals, this period was described as “pretending to be someone you’re not” (Atnas et al., 2015, p. 9). In this reality, GSM individuals forge an identity in intense uncertainty, with a looming threat of discovery and opprobrium, and with few supportive external inputs. Without alignment and coherency amongst their self-concept as it relates to internal states, behaviors, and social roles (Cass, 1984; Coleman, 1982; Lev, 2004; Levitt & Ippolito, 2014; Rood et al., 2017; Troiden, 1988), GSM individuals may struggle to gain a sense of “ownership of identity” (Weinstein et al., 2017, p. 585).

Second of all, a concealment response is predicated not just on the awareness of the difference, but by the awareness of the stigmatized aspects of that difference, or as Lev (2004) frames it, the “socially despised aspects of self” (p. 232). The dawning sense of their difference gains significance as a result of
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identity comparison with the majoritarian population, as GSM individuals compare their felt identity differences to the hegemonic standards of social norms of gender (i.e., being cisgender) and sexuality (i.e., being heterosexual) (Cass, 1984; Coleman, 1982; Troiden, 1988). Although identity confusion might be a normal part of an exploratory developmental process, for GSM individuals, it is complicated by the dearth of positive social inputs, such as role models (Pulice-Farrow et al., 2017; Rosario et al., 2006). In place of these inputs are a plethora of inputs that are negatively valenced and stigmatizing. In place of positive role models and messages of acceptance, GSM individuals receive societal messages that there is something potentially pathological or morally corrupt about their identities, exposed to a society where being cisgender and heterosexual is the predominant norm.

As concealment may prevent an authentic self-concept, which is assumed to be positively valenced, it may lead to a negative self-concept or identity ambivalence (Pachankis, 2009; Schmid, 2005). Stigma can bias individuals against core aspects of themselves. Negative social inputs about identity can pose a threat to the coherence of a self-concept, according to the theory of coherence threat (Bosson et al., 2012). The recognition of same-sex attraction, for instance, is a process that often occurs in isolation, and ambiguous self-information during this period of isolation can impact a sense of self-worth (Pachankis & Hatzenbuehler, 2013). Similar impacts have been noted during the process of gender identity development among GM individuals (Katz-Wise & Budge, 2015). Individuals who conceal may tend to attribute greater weight to interpersonal feedback. Since they may lack positive self-regard due to a sense of inauthenticity, individuals with concealable identities may rely on feedback from others to provide them with a sense of self-worth (Pachankis, 2007). In one study, the longer gay men concealed, the more prone they were to seek external validation through achievement (at school, in their professional life, and in their appearance) than values-based contingencies of self-worth (Pachankis & Hatzenbuehler, 2013). The results demonstrated difficulty finding self-worth, which was accompanied by emotional distress and a combination of other behavioral outcomes, like cheating, dishonesty, and social isolation (Pachankis & Hatzenbuehler, 2013).
Stigma raises the prominence and valence of certain identities, thus decreasing self-concept fit (Schmader & Sedikides, 2018). For a GSM person, a gender and sexual identity may vary in prominence (how salient the identity is to the individual), valence (how positively or negatively the individual views their own identity), and integration (of gender or sexual identity with other aspects of the individual’s identity) based on social evaluation (Meyer, 2003). Regardless of how the individual feels or thinks about their gender identity or sexuality, and whether they prioritize it or not as a key aspect of their self-concept, salience may be imposed upon them by others. This occurs by virtue of their social position (i.e., as a GSM individual), and the meaning given it by society, which is underscored by stigmatization and marginalization. Therefore, social situations force consideration of identity, which, in turn, naturally increases salience. Social identity threat refers to the social devaluation that occurs based on an individual’s group membership (Steele et al., 2002). The identity threatens to be socially compromising and thus dangerous to the individual’s well-being. From there, this reality dynamically influences prominence, valence, and integration of an identity (Meyer, 2003; Reynolds et al., 2010). What might have begun as simply another characteristic part of one’s self-concept becomes a serious concern. Thus, living with a concealable stigma leads to preoccupation, vigilance, and self-monitoring, which reduce the level of self-concept fit. Knowledge of stigma makes a lack of fit more probable among individuals with stigmatized identities (Schmader & Sedikides, 2018).

Attention to social identity threat leads to cognitive, affective, and behavioral responses focused on that identity, thus detracting from the possibility for more fluent expressions of the self. The flow state associated with state authenticity is interrupted by the physiological arousal of a threatening or unwelcoming environment. Instead of the flow state, hyperawareness of the difference takes the forefront, leading to heightened self-monitoring of potentially revealing behaviors. Outside of the flow state, greater cognitive monitoring is required, which can impact cognitive and social performance, as demonstrated in studies about stereotype threat (Schmader & Sedikides, 2018). The cognitive-affective-behavioral process model of concealable stigma captures the ways that concealing an identity leads to
greater self-consciousness, negative affect, and contrived behaviors, all of which induce stress, discomfort, and distress. Having a stigmatized identity illuminates the risks, dangers, and prejudices associated with that identity. This illumination throws into relief how few environments may be accepting, or even accommodating, of different identities, thus reducing a sense of self-concept fit and intrapersonal fluency.

Self-awareness is critical to a sense of authenticity, as is introspective reflection on the multiple facets of the self-concept. In the case of GSM individuals, awareness and reflection on their identities may also illumine the level of stigma in their communities as well as increase comprehension of the potential negative realities of living with their gender and/or sexual identity (Riggle et al., 2014). Conversely, witnessing stigma may raise awareness or inspire reflection. This can be a double-edged sword as greater self-concept clarity of a GSM identity (i.e., the extent to which an individual is aware of their self-concept) may heighten state inauthenticity as the individual realizes the extent of social identity threat (Feinstein et al., 2012; Schmader & Sedikides, 2018).

Self-concept fit and cognitive concealment. Self-concept fit may also be disrupted by the cognitive processes required to conceal. Preoccupation, vigilance, and suspiciousness have all been shown to have stress effects. Preoccupation disrupts self-concept fit through cognitive overload, physiological arousal, increased thought intrusions, attempts at thought suppression, hyperaccessibility of the secret, rumination, psychological distress as well as depression and anxiety. This has been shown through experimental studies, and with women who either concealed a past abortion or an eating disorder as well as individuals keeping secrets in romantic relationships (Lane & Wegner, 1995; Major & Gramzow, 1999; Pachankis, 2007; Pennebaker et al., 1987; Smart & Wegner, 1999; Wegner & Lane, 1995). Attempts to engage in thought suppression about a stigma subsequently resulted in increased rumination (Hatzenbuehler, 2009; King, Emmons, & Woodley, 1992; Smart & Wegner, 1999). Vigilance and self-regulation can lead to cognitive depletions as well. In one experimental study, undergraduate participants, all of whom identified as heterosexual, were asked to conceal their sexual orientation and/or
alter their speech to conceal the gender of their partner while being asked questions aimed at eliciting information about these topics (Critcher & Ferguson, 2014). Those in the experimental condition performed worse on a block-counting task and a Stroop interference measure. In addition to short-term cognitive depletion, the self-regulatory cognitive processes implicated in maintaining concealment may in turn inhibit future self-regulation and thus have longer-term consequences (Cortopassi, Starks, Parsons, & Wells, 2017; Critcher & Ferguson, 2014). Basing his prediction on cognitive theories, Hatzenbuehler (2009) theorizes that stigma-related stressors can influence cognitive changes which in turn facilitate internalization like hopelessness and pessimism and confer risk for depression. Cognitive overload is the opposite of cognitive fluency, and thus serves as a marker of lack of self-concept fit and key obstacle to a sense of state authenticity (Schmader & Sedikides, 2018).

*Self-concept fit and affective concealment.* Self-concept fit may be further compromised by the affective processes involved in concealment. Again, the flow state conceived to be part of self-concept fit and a component of having a sense of authenticity may not be achievable in the context of negative emotionality (Schmader & Sedikides, 2018). It is no surprise then that those who conceal experience greater negative affect, like repressed anger, which may point to the frustration associated with concealment (Hatzenbuehler, 2009; Hendy et al., 2016). Among a sample of GSM individuals, affective concealment - operationalized as negative affect and negative self-perceptions - predicted more depression, anxiety, and stress after controlling for age, ethnicity, and gender (Brennan, 2019).

Immediately after an event in which a lesbian, gay, or bisexual participant concealed their sexual identity, they reported increases in anxiety, anger, and fatigue as well as a decrease in vigor and self-assurance (Mohr et al., 2019). Lower vigor and self-assurance as well as increased fatigue lingered until the next day. When individuals lack authenticity, they may feel that their actions are incongruent with their feelings and may feel unnatural, thus resulting in distress or fatigue (Koydemir et al., 2018). Negative affect increases for those with a generalized tendency to suppress emotional expression, a key component of identity concealment (Cole, 2006).
Emotional suppression or inhibition may be a go-to emotion regulation strategy for those who are concealing as effective concealment requires emotional self-control. The discrepancy between internal emotional states and external expression breeds a sense of inauthenticity. Kennedy-Moore and Watson (2001) propose that concealment creates a conflict between a desire to express intimate information and the compulsion to suppress. As part of a mixed methods analysis of affective concealment, GSM respondents articulated this conflict in several ways, describing their perceived cowardice in concealing, regret for “letting down my queer family” by not being open or defending against LGBTQ slurs, or shame for “keeping a secret that big from people you love” (Brennan, 2019, p. 76). Generally, inhibited or suppressed emotion regulation has been associated with increased physiological responses such as sympathetic activation of the cardiovascular system (Gross & Levenson, 1993) and inflammation (Appleton et al., 2013) as well as rumination, reduced positivity, and depression symptomatology (Gross & John, 2003; John & Gross, 2004). Over a two-week period, a sample of gay men and lesbian women reported greater emotional suppression on days they concealed their sexual orientation, which was then associated with lower life satisfaction and higher depression (Beals et al., 2009). Hatzenbuehler (2009) proposes that the emotional self-control required among GSM individuals to manage stigma (either through concealing or otherwise) may impair later attempts to regulate emotions. As explored below, emotional suppression also has a relational cost as well.

The conflict rendered from a lack of self-concept fit may result in physical discomfort and somatization. As mentioned, GSM individuals described experiencing heaviness, suffocation sensations, chronic tension, claustrophobia, and fatigue while concealing (Brennan, 2019). Concealment of sexual identity was related to other health concerns, such as chest pains, breathlessness, headaches, and ulcers (Hendy et al., 2016).

Goal fit and behavioral concealment. Goal fit results from a sense of support from the environment for pursuance of one’s goals as well as the sense that those goals were self-generated (Schmader & Sedikides, 2018). Stigma, however, can affect goal fit. Furthermore, if concealment of
gender and/or sexual identity becomes an individual’s goal, then that qualifies as a socially-implanted goal (e.g., to be “normal”) rather than one intrinsic to the person.

Stigmatized individuals may feel less in control of their behavior, thus diminishing state authenticity and individuals’ sense of self-efficacy (Hatzenbuehler, 2009). A representative sample of SM minority men in the Netherlands have reported lower self-mastery, believing themselves to be less in control over the situations and events in their lives (Sandfort et al., 2001). The sense that an individual even has the capacity and agency to pursue intrinsically motivated behavior may be compromised given a stigmatizing environment (Schmader & Sedikides, 2017). As a result, GSM individuals may ignore personal goals like self-expression or romance while concealing so as to avoid prejudice. Furthermore, the fear of victimization or shame about their identity prompt behaviors that are out of alignment with the internal self and may feel “unnatural” (Koydemir et al., 2018). Those who are concealing are enacting behaviors that are dissonant from an internal self-concept (Martinez et al., 2017). Researchers have dichotomized this construct into true-self or self-behavior and false-self behavior (Harter, 2002; Peets & Hodges, 2018). False-self behaviors are associated with secrecy and self-monitoring, much like in concealment (Harter, 2002). Furthermore, these behaviors are extrinsically motivated by fear, which likewise alienates a person from their own actions (Schmader & Sedikides, 2018).

What motivates behavior is also important to a sense of authenticity, according to cognitive evaluation theory (Sedikides et al., 2019). Goal fit implies intrinsic motivation and a sense of one’s autonomy and competence. A lack of goal fit is accentuated when socially-implanted goals and values are pursued as opposed to ones consistent with and supportive of the GSM person’s goals and values. According to self-concordance theory, the most important goals are those that have unique personal relevance to individuals, and goal-directed behavior is considered to be most authentic when it is in pursuit of these most important goals (Rivera et al., 2019; Sedikides et al., 2019). Therefore, socially-implanted goals, such as the goal to appear cisgender or straight, is far less likely to be authentic to the GSM person, and is discordant with a sense of their true self (Petrocchi et al., 2019). As the SAFE model
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theorizes, lack of goal fit will lead to avoidance, decreased participation, and disengagement behaviors among concealing GSM individuals. This is paralleled among SM adults, for whom concealment is related to engagement in avoidance goals (Jackson & Mohr, 2016).

Social fit and concealment. Social fit refers to how well an environment accommodates and accepts a given identity. For those who are concealing, the presumption is that there is little to no social fit in most social contexts. Thus, concealment behaviors like counterfeiting and inhibition, or avoiding social situations outright, become pervasive. Cognitively, GSM individuals may be attuned to the threat of discovery and monitoring their own concealment behaviors (Timmins et al., 2019).

For GSM individuals, social fit is compromised by a reduced sense of belonging in most social environments, since these environments tend not to be inclusive or representative of their identities (Schmader & Sedikides, 2018; Walton & Cohen, 2007). In these environments, stigmatized individuals are often aware of their reduced power (Schmader & Sedikides, 2018). Concealment implies an inability to negotiate or demand space for one’s identity, which is not the case for non-stigmatized identities that can assume their dominance and enact them un-self-consciously. The threat of stigmatization makes the place of stigmatized individuals more precarious, thus increasing the level of threat and the need to ascertain whether or not their identities can be accommodated across different environments (Schmader & Sedikides, 2017). There is evidence to suggest that having a disadvantaged social position increases sensitivity to threats in the environment, the likelihood of behaviors geared toward reducing negative biases (like concealment), and emotional suppression (Schmader & Sedikides, 2018).

Social fit may also be compromised in more intimate social environments, such as in families. In general, people tend to be more authentic, or feel more authentic, in close relationships (Peets & Hodges, 2018). For many GSM individuals, their closest relationships (e.g., parents, siblings, or straight friends) may elicit the least authentic behaviors during concealment. Not only may they be circumspect about information relating to their identity but also about more general thoughts and feelings (Peets & Hodges, 2018). Furthermore, concealment results in increased response latency or decreased eye contact in such a
way that the individual appears disengaged or uninterested, which naturally impairs social interchange (Smart & Wegner, 1999; Frable et al., 1990; Pachankis, 2007).

Thus, close interpersonal relationships may be impaired because of concealment given that the concealing individual is hiding core aspects of their identity and experience from others (Critcher & Ferguson, 2014). They may also be concerned that disclosing a GSM identity might be an implicit rejection of the norms of their community as they pertain to gender roles, gender scripts, and emotional expression, as well as sexual and romantic behavior (Riggle et al., 2008). GM participants claimed to conceal for the purposes of maintaining family cohesion, even if they sought out authenticity elsewhere, such as in online communities (Catalpa & McGuire, 2018). Concealment may be partially motivated by a desire to belong to the hegemonic culture, as belonging is a fundamental motive (Baumeister & Leary, 1995). Individuals may be more likely to engage in “false-self” behaviors in an attempt to garner approval from others, or at least to avoid rejection or judgment (Dyar & Davila, 2019; Peets & Hodges, 2018).

Likewise, a GSM individual may not seek out social interactions that support authentic expression, prevent positive group-based associations that could buffer the impact of stigma, or simply provide basic social support (Lepore, 2001; Lewis et al., 2014; Pachankis, 2007). Concealment may disrupt processes in which their identities could be validated, met with positive regard, and support, thus limiting sources of self-esteem and positive emotionality (Harter, 2002). Individuals rely on each other to verify our identity and self-worth (McLemore, 2015; Stets & Burke, 2014). Among individuals with a stigmatized identity, thinking of the support of one person increased participants’ sense of ownership of that identity (Weinstein et al., 2017). However, among those keeping a secret, evidence suggests greater levels of loneliness, shyness, introversion, and social anxiety (Kelly, 2002). Social support is further compromised by the tendency for GSM individuals to isolate themselves (Hatzenbuehler, 2009).

Taken altogether, having a devalued identity leads to less intrapersonal, motivational, and interpersonal fluency overall. This may result in greater avoidance, less participation, and disengagement
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from others (Schmader & Sedikides, 2017). Concealment represents the opposite of state authenticity as situations rarely evoke a default sense of self, particularly as that self relates to the stigmatized identity; often contain institutional and cultural constraints; and promise greater social invalidation.

Inauthenticity as a possible mechanism for concealment-related stress. Both concealment and inauthenticity contribute to higher rates of psychopathology and decreased sense of well-being. They exhibit overlapping impacts. Lenton and colleagues (2013) found that state inauthenticity was associated with situations where intrapersonal values and goals were made salient, yet had little chance of being met. Raters in this study associated these situations with negative experiences, such as self-consciousness, social incompetence, a feeling of isolation, and conformity. Researchers also rated the participants’ affective responses in state-inauthentic situations, finding common themes such as feeling unwell, anxious, sad, disappointed, or afraid. Concealment represents an internal conflict within individuals between the reality of an identity – a striving to be true to oneself - and the reality of the consequences of that identity (Levitt et al., 2016). Concealment, like inauthenticity, deprives individuals of achieving basic psychological needs related to the self and others as well as engaging in goal-directed behavior.

On the other hand, disclosure and subsequent authenticity have been associated with positive outcomes, including deeper self-understanding (Rostosky et al., 2010), stronger affiliation and comfort with an identity (Petrocchi et al., 2019), a sense of “wholeness” or “being at home with oneself” (Riggle & Rostosky, 2011, p. 20), a rejection of societal standards viewed to be stigmatizing and oppressive of one’s identity or divergent from one’s values (e.g., traditional marriage) (Riggle et al., 2008), and increased social support and connection in a variety of settings (Martinez et al., 2017). Concealment may represent a period in which a person pursues identity exploration as they form their self-concept, hopefully in a way that eventually integrates gender and sexual identity. It may provide more general safety for identity exploration. GSM individuals develop sophisticated self-concepts, and this may in fact be a direct result of the additional identity exploration they do in order to claim a stigmatized identity for themselves (Feldman & Wright, 2013).
Despite the deleterious processes that occur during a time of concealment, there is evidence to suggest that these are at least partially undone as disclosure and authenticity increase. Based on the identity-based motivation model, GSM individuals continue to pursue their personal goals and values relevant to their identities in the face of societal stigma, the threat of victimization, and possible social rejection because these identities are considered to be core parts of their selves (Rivera et al., 2019). In developing the Lesbian, Gay, and Bisexual Positive Identity Measure (LGB-PIM) and the Transgender Positive Identity Measure (T-PIM), Riggle and colleagues (2014) found qualitatively that the GSM respondents were intent on creating and accessing positive, authentic views of themselves despite stigma. Drabble and colleagues (2018) uncovered similar themes in their qualitative work.

Enacting behaviors that are congruent with a sense of an authentic self appears to have positive benefits for offsetting the impact of stigma. Authenticity may similarly reduce the impact of concealment through an increase in positive cognitions and affect about the self. As Riggle et al. (2014) note, positive views of the self (“feeling good about the self”) are important for overall well-being, psychological health, and social functioning. Among GSM individuals, authenticity is associated with positively-valenced outcomes like hopefulness (Riggle et al., 2014). For GM individuals, this may come in the form of congruency amongst their gender identity, label, and expression (Kozee et al., 2012; Levitt & Ippolito, 2014; Pulice-Farrow et al., 2017). Gender-confirming treatments may enable this sense of authentic congruency. Increased well-being has been measured among those who received gender-confirming surgery and hormone replacement therapy (HRT) in a transmale sample (Colton Meier et al., 2011; Kuiper & Cohen-Kettenis, 1988; Leavitt et al., 1980). Colton Meier and colleagues (2011) attributed a decrease in psychological symptoms after commencement of HRT to greater congruence between physical manifestations of a male body and the participants’ male gender identities. They also theorized that there may be additional factors such as self-worth and self-acceptance as well as acceptance by others, and others have similarly hypothesized such a relationship (Martinez et al., 2017). Other transmen
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described feeling excited about transition, citing positive benefits like greater confidence, courage, self-actualization, and feelings of belonging (Budge et al., 2015).

Furthermore, GM individuals expressed a sense of relief now that they were able to be genuine about their identity in such a way that seemed to improve relationships and mental health (Platt & Bolland, 2017). Being genuine improved their mood and affect, self-image, as well as their level of intimacy in relationships. A sense of “wholeness” further motivated gender-confirming behaviors (Austin, 2016). For SM individuals, the freedom to love whomever they wished to and create a life consistent with their values engendered a sense of authenticity and honesty (Almario et al., 2013). In a sample of SM Italians, those who endorsed higher levels of authenticity also tended to be more self-compassionate and have lower internalized stigma (Petrocchi et al., 2019).

Even after individuals claim their identities, they may selectively conceal or disclose based on situational determinants, such as immediate safety concerns (Pachankis, 2007). Authenticity appears to play an important role in offsetting the impact of stress based on continual selective concealment, as GSM individuals get to choose when and how to conceal/disclose, and thus feel more autonomous and competent in their identities (Ryan & Ryan, 2019). These concealment/disclosure decisions may emerge less from a place of fear and more from an assessment of how to live authentically as oneself and according to one’s values (Riggle, Wickham, et al., 2017). Petrocci and colleagues (2019) note that concealment is sometimes motivated by interpersonal concerns and how others might respond to an identity, yet they contend that with authenticity, the focus becomes more intrapersonal. With an authentic sense of their own identity, a GSM individual may weigh the desire to be true to themselves and abide by their values and the reality of a given context. Considerations may include whether it is safe to disclose, or whether it may be necessary or not.

In summary, concealment of gender and sexual identity facilitates a sense of inauthenticity. Both constructs engage cognitive and affective processes as well as behaviors, and appear to have overlapping impacts on health outcomes and well-being. A sense of authenticity seems to be core to personal growth.
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and change, and concealment disrupts this crucial process. Rather than growing in one’s sense of themselves, concealment obscures who one is and who they could be. This disruption could be an important factor in the conferment of risk for psychiatric and physical morbidity among those who conceal their gender and sexual identity. This is further evidenced by empirical support for the ways that a sense of authenticity is essential to resilience among GSM individuals, despite the persistent presence of stigma. The environment itself has not fundamentally changed, yet GSM individuals who begin to embrace their identity are apparently able to buffer themselves against some of the ways that stigma is internalized. These buffers may include a sense of authenticity, greater pride in themselves, pursuit of their intrinsically-motivated goals, and access to critical social support.

Internalization of stigma and the inauthentic self. Internalized stigma refers to an individual’s acceptance or adoption of societal prejudices against a certain type of people despite the fact that they themselves may identify as a member of that stigmatized category (Herek et al., 2009). An illustration of internalized stigma in the case of GSM individuals might be a GM individual who harbors negative attitudes about transgender people, or an SM person who ascribes to a heterosexist worldview. All stigmas originate externally in the social fabric of a culture, and via a process of internalization, these stigmas become implanted in the individual with that stigmatized identity. What began as an external phenomenon becomes part of an internal mental and emotional experience as the individual begins to believe that the content of the stigma must be true about themselves as well, simply by virtue of the fact that the larger society seems to ascribe so readily to it. Internalized stigma indicates a struggle to accept oneself and integrate a GSM identity, which are key contributors to a sense of authenticity (Ryan & Ryan, 2019). Furthermore, concealment is, in and of itself, an indirect affirmation of stigma by recognizing the identity as something shameful and necessary to hide. As a result, it may play an important role in facilitating this process of internalization.

The interrelationship amongst internalized stigma, concealment, and authenticity is connected by negative self-evaluation in light of the stigma and one’s concealment of the stigma. Both possessing a
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concealable stigma and actively concealing it appears to have negative consequences for how individuals see themselves (Pachankis, 2007). Concealment threatens the development of a positive self-concept and may even facilitate a negative self-concept instead (Ryan & Ryan, 2019). What began as socially-implanted stigma becomes internalized through lower self-esteem and increased rejection sensitivity (Dyar et al., 2016; Pineles et al., 2006; Uysal et al., 2010). In one study, participants with concealable stigmas (i.e., an SM identity, diagnosis of bulimia, or low socioeconomic status) at an elite university endorsed lower levels of social confidence and self-esteem as well as higher levels of anxiety, depression, and negative affect (Frable et al., 1998). When compared to heterosexual samples, SM individuals have lower self-esteem on average, and self-esteem modulates based on exposure to stigma-related stressors (Hatzenbuehler, 2009). Stets and Burke (2014) understand a sense of authenticity to play an important role in self-esteem by helping to clarify what is “real” or “false” about the self. By its very nature, concealment renders false-self behaviors and in the context of protecting oneself from stigma, a GSM individual may be constrained in finding what it is that is true about themselves. Thus, as concealment continues, negative self-evaluations may increase and motivate further concealment (Pachankis, 2007; Pepping et al., 2019; Ryan & Ryan, 2019).

A person may conceal their identity because society stigmatizes it, and, in turn, that person may begin to perceive themselves as deserving of that stigma. As described by GM children in one study, they began to consider their gender expression dysfunctional based on how adults responded to their gender exploration (Levitt & Ippolito, 2014). In addition to presenting the specter of discrimination, societal stigma also highlights prejudicial attitudes towards specific internal states (e.g., same-gender sexual desire) and ways of being. Suddenly, an individual may question their own inclinations toward identity expression and suppress them out of shame or fear of reprisal, thus increasing a sense of self-alienation. Likewise, awareness of the incongruence between an internal sense of identity and outward presentation may compromise an individual’s sense of authenticity. Authenticity has been associated with other constructs like honesty, realness, and genuineness (Kovács, 2019), and individuals see it as a value.
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(Jongman-Sereno & Leary, 2018). Concealment reflects none of those values, thus making GSM individuals perceive themselves as dishonest or disingenuous. To be so is socially stigmatizing (Brennan, 2019). In other words, not only does the GSM individual experience negative affect as a result of their identity, they may judge themselves for hiding it as well (e.g., “I am cowardly”). As self-perception theory describes, there may be a direct link between an increase in shame and guilt as individuals become less willing to disclose potentially compromising information, such as a concealable stigma (Bem, 1972). A stigma can be internalized, therefore, through the process of concealment. Ultimately, concealment alienates individuals from core parts of their identity and self-concept and facilitates the internalization of stigma.

In summary, concealment of gender and sexual identity compromises a sense of one’s authenticity, which may result in negative self-evaluation. This negative self-evaluation contributes to the internalization of stigma by which social stigma is adopted as true by a stigmatized individual. This person, in turn, believes themselves to be deficient or despicable. Individuals may resent themselves for concealing in the first place because hiding core aspects of oneself is also a stigmatized behavior, regardless of its connection to gender or sexual identity. Likewise, concealment prevents individuals from accessing and developing a sense of their authentic self, pursuing their goals, and connecting with others who accept and celebrate who they are. Deprived of these critical psychological and social resources, individuals may further doubt their core self-worth and lack counter-narratives to defend against stigmatizing messages.

The Current Studies

Concealment of gender and sexual identity is predicated on engagement in inauthentic behaviors, which facilitate self-doubt and alienate an individual from themselves. In this context, a sense of authenticity is severely impacted. Lacking a sense of authenticity deprives individuals of core intrapersonal, motivational, and interpersonal resources, and contributes to the notion that there is
something fundamentally wrong about the concealing GSM individual. This reality impacts the well-being of GSM individuals. These studies seek to quantify the relationship between concealment and authenticity and to explore whether authenticity buffers concealment’s impacts on well-being and internalized stigma in a sample of GSM individuals.

Concurrently, these study seek to build on the foundation of the development of the Extent of Concealment measure. This measure is based on a comprehensive conceptualization of concealment as a construct that implicates cognitive and affective processes and results in various related behaviors. Already, this measure has been used to demonstrate important relationships between concealment and mental health. Thus, these studies further this work by assessing the relationships amongst concealment, authenticity, and internalized stigma while also validating and refining the Extent of Concealment measure with an additional sample of GSM individuals.

Study 1

The first step towards validating the Extent of Concealment measure is conducting an exploratory factor analysis on one sample in the interest of testing this factor structure with a second sample. Data from a previous study (Brennan, 2019) was subjected to an exploratory factor analysis to identify latent factors that may explain the variance in the instrument’s items and to reduce the number of items to be used with the second sample.

Study 2

Study 2 has two parts. The first (Study 2A) is to determine whether the Extent of Concealment measure is a valid measure of the construct of concealment. The second (Study 2B) is to analyze the relationship amongst concealment, authenticity, psychological distress, and self-stigma (i.e., internalized stigma).

Study 2A - measure validation. The first research question is whether the Extent of Concealment measure is a valid instrument of concealment of gender and sexual identity. Validation of
the Extent of Concealment will be pursued via three analyses: 1) a confirmatory factor analysis, 2) analyses of convergent and discriminant validity, and 3) an analysis of concurrent validity.

**Validation strategy 1.** Confirmatory factor analysis is a key strategy for validation (Kahn, 2006). Thus, the first analysis focuses on determining whether there is better model fit for a three-factor model based on the cognitive, affective, and behavioral components or a hierarchical model with an overarching comprehensive factor: concealment of gender and sexual identity.

**Hypothesis 1.** The hierarchical model of concealment of gender and sexual identity will demonstrate better model fit.

**Validation strategy 2.** The second analysis assesses the construct validity of the Extent of Concealment measure through analyses of convergent and discriminant validity. Using the trinitarian approach to validity, assessing convergent and discriminant measures of concealment and other related psychological processes form the basis of evidence for construct validity (Hubley & Zumbo, 1996). Based on the theoretical conceptualization of concealment of gender and sexual identity, the Extent of Concealment measure should theoretically converge with other related or similar psychological constructs, such as outness or internalized stigma, and discriminate from unrelated or dissimilar psychological constructs, such as expectations of rejection or internalized stigma (Hubley, 2014). For convergent validity, the Extent of Concealment measure should highly correlate with other measures of the same or related constructs. Correlations of a magnitude greater than .50 between the Extent of Concealment measure and other measures of concealment should indicate convergent validity (Drummond et al., 2016).

To establish discriminant validity, the Extent of Concealment should have a weaker correlation ($r < ± .40$) with distinct and dissimilar constructs. An accepted method of evaluating discriminant validity is the multitrait-multimethod (MTMM) matrix developed by Campbell and Fiske (Campbell & Fiske, 1959). Since data are collected with just one method (i.e., self-report survey), heterotrait-monomethod
correlations will be calculated to demonstrate construct differences despite a shared method (Hubley, 2014). Given the shared method, correlations may be inflated.

**Hypothesis 2a.** The Extent of Concealment measure will positively and moderately correlate \((r \geq .50)\) with the Nebraska Outness Scale Concealment subscale (NOS-C) and the Self-Concealment Scale (SCS). This Pearson product-moment correlation will be statistically significant \((p < .05)\).

**Hypothesis 2b.** The Extent of Concealment measure will negatively and moderately correlate \((r \geq - .50)\) with the Outness Inventory (OI). This Pearson product-moment correlation will be statistically significant \((p < .05)\).

**Hypothesis 2c.** The Extent of Concealment measure will have a weaker positive correlation \((r < .40)\) with the Self-Stigma Scale (SSS-S) and the Anticipated Stigma Scale. Correlations with these scales allow comparison with other proximal stress constructs from the minority stress model, while also illuminating discriminant validity of the Extent of Concealment measure.

It was expected that the Extent of Concealment measure would have the strongest correlation with the NOS-C, then the OI, and then the SCS scale. To assess the validity of the subscales, each subscale of the Extent of Concealment measure was thought to likely correlate most with the corresponding cognitive, affective, and behavioral subscale of the Self-Stigma Scale-Short Form (SSS-S) (Mak & Cheung, 2010).

**Validation strategy 3.** The third analysis considers the concurrent validity of the Extent of Concealment measure for global psychological distress and self-stigma. This analysis asks: 1) does the extent of concealment of gender and sexual identity impact the level of psychological global distress across three subscales: subjective well-being, problems/symptoms, and life functioning? and 2) does the extent of concealment impact one’s level of self-stigma?

**Hypothesis 3a.** Greater extent of concealment will be associated with higher levels of psychological global distress across all three subscales.
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Hypothesis 3b. Greater extent of concealment will be associated with higher levels of self-stigma.

Study 2B. Relating authenticity and concealment of gender and sexual identity has the potential to be the primary, unique addition of this study to the literature on GSM health. A moderation model will be run to understand the relationship amongst concealment, authenticity, psychological distress, and self-stigma.

Authenticity as a moderator between concealment and dependent variables. This exploratory research question investigates whether psychological global distress and self-stigma are predicted by the extent of concealment dependent on the degree of authenticity in one’s LGBTQIA+ identity.

Hypothesis 4a. The impact of the extent of concealment on current well-being will be attenuated by one’s level of authenticity.

Hypothesis 4b. The impact of the extent of concealment on current self-stigma will be attenuated by one’s level of authenticity.

Study 1

Study 1 (Brennan, 2019) had several aims, but the primary two that are relevant to this study were: 1) to create a comprehensive measure of concealment including cognitive, affective, and behavioral items, and 2) to run a dimension reduction factor analysis on the data from sample one in order to optimize scale length for future use in Study 2.

Method

Participants. Six-hundred and forty participants ($M_{age} = 24.36, SD = 7.51$) were recruited using nonprobabilistic, purposive sampling via Facebook in two phases. In the first phase, in January 2019, the PI and a research assistant posted a recruitment post for the study on LGBT-relevant Facebook groups and pages. The second phase in January and February 2019 was conducted using Facebook’s Ad Manager to boost a Facebook page describing the study and encouraging page visitors to participate and
targeted at Facebook users who had expressed interest in six LGBT interest areas (“bisexual community,” “gay pride,” “lesbian pride,” “LGBT community,” “Pride,” and “transgender activism”). Users were further targeted based on age and location. Inclusion criteria included being at least 18 years old, currently residing in the United States, and satisfying an inclusive definition of gender and/or sexual minority status. Gender minority participants were included if their gender identity did not correspond to their assigned sex at birth, or if they indicated their gender identity as genderqueer, agender, non-binary, or another gender indicated through an open-response category. A sexual minority sexual orientation was determined based on the participant’s identification as lesbian, gay, bisexual, pansexual, queer, questioning, or any other non-heterosexual identities in an open-response category. Alternatively, if any of a participant’s sexual attractions, sexual behavior, or romantic configurations indicated non-heterosexual experiences, then they were similarly classified as sexual minority. Individuals not invited to participate in the study were excluded on the basis of being under 18, living outside the United States, and reporting that they identify as cisgender and exclusively heterosexual (without a history of non-heterosexual attractions, behaviors, or relationships). Based on these exclusion criteria as well as refusal to consent to participate, analysis of completion of the survey, and random responding, 476 participants were not included in the analytic sample.

Collectively, the sample resided in 49 of the 50 states (with the exception of Hawaii) as well as the District of Columbia. In regard to gender identity, 159 individuals identified as men (25.00%; 55.00% of those men were assigned male at birth), 265 identified as women (41.41%; 94.71% of those women were assigned female at birth), 106 identified as non-binary (16.60%), 45 as genderqueer (7.0%), 20 as agender (3.10%), two identified as intersex (.31%), and 43 as another gender (e.g., Quariwarmi, genderfluid, transmasculine, demiguy/demiboy/demigirl, bigender, androgynous, gender nonconforming, gender neutral, gender fae, agenderflux, fluid flux, or questioning; 6.70%). In regard to sexual identity, 48 individuals identified as asexual (7.50%), 159 as bisexual (24.84%), 87 as gay (13.59%), 75 as lesbian (11.71%), seven as straight/heterosexual (1.09%), 122 as pansexual (19.06%), 105 as queer (16.41%),
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eight as questioning (1.25%), and 29 as another sexual identity (e.g., demisexual, omnisexual, aceflux, panromantic, biromantic, gynosexual, gray-ace, homoflexible, or questioning; 4.53%). Among those who identified as straight or heterosexual, one participant identified as non-cisgender and heterosexual, and the remaining six participants, despite being heterosexually-identified, were not exclusively heterosexual across multiple dimensions of sexuality (attraction, sexual behavior, and romantic relationships). In regard to ethnicity, the breakdown of the sample is as follows: 17 identified as Black/African-American (2.66%), 26 as Asian or Pacific Islander (4.06%), 588 as White/European-American (91.88%), 48 as Latino/Hispanic or Chicano (7.50%), 23 as Native American/American-Indian (3.59%), eight as Middle Eastern (1.25%), 33 as multi-racial (5.16%), and five as another ethnicity (e.g., French, Jewish, and Sami; <1.0%). Demographic data of the sample for Study 1 is reported in Table 3.

Procedure

**Extent of Concealment.** The Extent of Concealment measure was administered to the sample via Qualtrics. The 64 items were placed on a five-point Likert scale to assess the extent to which individuals engaged in concealment (1 = never, 5 = frequently). Higher scores on the scale indicate greater endorsement of cognitive, affective, and behavioral concealment.

Results

**Exploratory factor analysis of the Extent of Concealment measure.** The Extent of Concealment measure was subjected to an exploratory factor analysis (EFA), using principal axis factoring in SPSS, Version 24 (*IBM SPSS Statistics for Mac, 2017*). In the original study (Brennan, 2019), the data had been analyzed using a principal component analysis (PCA), which is a commonly-used dimension reduction technique to identify the most relevant items that account for the majority of the variance in the total measure (Jolliffe, 2002). Item reduction is important because even though having a larger number of items may make a measure more comprehensive, it is not always practical and can compromise internal validity (Worthington & Whittaker, 2006). By statistically compressing the dataset
to its principal components and then correlating each component’s eigenvalue and eigenvector, analysis is thereby simplified (Hervé Abdi & Williams, 2010).

There is controversy about how useful PCAs are compared to other factor analysis methods, such as exploratory factor analysis (EFA) (Costello & Osborne, 2005). Especially given the aims of this study to identify latent variables that may be responsible for the covariance among the items on the Extent of Concealment measure, an EFA was warranted because this statistical technique partitions common, unique, and error variance. The solution reports shared variance among the items; thus, even as items may be removed due to low communality or factor loadings, the variance they accounted for remains and is represented in the final factor model (Costello & Osborne, 2005). It is preferable to a PCA, which does no such discrimination between the types of variance (common or unique) and may also inflate the values of variance loading onto the components.

**Data screening.** Before subjecting the measure to the EFA, the research team reviewed the items and considered whether any of the items better captured other proximal stress processes (i.e., expectations of rejection or internalized stigma), or appeared to be antecedents or consequences of concealment as opposed to processes implicated in the construct itself. As a result of this review, five items were removed.

The factorability of the measure was first assessed, looking at sufficient sample size, inter-item correlations, sphericity, multicollinearity, and covariance. Missing data seemed to be an issue on multiple items, yet no imputation procedures were considered justifiable since no systematic patterns in missing data could be detected. Participants had the option to select either “Never” or “Not applicable” on each of the questions, so missing data could not be interpreted as indications that the item did not apply to them. To verify this conclusion, a parallel analysis was also conducted with mean score imputation, which did not render a noticeably different solution. Thus, missing data resulted in listwise deletion, excluding 47 participants due to missing data on one or more item responses. Using this method, the analytic sample for the EFA was 593. Despite this loss in power, this sample size satisfies the minimum number of
participants per item deemed appropriate for a factor analytic technique, like an EFA (Comrey & Lee, 1992). The Kaiser-Meyer-Olkin measure of sampling adequacy indicated a sufficient sample size as well ($\alpha = .946$), which is considered in the optimal range, far above the cutoff of .50-.60. No items intercorrelated above .80 and all but three items had at least one correlation of .30 or above with at least one other item. These analyses indicated a sufficient number of correlations and satisfactory correlational magnitudes to run the EFA, which was further substantiated by a significant finding of Bartlett’s test of sphericity ($X^2[1711]=11661.028, p<.001$). With regard to multicollinearity, the determinant value should be above 0 (and some suggest a more stringent standard >.00001) (Field, 2000). Results indicated that the determinant value ($4.269 \times 10^{-16}$) was above zero, but not above .00001, indicating a potential for trouble with multicollinearity. All communalities were above .40, indicating covariance among all of the items. Considering all of these indicators, all 59 items were subjected to the EFA.

**Rotation Determination.** Another key determination in any factor analysis is the rotation of the data. An orthogonal rotation indicates that factors do not correlate with each other, whereas oblique rotation accounts for different factors correlating in space (Abdi, 2003). The first iteration of the EFA was done with an orthogonal rotation (varimax), since the cognitive, affective, and behavioral components were hypothesized to be distinct from one another. Yet, given that the majority of the resulting components correlated with one another ($r > \pm .32$), an oblique rotation (i.e., Promax) was deemed warranted.

**Factor analysis.** A total of 52 iterations of the EFA was run, each using the Kaiser criterion, which eliminates any factors with eigenvalues below one. The first iteration was used to determine the factorability of the data as outlined above and rendered a 12-factor solution. This solution accounted for 53.14% of the variance with one primary component accounting for more than half of the variance of extracted factors (32.90% with an eigenvalue of 19.412). The next component accounted for 4.60% of the variance with an eigenvalue of 2.711 and components 3-12 accounted for less than three percent of the variance each. Between iterations, a review was conducted of eigenvalues, communalities, factor
loadings, inter-item correlations, and cross-loadings (Comrey & Lee, 1992; Costello & Osborne, 2005; Tabachnick & Fidell, 1996). Items were removed if eigenvalues fell under the value of 1, if communalities were below .30, if factor loadings did not exceed .40, if items correlated with other items above a threshold of .70, and if the factor loadings loaded on more than one component above .32. Since a simple structure is desirable (i.e., where one item correlates with only one component), items with multiple factor loadings that were not easily differentiated (i.e., there were more than one factor loadings above .32) were also dropped (Butler, 1964). Using this procedure, ten components were dropped as were 41 items. As of the final two-factor solution, all standards for inclusion were satisfied.

Two factors comprised of 18 items were retained in this solution, accounting for 55.01% of the total variance. It is suggested that 60-80% of the variance be explained by the final factor model, although more liberal recommendations allow for at least 50% of the variance to be explained (Hair, Jr. et al., 2014). The solution nearly met the stricter multicollinearity determinant threshold of .00001 with a determinant value of .00001578, which is just shy of a more stringent cutoff (i.e., .00001) and above the more liberal threshold of zero, indicating a potential for multicollinearity. The Kaiser-Meyer-Olkin measure of sampling adequacy ($\alpha = .96$) and Bartlett’s Test of Sphericity ($\chi^2[153] = 6470.21, p < .001$) were satisfied by the final solution.

The first factor accounted for nearly 90.00% of the variance accounted for by the model with the second factor accounting for the remaining 10.00%. Both factors strongly correlated with each other ($r = .730$). In regard to internal consistency reliability, Cronbach’s alpha for the entire scale was .94, .91 for Factor 1, and .91 for Factor 2. All of these far exceed an acceptable threshold of .70 (Ai et al., 2014). Additionally, all of the items were subjected to normality tests, looking at the Shapiro-Wilk test as well as skewness (ranging from -1 to 1) and kurtosis (ranging from -2 to 2). According to the Shapiro-Wilk test, all items were not normally distributed ($p < .001$) but each satisfied the standards for skewness and kurtosis.
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Average scores were computed for the entire scale derived from the EFA, averaging those participants who had completed at least 90% of the items in the total scale and in the factored subscales. Average scores from this shorter form version of the Extent of Concealment measure showed a strong correlation with the average scores of the longer form \((r = .954, p < .01)\). Although this metric may seem validating of the short form since it suggests overlap between the two versions, it is also important to note this may be an overestimate given that the 18 remaining items are being double-counted on both sides of the correlation (Smith et al., 2000). Error and random variance will be mirrored in both forms, and if there is systematic error, it will appear on both versions as well. Likewise, the average score of the Factor 1 subscale most strongly correlated with the rationally-derived cognitive subscale \((r = .940, p < .01)\) and Factor 2 subscale most strongly correlated with the rationally-derived affective subscale \((r = .919, p < .01)\). Both the Factor 1 subscale \((r = .780, p < .01)\) and Factor 2 subscale \((r = .745, p < .01)\) highly correlated with the rationally-derived behavioral subscale as well.

After conducting an item-level content analysis, the first factor was primarily made up of cognitive concealment items, with the exception of one affective item, and included items from each of the subtypes of cognitive concealment in the original measure, namely preoccupation, vigilance, and self-monitoring. Factor 2 comprised five affective items, including negative affective and negative self-perception items, as well as two cognitive and behavioral items, one which described counterfeiting and the other which described avoidance behaviors. Both the cognitive items ("I felt like I was "living a lie" or "having to maintain two identities." and "Keeping my identity secret really tormented me.") and the behavioral items ("While I was concealing my identity, I often tried to look happy enough on the outside, but inwardly I felt angry and rebellious" and "I isolated myself in order to conceal my identity.") contained highly affective content.

**Latent behavioral factor analysis.** It was curious that only two of the 18 items that loaded on the two derived factors had been rationally categorized as behavioral items and that these two items loaded on the predominantly affective factor. Given the substantial literature on concealment behaviors (for a
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review, refer above to pages 21-23) and the ease with which they can be measured compared to other components of concealment, it was hard to understand why this component of concealment was largely absent from this factor structure. Furthermore, it was difficult to conceive of a measure of concealment that largely had no concealment behaviors included. Thus, a separate factor analysis was run on behavioral concealment items, excluding the two that were included in the original factor structure, to identify behavioral items that might still be useful in obtaining an overall picture of concealment experiences.

An identical procedure was run for this second factor analysis using principal axis factoring with Kaiser normalization and a promax oblique rotation. The analytic sample of the EFA was 571 due to higher rates of missing data on one or more item responses to rationally-derived behavioral items. This loss of power appears to have compromised the sampling adequacy compared to the original factor analysis given that the Kaiser-Meyer-Olkin measure of sampling adequacy fell to .554, which is just above the lowest cutoff (.50). Bartlett’s test of sphericity ($\chi^2[6] = 640.13, p < .001$) indicated a sufficient number of correlations and satisfactory correlation magnitude to run the EFA. There were no concerns with multicollinearity as the determinant value (.324) was well above .00001.

Nineteen iterations of the EFA were run, reviewing eigenvalues, communalities, factor loadings, inter-item correlations, and cross-loadings – the procedure followed in the original EFA. Using this procedure, down from an original seven factors, only two were preserved, each with two items. Factors with only two items are considered weak, unless there is strong theoretical justification (Raubenheimer, 2004). All standards for inclusion were satisfied. The final two factors accounted for only 64.13% of the variance among the behavioral items. The first factor’s items showed sufficient internal consistency reliability ($\alpha = .806$) as did the second factor’s (.765). These four items collectively showed substandard internal consistency reliability ($\alpha = .687$). All items except for one satisfied more stringent standards for skewness and kurtosis and none were normally distributed according to the Shapiro-Wilk test ($p < .001$). One skewed item had a value of 1.006, just over the conservative threshold of one.
The final behavioral subscale consisted of four items, two which pertained to avoidance behaviors and two to counterfeiting behaviors. These two factors moderately correlated with each other \((r = .306)\). Average scores were computed for the behavioral subscale entire scale derived from the EFA, averaging those participants who had completed at least 90% of the items in the factored subscales. These items most strongly correlated with the rationally-derived behavioral subscale of the Extent of Concealment measure \((r = .820, p < .01)\). The combined behavioral factor moderately correlated with the factor-derived cognitive subscale \((r = .643, p < .01)\) and the factor-derived affective subscale \((r = .635, p < .01)\).

**Final Extent of Concealment measure.** Since conceptually and theoretically, a measure of concealment required behavioral items, the results of these two factor analyses were combined into one 22-item measure. Running an EFA on the final 22 items – again, using the same procedure described above and enforcing a four-factor solution - resulted in a four-factor analysis that accounted for 58.06% of the variance. Despite continuing to be below the threshold of 60.00%, this model explained almost three percent more of the variance than the original analysis. As was expected, the extracted eigenvalues fell below one for the two behavioral factors, which had resulted in their exclusion from the original factor analysis of the entire measure. The final analytic sample was 543, which satisfied the Kaiser-Meyer-Olkin measure of sampling adequacy at .955, well above the cutoff (.50). Bartlett’s test of sphericity \((\chi^2[231] = 7072.065, p < .001)\) indicated a sufficient number of correlations and satisfactory correlation magnitude to run the EFA. The final determinant did indicate potential problems with multicollinearity at .000001764, which is below the more stringent cutoff of .00001 but above the more liberal value of zero. The factors themselves corresponded to those described above and correlated with each other in the following manner: Factor 1 (Cognitive Concealment) strongly correlated with Factor 2 (Affective-Stress Concealment, \(r = .721\)), Factor 3 (Avoidance, \(r = .624\)), and Factor 4 (Counterfeiting, \(r = .563\)); Factor 2 strongly correlated with Factor 3 \((r = .661)\) and moderately correlated with Factor 4 \((r = .478)\); and finally, Factor 3 and 4 weakly correlated at .271. Internal consistency reliability showed strong reliability \((\alpha = .945)\) and the new, shorter version of the Extent of Concealment scale strongly correlated
with the original 64-item version \((r = .966, p < .01)\). Table 4 includes each of the factors and their related items. The first factor was called the cognitive subscale, the second factor was deemed an affective-stress subscale, the third factor included avoidance concealment behaviors, and the fourth factor contained counterfeiting concealment behaviors.

Table 4

Retained Factors and Items Following Study 1

<table>
<thead>
<tr>
<th>Factor 1: Cognitive Concealment</th>
<th>Factor Eigenvalue: 10.344</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items</strong></td>
<td><strong>Loadings</strong></td>
</tr>
<tr>
<td>I often worried that I would say or do something that would expose my identity.</td>
<td>.830</td>
</tr>
<tr>
<td>I paid close attention in social interactions, monitoring the actions of others and trying to detect whether they thought I was LGBTQIA+.</td>
<td>.792</td>
</tr>
<tr>
<td>I was afraid that I would reveal something about my identity I didn't want to.</td>
<td>.790</td>
</tr>
<tr>
<td>When I talked to someone, I worried about what they may be thinking about me, particularly in regard to my concealed identity.</td>
<td>.775</td>
</tr>
<tr>
<td>I worried a lot that everyone already knew about my identity.</td>
<td>.752</td>
</tr>
<tr>
<td>When I went to social events, I was careful not to let my guard down so I didn't give away my identity.</td>
<td>.703</td>
</tr>
<tr>
<td>In conversations, I was sensitive to even the slightest change in the facial expression of the person I was conversing with, particularly if I sensed they were suspicious about my identity.</td>
<td>.682</td>
</tr>
<tr>
<td>I could not stop thinking about my identity and the need to keep it hidden.</td>
<td>.658</td>
</tr>
<tr>
<td>I worried that others would find out about my identity.</td>
<td>.517</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 2: Affective-Stress Concealment</th>
<th>Factor Eigenvalue: 1.718</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items</strong></td>
<td><strong>Loadings</strong></td>
</tr>
<tr>
<td>I felt so lonely when I was hiding my identity, and was afraid I would always be lonely.</td>
<td>.842</td>
</tr>
<tr>
<td>I felt isolated because of my concealed identity.</td>
<td>.836</td>
</tr>
<tr>
<td>I felt hopeless for the future because I never thought I would be able to be open about my identity.</td>
<td>.825</td>
</tr>
<tr>
<td>I isolated myself in order to conceal my identity.</td>
<td>.682</td>
</tr>
<tr>
<td>I felt drained by the end of the day after having to conceal my identity all day.</td>
<td>.658</td>
</tr>
<tr>
<td>I often felt insecure during social interactions when I was hiding my identity.</td>
<td>.645</td>
</tr>
<tr>
<td>While I was concealing my identity, I often tried to look happy enough on the outside, but inwardly I felt angry and rebellious.</td>
<td>.579</td>
</tr>
<tr>
<td>I felt like I was &quot;living a lie&quot; or &quot;having to maintain two identities.&quot;</td>
<td>.541</td>
</tr>
<tr>
<td>Keeping my identity secret really tormented me.</td>
<td>.536</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 3: Avoidance Concealment Behaviors</th>
<th>Factor Eigenvalue: 1.295</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items</strong></td>
<td><strong>Loadings</strong></td>
</tr>
</tbody>
</table>
I avoided going to work, school, or places that made it too hard to conceal my identity. I often said I was feeling sick to get out of social obligations where my identity might come up.

<table>
<thead>
<tr>
<th>Factor 4: Counterfeiting Concealment Behaviors</th>
<th>Factor Eigenvalue: 1.023</th>
</tr>
</thead>
<tbody>
<tr>
<td>I lied (or would say &quot;No,&quot; or &quot;why do you think so?&quot;) when somebody asked if I was LGBTQIA+.</td>
<td>.508</td>
</tr>
<tr>
<td>I admitted that I was LGBTQIA+ when asked. (reverse scored)</td>
<td>.445</td>
</tr>
</tbody>
</table>

Study 2

Study 2 employed a cross-sectional survey methodology in order to validate a measure of concealment of gender and sexual identity, to provide adequate prediction of outcomes, and to assess the relationship between concealment, authenticity, and dependent variables. For clarity, this study will be broken into two parts: Part A and Part B. Part A describes validation of the measure and Part B includes evaluation of relationships amongst concealment, authenticity, and well-being.

Method

Recruitment and data collection. Nonprobabilistic, purposive sampling of this population was conducted via Facebook using Facebook Ads Manager between February 27, 2020 and March 11, 2020. A Facebook page was created to describe the study and encourage page visitors to participate, which was then boosted and targeted towards individuals who might qualify to complete the survey. The ad was targeted to individuals who met the inclusion criteria for participation: 1) be at least 18 years of age; 2) currently reside in the United States; and 3) qualify as a gender minority and/or a sexual minority (determined by virtue of identity, behavior, or attractions; outlined in more detail above). Concurrently, targeted Facebook users also had demonstrated interest in 13 interest areas, namely “LGBT tourism”, “Human sexuality”, “Gay pride”, “Pride”, “Gay Life”, “Genderqueer”, “Bisexual community”, “LGBT culture”, “LGBT community”, “Gay News”, “Gender identity”, “Transgender activism”, or “Lesbian Pride”. For satisfactory power to run a confirmatory factor analysis, 307 participants were required.
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(Kahn, 2006; MacCallum, Browne, and Sugawara, 1996), based on setting power at .87, alpha at $p < .05$, and the degrees of freedom at 40. Using the test of close fit, $\delta$ equals .05 and $\alpha$ equals .08.

**Participants.** A total of 915 individuals engaged with the survey. Seventy-five did not consent to participate, 36 were excluded due to failure to meet the requisite minimum age of 18 years old, 272 did not complete the survey, and 15 had response patterns indicating random responding. The remaining participants ($N=517$) comprise the final eligible participant pool and the analytic sample. This sample size surpasses what is needed for the appropriate power for the analyses.

The sample had ages ranging from 18 to 69 ($Mage = 24.32$, $SD = 7.76$). Participants hailed from the District of Columbia and 47 of 50 states of the United States of America with the exception of Alaska, Hawaii, and Wyoming. In regard to sex assigned at birth, the sample was predominantly comprised of individuals who were assigned female at birth ($n = 445, 86.40\%$) with individuals assigned male at birth comprising 13.40% of the sample ($n = 69$) and one individual assigned intersex (0.20%). Despite this lopsidedness in regard to sex assigned at birth, the sample was diverse in terms of gender identity. Just under half of the sample qualified as gender minority ($n = 233, 45.10\%$). Ninety-six participants identified as men (18.60%), 249 identified as women (48.20%), 96 identified as non-binary (18.60%), 26 as genderqueer (5.00%), 19 as agender (3.70%), and 31 as another gender (6.00%). Those indicating another gender than those pre-populated choices were invited to enter their responses into an open-text field and these responses included androgyne/androgynous, bigender, demiboy/demigirl, genderfluid, queer, questioning, and two-spirit. One participant recommended that the gender identity question be posed non-mutually-exclusively in order that individuals could select multiple identities.

In regard to sexual identity, participants were able to select all identities that applied to them. Over a third of the sample identified as bisexual ($n = 200, 38.70\%$) and nearly a third identified as queer ($n = 162, 31.30\%$) and as pansexual ($n = 138, 26.70\%$). One-hundred and nine participants identified as lesbian (21.10%), 94 as asexual (18.20%), 85 as gay (16.40%), 41 as questioning (7.90%), and 31 as another sexual identity (6.00%), such as aegosexual, androphile, biromantic, demisexual, greysexual,
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heteroflexible (“spaghetti straight”), omnisexual, and polysexual/polyamorous/polyromantic, or at least either did not know or chose not to identify. Ten individuals identified as straight/heterosexual (1.90%), but five of them also identified as asexual, two also as bisexual, one as lesbian, one as pansexual, and three also as questioning. None of these participants would be considered straight/heterosexual given their sexual attractions, sexual behaviors, or relationship configurations.

The sample was largely white (n = 450, 87.00%) with 67 participants identifying as people-of-color (13.00%). This is not representative of the racial demographics of the United States in which 76.50% of the population identifies as White (U.S. Census Bureau QuickFacts, 2018). Participants were able to select as many ethnicities and racial categories as applied to them. Thus, 15 participants identified as Black/African-American (2.90%), 8 as Asian or Pacific Islander (1.50%), 488 as White/European-American (94.40%), 25 as Latino/Hispanic or Chicano (4.80%), 21 as Native American/American-Indian (1.50%), eight as Middle Eastern (1.50%), 15 as multi-racial (2.90%), and five as another ethnicity (1.00%), such as Jewish, Ashkenazi Jew, and mixed race. Table 5 displays all of the demographic information for the sample in Study 2.

Procedure. Eligibility to participate in the survey was determined through an online Qualtrics survey with a prescreen comprising 12 questions. The prescreen (Appendix C) asked about age, whether individuals resided in the United States, assigned sex at birth, gender identity, relationship status, and sexual orientation across several dimensions (identity, attraction, sexual behavior, and romantic relationships). Individuals did not have to consent to participate in the prescreen and they were informed that their data would not be retained in the event that they did not qualify. Upon completion of the prescreen and an eligibility determination, those who qualified were invited to consent to participate in the primary survey (see Appendix D for consent form). Upon affirmative consent, participants were asked to complete the survey, which consisted of 222 questions for gender minority participants and 200 questions for cisgender participants, as some questions pertained only to the gender minority experience. The survey was reviewed by the University of Montana Institutional Review Board (IRB) and ruled
exempt and consisted of four additional sections beyond the prescreen and consent: demographic and social history, the extent of concealment measure, construct validity measures, and dependent variable measures, all of which are described in detail below. Participants were given up to one week from the day they initiated the survey to complete it. An incentive to participate was provided to those who consented to participate, namely a chance to win one of 10 $20 gift cards to Target. If they chose to participate in the drawing, they were directed to a separate and non-linked survey to enter their email addresses.

**Measures.** Measures are described in order of use. Please refer to Appendix C-D for Section 1, which includes the consent to participate.

*Prescreen and Demographic and Social History Questionnaire.* The Demographic and Social History Questionnaire (Appendix C and E) queries demographic information including age, current location, assigned sex at birth, gender identity, relationship status, race, ethnicity, and sexual orientation across several dimensions, namely sexual identity, attractions, behaviors, and relationship history. Several of these fields (age, current location, assigned sex at birth, gender identity, and sexual orientation) comprise the pre-screen.

*Extent of Concealment measure.* After measure refinement in Study 1, the Extent of Concealment measure consisted of 22 items (Appendix A). Based on feedback from participants who participated in Study 1, several of the items were slightly modified for clarity (e.g., removing the word “often” from some of the questions, which interfered with the scaling of the Likert-type responses). For the full list of items, comparisons with the previous version, and identification of changes, see Table 6 at the end of this document. Items were placed on the same Likert-type scale as described in Study 1 and participants could choose “Not applicable” for items that did not apply for them. Scores were calculated by averaging scores across the entire scale as well as each of the factored subscales for those participants who had responded to at least 90.00% of the items.
Reliability analyses of the comprehensive measure demonstrated strong internal consistency among the total sample (Cronbach’s α = .94) as well as for the gender minority (Cronbach’s α = .92) and cisgender (Cronbach’s α = .95) subsamples. The average inter-item correlation was .42, and the average inter-item covariance was 0.73. Internal consistency reliability followed a similar pattern as with the sample from Study 1. The first (cognitive), second (affective-stress), and fourth (counterfeiting behaviors) factors showed strong reliability: the 9-item cognitive subscale had a Cronbach’s α = .91 for the whole sample (α = .90 for the gender minority subsample, and α = .92 for the cisgender subsample) with an average inter-item correlation of .54 and average inter-item covariance of 0.95, the 9-item affective-stress subscale had a Cronbach’s α = .90 considering the entire sample (α = .87 amongst the gender minority participants, α = .91 amongst the cisgender participants) with an average inter-item correlation of .51 and average inter-item covariance of 0.87, and the counterfeiting behaviors subscale had a Cronbach’s α = .90 for the whole sample (α = .90 for the gender minority subsample, and α = .89 for the cisgender subsample) with an inter-item correlation of .81 and inter-item covariance of 2.14. The third factor (avoidance behaviors) had weaker internal consistency reliability than the other three factors with a Cronbach’s α = .76 for the whole sample (α = .73 for the gender minority subsample, and α = .79 for the cisgender subsample) with an inter-item correlation of .65 and inter-item covariance of 0.83.

Together, the two behavioral factors performed the worst in terms of internal consistency reliability, which fell right on the lowest cutoff for satisfactory reliability (Cronbach’s α = .70), which is just at the lowest cutoff for acceptable reliability, as well as an average inter-item correlation of .36 and an average inter-item covariance of 0.77. Reliability was stronger for the cisgender subsample (Cronbach’s α = .72) but weaker for the gender minority subsample (Cronbach’s α = .68).

_Nebraska Outness Scale – Concealment subscale._ The Nebraska Outness Scale - Concealment (NOS-C) is a 5-item measure assessing a lack of openness about an individual’s sexual orientation (Appendix F) (Meidlinger & Hope, 2014). The items are placed on an 11-point Likert-type scale, ranging from 0 (never avoid) to 6 (avoid half of the time) to 11 (always avoid). These anchors regard the
proportion of time one avoids referencing or indicating their sexual orientation to the following five groups: members of an immediate and extended family, friends and acquaintances, people at work/school, and strangers. The original prompt asks: How often do you avoid talking about topics related to or otherwise indicating your sexual orientation (e.g., not talking about your significant other, changing your mannerisms) when interacting with members of these groups? Higher average scores across the five items indicate greater concealment. For use in this study, the PI adapted the prompt to be more inclusive of those who may have concealed their gender identity by replacing “sexual orientation” with “LGBTQIA+ status” and one example of concealment (i.e., “not talking about your significant other”) with “not talking about your identity.” The final prompt looked like so: How often do you avoid talking about topics related to or otherwise indicating your LGBTQIA+ status (e.g., not talking about your identity, changing your mannerisms) when interacting with members of the following groups?

The internal reliability for the full scale, which will not be utilized in this study, has ranged from Cronbach’s $\alpha = .87$ to .92 for individuals of a variety of gender and sexual identities. The NOS-C showed lower internal consistency reliability of Cronbach’s $\alpha = .80$ compared to the full scale. Among this sample, Cronbach’s $\alpha = .73$ for the entire sample, .68 for the gender minority subsample, and .77 for the cisgender subsample. In validity analyses, the NOS-C showed strong convergent validity with the Outness Inventory ($r = -.74$) and a single-item measure of outness ($r = -.63$), which had been placed on a 0-100 scale. Additionally, it showed discriminant validity with Internalized Homophobia Scale ($r = .43$) and the Gay-Related Rejection Sensitivity Scale ($r = .27$) (Meidlinger & Hope, 2014).

Outness Inventory. The Outness Inventory assesses the extent to which an individual is open about their sexual orientation (Appendix G) (Mohr & Fassinger, 2000). The OI consists of 10 items on a seven-point Likert-type scale ranging from 1 (“person definitely does not know about your sexual orientation status”) to 7 (“person definitely knows about your sexual orientation status, and it is openly talked about”). Each item is specified for a specific social group, such as family, friends, or a religious community, broken into three subscales: world, family, and religion. The prompt was changed from
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openness about sexual orientation to openness about LGBTQIA+ identity. To score, each subscale was averaged, while excluding item 11, and then the three averages are averaged in order to give equal weight to the different domains (Mohr, 2011). Internal consistency reliability for this measure (Cronbach’s α = .87) and each of the subscales are sufficient in samples of lesbian, gay, and bisexual individuals (Balsam & Mohr, 2007; Mohr & Fassinger, 2000). Others have adapted the OI for GM samples as well, finding sufficient reliability (Brewster et al., 2012; Heck et al., 2013; Meidlinger & Hope, 2014). For this sample, internal consistency reliability equaled .72 for the entire sample, .58 for the gender minority subsample, and .79 for the cisgender subsample. Gender minority participants seemed less out or less involved with religious communities than their cisgender peers, which may explain the reduced internal consistency reliability for that subsample. In regard to validity analyses, the OI is negatively correlated with internalized homonegativity (r = -.55) (Wilkerson et al., 2016) and phase of sexual identity development (Mohr & Fassinger, 2000).

Self-Concealment Scale. The Self-Concealment Scale (SCS) is a 10-item measure of a tendency to conceal personal and distressing information from others (Appendix H) (Larson & Chastain, 1990). Respondents are asked to respond to statements (e.g., I have an important secret that I haven’t shared with anyone) using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The total score is calculated as a sum of the scores across items. The scale has shown both good internal consistency (Cronbach’s α = .83) and test-retest reliability (r = .81) (Cramer & Barry, 1999). Adapted for a GM sample, Cronbach’s alpha was .87 (Rood et al., 2018). Among this sample, internal consistency reliability was also .87 for the entire sample and the gender minority subsample as well as .86 for the cisgender subsample.

Self-Stigma Scale. The Self-Stigma Scale-Short Form (SSS-S) is a 9-item measure intended to measure stigma that individuals have internalized as a result of a concealable minority status (Appendix I) (Mak & Cheung, 2010). It includes three items assessing cognitive, affective, and behavioral components of self-stigma. Sample items include cognitive items, like “I am inferior to others because I am a
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The measure was originally tested among mental health consumers (Cronbach’s α = .91) and immigrant women (Cronbach’s α = .84), and showed acceptable levels of internal consistency reliability across each of the three aspects. The measure was also validated with a sample of SM individuals (Mak & Cheung, 2010). For this sample, internal consistency reliability was .85 on the entire scale, .62 for the affective subscale, .73 for the cognitive subscale, and .82 for the behavioral subscale. For gender minority individuals, Cronbach’s alpha equaled .84 for the entire scale, .59 for the affective subscale, .68 for the cognitive subscale, and .80 for the behavioral subscale. For the cisgender subsample, Cronbach’s alpha equaled .86 on the entire scale, .64 for the affective subscale, .79 for the cognitive subscale, and .84 for the behavioral subscale.

Anticipated stigma. The Anticipated Stigma for Concealable Stigmatized Identities Scale is a 15-item measure assessing the extent to which individuals with concealable stigmas anticipate maltreatment and personal devaluation in interpersonal interactions in which their stigmatized identity is known (Appendix J) (Quinn et al., 2014; Quinn & Chaudoir, 2009). The measure improved upon an earlier 9-item “day-to-day” discrimination scale designed by Kessler and colleagues (1999) and includes a prompt inquiring as to the likelihood of certain experiences occurring in the event that others know of their concealable stigma. Experiences include getting treated with less respect or finding fewer people interested in getting to know the person. Likelihood is rated on a seven-point Likert-type scale from 1 (very unlikely) to 7 (very likely). Total scores are an average across items. The scale has shown high internal reliability (Cronbach’s α = .93-.95). In this sample, Cronbach’s alpha equaled .91 for the entire sample as well as for both the gender minority and cisgender subsamples. Although anticipated stigma
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has not been correlated with a measure of concealment per se, it has been correlated with a 1-item measure of outness, showing a weak correlation ($r = .12$) (Quinn et al., 2014).

*Authenticity of GSM identity.* The Authenticity subscale of the Lesbian, Gay, and Bisexual Positive Identity Measure (LGB-PIM) aims to assess a sense of authenticity regarding an LGB identity (Appendix K) (Riggle et al., 2014). It includes items such as “I feel I can be honest and share my LGB identity with others” and “I have a sense of inner peace about my LGB identity.” Using a seven-point Likert-style scale ranging from 1 (strongly disagree) to 7 (strongly agree), respondents endorse the extent to which the statements describe them. The Authenticity score is calculated as the average score across five items, and the greater the score, the higher the sense of authenticity about their identity. Internal consistency for the subscale ranged from .82-.92 using Cronbach’s α (Riggle et al., 2017). In this sample, Cronbach’s α equals .88 for the whole sample and .90 for the cisgender subsample (for better comparison with the population with which it was validated). This subscale was adapted for a gender minority population in the Transgender Positive Identity Measure (T-PIM) (Appendix L) (Riggle & Mohr, 2015). This subscale assesses how much an individual understands and benefits from their gender identity. Among a transgender sample, internal consistency reliability reached Cronbach’s α = .89. Cronbach’s α = .88 was for the entire sample and .84 for the gender minority sample, for better comparison to the original validation population.

The two scales are almost identical with two exceptions. The first is that the T-PIM uses the more inclusive acronym of “LGBT” as opposed to “LGB” in the LGB-PIM. The second is regarding item content. Four of the five items on both subscales are identical with the exception of the first item on each subscale. The first item on the T-PIM is “My LGBT identity has given me more confidence” whereas the LGB-PIM begins with “I feel I can be honest and share my LGB identity with others.” For use in this survey, these two subscales were combined into six items and “LGB(T)” was changed to “LGBTQIA+” to be consistent and inclusive across items. Internal consistency reliability across all six items was sufficient (Cronbach’s α = .89).
Global psychological distress. The Clinical Outcome in Routine Evaluation (CORE) measures the level of psychological global distress across four subscales over the previous week (Appendix M) (Evans et al., 2002). For this study, only the Subjective Well-Being (4 items), Problems/Symptoms (12 items), and Life Functioning (12 items) subscales were utilized. These subscales assess for level of overwhelm (e.g., “I have felt okay about myself”), mental and physical health (e.g., “I have difficulty getting to sleep or staying asleep”), as well as loneliness, coping, and social problems (e.g., “I have thought I have no friends”), respectively. Eight items are reversed-scored; thus, higher average scores indicate greater psychological distress. The score for each subscale is an average calculated based on the number of items completed and then the total score for the scale is an average of those subscale averages. The overall measure saw excellent internal consistency reliability in both clinical and non-clinical populations (Cronbach’s α = .94) as well as sufficient reliability across the subscales: subjective well-being (Cronbach’s α = .75-.77), problems/symptoms (Cronbach’s α = .88-.90), and functioning (Cronbach’s α = .86-.87). In this sample, internal consistency reliability was excellent for the overall scale (Cronbach’s α = .96) as well as for the problems/symptoms subscale (Cronbach’s α = .93), and sufficient for the subjective well-being subscale (Cronbach’s α = .84) and for the functioning subscale (Cronbach’s α = .89).

Analytic Strategy

Confirmatory Factor Analysis. The purpose of a confirmatory factor analysis (CFA) is to apply a theoretical factor structure, typically derived from an EFA, to a dataset to assess the goodness of fit of the data to the model (Kahn, 2006). Applying this statistical method provides a means of testing individual parameters and the general model (Kahn, 2006). This is a useful way to assess the validity of the model established by the EFA, since a CFA subjects the model to rigorous tests of fit and avoids the subjective judgment calls made by researchers when conducting an EFA (Costello & Osborne, 2005; Hurley et al., 1997). All items, except for one, fell within a more stringent range for skewness (-1 and 1), and all had satisfactory kurtosis; thus, the data were sufficiently normally distributed for a CFA.

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The CFA estimates the values of parameters to determine which distribution accounts for the observed data points and thus maximizes the likelihood that the model can explain the observed data (Kahn, 2006). A parameter consists of the pattern coefficient – the relationship between each indicator variable and its latent factor – and error variance. Models are defined by indicator variables (i.e., the measured variable), the latent factors (i.e., the cognitive, affective, and behavioral factors as well as the hierarchical factor of the overarching latent factor of Extent of Concealment), error terms, and correlations between latent variables.

**Preliminary data analyses.** Preliminary data analyses consisted of examining relevant descriptives and sample demographics, such as age, gender, sexual orientation, race/ethnicity, relationship status, and level of education, which are reported above and in Table 5. Additionally, one-way fixed effects analyses of variance (ANOVA) were run to assess whether the predictor variables differed across gender minority and cisgender subsamples. This was all conducted in SPSS, Version 24.

**Calculation of variables of interest.** Independent and dependent variables were calculated according to the scoring rubrics determined by each measure (described above). The proposed covariates – age, ethnicity, and gender – have been shown to impact health outcomes among GSM populations. Age was calculated as a continuous variable whereas ethnicity and gender were calculated as dichotomous variables (i.e., person of color/white, and gender minority/cisgender).

**Validity analyses.** For all analyses of validity, linearity and normality were assessed between the variables of interest. Since linearity and normality were satisfied, Pearson’s product-moment correlations were calculated between variables, rather than Spearman rank order correlation, which is typically used for non-normally distributed scores (Swank & Mullen, 2017). Convergent and discriminant validity coefficients were compared based on coefficient magnitudes. For convergent validity, the bivariate correlations should be statistically significant and meet or surpass a high effect size ($r > .40$) (Drummond et al., 2016; Swank & Mullen, 2017). For discriminant validity, bivariate correlations should not exceed a moderate effect size ($r < .40$).
Tests of assumptions. To determine whether multiple hierarchical regression analyses can be performed for Hypotheses 3 and 4, tests of assumptions were run. The following assumptions have been met: firstly, each predictor variable contained at least 20 cases. Secondly, the Shapiro-Wilk test for each of the predictor variables were positive values \((p < .001)\) and satisfied standards for skewness and kurtosis, indicating sufficient normality to conduct a regression analysis (Denis, 2018). Thirdly, multicollinearity amongst the predictor variables (including the covariates) and the outcome variables were assessed, paying attention to ensure that no correlations exceeded .70 nor were they below .30. All correlations between predictor and predicted variable fell between .30 and .70, except for the overall Extent of Concealment and the adapted LGBT-PIM - Authenticity subscale \((r = -.12, p < .01)\) as well as amongst all of the covariates and all of the predictors and dependent variables. All correlations are reported in Table 7. Fourthly, the residuals of all the relationships amongst the predictor variables and the dependent variables were analyzed as to whether they approximate a straight-line linear relationship, using a Loess curve. The residuals of the Extent of Concealment average score with both psychological distress and with self-stigma were approximately linear. Fifthly, the value for Cook’s distance was below one for each of these relationships as well. In summary, the assumptions for a multiple hierarchical regression were satisfied; however, only age was included as a covariate in the final regression model given it had significant correlations with the dependent variables \((p < .01)\), albeit the magnitude of these correlations was less than .30.

To see differences between groups on the predictor variables and covariates, a one-way analysis of variance was performed. On the main predictor variables, there were significant differences in endorsement of concealment overall with gender minority participants endorsing more concealment overall \((F = 16.58, p < .001)\) than cisgender participants. Gender minority participants endorsed more avoidance behaviors \((F[1, 515] = 12.80, p < .001)\), but fewer counterfeiting behaviors than cisgender participants \((F[1, 515] = 4.52, p = .034)\). There were no differences in concealment behaviors overall (using all four behavioral items collectively) \((p = .743)\). In regard to affective-stress and cognitive
concealment, gender minority participants had higher average scores on these subscales compared to their cisgender peers ($F[1, 515] = 43.51, p < .001$, and $F[1, 515] = 5.10, p = .024$, respectively). Cisgender participants tended to be older and more educated than gender minority participants, although there were no differences in regard to ethnicity. Additionally, participants of color also concealed more than white participants ($F[1, 515] = 4.35, p < .038$), particularly in regard to cognitive concealment ($F[1, 515] = 4.76, p = .030$). There were no differences between participants of color and white participants on age, level of education, or gender identity ($p > .05$).

**Analysis of the hypotheses.** Two different models were proposed. The first model was to test hypotheses 3a and 3b, relating the Extent of Concealment relates to the dependent variables (psychological global distress and self-stigma). The second model consisted of a moderation analysis to test Hypotheses 4a and 4b in order to investigate how authenticity moderates the relationship of concealment to the dependent variables.

**Model 1.** Using a multiple hierarchical regression, the dependent variables (psychological global distress and self-stigma) were regressed on the Extent of Concealment score. In the first step, the dependent variables were regressed on age, the only covariate. In the second step, the Extent of Concealment score was added to the model. Given the number of analyses, a more stringent test of significance was applied, setting a significant $p$-value to .025 using a Holm-Bonferroni correction (Holm, 1979).

**Model 2.** Typically, data are prepared for a moderation analysis by creating centered variables (i.e., by subtracting the mean from each value for the Extent of Concealment score and the Authenticity score). In the second step, residuals are multiplied together in order to avoid multicollinearity. The third step includes a multiple hierarchical regression analysis entering the variables in the following order: the covariate, then the independent variables, and then the multiplied residual value (denoting the interaction of concealment and authenticity). The fourth and final step in the moderation analysis included assessing for a significant interaction effect in predicting the outcome variables (Aiken and West, 1999). All of this
was calculated automatically using the PROCESS Procedure for SPSS (Hayes, 2018). To further verify and visualize the interaction effect, authenticity scores were broken into three categories based on standard deviations on the authenticity variable (one standard deviation below the mean, one at the mean, and one above the mean), which approxed low, moderate, and high levels of authenticity. The dependent variables were then regressed on the Extent of Concealment score at each level.

**Results - Scale Validation**

**Confirmatory factor analysis.** Using the sample collected for Study 2, a CFA was run. The Lavaan package 0-6.5 for R was used to run the CFA for this study (Rosseel, 2012). Since only five cases had missing data, no method was used to account for or impute those missing data. Thus, data from 510 participants were analyzed in the CFA, which was above the total required for adequate power. The remaining cases were standardized and analyzed as ordinal data and estimation was conducted using diagonally weighted least squares (DWLS) as a result, since maximum likelihood estimation is reserved for continuous data (Rosseel, 2020). Several models were run: 1) a three-factor model with a comprehensive behavioral factor, combining both the avoidance and counterfeiting items, 2) a four-factor model with two smaller behavioral factors for avoidance and counterfeiting items, 3) a hierarchical confirmatory factor analysis testing whether the three or four factors comprised a higher-order factor of concealment, and 4) using the model with the best, a comparison of fit between gender minority and cisgender participants was conducted (this will be explored in the next section).

Each of the models was compared based on model fit, which reflects similarity between the covariances of the variables and those of the parameter estimates with minimal error. This is assessed using a chi-square statistic ($\chi^2$) and a non-significant finding indicates good model fit. In addition, a proposed criterion for good fit is $\chi^2/df$ of less than three (Carmines & McIver, 1981; Kline, 2015). Given chi-square’s sensitivity to sample size, additional goodness-of-fit indices are generally warranted. For this study, comparative fit index (CFI) and the Tucker-Lewis Index (TLI) were used. CFI is a measure of
model fit that compares how well the model fits the data versus a more restricted, baseline model based on a hypothesized population (Hartman, 2018). TLI functions similarly, but more conservatively, in an effort to better scrutinize more complex models (Hartman, 2018). Both TLI and CFI were assessed on a range from zero to one and a value greater than 0.90 will be considered of good fit. It is also common to assess effect size measures of misfit, such as the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR) (Shi et al., 2018). The RMSEA assesses the model’s ability to reproduce covariances among indicators, and the SRMR standardizes this effect size of misfit by averaging standardized residual covariance (Hartman, 2018; Shi et al., 2018). For both of these effect sizes of misfit, values range from acceptable to excellent fit: 0.08-1.00 are of acceptable fit, 0.05-0.08 demonstrates reasonable fit, and less than 0.05 indicates an excellent fit (Browne & Cudeck, 1993; Mak & Cheung, 2010).

**Evaluation of the three models.** Model 1 was a non-hierarchical CFA with three factors. In this model, the two smaller behavioral factors comprised of avoidance and counterfeiting items were combined into one factor. The model demonstrated reasonable to excellent fit across all indices, except for the chi-square statistic, which was significant ($X^2[206] = 555.28, p < .001$). Yet, dividing the chi-square value by the degrees of freedom yielded 2.70, which is below the upward cutoff of 3, and thus, this model can be considered of good fit (Carmines & McIver, 1981; Kline, 2015). Both CFI and TLI were above 0.90, and RMSEA and SRMR demonstrated reasonable fit.

Model 2 was a non-hierarchical model with four factors. This time the two behavioral factors - avoidance and counterfeiting – were computed as separate factors, as had been shown in the EFA. This model, too, showed excellent fit across all indices. Although the chi-square was significant ($X^2[203] = 303.04, p < .001$), the criterion of good fit ($X^2/df$) equaled 1.49, below the cutoff of 3. CFI and TFI were above 0.99, and RMSEA and SRMR demonstrated excellent fit.

Model 3 fitted a hierarchical model to the four factors, which means an overarching latent factor (i.e., concealment) was added to the model alongside the four factors. Again, the hierarchical model
showed excellent fit to the data. Besides the significant chi-square finding ($\chi^2[205] = 321.61, p < .001$), the criterion of good fit was below three, CFI and TLI were above 0.99, RMSEA was below 0.05, and SRMR was below 0.07. For a comparison of the three models across the six fit indices, see Table 8.

Table 8

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
<th>$\chi^2$/df</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
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<tbody>
<tr>
<td>Model 1</td>
<td>555.28</td>
<td>206</td>
<td>&lt;.001</td>
<td>2.70</td>
<td>0.981</td>
<td>0.983</td>
<td>0.058</td>
<td>0.067</td>
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<tr>
<td>Model 2</td>
<td>303.04</td>
<td>203</td>
<td>&lt;.001</td>
<td>1.49</td>
<td>0.994</td>
<td>0.995</td>
<td>0.031</td>
<td>0.050</td>
</tr>
<tr>
<td>Model 3</td>
<td>321.61</td>
<td>205</td>
<td>&lt;.001</td>
<td>1.57</td>
<td>0.994</td>
<td>0.994</td>
<td>0.033</td>
<td>0.052</td>
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</table>

Comparison of alternative models. An advantage of CFA is that different factor structures can be compared, as can different factor structures across groups (Kahn, 2006). The three models above were compared using an ANOVA in R. Since the second factor structure is nested within the first, the two models can be compared using a chi-square difference test (Kahn, 2006). Model 2 was a better fit to the data than Model 1 ($\chi^2[1] = 233.68, p < .001$) and performed better than Model 3 as well ($\chi^2[2] = 18.57, p < .001$). Model 2 showed better fit across all of the indices described above as well. Model 2 is shown in Figure 5 and Model 3 in Figure 6. As earlier explained, the model will be defined by indicator variables, the latent factors, error terms, and correlations between latent variables.
**Figure 5.** Four-factor model of concealment.
Review of the final model. As expected, all indicators loaded positively on their respective factor with standardized regression coefficients ranging from .648 to .995 (see Table 9). All four factors significantly correlated with one another ($p < .001$) as shown in Table 10, which indicates that participants who concealed in one way (e.g., cognitively) were likely to also conceal in other ways as well. Looking at modification indices provides additional qualitative analysis to the model fit. To summarize, factors and items on each of the factors shared additional covariance with one another. For instance, two of the items on the cognitive factor (Item 8: “I could not stop thinking about my identity and the need to keep it hidden.” and Item 5: “I worried a lot that everyone already knew about my identity.”) covaried with the affective-stress factor, indicating that an emotional or stress process may work in parallel with these cognitive items. These two items also covaried with the counterfeiting behaviors factor, which may be explained by a motivation to hide given the cognitive preoccupation with detection.
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In another example, the avoidance behaviors factor not surprisingly shared covariance with a rationally-derived avoidance item that loaded on the affective-stress factor. Other items that loaded onto the same factor also showed additional covariance beyond that which was explained by the factor. This model demonstrates that cognitive, affective, and behavioral concealment are distinct but interrelated factors, as is reflected in the literature.

Table 9

<table>
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<tr>
<th>Confirmatory Factor Analysis factor loadings</th>
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<tr>
<td>Latent Factor</td>
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</table>
CONCEALMENT AND AUTHENTICITY

Table 10

Correlation matrix of factors

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Affective-stress factor</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cognitive factor</td>
<td>.816</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Avoidance behaviors factor</td>
<td>.592</td>
<td>.611</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>4. Counterfeiting behaviors factor</td>
<td>.309</td>
<td>.440</td>
<td>.261</td>
<td>1.000</td>
</tr>
</tbody>
</table>

All correlations are significant at \( p < .001 \).

Comparison across groups. Multiple group confirmatory factor analysis is a useful method of validating a new instrument to see whether that instrument is valid across distinct groups (Meredith, 1993; Xu, 2012). In this case, it is important to determine whether there is measurement invariance of the Extent of Concealment measure when applied to a gender minority versus a cisgender sample. There are five tests of measurement invariance: 1) configural invariance (or equal form), which compares the same factor structure between groups; 2) metric invariance (or weak invariance), which enforces equal factor loadings across groups but allows free varying intercepts to test whether the latent factors represent the same meaning to the different groups; 3) scalar invariance (or strong invariance), which equalizes factor loadings and intercepts across groups to test whether the meaning of the factors and their underlying items share meaning across different groups; 4) strict invariance (or full uniqueness measurement invariance), which enforces equal residual variances across groups to see the variability of error variances across groups; and 5) structural invariance, which assesses whether there is invariance based on mean and regression coefficient comparisons across groups (Schoot et al., 2012; Xu, 2012).

In the first test of measurement invariance, a multiple group analysis was run without any equality constraints (Schoot et al., 2012) and no group differences on parameter estimates were found between the groups (\( \chi^2 [406] = 370.74, p = .895 \)). In the second test, factor loadings were made equal between groups, but the results of this second test showed significant differences from the first, indicating some measurement non-invariance (\( \Delta \chi^2 [18] = 113.05, p < .001 \)). In the third test, factor loadings and
intercepts were fixed to be equal, resulting in significant differences between the second and third test. The differences between the second and third test were less than those found between the second and first, indicating slightly less non-invariance between intercepts within the two groups (Δχ² [18] = 33.80, p < .05). In the fourth test, item residuals were constrained to be equal across groups. Since there was no significant difference between the third and fourth test (Δχ² [22] = 27.16, p > .05), items appear equally reliable across groups. In the fifth and final test, variance and covariance of latent factors were constrained to be equal across groups, resulting in the worst model of the five based on indices of fit (Δχ² [10] = 718.22, p < .001), and indicating non-invariance among the variance and covariance of the latent factors. Taken together, with the most liberal parameter specifications across groups, the final CFA model fits equally well to both groups. Additionally, the items seem reliable across groups. However, with increasingly restrictive parameter specifications across groups, differences emerge between the groups across all the factors with gender minority scores loading significantly more on the cognitive, affective-stress, and avoidance behavior factors than cisgender scores (p < .001) and loading significantly less on the counterfeiting behaviors factor than cisgender participant scores (p = .004) when looking at differences in intercept values. See Table 11 for comparisons of the results amongst the five models.

Table 11

<table>
<thead>
<tr>
<th>Model</th>
<th>χ²</th>
<th>df</th>
<th>p</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>Base for Comparison</th>
<th>Δχ²</th>
<th>ΔTLI</th>
<th>ΔCFI</th>
<th>ΔRMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>370.74</td>
<td>406</td>
<td>.895</td>
<td>1.002</td>
<td>1.000</td>
<td>0.000</td>
<td>0.054</td>
<td>Model 1</td>
<td>113.049</td>
<td>0.005</td>
<td>0.003</td>
<td>0.024</td>
</tr>
<tr>
<td>Model 2</td>
<td>483.79</td>
<td>424</td>
<td>.023</td>
<td>0.997</td>
<td>0.997</td>
<td>0.024</td>
<td>0.061</td>
<td>Model 1</td>
<td>33.795</td>
<td>0.001</td>
<td>0.001</td>
<td>0.002</td>
</tr>
<tr>
<td>Model 3</td>
<td>517.59</td>
<td>442</td>
<td>.008</td>
<td>0.996</td>
<td>0.996</td>
<td>0.026</td>
<td>0.063</td>
<td>Model 2</td>
<td>27.163</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Model 4</td>
<td>544.75</td>
<td>464</td>
<td>.006</td>
<td>0.996</td>
<td>0.996</td>
<td>0.026</td>
<td>0.065</td>
<td>Model 3</td>
<td>718.123</td>
<td>0.035</td>
<td>0.034</td>
<td>0.055</td>
</tr>
<tr>
<td>Model 5</td>
<td>1262.87</td>
<td>474</td>
<td>.001</td>
<td>0.961</td>
<td>0.962</td>
<td>0.081</td>
<td>0.100</td>
<td>Model 4</td>
<td>1113.123</td>
<td>0.035</td>
<td>0.034</td>
<td>0.055</td>
</tr>
</tbody>
</table>
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Results - Validity Analyses

Convergent validity. To assess for convergent validity, the Extent of Concealment measure was correlated with the Nebraska Outness Scale – Concealment Subscale (NOS-C), the Outness Inventory (OI), and the Self-Concealment Scale (SCS). Consistent with the hypotheses, the Extent of Concealment measure significantly and moderately correlated with SCS ($r = .44$, $p < .01$). Contrary to expectations, the Extent of Concealment measure significantly and weakly correlated with the NOS-C ($r = .18$, $p < .01$) and rather than negatively correlating with level of outness, the Extent of Concealment measure barely correlated at all with the OI ($r = .08$, $p > .05$). Considering each subsample separately, similar patterns were found for cisgender participants: concealment positively correlated with SCS ($r = .43$, $p < .01$) and NOS-C ($r = .20$, $p < .01$) and barely correlated with OI ($r = .10$, $p > .05$). For gender minority participants, concealment positively correlated with SCS ($r = .42$, $p < .01$), but did not significantly correlate with either NOS-C ($r = .12$, $p > .05$) or OI ($r = .05$, $p > .05$).

Since the NOS-C addresses avoidance behaviors specifically, the score was correlated with each of the subscales with the expectation that the avoidance behaviors subscale (Factor 3) of the Extent of Concealment measure would correlate the most with NOS-C compared to the other factor subscales. Yet, again, this relationship was not borne out ($r = .14$, $p < .01$) and NOS-C correlated most strongly with the affective-stress subscale ($r = .18$, $p < .01$), then the cognitive subscale ($r = .17$, $p < .01$), and then not at all with the counterfeiting behaviors subscale ($r = .02$, $p > .05$). The three measures used for convergent validity correlated with one another in more predictable patterns: the NOS-C and OI were significantly, moderately, and negatively correlated ($r = -.48$, $p < .01$); the NOS-C and SCS significantly, moderately, and positively correlated with each other ($r = .39$, $p < .01$); and the OI and SCS significantly, weakly, and negatively correlated ($r = -.29$, $p < .01$). The results of primary convergent analyses with the entire sample are displayed in Table 12.
Table 12

*Convergent Validity Analyses – Bivariate Pearson Product-Moment Correlations between Extent of Concealment and Concealment-Related Measures*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Extent of Concealment</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Nebraska Outness Scale - Concealment</td>
<td>.182**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Self-Concealment Scale</td>
<td>.436**</td>
<td>.389**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>4. Outness Inventory</td>
<td>.080</td>
<td>-.480**</td>
<td>-.285**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**p < 0.01 (2-tailed)**

As a measure of convergent validity of each of the Extent of Concealment subscales, they were correlated with the three related subscales (i.e., cognitive, affective, and behavioral) of the SSS-S with the expectation that the corresponding scales will show the strongest correlations with one another compared to the others. This pattern was not reflected in the data. Each of the four subscales of the Extent of Concealment measure correlated most strongly with the behavioral subscale of the SSS-S, except for the counterfeiting behaviors subscale \( r = .11, p < .05 \). The affective subscale of the SSS-S correlated most strongly with the affective-stress concealment subscale \( r = .29, p < .01 \) as did the cognitive subscale of the SSS-S \( r = .33, p < .01 \). The behavioral subscale of the SSS-S correlated most strongly with the avoidance behaviors concealment subscale \( r = .43, p < .01 \). The SSS-S does categorize concealment as “self-stigmatizing behavior” and the three items on the behavioral subscale of the SSS-S do have overlap with the avoidance, isolation, and estrangement captured by the cognitive and affective-stress items of the Extent of Concealment measure. See Table 13 for the correlations.
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Table 13

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Concealment - Avoidance</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Concealment - Counterfeiting</td>
<td>.217**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Concealment - Affective/Stress</td>
<td>.503**</td>
<td>.282**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Concealment - Cognitive</td>
<td>.521**</td>
<td>.400**</td>
<td>.736**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Self-Stigma - Cognitive</td>
<td>.277**</td>
<td>.101*</td>
<td>.330**</td>
<td>.283**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Self-Stigma - Affective</td>
<td>.258**</td>
<td>.141**</td>
<td>.285**</td>
<td>.276**</td>
<td>.639**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>7. Self-Stigma - Behavioral</td>
<td>.433**</td>
<td>.107*</td>
<td>.394**</td>
<td>.335**</td>
<td>.564**</td>
<td>.518**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

* p < .05 (2-tailed)
** p < .01 (2-tailed)

**Discriminant validity.** To assess for discriminant validity, two measures were chosen: the Self-Stigma Scale (SSS-S) and the Anticipated Stigma Scale. Contrary to hypotheses, the Extent of Concealment significantly and moderately correlated with both of these measures ($r = .41, p < .01$ and $r = .53, p < .01$, respectively). A similar pattern of magnitudes was observed among the gender minority subsample ($r = .43, p < .01$ and $r = .51, p < .01$, respectively) and the cisgender subsample ($r = .43, p < .01$ and $r = .51, p < .01$, respectively). The magnitude of these correlations exceeded the size of the correlations between the Extent of Concealment measure and two of the other concealment measures (NOS-C and OI), but fell within the same range as the magnitude of the correlation with the SCS.

Looking at whether other measures of concealment discriminated from the SSS-S and Anticipated Stigma Scale, the SCS moderately and positively correlated with both ($r = .48, p < .01$ and $r = .50, p < .01$, respectively), the NOS-C moderately and positively correlated with both as well ($r = .46, p < .01$ and $r = .34, p < .01$, respectively), and the OI weakly and negatively correlated with both ($r = -.26, p < .01$ and $r = -.13, p < .01$, respectively). Based on validity data from the development of the NOS-C, similar correlational magnitudes were found between the NOS-C and a measure of internalized homophobia and rejection sensitivity ($r = .43$ and $r = .27$, respectively), which the researchers judged to be sufficient to
show divergence between the constructs, particularly as they are all proximal stress processes (Meidlinger & Hope, 2014). Results from the discriminant validity analyses are shown in Table 14.

Table 14

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent of Concealment</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Stigma Scale</td>
<td>.410**</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Anticipated Stigma Scale</td>
<td>.531**</td>
<td>.540**</td>
<td>1.000</td>
</tr>
</tbody>
</table>

** p < 0.01 level (2-tailed)

**Concurrent validity.** Concurrent validity was assessed by relating the Extent of Concealment score to the dependent variables (psychological global distress and self-stigma). Using a multiple hierarchical regression, the dependent variables were separately regressed on by the Extent of Concealment average score. In the first step, the dependent variables were regressed on age (i.e., the only covariate which significantly correlated with the dependent variables). In the second step, the Extent of Concealment score was added to the model.

**Psychological distress.** As predicted, concealment of gender and sexual identity positively and significantly predicted psychological distress ($b = 0.39$, $p < .001$), accounting for 16.70% of the variance in psychological distress scores. Investigating relationships with impacts to well-being, problems and symptoms, and functioning, concealment significantly and positively related to lower well-being, and predicted more problems and symptoms as well as worse functioning. In regard to well-being, concealment accounted for 11.60% of the variance in well-being scores ($b = 0.37$, $p < .001$). Problems and symptoms were also positively predicted by concealment ($b = 0.44$, $p < .001$), which accounted for 16.40% of the variance in these scores. Finally, 15.00% of the variance in functioning scores was accounted for by concealment ($b = 0.35$, $p < .001$). Table 15 displays the results of these analyses.
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Table 15

<table>
<thead>
<tr>
<th>Relationship of Concealment of Gender and Sexual Identity and Psychological Distress</th>
<th>Dependent Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>sig.</th>
<th>ΔR²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall psychological distress</td>
<td>0.39</td>
<td>0.04</td>
<td>0.41</td>
<td>10.44</td>
<td>&lt;.001</td>
<td>.167*</td>
<td>F(2, 513)=70.13*</td>
<td></td>
</tr>
<tr>
<td>Poor well-being</td>
<td>0.37</td>
<td>0.05</td>
<td>0.34</td>
<td>8.40</td>
<td>&lt;.001</td>
<td>.116*</td>
<td>F(2, 513)=47.82*</td>
<td></td>
</tr>
<tr>
<td>Problems/Symptoms</td>
<td>0.44</td>
<td>0.04</td>
<td>0.41</td>
<td>10.34</td>
<td>&lt;.001</td>
<td>.164*</td>
<td>F(2, 513)=69.24*</td>
<td></td>
</tr>
<tr>
<td>Functioning</td>
<td>0.35</td>
<td>0.04</td>
<td>0.39</td>
<td>9.73</td>
<td>&lt;.001</td>
<td>.150*</td>
<td>F(2, 513)=59.21*</td>
<td></td>
</tr>
</tbody>
</table>

*p < .001

**Self-Stigma.** As predicted, more severe self-stigma was associated with greater concealment of gender and sexual identity (b = 0.26, p < .001). Results indicated that concealment accounted for 15.80% of the variance in self-stigma scores. Diving into the cognitive, affective, and behavioral subscales of this measure, concealment predicted worse self-stigma across these three subscales, accounting for 9.90% of the variance in cognitive self-stigma (b = 0.24, p < .001), 9.00% of the variance in affective self-stigma (b = 0.24, p < .001), and 15.90% of the variance in behavioral self-stigma (b = 0.29, p < .001). Table 16 displays these results.

Table 16

<table>
<thead>
<tr>
<th>Relationship of Concealment of Gender and Sexual Identity and Self-Stigma</th>
<th>Dependent Variable</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>sig.</th>
<th>ΔR²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Stigma</td>
<td>0.26</td>
<td>0.03</td>
<td>0.40</td>
<td>9.90</td>
<td>&lt;.001</td>
<td>.158*</td>
<td>F(2, 514)=53.47*</td>
<td></td>
</tr>
<tr>
<td>Cognitive Self-Stigma</td>
<td>0.24</td>
<td>0.03</td>
<td>0.32</td>
<td>7.61</td>
<td>&lt;.001</td>
<td>.099*</td>
<td>F(2, 514)=34.39*</td>
<td></td>
</tr>
<tr>
<td>Affective Self-Stigma</td>
<td>0.24</td>
<td>0.03</td>
<td>0.30</td>
<td>7.17</td>
<td>&lt;.001</td>
<td>.090*</td>
<td>F(2, 514)=29.98*</td>
<td></td>
</tr>
<tr>
<td>Behavioral Self-Stigma</td>
<td>0.29</td>
<td>0.03</td>
<td>0.40</td>
<td>9.90</td>
<td>&lt;.001</td>
<td>.159*</td>
<td>F(2, 514)=50.07*</td>
<td></td>
</tr>
</tbody>
</table>

*p < .001

**Differences between groups.** To better understand how the Extent of Concealment measure may operate differently for gender minority versus cisgender participants, regression coefficients were compared between groups by creating a dummy variable that omits the cisgender group from the regression analysis. This dummy variable was then entered in the second step of the hierarchical regression alongside the Extent of Concealment variable. For psychological distress, the dummy variable’s t-score was not significant (p = .88); thus, the regression coefficient is not different between groups. The same was true for self-stigma (p = .82). The Extent of Concealment measure indicates
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concurrent validity for both the gender minority and cisgender subsamples. Results of these analyses can be found in tables 17 and 18.

Table 17

Hierarchical Regression Analysis Comparing Strength Relationships of Concealment and Psychological Distress between Gender Minority and Cisgender Subsamples

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Entered</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>sig.</th>
<th>ΔR²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Age</td>
<td>-0.24</td>
<td>0.005</td>
<td>-0.22</td>
<td>-5.08</td>
<td>&lt;.001</td>
<td>.048*</td>
<td>F(1, 514)=25.82*</td>
</tr>
<tr>
<td>Step 2</td>
<td>Age</td>
<td>-0.02</td>
<td>0.004</td>
<td>-0.16</td>
<td>-4.07</td>
<td>&lt;.001</td>
<td>.167*</td>
<td>F(3, 512)=46.66*</td>
</tr>
<tr>
<td></td>
<td>Extent of Concealment</td>
<td>0.39</td>
<td>0.04</td>
<td>0.41</td>
<td>9.75</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dummy Variable</td>
<td>0.003</td>
<td>0.02</td>
<td>0.006</td>
<td>0.15</td>
<td>.883</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .001

Table 18

Hierarchical Regression Analysis Comparing Strength Relationships of Concealment and Self-Stigma between Gender Minority and Cisgender Subsamples

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables Entered</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
<th>t</th>
<th>sig.</th>
<th>ΔR²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>Age</td>
<td>-0.009</td>
<td>0.003</td>
<td>-0.12</td>
<td>-2.73</td>
<td>.007</td>
<td>.014*</td>
<td>F(1, 515)=7.45*</td>
</tr>
<tr>
<td>Step 2</td>
<td>Age</td>
<td>-0.005</td>
<td>0.003</td>
<td>-0.07</td>
<td>-1.62</td>
<td>.107</td>
<td>.158**</td>
<td>F(3, 513)=35.60**</td>
</tr>
<tr>
<td></td>
<td>Extent of Concealment</td>
<td>0.26</td>
<td>0.03</td>
<td>0.41</td>
<td>9.38</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dummy Variable</td>
<td>-0.003</td>
<td>0.01</td>
<td>-0.01</td>
<td>-0.23</td>
<td>.815</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .01

Results – Moderation Analyses

The second model consisted of a moderation analysis to test Hypotheses 4a and 4b in order to investigate how authenticity moderates the relationship of concealment to the outcome variables. Additionally, moderation analyses were run to compare moderation relationships between gender minority and cisgender subsamples. The moderation analysis was conducted in SPSS, Version 24 using the PROCESS Procedure for SPSS (Hayes, 2018).

Authenticity as a moderator for psychological distress. Authenticity in one’s LGBTQIA+ identity was examined as a moderator of the relationship between Extent of Concealment and
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psychological distress. Each predictor was entered into the model in the first step with age as a covariate, and then their interaction term was added in the second step. The addition of the interaction term explained a significantly attenuated increase in variance in psychological distress, $\Delta R^2 = .01$, $F(1, 511) = 9.87$, $p = .002$. Thus, authenticity was a significant moderator of the relationship between concealment and psychological distress. The unstandardized simple slope for participants one standard deviation below the mean of authenticity was 0.50 ($p < .001$), 0.35 for those with scores at the mean level of authenticity ($p < .001$), and 0.28 for those one standard deviation above the mean of authenticity ($p < .001$). Results of the moderation analyses between concealment and psychological distress are presented in Table 19 and are visualized in Figure 7.

This moderation relationship held true for cisgender participants as well ($\Delta R^2 = .02$, $F[1, 278] = 7.37$, $p = .007$), but was only marginally significant for gender minority participants ($\Delta R^2 = .01$, $F[1, 228] = 3.30$, $p = .07$). The aforementioned analyses were all conducted using the combined authenticity subscale, which had items validated amongst lesbian, gay, and bisexual samples and transgender samples separately. In order to see whether these moderation relationships persisted when using the validated authenticity subscale for each group, a moderation analysis was run using the LBG-PIM for cisgender participants and T-PIM for gender minority participants. Using the LGB-PIM scale, which was validated solely on sexual minority individuals, the moderation relationship withstands ($\Delta R^2 = .02$, $F[1, 279] = 7.76$, $p = .006$). Using the T-PIM scale, which was validated for gender minority individuals, authenticity in one’s gender minority identity did not moderate the relationship between concealment and psychological distress ($p = .169$).
Table 1

A Regression Analysis for the Interaction of Concealment of Gender and Sexual Identity and Authenticity in Predicting Psychological Distress

<table>
<thead>
<tr>
<th>Variables Entered</th>
<th>B</th>
<th>SE B</th>
<th>t</th>
<th>sig.</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>F(4, 511)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Summary</td>
<td>.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F(4, 511)=49.55**</td>
</tr>
<tr>
<td>Age</td>
<td>-0.01</td>
<td>0.004</td>
<td>-3.32</td>
<td>&lt;.001</td>
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<td></td>
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</tr>
<tr>
<td>Concealment</td>
<td>0.85</td>
<td>0.16</td>
<td>5.42</td>
<td>&lt;.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authenticity</td>
<td>0.13</td>
<td>0.10</td>
<td>1.41</td>
<td>.160</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealment X Authenticity</td>
<td>-0.09</td>
<td>0.03</td>
<td>-3.14</td>
<td>.002</td>
<td>.014</td>
<td></td>
<td>F(1, 511)=9.87*</td>
</tr>
</tbody>
</table>

*p < .01

**p < .001

Figure 7. The Interaction of Concealment of Gender and Sexual Identity and Authenticity in Predicting Psychological Distress.

**Authenticity as a moderator for self-stigma.** Authenticity in one’s LGBTQIA+ identity was examined as a moderator of the relationship between concealment and self-stigma. An identical
procedure was followed as in the first two moderation analyses described above. Similar to the model above, the interaction of concealment and authenticity significantly reduced the increase in variance in self-stigma ($\Delta R^2 = .03, F[1, 512] = 27.47, p < .001$); thus, authenticity significantly moderates the relationship between concealment and self-stigma. For participants one standard deviation below the mean in their authenticity, the unstandardized slope was 0.33 ($p < .001$). For those at the mean, the unstandardized slope was 0.20 ($p < .001$), and for those one standard deviation above the mean, the unstandardized slope was 0.14 ($p < .001$). Results of the moderation analyses between concealment and psychological distress are presented in Table 20 and are visualized in Figure 8.

This moderation relationship held true for gender minority participants ($\Delta R^2 = .01, F[1, 228] = 5.59, p = .019$) and cisgender participants as well ($\Delta R^2 = .04, F[1, 279] = 25.65, p < .001$). Using the T-PIM scale of authenticity, authenticity continued to moderate this relationship, albeit less strongly ($\Delta R^2 = .01, F[1, 228] = 4.25, p = .04$). Using the LGB-PIM, the moderation relationship was maintained ($\Delta R^2 = .04, F[1, 279] = 23.94, p < .001$).

Table 20

<table>
<thead>
<tr>
<th>Variables Entered</th>
<th>B</th>
<th>SE B</th>
<th>t</th>
<th>sig.</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Summary</td>
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<td></td>
<td>.53</td>
<td></td>
<td></td>
<td>$F(4, 512) = 146.73^*$</td>
</tr>
<tr>
<td>Age</td>
<td>0.002</td>
<td>0.002</td>
<td>0.90</td>
<td>.37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealment</td>
<td>0.66</td>
<td>0.09</td>
<td>7.70</td>
<td>&lt;.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authenticity</td>
<td>-0.007</td>
<td>0.05</td>
<td>-0.13</td>
<td>.90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concealment X Authenticity</td>
<td>-0.08</td>
<td>0.02</td>
<td>-5.24</td>
<td>&lt;.001</td>
<td>.025</td>
<td>$F(1, 512) = 27.47^*$</td>
<td></td>
</tr>
</tbody>
</table>

*p < .001
The purpose of this study was twofold: 1) to validate a measure of concealment encompassing cognitive, affective, and behavioral factors, and 2) to analyze the relationship amongst concealment, a sense of authenticity in one’s LGBTQIA+ identity, and negative health indicators, namely psychological distress and self-stigma. The Extent of Concealment measure represents a novel approach to conceptualizing and measuring concealment of gender and sexual identity. Using factor analysis, this measure was reduced from a 64-item measure to 22 items with a confirmed factor structure, and these

Figure 8. The Interaction of Concealment of Gender and Sexual Identity and Authenticity in Predicting Self-Stigma.

Discussion

The purpose of this study was twofold: 1) to validate a measure of concealment encompassing cognitive, affective, and behavioral factors, and 2) to analyze the relationship amongst concealment, a sense of authenticity in one’s LGBTQIA+ identity, and negative health indicators, namely psychological distress and self-stigma. The Extent of Concealment measure represents a novel approach to conceptualizing and measuring concealment of gender and sexual identity. Using factor analysis, this measure was reduced from a 64-item measure to 22 items with a confirmed factor structure, and these
items collectively demonstrate excellent reliability and predictive power of dependent variables in this study. Compiling items pertaining to cognitive and affective-stress concealment processes as well as avoidance and counterfeiting behaviors in one measure serves to advance the field by coalescing disparate concealment literatures into a more comprehensive measure.

Furthermore, tapping into cognitive, affective-stress, and behavioral aspects of concealment uncovers the presence and activity of important general psychological processes involved in concealment that may contribute to health disparities. Understanding how these processes operate has direct utility for better understanding the mechanisms by which minority stress “gets under the skin” (Hatzenbuehler, 2009). This understanding may also be useful for developing cognitive-behavioral approaches to clinical intervention to offset the negative impacts of concealment. Approaching minority stress constructs with cognitive-behavioral theory (Barlow et al., 2016; Beck, 1993) may help to systematize study of minority stress with an eye toward effective intervention and mitigation, to elaborate and differentiate between minority stress processes, and to guide study of the different levels of analysis from psychopathology to biological mechanisms (Flentje et al., 2019).

The Extent of Concealment measure is useful in highlighting the construct’s impact on mental health through measuring cognitive, affective, and behavioral aspects comprehensively. As previously shown, concealment measured in this way predicted depression, anxiety, stress, social anxiety, and substance use (Brennan, 2019). What’s more, measuring aspects of concealment together helps researchers to understand how concealment may impact outcomes differentially. For instance, behavioral concealment appears to be more predictive of substance use than cognitive or affective concealment (Brennan et al., 2019). In the present study, concealment strongly and positively predicted psychological distress broadly, as well as lower well-being, more problems and symptoms, and functional deficits in the previous week. These findings are consistent across the literature for GSM individuals and for those with concealable stigmas who experience greater impacts to well-being, a greater quantity and greater severity of psychological symptoms, and worse physical health effects than those without (Pachankis, 2007).
Consistent with the literature, concealment appears to have persistent downstream effects even after individuals come out (Pachankis, Cochran, & Mays, 2015). Concealment may contribute to these negative outcomes because it deprives individuals of social connection (Pachankis, 2007), engenders a state of constant threat with cognitive and affective consequences (Bruce et al., 2015), and facilitates the internalization of societal messages of stigma (Pachankis, 2009; Schmid, 2005). This close relationship between concealment and internalized stigma was demonstrated in this study as well and may help to explain how minority stress accumulates and persists. An understanding of stigma compels concealment, which, in turn, reaffirms the stigma as individuals fail to be their most fundamental selves (Katz-Wise & Byrdge, 2015; Pachankis & Hatzenbuehler, 2013).

Concealment negatively predicts a sense of authenticity in one’s LGBTQIA+ identity. This is not surprising given that concealment is comprised of inauthentic efforts in which individuals try to present themselves with identities they do not hold (i.e., cisgender and/or heterosexual). Individuals who conceal abide by societal norms established by the majoritarian population as opposed to a felt sense of themselves and their own identity. This, in turn, alienates the individual from themselves, their immediate (or potential) communities, and their intrinsic motivations and goals (Brennan, 2019; Riggle & Rostosky, 2011). This sense of alienation is exacerbated by the cognitive and affective-stress processes required for effective concealment, like vigilance. Hence, more concealment appears to yield less authenticity, which, in turn, increases self-stigma (King et al., 2017; Larson et al., 2015).

And yet, the results of this study also demonstrate that a sense of authenticity in that same identity can attenuate the impact of concealment on psychological distress and self-stigma. Despite the deleterious impact of concealment on an individual, there is hope that individuals can offset negative experiences through connection with and genuine embodiment of those identities. Those who consider their GSM identities to be a core part of themselves are more likely to pursue goals, relationships, and valued activities despite stigma, social rejection, or the threat of victimization (Drabble et al., 2018; Riggle et al., 2014; Rivera et al., 2019). The moderation relationships shown here mirror the power of the
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notion of “pride” in the LGBTQIA+ community: what was once stigmatized has been transformed into reason for celebration. As has been shown with GSM individuals, those who are more “out” tend to feel more authentic, which negatively predicts depressive symptoms and stress (Riggle et al., 2017). Authenticity only marginally moderated the relationship between concealment and psychological distress for gender minority participants. This discrepancy with the cisgender subsample could be explained by the double concealment individuals who identify as both gender and sexual minority may engage in as they either conceal their gender identity, sexual identity, or both, or the fact that they tend to conceal longer and thus experience concealment in a more prolonged way (Brennan, 2019). Additionally, over the last ten years, societal acceptance has grown for cisgender, sexual minority individuals in the United States, but acceptance of gender minority individuals still lags behind. This reality makes coming out more difficult and treacherous as well as hinders gender minority individuals’ striving for authenticity for themselves, their goals, and within social relationships (Riggle et al., 2017).

A particularly robust finding in this study is that authenticity negatively predicted self-stigma and moderated the relationship between concealment and self-stigma. Concealing an identity and the residual feelings of inauthenticity engendered in that experience may lay the foundation for the internalization of stigma, as mentioned above, as individuals often become ashamed of themselves for having a secret (Larson & Chastain, 1990; Pachankis, 2007). This, in turn, provides an internal rationalization for the stigma (Pachankis, 2009; Schmid, 2005) and can disrupt core developmental processes (Katz-Wise & Budge, 2015; Pachankis & Hatzenbuehler, 2013) and self-esteem (Dyar et al., 2016; Pineles et al., 2006; Uysal et al., 2010). Each of these consequences may abet the onset of depression and anxiety (Frable et al., 1998). Access to authentic self-concept, social connection, and self-driven, goal-directed behavior seems to offset the relationship between concealment and self-stigma (Almario et al., 2013; Budge et al., 2015; Kozee et al., 2012; Levitt & Ippolito, 2014; Pulice-Farrow et al., 2017; Riggle et al., 2014). A greater sense of authenticity may obviate the need for more concealment (Pachankis, 2007; Pepping et al., 2019; Ryan & Ryan, 2019), particularly as GSM individuals learn to understand and benefit from their
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GSM identities (Riggle & Rostosky, 2011). These robust findings from the regression and moderation analyses provide concurrent validity for the Extent of Concealment measure, which will be discussed in more detail below.

This study originated from the explication of concealment as a multidimensional construct and the subsequent consideration of how concealment might compromise an individual’s sense of authenticity. Consequently, an observer can imagine how concealment could interfere with development of one’s sense of self, their valued goals, and their interpersonal relationships, and thus interrupt core underpinnings of individual well-being. By exploring this topic, the nature of concealment is further clarified. Additionally, this work helps to clarify how GSM individuals who do claim their identities in authentic ways may become buffered from the impacts of the social-environmental factors that formerly compelled them to conceal (Ehrensaft et al., 2018).

Validation of the Extent of Concealment Measure

Validity of the Extent of Concealment measure was assessed using a confirmatory factor analysis, construct validity analyses examining convergent and discriminant validity, and concurrent validity established by relating the measure to dependent variables. Overall, there is mixed evidence of the validity of this measure as an instrument of concealment. The CFA confirmed the factor structure uncovered by the EFA with a second sample of GSM individuals and demonstrated excellent fit. Although the four-factor model fit the data better than the hierarchical model, these two models both showed excellent fit to the data and the former model was only incrementally better. This finding indicates good fit to the data as well as a high likelihood that each of the four factors are interrelated by loading onto a second-order latent factor of concealment. The 22-item measure demonstrated excellent internal consistency reliability across two samples and four subsamples as did all four factors, indicating that there were consistent response patterns amongst items and factored subscales. It also showed convergent validity with the Self-Concealment Scale, indicating that these two instruments measure a
similar construct. As described above, the measure demonstrated strong concurrent validity in positively predicting psychological distress and self-stigma.

Yet, there is also evidence to suggest that the measure could be improved to capture the construct with greater empirical validity. Firstly, the three factors derived from two-factor and four-factor EFA did not account for a large enough portion of the variance to indicate that these items were collectively tapping into a latent construct in a robust way. Despite the fact that a majority of the variance was accounted for by both the two- and four-factor solutions, a large portion of the variance (>40.00%) was not. This leftover variance (also known as the “error variance”) highlights sizeable random error measured by the instrument, which may undermine its usefulness.

Despite being pulled from a wide variety of measures of and studies on concealment, the items that accounted for the most variance were those pertaining to the cognitive concealment factor. The cognitive factor accounted for 90.00% of the variance in the first EFA (before adding in the behaviorally-factored items in the second analysis) and 77.71% of variance of the second EFA (after adding in behaviorally-factored items). Likewise, there was a drastic drop-off in values from the first eigenvalue associated with the cognitive factor to the second eigenvalue associated with the affective-stress factor. The magnitude of the eigenvalue of the latter factor was much closer to the eigenvalues for the avoidance and counterfeiting behaviors factors. Had the principal investigator simply used the scree plot to determine the number of factors (which is rarely recommended on its own but one simplistic way of determining factor inclusion), rather than taking into account multiple other standards, these analyses would have rendered a clear one-factor solution. As concealment has been primarily conceptualized according to its observable behaviors (i.e., inhibition, avoidance, and counterfeiting; Cain, 1991; Jackson & Mohr, 2016; Pennebaker, 1985), this is a surprising finding, particularly in light of the fact that items pertaining to concealment behaviors did not account for much of the variance at all among the items. This may indicate that for individuals who conceal, the stressful aspects of the experience, or at least the
aspects that are most salient to them, are not the behaviors themselves but the cognitive processes that compel and maintain them.

The decision to run a behaviorally-specific factor analysis and then to verify the final EFA four-factor structure in a second factor analysis was founded more on theory than on an empirical basis. It seemed inconceivable that a measure of concealment would largely lack behaviorally-focused items given an extensive theoretical and empirical basis for the existence of concealment behaviors among GSM individuals. All factor analyses offer opportunities for researchers to provide more subjective inputs, although this should be done with clear theoretical justification, methodological rigor, and transparency. The devised procedure attempted to achieve these goals using a strong theoretical basis for the inclusion of behavioral items, a methodologically rigorous factor analysis to derive behavioral factors, and clear annotation of the decisions made in the process for transparency’s sake. The resulting factors of avoidance and counterfeiting have been documented among LGBT employees (Anderson et al., 2001; Human Rights Campaign, 2014) as well as among both gender minority individuals (Katz-Wise & Budge, 2015; Money et al., 1975; Rood et al., 2017) and sexual minority individuals (Carragher & Rivers, 2002; Malterud & Bjorkman, 2016). Despite taking these additional steps paired with the legitimate methodological concerns of creating a factor structure in this manner, the behavioral factors also warrant further investigation as they are intrinsically weaker factors containing only two items each, which is below recommendations for a strong factor without ample theoretical rationale (Raubenheimer, 2004). Although each two-item factor had sufficient internal consistency reliability, the four together did not, indicating inconsistent response patterns across behavioral items and posing a measurement problem for the shorter form compared to the longer form (Smith, McCarthy, & Anderson, 2000). Additionally, the final two behavioral factors notably excluded inhibition behaviors. This is despite a strong empirical basis for these items vis-à-vis the behavioral inhibition model of concealment (Pennebaker, 1985) as well as research on self-silencing among GSM individuals (Cole, Kemeny, Taylor, & Visscher, 1996; Perry et
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al., 2017). Nonetheless, it was not prudent to force these items into an already manipulated factor structure.

Although including these behavioral factors in the final model rendered a factor structure with excellent fit for a second sample, there remains a question about whether there is a larger construct of concealment encompassing these four factors. For greater certainty, patterns of covariances among all the items should have rendered a robust factor structure including four factors on their own. This may have been impeded given that in the first sample, there were higher rates of missing data on behavioral items, which impacted calculations of correlations and covariances in the factor analyses. Given the imbalance amongst the four factors, it is also possible that for those retrospectively reporting concealment behaviors, the more salient aspects of concealment were the cognitive and emotional strain as opposed to the behaviors themselves, particularly due to the fact that some concealment behaviors may occur automatically (Malterud & Bjorkman, 2016). Finally, attempting to collapse experiences of concealment of gender and sexual identity may have resulted in differential patterns of responses based on experiences of concealment. For example, these samples included individuals who concealed a gender identity only, a sexual identity alone, and who doubly concealed both a gender and sexual identity. The behaviors individuals of different identities engage in may be far less uniform than are the internal concealment processes that run parallel to those behaviors.

Considering all of this together, there may be utility in conceptualizing concealment as a truly proximal stress process comprised primarily of cognitive and affective-stress processes that occur alongside or motivate certain concealment behaviors in situations that demand them (Hatzenbuehler, 2009). Concealment, thus, extends far beyond the social situations in which observable behaviors may be engaged in and consists of immense activation of internal processes to plan and enact concealment, to scrutinize the effectiveness of its deception, and to suppress and withstand the emotional toll that results. Likewise, the impact of these concealment behaviors exacerbate threats to coherence, especially in environments where the concealed identity is particularly salient, as outlined by the Behavior-
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Expectation-Threat Model (Bosson et al., 2012). Concealment is an affront to authentic self-concept and the congruence between internal and external states (Cable, Gino, & Staats, 2013; Gino, Kouchaki, & Galinsky, 2015; Harter, 2002; Lehman, O’Connor, Kovács, & Newman, 2018). Concealing deprives individuals of a sense of fluency with themselves and in the world, reflected in the prominence of the cognitive and affective-stress processes represented here (Schmader & Sedikides, 2018).

Convergent validity. Unexpected patterns of correlations occurred in the convergent validity analyses. Although the Extent of Concealment measure moderately correlated with the Self-Concealment Scale, the magnitude of that correlation fell below expectations but exceeded acceptable standards for establishing convergence (Drummond et al., 2016; Swank & Mullen, 2017). Surprisingly, the Extent of Concealment measure did not correlate strongly with the other two measures of concealment and outness: the Nebraska Outness Scale – Concealment (NOS-C) subscale or the Outness Inventory. The approach to assessing concealment and outness is quite distinct from the comprehensive method employed by the Extent of Concealment measure in that these two measures address the relational aspect of concealment and disclosure as opposed to aspects of the constructs themselves (Meidlinger & Hope, 2014; Mohr & Fassinger, 2000). The NOS-C asks about whom the respondent avoids telling about their identity, while the Outness Inventory queries who knows about the respondent’s identity. Both approaches are quite distinct from the approach employed by the Extent of Concealment measure, which focuses on what an individual might be thinking, feeling, and doing in order to conceal. The Self-Concealment Scale better approximates the approach utilized by the Extent of Concealment measure, which may explain the more predictable correlational relationship. It is important to note that the Self-Concealment Scale is a trait-based measure of concealment and not specified for GSM individuals, so the Extent of Concealment measure more strongly correlated with a non-GSM-related measure of concealment as opposed to those validated for use with sexual minority individuals. It would be helpful to correlate the Extent of Concealment measure with additional measures of concealment that address specific experiences and behaviors, such as the Sexual Orientation Concealment Scale (Jackson & Mohr, 2016). Seeing patterns of
correlations with other measures of concealment could be helpful, although it is also important to highlight that the three convergent measures (the Self-Concealment Scale, the NOS-C, and the Outness Inventory) all correlated with one another in a convergently valid way, which may imply that the Extent of Concealment measure is failing to capture the construct of concealment and is, instead, capturing another phenomenon altogether.

An additional consideration exists regarding the Outness Inventory. As mentioned, the Outness Inventory has often been treated as the inverse of concealment despite the fact that the researchers who design it have accentuated that concealment and disclosure are distinct constructs that are not perfectly negatively correlated (Jackson & Mohr, 2015). Thus, for the design of this study, the Outness Inventory could potentially have been used as a measure of discriminant validity. Given its near non-existent correlation with the Extent of Concealment measure, this may provide evidence of discriminant validity for the Extent of Concealment measure. Again, this should be tempered when considering the pattern of correlations amongst the NOS-C, the Outness Inventory, and the Self-Concealment Scale in this sample. These patterns operated as predicted and are more indicative of convergent validity.

**Discriminant validity.** The Extent of Concealment measure did not discriminate from the Self-Stigma Scale nor the Anticipated Stigma Scale. The strongest correlation was between the Extent of Concealment measure and Anticipated Stigma, then with the Self-Concealment Scale mentioned above, and then the Self-Stigma Scale. The Nebraska Outness Scale also failed to discriminate from these measures, while the Outness Inventory did. Even using a less stringent threshold to demonstrate divergence, as Meidlinger and Hope (2014) used in validating the Nebraska Outness Scale, the Extent of Concealment still does not diverge. Plus, considering the differences in magnitude between the other concealment measures and these discriminant measures, it would be difficult to justify the conclusion that the Extent of Concealment measure adequately diverges from measures of other proximal stress processes. Further investigation is warranted, especially since the other validated measures of concealment failed to discriminate constructs. Again, since the convergent and discriminant measures all
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capture proximal stress processes in the minority stress model (Meyer, 2003), there may be more psychological overlap amongst them all. This may be particularly true given this particular conceptualization of concealment as having cognitive, affective-stress, and behavioral aspects. Both internalized stigma and expectations of rejections consist of internal cognitive and affective processes (Meyer, 2003). Given the strength of the cognitive factor in this model, it may be no surprise that these constructs overlap and potentially share underlying psychological processes that are now being measured by the Extent of Concealment instrument. These proximal stress processes may not be very distinct except in the specific behaviors each motivates. For instance, the Extent of Concealment measure most strongly correlated with an Anticipated Stigma measure, which taps into expectations of rejection. As hiding is a shame response and prompted out of fear that an individual’s community may reject them (Lynch, 2018), the close empirical tie between concealment and expectations of rejection may not be surprising (Meyer, 2003). Concealment has been shown to be motivated by expectations of rejection (Petrocci et al., 2019). As explored above, concealment and internalized stigma may closely interact. Or, how these constructs are empirically related may be difficult to tease these internal processes apart without more sensitive instrumentation, which is difficult to achieve through survey methodology.

Measurement invariance. The Extent of Concealment measure was constructed and intended to be a measure of concealment of both gender and sexual identity to be used with a diverse population of GSM individuals. It was important to establish the validity of this measure for that purpose and for use with those distinct, but sometimes overlapping, populations. Overall, the Extent of Concealment measure is a valid measurement for use with both gender and sexual minority populations, at least when the majority of gender minority individuals also identify as sexual minority, as occurred in both the exploratory and validation samples in studies 1 and 2 detailed herein. Nonetheless, there are differences in the experiences of concealing a gender versus a sexual identity, or for those who must conceal both (Rood et al., 2017). Gender minority individuals appear to conceal more than their cisgender counterparts when looking at between-group differences in Extent of Concealment scores as well as when comparing
strengths of loadings on factors and applying the most restrictive parameter specifications across groups. This difference could reflect concealing more than one identity in multiple environments for various reasons (Rood et al., 2017; 2018), or concealing for longer than their cisgender, sexual minority peers (Brennan, 2019). This is an important finding because most of the items used in the Extent of Concealment measure were derived from studies focused on concealment of sexual orientation and not gender identity. Based on these results, concealment appears pertinent to individuals who qualify as both a gender and sexual minority.

Yet, importantly, there appears to be parity between the two populations in regard to the utility of the Extent of Concealment measure for predicting the dependent variables. Perhaps, this finding indicates a ceiling effect of sorts in which concealing more than one identity does not necessarily proportionally elevate the stress burden. Analyzed in another way, considering the high proportion of bisexual-identified individuals in this sample, there may be similar patterns of relationships with dependent variables between the groups given that bi+ individuals also tend to conceal more than other sexual minority subpopulations (Balsam & Mohr, 2007; Dyar et al., 2015; Feinstein et al., 2017; Feinstein & Dyar, 2017; Puckett et al., 2016).

**Summary of validity analyses.** Concealment of gender and sexual identity is a complex phenomenon implicating cognitive and affective processes and deploying multiple behaviors. As such, it has deleterious consequences for the well-being of GSM individuals. Sufficient measurement of this construct has been lacking, and this study attempted to advance the goal of specifying and systematizing measurement of concealment. Advances in measurement enhance specification of concealment’s impacts and illuminate avenues for the development of effective interventions to mitigate the impact of minority stress. Better conceptualization of the construct also enables theorization on the factors involved in the stress pathway between concealment and negative health consequences. The validity analyses of the Extent of Concealment measure show mixed results, and further investigation and refinement of the instrument is warranted. There is evidence to suggest that the Extent of Concealment measure is valid as
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a measure of concealment based on the confirmatory factor analysis, convergent validity analyses, and concurrent validity analyses; however, it appears to lack more satisfactory robustness as well as the sensitivity needed to discriminate from other proximal stress processes. Psychometric measurement of complex constructs, like concealment and other proximal stress processes, can be empirically difficult, particularly among a marginalized community.

Summary and Conclusion

Concealment of gender and sexual identity appears to negatively affect the health of GSM individuals through greater psychological distress and more severe self-stigma. Cognitive, affective, and behavioral processes contribute to these deleterious psychological conditions among GSM individuals. These findings help to elucidate how concealment functions and to further reveal the extent of the public health impact minority stress has on GSM populations. As a predictor of distress and self-stigma, concealment may deter individuals from developing an authentic sense of their GSM identity, connecting with a supportive GSM community, and pursuing their goals. In this situation, individuals are alienated from themselves, their communities, and their values. However, this is not the end of the story. The GSM individuals in this study experienced concealment and yet, many of them also have developed an authentic sense of their GSM identities. This sense of authenticity appears to attenuate concealment’s ability to pose a risk to psychological health. Concealment can compromise, but not prevent, the development of an authentic sense of self.

The findings of this study related to authenticity are an exciting addition to the field. Much of the research done with GSM populations focuses on health disparities. Although this is vitally important, such foci can miss the powerful stories of individuals overcoming adversity, joining together in tight-knit and activist communities, and creating a rich culture that defies stigma and the hegemonic oppression of cissexist and heterosexist ideology and that makes the world a better place for a diverse array of identities.
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Limitations

This study has several limitations. Most notably, as described above, there are some concerns as to whether Extent of Concealment measure is a valid measure of the construct of concealment. Additionally, assessing for concealment of gender and sexual identity is complicated given the difficulty of accessing actively concealing populations. Although retrospective report of concealment has been found to be valid, the accuracy of individuals’ memories and self-awareness of their internal and external behaviors at the time of concealment may be more limited (Calzo et al., 2011). There is also conflicting evidence as to the utility of measuring concealment of gender and sexual identity together, which may miss nuances in each population’s experiences of concealment and inflate gender minority scores on the Extent of Concealment measure compared to cisgender respondents. A common problem that beleaguer the study of GSM populations is self-selection sampling bias in which participants who are recruited via social media tend to be less concealing of their identities, have greater involvement in LGBTQIA+ communities, and also are more educated and younger, as exemplified in this sample (Calzo et al., 2011; Diamond & Savin-Williams, 2009). What’s more, this sample was also predominantly white and assigned-female-at-birth, which may have impacted the results of the study and its generalizability to other GSM populations. Finally, due to the fact that the study engaged a nonrandom sample, the results are not generalizable. The cross-sectional methodology also removed the possibility of making any conclusions of causal inference.

Future Directions

Continued validation of the Extent of Concealment measure is warranted, particularly given its novel approach to measuring concealment and the mixed validity results found in this study. It may make sense to test the measure on gender minority and cisgender samples separately, specifying the type of concealment (either of gender or sexual identity) in subsequent studies. Given the unique experiences of individuals who may conceal both a gender and sexual identity, obtaining observations from each of these
experiences individually may remove systematic error that arises from clumping these experiences together. In turn, the construct validity of the current approach to measuring concealment, that is, considering the cognitive, affective, and behavioral aspects of concealment, may be more clearly empirically supported by analyzing concealment of gender identity and sexual identity separately as distinct constructs. Nonetheless, the concealment experiences of those who do conceal both should remain an important area of research as these experiences may create additional stress burdens above and beyond concealment of either gender or sexual identity alone. As no measure of concealment of gender identity currently exists, this is also an area ripe for further investigation and psychometric development. From a global perspective, improvement in the measurement of GSM experiences is an essential and important project in order to better understand how minority stress confers risk for health problems, to prevent or mitigate the impact of minority stress on GSM individuals, and to raise awareness and reduce stigma.

Balancing health disparities research with resilience research is also vitally important for future directions. Although it may be impossible, and perhaps unsafe and unwise, to prevent concealment of gender and sexual identity as a public health measure, it would be possible, and most likely universally beneficial, to concentrate efforts on supporting individuals in discovering their authentic selves and using that sense of self to form supportive communities and motivate values-directed activity. On the individual level, focusing interventions on the enhancement of a sense of authenticity may go a long way in improving psychological health for GSM individuals. This is a worthy avenue for development of effective interventions.
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### Table 1

**Extent of Concealment Measure Items, Corresponding Subscale, Original Item or Quote**

<table>
<thead>
<tr>
<th>Item</th>
<th>Subscale</th>
<th>Original Item or Quote</th>
<th>Original Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt angry and frustrated to have to hide who I was.</td>
<td>Affective</td>
<td>“I feel a lot of anger. It is so frustrating to have to hide who I am.”</td>
<td>Rood et al., 2017</td>
</tr>
<tr>
<td>I rarely felt comfortable in my own skin when I was concealing my identity.</td>
<td>Affective</td>
<td>How comfortable did you feel during the interaction?</td>
<td>Cook et al., 2011</td>
</tr>
<tr>
<td>I was afraid that others (e.g., family or friends) would reject me if they knew that I’m LGBTQIA+.</td>
<td>Affective</td>
<td>I’m afraid that others will reject me if they know that I’m gay/lesbian/bisexual.</td>
<td>Lasser, Rysen, &amp; Price, 2010</td>
</tr>
<tr>
<td>I worried that if people knew about my identity, they would discriminate against me or shun me.</td>
<td>Affective</td>
<td>I worry about people discriminating against me.</td>
<td>Berger, Ferrans, &amp; Lashley, 2001</td>
</tr>
<tr>
<td>There was nothing specifically I was afraid of, but I dreaded coming out.</td>
<td>Affective</td>
<td>Reasons for nondisclosure to parents – general fear or hesitancy.</td>
<td>D’Augelli, Grossman, &amp; Starks, 2005</td>
</tr>
<tr>
<td>Telling someone about my identity felt risky, so I kept it hidden.</td>
<td>Affective</td>
<td>Telling someone I have HIV is risky.</td>
<td>Berger et al., 2001</td>
</tr>
<tr>
<td>I feared that someone would find out about my identity and tell everyone about it.</td>
<td>Affective</td>
<td>“Being exposed” as a homosexual.</td>
<td>Lewis, Derlega, Berndt, Morris, &amp; Rose, 2002</td>
</tr>
<tr>
<td>I worried that others would find out about my identity.</td>
<td>Affective</td>
<td>I worry that others will find out about my sexual orientation.</td>
<td>Lasser, Rysen, &amp; Price, 2010</td>
</tr>
<tr>
<td>I felt hopeless for the future because I never thought I would be able to be open about my identity.</td>
<td>Affective</td>
<td>Pachankis, 2007</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>I felt isolated because of my concealed identity.</td>
<td>Affective</td>
<td>Pachankis, 2007</td>
<td></td>
</tr>
<tr>
<td>I often felt alienated from my peers and community when I was hiding my identity.</td>
<td>Affective</td>
<td>Cook et al., 2011</td>
<td></td>
</tr>
<tr>
<td>I felt so lonely when I was hiding my identity, and was afraid I would always be lonely.</td>
<td>Affective</td>
<td>Van Gilder, 2017</td>
<td></td>
</tr>
<tr>
<td>I often felt insecure during social interactions when I was hiding my identity.</td>
<td>Affective</td>
<td>Cook et al., 2011</td>
<td></td>
</tr>
<tr>
<td>I felt ashamed of keeping my identity hidden.</td>
<td>Affective</td>
<td>Pachankis, 2007</td>
<td></td>
</tr>
<tr>
<td>“The mere act of hiding information about a stigma may lead an individual to believe that the stigma-related information is shameful simply because it is worthy of being hidden.”</td>
<td>Affective</td>
<td>Cook et al., 2011</td>
<td></td>
</tr>
<tr>
<td>I felt relaxed in interactions where I was concealing my identity. (R)</td>
<td>Affective</td>
<td>Cook et al., 2011</td>
<td></td>
</tr>
<tr>
<td>I rarely felt genuine in my social interactions.</td>
<td>Affective</td>
<td>Cook et al., 2011</td>
<td></td>
</tr>
<tr>
<td>I experienced a lot of sadness due to my identity, and felt like something was wrong with me.</td>
<td>Affective</td>
<td>Rood et al., 2017</td>
<td></td>
</tr>
<tr>
<td>“I experience a lot of sadness; It makes me feel like something is wrong with me.”</td>
<td>Affective</td>
<td>Rood et al., 2017</td>
<td></td>
</tr>
<tr>
<td>I felt drained by the end of the day after having to conceal my identity all day.</td>
<td>Affective</td>
<td>Rood et al., 2017</td>
<td></td>
</tr>
<tr>
<td>To conceal my sexual and gender identity, I avoided contact with people who identified as LGBTQIA+ or events that were tailored to LGBTQIA+ people (e.g., Pride).</td>
<td>Behavioral</td>
<td>To conceal my sexual identity I avoid contact with people who are known to be gay or bisexual.</td>
<td>Bachmann &amp; Simon, 2014</td>
</tr>
<tr>
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</tr>
<tr>
<td>When concealing my sexual and gender identity, I was seen in public with other LGBTQIA+ people. (R)</td>
<td>Behavioral</td>
<td>Being in public with groups of homosexuals (i.e., in a bar, church, rally).</td>
<td>Lewis et al., 2002</td>
</tr>
<tr>
<td>If I thought the topic of my concealed identity was going to come up in conversation, I tried to steer the conversation in a different direction.</td>
<td>Behavioral</td>
<td>If I think the topic of the concealable stigma is going to come up in conversation, I try to steer the conversation in a different direction.</td>
<td>Quinn, Weisz, &amp; Lawner, 2017</td>
</tr>
<tr>
<td>I isolated myself in order to conceal my identity.</td>
<td>Behavioral</td>
<td>How often did you feel isolated?</td>
<td>Bruce, Harper, &amp; Bauermeister, 2015b</td>
</tr>
<tr>
<td>I tried to avoid activities or situations that might make me think about my identity.</td>
<td>Behavioral</td>
<td>In the past month, have you tried to avoid thinking about the abortion or feelings you associate with it?</td>
<td>Major &amp; Gramzow, 1999</td>
</tr>
<tr>
<td>To keep my concealed identity hidden, I avoided becoming Facebook friends with certain people on social media.</td>
<td>Behavioral</td>
<td>To keep my concealable stigma hidden, I avoid becoming Facebook friends (or other social media) with certain people.</td>
<td>Quinn, Weisz, &amp; Lawner, 2017</td>
</tr>
<tr>
<td>I often said I was feeling sick to get out of social obligations where my identity might come up.</td>
<td>Behavioral</td>
<td>I feigned illness.</td>
<td>Rivers, 2000</td>
</tr>
<tr>
<td>I avoided going to work, school, or places that made it too hard to conceal my identity.</td>
<td>Behavioral</td>
<td>I played truant.</td>
<td>Rivers, 2000</td>
</tr>
<tr>
<td>I avoided posting any pictures, posts, or comments online that might reveal my identity.</td>
<td>Behavioral</td>
<td>...he would not be able to post any pictures or comments related to their relationship.</td>
<td>Owens, 2017</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Behavior</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I drank alcohol or did drugs to cope with having a hidden identity.</td>
<td>Behavioral</td>
</tr>
<tr>
<td>While I was concealing my identity, I often tried to look happy enough on the outside, but inwardly I felt angry and rebellious.</td>
<td>Behavioral</td>
</tr>
<tr>
<td>I dressed or behaved in ways that are gender traditional so that others would think I am heterosexual or cisgender.</td>
<td>Behavioral</td>
</tr>
<tr>
<td>I did not care if my online persona revealed that I was LGBTQIA+. (R)</td>
<td>Behavioral</td>
</tr>
<tr>
<td>I joined others in telling demeaning jokes or saying negative things about LGBTQIA+ people so that people would think I was heterosexual or cisgender.</td>
<td>Behavioral</td>
</tr>
<tr>
<td>I made sure to delete my browser history so no one could see I was visiting LGBTQIA+-related websites.</td>
<td>Behavioral</td>
</tr>
<tr>
<td>I admitted that I was LGBTQIA+ when asked. (R)</td>
<td>Behavioral</td>
</tr>
<tr>
<td>To keep my identity hidden, I used vague language when talking about my personal life.</td>
<td>Behavioral</td>
</tr>
<tr>
<td>I lied (or would say &quot;No,&quot; or &quot;why do you think so?&quot;) when somebody asked if I was LGBTQIA+.</td>
<td>Behavioral</td>
</tr>
<tr>
<td>Being read by others as LGBTQIA+ made me try harder to pass.</td>
<td>Behavioral</td>
</tr>
</tbody>
</table>

*Jack & Dill, 1992*

*Anderson et al., 2001*

*Owens, 2017*

*Anderson et al., 2001*

*Schrimshaw, Siegel, Downing, & Parsons, 2013*

*Itzhaky & Kissil, 2015*

*Quinn, Weisz, & Lawner, 2017*

*Malterud & Bjorkman, 2016*

*Bockting, Miner, Swinburne*
<table>
<thead>
<tr>
<th>Behavioral</th>
<th>Behavioral</th>
<th>Behavioral</th>
<th>Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td>In order to hide my identity, I just tried to blend in with other people.</td>
<td>In order to hide my concealable stigma, I just try to blend in with other people.</td>
<td>If the topic of conversation was about people with my concealed identity, I joined in and pretended I didn't have my concealed identity.</td>
<td>If the topic of conversation is about people with my concealable stigma, I join in and pretend I don't have a concealable stigma.</td>
</tr>
<tr>
<td>I tried to control how I talked (e.g. pitch or tone of voice) so it didn't give away my identity.</td>
<td>I try to control how I talk (e.g. pitch of voice).</td>
<td>While concealing, I remained silent while witnessing homophobic or transphobic remarks, jokes, or activities because I did not want to be labeled as LGBTQIA+ by those involved.</td>
<td>In the last 2 weeks, I have remained silent while witnessing anti-gay remarks, jokes, or activities because I did not want to be labeled as LGB by those involved.</td>
</tr>
<tr>
<td>I had a blank profile picture on social media (e.g. dating apps like Grindr or online forums), so no one would recognize me.</td>
<td>“we asked them if their face was visible on their profile pictures as a primary indicator of concerns about anonymity.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I participated in activities regardless of whether people thought I might think I am LGBTQIA+. (R)</td>
<td>I have adjusted my level of participation in sports to appear heterosexual.</td>
<td></td>
<td>Button, 2004</td>
</tr>
<tr>
<td>When people assumed I was heterosexual or cisgender, I neglected to correct their misunderstanding.</td>
<td>“…neglected to rectify other people’s misunderstandings, with a subsequent chain of escalating lies (like gender of partner)…”</td>
<td></td>
<td>Malterud &amp; Bjorkman, 2016</td>
</tr>
<tr>
<td>I concealed my identity because I had no idea how others might respond.</td>
<td>Reasons for nondisclosure to parents – unsure of parental response</td>
<td></td>
<td>D’Augelli et al., 2005</td>
</tr>
</tbody>
</table>

*Romine, Hamilton, & Coleman, 2013*  
*Quinn, Weisz, & Lawner, 2017*  
*Quinn, Weisz, & Lawner, 2017*  
*Timmins, Rimes, & Rahman, 2017*  
*Jackson & Mohr, 2016*  
*Lemke & Weber, 2017*  
*Button, 2004*  
*Malterud & Bjorkman, 2016*  
*D’Augelli et al., 2005*
I was often hard on myself for having my identity.  
Cognitive  I have negative thoughts about myself that I never share with anyone.  
Larson & Chastain, 1990

I felt like I was lying to myself about who I was.  
Cognitive  “Feels like I am living a double-life; I am lying to myself and others.”  
Rood et al., 2017

For me, concealing my identity felt like the most important thing.  
Cognitive  In the last 3 months, for me, passing is everything.  
Bockting et al., 2013

Thoughts about my identity often "popped" into my head the more I tried to hide it from others.  
Cognitive  Thoughts of the target word often "popped" into my mind.  
Lane & Wegner, 1995

I found I could not get thoughts or worries about my identity out of my mind even though I wanted to.  
Cognitive  Did you ever find you couldn't get memories, thoughts, and mental pictures of your baby out of your mind even though you wanted to?  
Lepore, Silver, Wortman, & Wayment, 1996

I found it hard to do other things because thoughts or mental pictures of my identity kept coming into my mind.  
Cognitive  Did you ever find that you had trouble doing other things because memories, thoughts, and mental pictures of your baby kept coming into your mind?  
Lepore, Silver, Wortman, & Wayment, 1996

In conversations, I was sensitive to even the slightest change in the facial expression of the person I was conversing with, particularly if I sensed they were suspicious about my identity.  
Cognitive  In conversations, I am sensitive to even the slightest change in the facial expression of the person I'm conversing with.  
Lennox & Wolfe, 1984

I could not stop thinking about my identity and the need to keep it hidden.  
Cognitive  “keeping secrets leads to increased accessibility of the secret”  
Lane & Wegner, 1995

I worried a lot that everyone already knew about my identity.  
Cognitive  
Pachankis, 2007

Keeping my identity secret really tormented me.  
Cognitive  Some of my secrets have really tormented me.  
Larson & Chastain, 1990
<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Cognitive</th>
<th>Cognitive</th>
<th>Cognitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>I was concerned about the way I presented myself and whether people would figure out my secret.</td>
<td>Cognitive</td>
<td>I'm concerned about the way I present myself.</td>
<td>Fenigstein, Scheier, &amp; Buss, 1975</td>
</tr>
<tr>
<td>I often worried that I would say or do something that would expose my identity.</td>
<td>Cognitive</td>
<td>I often worry that I will say or do wrong things.</td>
<td>Carleton, Collimore, &amp; Asmundson, 2007</td>
</tr>
<tr>
<td>I often tried to think about my identity. (R)</td>
<td>Cognitive</td>
<td>I tried not to think about &quot;the target word&quot; during the computer task.</td>
<td>Carleton, Collimore, &amp; Asmundson, 2007</td>
</tr>
<tr>
<td>I was often afraid that I would reveal something about my identity I didn't want to.</td>
<td>Cognitive</td>
<td>I'm often afraid I'll reveal something I don't want to.</td>
<td>Larson &amp; Chastain, 1990</td>
</tr>
<tr>
<td>When I talked to someone, I worried about what they may be thinking about me, particularly in regard to my concealed identity.</td>
<td>Cognitive</td>
<td>When I am talking to someone, I worry about what they may be thinking about me.</td>
<td>Carleton, Collimore, &amp; Asmundson, 2007</td>
</tr>
<tr>
<td>I paid close attention in social interactions, monitoring the actions of others and trying to detect whether they thought I was LGBTQIA+.</td>
<td>Cognitive</td>
<td>“…closely attending to social interactions, monitoring the actions and discerning the potential perspectives of interaction partners…”</td>
<td>Pachankis, 2007</td>
</tr>
<tr>
<td>I used to plan what I would do or say if someone asked if I was LGBTQIA+.</td>
<td>Cognitive</td>
<td>“…allows the stigmatized person to think ahead to potential paths that can be taken if the interaction partner, in fact, ascertains the hidden stigma…”</td>
<td>Pachankis, 2007</td>
</tr>
<tr>
<td>When I went to social events, I was careful not to let my guard down so I didn't give away my identity.</td>
<td>Cognitive</td>
<td>When I do go to social events, I am careful not to let my guard down so I don't give away the fact that I have my concealable stigma.</td>
<td>Quinn, Weisz, &amp; Lawner, 2017</td>
</tr>
<tr>
<td>I felt like I was &quot;living a lie&quot; or &quot;having to maintain two identities.&quot;</td>
<td>Cognitive</td>
<td>“…living a lie’ or ‘having to maintain two identities’.”</td>
<td>Schwitters &amp; Sondag, 2017</td>
</tr>
</tbody>
</table>
Table 2

**Results of the Principal Component Analysis**

<table>
<thead>
<tr>
<th>Component</th>
<th>Total Eigenvalue</th>
<th>% of Variance</th>
<th>Cumulative %</th>
<th>Total Eigenvalue</th>
<th>% of Variance</th>
<th>Cumulative %</th>
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<td>3.921</td>
<td>3.814</td>
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Table 3

**Demographic characteristics of the analytic sample for Study 1**

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<tbody>
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<tr>
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<tr>
<td>Men</td>
<td>160</td>
<td>25.0</td>
</tr>
<tr>
<td>Women</td>
<td>266</td>
<td>41.6</td>
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<tr>
<td>Non-binary</td>
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<tr>
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<tr>
<td>Another Gender</td>
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<tr>
<td>Sexual Identity</td>
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<tr>
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<tr>
<td>Bisexual</td>
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<td>1.1</td>
</tr>
<tr>
<td>Pansexual</td>
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<td>19.1</td>
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<tr>
<td>Queer</td>
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<tr>
<td>Questioning</td>
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<td>1.3</td>
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<tr>
<td>Another sexual identity</td>
<td>29</td>
<td>4.5</td>
</tr>
</tbody>
</table>
CONCEALMENT AND AUTHENTICITY

Ethnicity
- Black/African-American: 17, 2.7
- Asian or Pacific Islander: 26, 4.1
- White/European-American: 588, 91.9
- Latino/Hispanic or Chicano: 48, 7.5
- Native American/American-Indian: 23, 3.6
- Middle Eastern: 8, 1.3
- Multi-racial: 33, 5.2
- Another race: 5, 0.8

Relationship Status
- Married/domestic partner: 93, 14.5
- Committed relationship: 165, 25.8
- Single, currently dating: 125, 19.5
- Single, not currently dating: 257, 40.0

Education
- Middle school, some high school: 31, 4.8
- High school degree, or equivalent (i.e., GED): 87, 13.6
- Some college, no degree: 259, 40.5
- Associate’s degree: 41, 6.4
- Bachelor’s degree: 135, 21.1
- Graduate degree or professional degree: 86, 13.4
  (M.S./M.A., Ph.D., M.D., J.D.)

Table 5

<table>
<thead>
<tr>
<th>Demographic characteristics of the analytic sample for Study 2</th>
<th>M</th>
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</thead>
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<td>Gender</td>
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<td>Women</td>
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<tr>
<td>Agender</td>
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<td>Another Gender</td>
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<td>6.00</td>
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<td>Sexual Identity</td>
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<td></td>
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<tr>
<td>Queer</td>
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<td>Questioning</td>
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155
Another sexual identity 31 6.00

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<thead>
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<th>Ethnicity</th>
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<tr>
<td>Black/African-American</td>
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<tr>
<td>Asian or Pacific Islander</td>
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<tr>
<td>White/European-American</td>
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<td>Latino/Hispanic or Chicano</td>
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<tr>
<td>Native American/American-Indian</td>
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<td>4.10</td>
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<tr>
<td>Middle Eastern</td>
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<td>1.50</td>
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<td>Multi-racial</td>
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<tr>
<td>Another race</td>
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<table>
<thead>
<tr>
<th>Relationship Status</th>
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<tbody>
<tr>
<td>Married/domestic partner</td>
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</tr>
<tr>
<td>Committed relationship</td>
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<td>26.50</td>
</tr>
<tr>
<td>Single, currently dating</td>
<td>78</td>
<td>15.10</td>
</tr>
<tr>
<td>Single, not currently dating</td>
<td>231</td>
<td>44.70</td>
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</table>

<table>
<thead>
<tr>
<th>Education</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle school, some high school</td>
<td>14</td>
<td>2.70</td>
</tr>
<tr>
<td>High school degree, or equivalent (i.e., GED)</td>
<td>88</td>
<td>17.00</td>
</tr>
<tr>
<td>Some college, no degree</td>
<td>175</td>
<td>33.80</td>
</tr>
<tr>
<td>Associate’s degree</td>
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<td>7.20</td>
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<tr>
<td>Bachelor’s degree</td>
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<td>27.10</td>
</tr>
<tr>
<td>Graduate degree or professional degree</td>
<td>62</td>
<td>12.00</td>
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</table>

(M.S./M.A., Ph.D., M.D., J.D.)

Table 6

**Modified Items of the Extent of Concealment Measure**

<table>
<thead>
<tr>
<th>Item - Masters Version</th>
<th>Item - Dissertation Version</th>
<th>Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 13: I often felt insecure during social interactions when I was hiding my identity.</td>
<td>I felt insecure during social interactions when I was hiding my identity.</td>
<td>removed &quot;often&quot;</td>
</tr>
<tr>
<td>Item 25: While I was concealing my identity, I often tried to look happy enough on the outside, but inwardly I felt angry and rebellious.</td>
<td>I said I was feeling sick to get out of social obligations where my identity might come up.</td>
<td>removed &quot;often&quot;</td>
</tr>
<tr>
<td>Item 29: I admitted that I was LGBTQIA+ when asked.</td>
<td>I denied that I was LGBTQIA+ when asked.</td>
<td>removed reverse-scoring for clarity</td>
</tr>
<tr>
<td>Item 34: I could not stop thinking about my identity and the need to keep it hidden.</td>
<td>It was hard to stop thinking about my identity and the need to keep it hidden.</td>
<td>&quot;I could not stop&quot; was modified to &quot;It was hard to stop&quot; to make the Likert-type scale responses more comprehensible to the prompt.</td>
</tr>
</tbody>
</table>
I often worried that I would say or do something that would expose my identity.

I worried that I would say or do something that would expose my identity.

removed "often"

Table 7

Bivariate Correlations between Covariates, Predictors, and Dependent Variables

<table>
<thead>
<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>1. Age</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Gender</td>
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<td>1.000</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Race</td>
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<td>0.009</td>
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<td></td>
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<td>4. Concealment</td>
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<td>.177**</td>
<td>.091*</td>
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<td></td>
<td></td>
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<tr>
<td>5. Authenticity</td>
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<td>-.117**</td>
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<td></td>
<td></td>
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<tr>
<td>6. Self-Stigma</td>
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<td>0.073</td>
<td>-0.026</td>
<td>.410**</td>
<td>-.627**</td>
<td>1.000</td>
<td></td>
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<tr>
<td>7. Psychological Distress</td>
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<td>.105*</td>
<td>0.049</td>
<td>.435**</td>
<td>-.298**</td>
<td>.424**</td>
<td>1.000</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).
Appendices

Appendix A – Extent of Concealment Measure
Appendix B – Qualitative Codebook
Appendix C - Prescreen
Appendix D - Informed Consent
Appendix E - Demographic and Social History Questionnaire
Appendix F – Nebraska Outness Scale – Concealment (NOS-C)
Appendix G – Outness Inventory (OI)
Appendix H – Self-Concealment Scale (SCS)
Appendix I – Self-Stigma Scale – Short Form
Appendix J – Anticipated Stigma for Concealable Stigma Scale
Appendix K – Lesbian, Gay, and Bisexual Positive Identity Measure (LGB-PIM)
Appendix L – Transgender Positive Identity Measure (T-PIM)
Appendix M - Clinical Outcome in Routine Evaluation (CORE)
Appendix A – Extent of Concealment Measure (Full and Short Version)

Full Version

Think back to when you hid your gender identity and/or sexual orientation. Rate how often you had the following experiences. If you are unsure about how to answer a question, please give the best answer you can.

1 = Never  
2 = Rarely  
3 = Occasionally  
4 = Frequently  
5 = Very frequently

1. I felt angry and frustrated to have to hide who I was.
2. I felt comfortable in my own skin when I was concealing my identity. (R)
3. I was afraid that others (e.g., family or friends) would reject me if they knew that I was LGBTQIA+.
4. I worried that if people knew about my identity, they would discriminate against me or shun me.
5. There was nothing specifically I was afraid of, but I dreaded coming out.
6. Telling someone about my identity felt risky, so I kept it hidden.
7. I feared that someone would find out about my identity and tell everyone about it.
8. I worried that others would find out about my identity.
9. I felt hopeless for the future because I never thought I would be able to be open about my identity.
10. I felt isolated because of my concealed identity.
11. I often felt alienated from my peers and community when I was hiding my identity.
12. I felt so lonely when I was hiding my identity, and was afraid I would always be lonely.
13. I often felt insecure during social interactions when I was hiding my identity.
15. I felt relaxed in interactions where I was concealing my identity. (R)
16. I rarely felt genuine in my social interactions.
17. I experienced a lot of sadness due to my identity, and felt like something was wrong with me.
18. I felt drained by the end of the day after having to conceal my identity all day.
19. To conceal my sexual and gender identity, I avoided contact with people who identified as LGBTQIA+ or events that were tailored to LGBTQIA+ people (e.g., Pride).
20. When concealing my sexual and gender identity, I was seen in public with other LGBTQIA+ people. (R)
21. If I thought the topic of my concealed identity was going to come up in conversation, I tried to steer the conversation in a different direction.
22. I isolated myself in order to conceal my identity.
23. I tried to avoid activities or situations that might make me think about my identity.
24. To keep my concealed identity hidden, I avoided becoming Facebook friends with certain people on social media.
25. I often said I was feeling sick to get out of social obligations where my identity might come up.
26. I avoided going to work, school, or places that made it too hard to conceal my identity.
27. I avoided posting any pictures, posts, or comments online that might reveal my identity.
28. I drank alcohol or did drugs to cope with having a hidden identity.
29. While I was concealing my identity, I often tried to look happy enough on the outside, but inwardly I felt angry and rebellious.
30. I dressed or behaved in ways that are gender traditional so that others would think I am heterosexual or cisgender.
31. I did not care if my online persona revealed that I was LGBTQIA+. (R)
32. I joined others in telling demeaning jokes or saying negative things about LGBTQIA+ people so that people would think I was heterosexual or cisgender.
33. I made sure to delete my browser history so no one could see I was visiting LGBTQIA+-related websites.
34. I admitted that I was LGBTQIA+ when asked. (R)
35. To keep my identity hidden, I used vague language when talking about my personal life.
36. I lied (or would say "No,"
37. Being read by others as LGBTQIA+ made me try harder to pass.
38. In order to hide my identity, I just tried to blend in with other people.
39. If the topic of conversation was about people with my concealed identity, I joined in and pretended I didn't have my concealed identity.
40. I tried to control how I talked (e.g. pitch or tone of voice) so it didn't give away my identity.
41. While concealing, I remained silent while witnessing homophobic or transphobic remarks, jokes, or activities because I did not want to be labeled as LGBTQIA+ by those involved.
42. I had a blank profile picture on social media (e.g, dating apps like Grindr or online forums), so no one would recognize me.
43. I participated in activities regardless of whether people thought I might think I am LGBTQIA+. (R)
44. When people assumed I was heterosexual or cisgender, I neglected to correct their misunderstanding.
45. I concealed my identity because I had no idea how others might respond.
46. I was often hard on myself for having my identity.
47. I felt like I was lying to myself about who I was.
48. For me, concealing my identity felt like the most important thing.
49. Thoughts about my identity often "popped" into my head the more I tried to hide it from others.
50. I found I could not get thoughts or worries about my identity out of my mind even though I wanted to.
51. I found it hard to do other things because thoughts or mental pictures of my identity kept coming into my mind.
52. In conversations, I was sensitive to even the slightest change in the facial expression of the person I was conversing with, particularly if I sensed they were suspicious about my identity.
53. I could not stop thinking about my identity and the need to keep it hidden.
54. I worried a lot that everyone already knew about my identity.
55. Keeping my identity secret really tormented me.
56. I was concerned about the way I presented myself and whether people would figure out my secret.
57. I often worried that I would say or do something that would expose my identity.
58. I often tried to think about my identity. (R)
59. I was often afraid that I would reveal something about my identity I didn't want to.
60. When I talked to someone, I worried about what they may be thinking about me, particularly in regard to my concealed identity.
61. I paid close attention in social interactions, monitoring the actions of others and trying to detect whether they thought I was LGBTQIA+.
62. I used to plan what I would do or say if someone asked if I was LGBTQIA+.
63. When I went to social events, I was careful not to let my guard down so I didn't give away my identity.
64. I felt like I was "living a lie" or "having to maintain two identities."

**Short Version**

Think back to when you hid your gender identity and/or sexual orientation. Rate how often you had the following experiences. If you are unsure about how to answer a question, please give the best answer you can.
CONCEALMENT AND AUTHENTICITY

1 = Never
2 = Rarely
3 = Occasionally
4 = Frequently
5 = Very frequently

1. I worried that I would say or do something that would expose my identity.
2. I paid close attention in social interactions, monitoring the actions of others and trying to detect whether they thought I was LGBTQIA+.
3. I was afraid that I would reveal something about my identity I didn't want to.
4. When I talked to someone, I worried about what they may be thinking about me, particularly in regard to my concealed identity.
5. I worried that everyone already knew about my identity.
6. When I went to social events, I was careful not to let my guard down so I didn't give away my identity.
7. In conversations, I was sensitive to even the slightest change in the facial expression of the person I was conversing with, particularly if I sensed they were suspicious about my identity.
8. It was hard to stop thinking about my identity and the need to keep it hidden.
9. I worried that others would find out about my identity.
10. I felt so lonely when I was hiding my identity, and was afraid I would always be lonely.
11. I felt isolated because of my concealed identity.
12. I felt hopeless for the future because I never thought I would be able to be open about my identity.
13. I isolated myself in order to conceal my identity.
14. I felt drained by the end of the day after having to conceal my identity all day.
15. I felt insecure during social interactions when I was hiding my identity.
16. While I was concealing my identity, I tried to look happy enough on the outside, but inwardly I felt angry and rebellious.
17. I felt like I was "living a lie" or "having to maintain two identities."
18. Keeping my identity secret really tormented me.
19. I avoided going to work, school, or places that made it too hard to conceal my identity.
20. I said I was feeling sick to get out of social obligations where my identity might come up.
21. I lied (or would say "No," or "why do you think so?") when somebody asked if I was LGBTQIA+.
22. I denied that I was LGBTQIA+ when asked.
## Appendix B – Qualitative Codebook

### Codes

<table>
<thead>
<tr>
<th>CODE</th>
<th>FORMAT</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>COG</td>
<td>Anything having to do with thoughts and mental processes (e.g., “I thought everyone knew I was gay”)</td>
</tr>
<tr>
<td>Affective</td>
<td>EMO</td>
<td>Anything having to do with emotions (fear, anger, guilt/shame, joy/happiness, surprise, disgust, sadness, anxiety/anticipation; e.g., “I felt scared”)</td>
</tr>
<tr>
<td>Behavioral</td>
<td>BX</td>
<td>Anything having to do with actions people took (“I changed my clothing so as not to look gay”)</td>
</tr>
<tr>
<td>Gender Identity</td>
<td>GI</td>
<td>Concealment of gender identity (e.g., “I hid the fact I was trans.”)</td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td>SO</td>
<td>Concealment of sexual orientation (e.g., “I hid the fact I was gay.”)</td>
</tr>
<tr>
<td>Emerging</td>
<td>EMERGE</td>
<td>Use this code for statements that do not seem to fit into the COG/AFF/BX breakdown.</td>
</tr>
<tr>
<td>Mental Health</td>
<td>Mental Health</td>
<td>Use this code when participants remark on the impact concealment has on their mental health (“I was depressed”, “I was suicidal.”)</td>
</tr>
</tbody>
</table>

### Subcodes - Cognitive

<table>
<thead>
<tr>
<th>CODE</th>
<th>FORMAT</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preoccupation</td>
<td>COG-P</td>
<td>Anything to do with the inability to stop thinking about one’s identity in the form of intruding thoughts, and attempts to think about other things.</td>
</tr>
<tr>
<td>Self-Monitoring</td>
<td>COG-SM</td>
<td>Anything to do with checking oneself to see if one’s appearance, mannerisms, or speech might allude to their concealed identity (e.g., changing an outfit to look less “gay”)</td>
</tr>
<tr>
<td>Vigilance</td>
<td>COG-V</td>
<td>Anything to do with attending to and monitoring others’ reactions and responses during an interaction in order to detect any hints that the other person has perceived their identity (e.g., wondering to oneself: “do they know I’m gay?”)</td>
</tr>
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</table>
### Subcodes - Affective

<table>
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<tr>
<th>CODE</th>
<th>FORMAT</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Affect</td>
<td>EMO-NA</td>
<td>Emotions that are negatively charged (negative valence), such as Anger, Discomfort, Expectations of Rejection, Fear, Hopeless, Isolation, Loneliness, Shame, Social Anxiety, Unhappy/sadness</td>
</tr>
<tr>
<td>Negative Self-Perceptions</td>
<td>EMO-SP</td>
<td>Negative emotions that stem from insecurities and negative views on who they are as a person (e.g., “I am bad because of my sexuality”). Can be related to low self-esteem, or a lack of truthfulness about who they are, and what that lack of truthfulness may say about them as a person.</td>
</tr>
<tr>
<td>Emerging</td>
<td>EMO-EMERGE</td>
<td>Use this code for other emotional examples of concealment</td>
</tr>
</tbody>
</table>

### Subcodes - Behavioral

<table>
<thead>
<tr>
<th>CODE</th>
<th>FORMAT</th>
<th>DEFINITION</th>
</tr>
</thead>
</table>
| Inhibition | BX-INH | Any attempt to stop behaviors that might reveal someone’s identity:  
  1. **self-silencing**, such as being reticent to be emotionally expressive and open about one’s true self within close relationships;  
  2. **speech alterations** to deliberately modify speech content in order to maintain concealment, such as using the opposite gender pronouns for a romantic partner, or making the gender of a partner ambiguous, in order to conceal the true gender in a same-sex romantic partnership. GM individuals may also avoid correcting others who misgender them, or by using pronouns that are inconsistent with their gender identity but align better with their external gender presentation a readiness to lie when necessary in order to maintain concealment |
| Counterfeiting | BX-CF | Anything that makes people seem or appear straight or cisgender  
  1. Passing  
  2. Covering: tailoring information to avoid any insinuation that one might not be heterosexual or cisgender  
  3. Blending, being perceived as cisgender.  
  4. Distance from LGBT people |
Avoid disclosure by isolating, withdrawing, feigning illness, being truant, avoiding extracurricular activities that may implicate or reveal their sexual identity in some way. SGM individuals may also avoid specific individuals, such as people from their past or those who may be particularly prejudicial.

<table>
<thead>
<tr>
<th>Avoidance</th>
<th>BX-AV</th>
<th>Use this code for other behavioral examples of concealment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging</td>
<td>BX-EMERGE</td>
<td></td>
</tr>
</tbody>
</table>
Appendix C – Prescreen

Thank you so much for your interest in participating in this survey! Before we begin, we would like to ask you a few questions to see if you qualify for the survey.

For those who do not qualify, none of your responses will be saved.

1. What is your age?
2. Do you currently reside in the United States?
   a. Yes
   b. No
3. In which state do you currently live? Please enter the full name or two-letter abbreviation.
4. What was your assigned sex at birth?
   a. Male
   b. Female
   c. Intersex
5. How would you define your gender?
   a. Man
   b. Woman
   c. Non-binary
   d. Genderqueer
   e. Agender
   f. Another gender
6. What is your sexual identity? (please select all that apply)
   a. Asexual
   b. Bisexual
   c. Gay
   d. Lesbian
   e. Pansexual
   f. Queer
   g. Questioning
   h. Straight/Heterosexual
   i. Another sexual identity
7. People are different in their sexual attraction to other people. Which best describes your feelings? Are you attracted to (please select all that apply):
   a. Men
   b. Men (assigned female at birth, but do not identify as transgender)
   c. Women
   d. Women (assigned male at birth, but do not identify as transgender)
   e. Trans men (assigned female at birth and identify as transgender)
   f. Trans women (assigned male at birth and identify as transgender)
   g. Non-binary individuals
   h. Genderqueer individuals
CONCEALMENT AND AUTHENTICITY

i. Another gender identity

j. I consider myself demisexual.

k. I am asexual.

l. Prefer not to say.

8. In your lifetime, your sexual partners have been (please select all that apply):
   a. Men
   b. Men (assigned female at birth, but do not identify as transgender)
   c. Women
   d. Women (assigned male at birth, but do not identify as transgender)
   e. Trans men (assigned female at birth and identify as transgender)
   f. Trans women (assigned male at birth and identify as transgender)
   g. Non-binary individuals
   h. Genderqueer individuals
   i. Another gender identity
   j. I am asexual.
   k. I have not had sex.
   l. Prefer not to say.

9. In your lifetime, your romantic partners have been (please select all that apply):
   a. Men
   b. Men (assigned female at birth, but do not identify as transgender)
   c. Women
   d. Women (assigned male at birth, but do not identify as transgender)
   e. Trans men (assigned female at birth and identify as transgender)
   f. Trans women (assigned male at birth and identify as transgender)
   g. Non-binary individuals
   h. Genderqueer individuals
   i. Another gender identity
   j. I consider myself panromantic.
   k. This question does not apply to me.
   l. Prefer not to say.

If participant did not meet inclusion criteria, they received this message: We’re sorry. You do not meet the qualifications for this survey. We sincerely thank you and appreciate your time and dedication to taking this survey. None of your responses will be saved.
Appendix D – Informed Consent

Congratulations! You have qualified to take the survey! Yay! This survey should be accessible to those participants who need to use a screen reader. Please review the consent to participate below. This will give you more information about the survey and outlines your rights as a participant.

You are invited to participate in a research project about LGBTQIA+ individuals’ experiences and everyday lives! You must be at least 18 years old to participate, and your participation is entirely voluntary.

We would like to know more about you and your experiences. This survey will take approximately 25-50 minutes to complete. Although it may take a little bit longer to complete, your responses are greatly appreciated and may help to improve our current understanding of LGBTQIA+ life experiences. The survey will ask questions about yourself (e.g., your comfort with your identity), your experiences (e.g., experiences being closeted), and health behaviors (for example, your current well-being and substance use). You have the option NOT to respond to any questions that you choose, especially those that make you uncomfortable. All of the information that you provide will be kept completely anonymous and confidential, thereby ensuring your privacy to the degree permitted by the technology being used. More information about this study and a list of resources will be provided to you at the end of the survey.

When you complete the survey, you will have the option of entering your e-mail address into a drawing at the end where you could win one of ten, $20 electronic gift cards to Target!

***If you have any questions about the research, please contact James Michael Brennan, M.A. at (401) 924-2273, or via email at jamesmichael.brennan@umontana.edu. You may also contact his faculty advisor, Dr. Cochran, at bryan.cochran@umontana.edu. If you have any questions regarding your rights as a research subject, contact the UM Institutional Review Board (IRB) at (406) 243-6672.

Submission of the survey will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age.

Feel free to print or save a copy of this page for your records.

Have you read the above information and do you agree to participate in this research?

o Yes___

o No ___
Appendix E – Social and Demographic Information

1. What group(s) do you belong to? (Please select all that apply)
   a. Black/African-American
   b. Asian or Pacific Islander
   c. European-American/White/Caucasian
   d. Latino, Hispanic, or Chicano
   e. Native-American/American-Indian
   f. Multi-racial
   g. Other: ________________

2. What is your highest level of education?
   a. Middle school, some high school.
   b. High school degree, or equivalent (i.e., GED)
   c. Some college, no degree
   d. Associate’s
   e. Bachelor’s
   f. Graduate degree/professional degree (M.S./M.A., Ph.D., M.D., J.D., etc.)

3. What is your current relationship status?
   a. Married/domestic partner with same sex partner
   b. Married/domestic partner with opposite sex partner
   c. Dating same sex partner(s) only
   d. Dating opposite sex partner(s) only
   e. Dating both same and opposite sex partners
   f. Committed relationship with same sex partner
   g. Committed relationship with opposite sex partner
   h. Single (not currently dating)
Appendix F – Nebraska Outness Scale – Concealment

How often do you avoid talking about topics related to or otherwise indicating your sexual orientation (e.g., not talking about your significant other, changing your mannerisms) when interacting with members of these groups?

0- Never
6 - Half of the time
11 - Always

1. Members of your immediate family (e.g., parents and siblings)
2. Members of your extended family (e.g., aunts, uncles, grandparents, cousins)
3. People you socialize with (e.g., friends and acquaintances)
4. People at your work/school (e.g., coworkers, supervisors, instructors, students)
5. Strangers (e.g., someone you have a casual conversation with in line at the store)
Appendix G – Outness Inventory

Instructions: Use the following rating scale to indicate how open you are about your sexual orientation to the people listed below. Try to respond to all of the items, but leave items blank if they do not apply to you. If an item refers to a group of people (e.g., work peers), then indicate how out you generally are to that group.

1 = person definitely does NOT know about your sexual orientation status
2 = person might know about your sexual orientation status, but it is NEVER talked about
3 = person probably knows about your sexual orientation status, but it is NEVER talked about
4 = person probably knows about your sexual orientation status, but it is RARELY talked about
5 = person definitely knows about your sexual orientation status, but it is RARELY talked about
6 = person definitely knows about your sexual orientation status, and it is SOMETIMES talked about
7 = person definitely knows about your sexual orientation status, and it is OPENLY talked about
0 = not applicable to your situation; there is no such person or group of people in your life

1. mother
2. father
3. siblings (sisters, brothers)
4. extended family/relatives
5. my new straight friends
6. my work peers
7. my work supervisor(s)
8. members of my religious community (e.g., church, temple)
9. leaders of my religious community (e.g., church, temple)
10. strangers, new acquaintances
11. my old heterosexual friends
Appendix H – Self-Concealment Scale

Instructions: This scale measures self-concealment, defined here as a tendency to conceal from others personal information that one perceives as distressing or negative. Please tick the box, to the right of each of the following 10 statements, that best describes how much you personally agree or disagree with the statement.

1 = strongly disagree
2 = moderately disagree
3 = don’t disagree or agree
4 = moderately agree
5 = strongly agree

1. I have an important secret that I haven’t shared with anyone
2. if I shared all my secrets with my friends, they’d like me less
3. there are lots of things about me that I keep to myself
4. some of my secrets have really tormented me
5. when something bad happens to me, I tend to keep it to myself
6. I’m often afraid I’ll reveal something I don’t want to
7. telling a secret often backfires and I wish I hadn’t told it
8. I have a secret that is so private I would lie if anybody asked me about it
9. my secrets are too embarrassing to share with others
10. I have negative thoughts about myself that I never share with anyone
Appendix I – Self-Stigma Scale – Short Form

Cognitive Subscale
1. My identity as a ( ) is a burden to me.
2. My identity as a ( ) incurs inconvenience in daily life.
3. The identity of being a ( ) taints my life.

Affective Subscale
4. I feel uncomfortable because I am a ( ).
5. I fear that others would know that I am a ( ).
6. I feel like I cannot do anything about my ( ) status.

Behavioral Subscale
7. I estrange myself from others because I am a ( ).
8. I avoid interacting with others because I am a ( ).
9. I dare not to make new friends lest they find out that I am a ( ).
Appendix J - Anticipated Stigma for Concealable Stigmatized Identities

Instructions: If others knew your {insert concealable identity here}, how likely do you think the following would be to occur?

1 – Very Unlikely
2 –
3 –
4 –
5 –
6 –
7 – Very Likely

1. People acting as if they think you are not as good as they are /People acting like they’re better than you
2. People acting as if they think you are not smart /People acting like they are smarter than you
3. Treated with less respect than other people
4. Treated with less courtesy than other people /Treated with less kindness than other people
5. People acting as if they are afraid of you
6. Getting poorer service than others do at restaurants or stores
7. People acting as if they think you are not to be trusted /People acting like you can’t be trusted
8. People calling you names or insulting you
9. People threatening or harassing you
10. Current friends stop hanging out with you
11. Friends avoiding you /Friends avoiding or ignoring you
12. Roommates wanting to move out of apartment or dorm room /Roommates wanting to move out of apartment or house
13. People not wanting to get to know you better
14. People not wanting to date you.
15. People not wanting to get involved in an intimate relationship with you./People not wanting to get involved in a relationship with you
Appendix K – Lesbian, Gay, and Bisexual Positive Identity Measure – Authenticity Subscale

Instructions: We are going to ask you a series of questions about your identity as a Lesbian, Gay, or Bisexual identified (LGB) person. There are several questions and some of the questions may seem similar, but there are differences in the wording, so please try to answer all of the questions. Please answer the questions by thinking about which response category best represents your feelings about your experiences. Indicate how you really feel now, not how you think you should feel. There is no need to think too much about any one question. Answer each question according to your initial reaction and then move on to the next. Choose the response that best reflects your feelings about your lesbian, gay, or bisexual identity.

Recommended response scale:
1 = Strongly Disagree
2 = Disagree
3 = Somewhat Disagree
4 = Neither Agree nor Disagree
5 = Somewhat Agree
6 = Agree
7 = Strongly Agree

1. I feel I can be honest and share my LGBT identity with others.
2. I am honest with myself about my LGBT identity.
3. I have a sense of inner peace about my LGBT identity.
4. I embrace my LGBT identity.
5. I am comfortable with my LGBT identity.

1. I feel I can be honest and share my LGBT identity with others.
2. My LGBT identity has given me more confidence.
3. I am honest with myself about my LGBT identity.
4. I have a sense of inner peace about my LGBT identity.
5. I embrace my LGBT identity.
6. I am comfortable with my LGBT identity.
Appendix L – Transgender Positive Identity Measure – Authenticity Subscale

Instructions: We are going to ask you a series of questions about your identity as a transgender person. There are several questions and some of the questions may seem similar, but there are differences in the wording, so please try to answer all of the questions. Please answer the questions by thinking about which response category best represents your feelings about your experiences. Indicate how you really feel now, not how you think you should feel. There is no need to think too much about any one question. Answer each question according to your initial reaction and then move on to the next. Choose the response that best reflects your feelings about your transgender identity.

Recommended response scale:
1 = Strongly Disagree
2 = Disagree
3 = Somewhat Disagree
4 = Neither Agree nor Disagree
5 = Somewhat Agree
6 = Agree
7 = Strongly Agree

7. My LGBT identity has given me more confidence.
8. I am honest with myself about my LGBT identity.
9. I have a sense of inner peace about my LGBT identity.
10. I embrace my LGBT identity.
11. I am comfortable with my LGBT identity.
Appendix M - Clinical Outcome in Routine Evaluation (CORE)

Instructions: This form has 28 statements about how you been OVER THE LAST WEEK. Please read each statement and think how often you felt that way last week. Select the answer which is closest to this.

0 = Not at all
1 = Only occasionally
2 = Sometimes
3 = Often
4 = More or all the time

Over the last week:
1. I have felt terribly alone and isolated. (Social functioning)
2. I have felt tense, anxious or nervous. (Problems/symptoms)
3. I have felt I have someone to turn to for support when needed. (Social functioning)
4. I have felt OK about myself. (Well-being)
5. I have felt totally lacking in energy and enthusiasm. (Problems/symptoms)
6. I have felt able to cope when things go wrong. (Social functioning)
7. I have been troubled by aches, pains or other physical problems. (Problems/symptoms)
8. Talking to people has felt too much for me. (Social functioning)
9. Tension and anxiety have prevented me from doing important things. (Problems/symptoms)
10. I have been happy with the things I have done. (Social functioning)
11. I have been disturbed by unwanted thoughts and feelings. (Problems/symptoms)
12. I have felt like crying. (Well-being)
13. I have felt panic or terror. (Problems/symptoms)
14. I have felt overwhelmed by my problems. (Well-being)
15. I have had difficulty getting to sleep or staying asleep. (Problems/symptoms)
16. I have felt warmth or affection for someone. (Social functioning)
17. My problems have been impossible to put to one side. (Problems/symptoms)
18. I have been able to do most things I needed to. (Social functioning)
19. I have felt despairing or hopeless. (Problems/symptoms)
20. I have felt criticized by other people. (Social functioning)
21. I have thought I have no friends. (Social functioning)
22. I have felt unhappy. (Problems/symptoms)
23. Unwanted images or memories have been distressing me. (Problems/symptoms)
24. I have been irritable when with other people. (Social functioning)
25. I have thought I am to blame for my problems and difficulties. (Problems/symptoms)
26. I have felt optimistic about my future. (Well-being)
27. I have achieved the things I wanted to. (Social functioning)
28. I have felt humiliated or shamed by other people. (Social functioning)