MINORITY FAMILY STRESS AND SEXUAL MINORITY FUTURE FAMILY FORMATION LOSS

by

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To Grandpa.

You departed the year I set sail.

I have reached this shore,

carrying the love, hope, and resilience you passed on—

into every journey still to come.

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ABSTRACT

This dissertation addresses health disparities among sexual minorities through two interrelated projects centered on family. The first introduces the Minority Family Stress Model (MFSM), a theoretical framework that extends Minority Stress Theory (MST) beyond its individualistic focus by situating minority stress within family systems. MFSM reconceptualizes minority stress as a multi-level, relational, and dynamic process, emphasizing how minority family identity moderates the impact of distal and proximal stressors on family health. By capturing how families interpret, negotiate, and adapt to minority stress across individual, subsystem, and whole-system levels, MFSM offers a paradigm shift from an intrapsychic to a family-wide understanding of minority stress, advancing family-centered approaches to research, policy, and intervention. The second project develops and validates the Future Family Formation Loss (FFFL) scale, a measure capturing two dimensions of loss experienced by Chinese sexual minorities: disenfranchised loss (DL), the personally meaningful perception of reduced access to family-related resources, and imposed loss (IL), the socially constructed sense of deficiency externally assigned regardless of personal endorsement. Using a sequential EFA-CFA design in a community sample (N = 625), results supported a correlated two-factor structure with adequate reliability and convergent, concurrent, and discriminant validity. Together, these two projects extend minority stress scholarship from the individual to the family level and introduce a culturally grounded, structurally attentive framework for understanding loss in sexual minority family formation.

Keywords: Minority Stress Theory, Minority Family Stress, Family System, Family Health, Intersectionality, Future Family Formation Loss, Disenfranchised Loss, Imposed Loss, Social Constructionism, Sexual Minorities, Scale Development, China.

THE MINORITY FAMILY STRESS MODEL (MFSM): RECONCEPTUALIZING MINORITY STRESS WITHIN FAMILY SYSTEM

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Introduction

Minority Stress Theory (MST), first introduced by Brooks (Brooks, 1981) and later formalized by Meyer (2003; 2015), is a widely endorsed framework for explaining health disparities (See Table 1 for definition of health disparity terms) among individuals with diverse and intersectional marginalized identities. It posits that social stigma and discrimination exert stress on minoritized individuals through both *distal* and *proximal* pathways, leading to disproportionate health outcomes. MST has significantly advanced the field's understanding of how minority stressors—rooted in broader social and cultural stigma—compromise psychological and physical well-being.

However, MST conceptualizes stress primarily as an individual experience, focusing on its micro-level impacts. This perspective overlooks not only the structural-level stressors—such as social conditions, cultural norms, and institutional policies that constrain the opportunities, resources, and wellbeing of minoritized groups (Hatzenbuehler, 2016)—but also how minority stress is co-constructed, distributed, and mediated within family systems. Without a systemic and relational lens, MST cannot fully capture how health disparities take shape through the everyday dynamics of families that themselves are marginalized—where roles, identities, and resources

are continually negotiated under structural constraints such as unequal social conditions, cultural expectations, and institutional barriers.

In contrast, family scholarship on systems, life course development, and stress provides critical insights into how families function as dynamic, relational units situated within broader sociocultural and historical contexts (Boss et al., 2016; Demo et al., 2005). Integrating these insights with minority stress frameworks enables an epistemological expansion of health disparities from the individual to the family level—highlighting how minority stress is not only personally felt, but also dynamically embedded in families composed of individuals with intersecting identities across race, gender, sexuality, and other axes of marginalization.

To address this conceptual need, we propose the Minority Family Stress Model (MFSM)—a theoretical framework that extends MST into the family domain by centering families as relational systems that interface with intersectional sources of minority stress. We use the term "minority family" for brevity and to maintain alignment with existing scholarship in minority stress and family systems frameworks. We recognize that this term may depart from person-first language and use it with this consideration in mind. MFSM reframes health disparities in the ongoing dynamics of families living under systemic disadvantages. This broadened perspective delineates how minority stress unfolds at the individual, subsystems, and family system levels, as well as how the developmental stages of collective minority family identity shapes family stress processes. It aims to inform future research, policy, and interventions targeting minority families at risks.

The Development and Advancements of Minority Stress Theory

Over the past four decades, Minority Stress Theory (MST) has played a crucial role in elucidating the mechanisms underlying health disparities among individuals who have been

ostracized and rendered invisible by the society due to prejudice and stigma. This theory has not only deepened the understanding of these disparities but has also supported the advancement of various social justice movements in public discourse. A thorough review of the evolution of MST serves both to honor the significant contributions of this theory and to foster ongoing dialogue within scholarly discussions focused on health disparities.

From Foundations to Frameworks

In *Minority Stress and Lesbian Women*, Brooks (1981) defines minority stress as a "state intervening between sequential antecedent stressors of culturally sanctioned, categorically ascribed inferior status, resultant prejudice and discrimination, the impact of these forces on the cognitive structure of the individual, and consequent readjustment or adaptational failure" (p. 84). Drawing from a systems perspective grounded in social welfare scholarship (Rich et al., 2020), minority stress is understood as a result of lesbian women's deviation from prevailing patriarchal norms, leading to their experience of an inferiorized social and economic status (Brooks, 1981). Within the psychological and biophysical layers, Brooks (1981) integrated the stress response model, which views stress reactions as mediated by individual interpretation and moderated by the availability of external resources such as social support and economic means, this process can result in either "readjustment" or "adaptational failure" in response to the stressors (p.84).

Inspired by Brooks's (1981) initial work with lesbian women, Meyer (1995) tested this theory on a group of 741 gay men in New York, providing evidence that similar minority stress exists within the gay men population. Shifting from the focus on socio-economic resource access, Meyer (1995) approached the theory from a psychiatric epidemiologist's perspective and delved deeply into the internal processes of minority stress. He elucidated the parallel mediating

mechanisms of internalized homophobia and the expectation of rejection and discrimination, alongside the externally experienced discrimination and violence, all of which contribute to compromised mental health outcomes among individuals with sexual minority status (Meyer, 1995).

With increasing empirical evidence supporting the existence of minority stress, Meyer (2003) conducted a meta-analysis and built upon Brooks's (1981) discussion, in which he introduced the impacts of subjective identity beyond minority status and incorporated a new behavioral mechanism, identity concealment, into the proximal stress process. A more recent advancement of MST is its called for an equal focus on the coexistence of stress and resilience in the stress-health outcomes continuum, advocating for a shift from an exclusive focus on individual resilience to an emphasis on building community resilience (Meyer, 2015). The Minority Stress Theory framework laid the foundation for subsequent studies focused on prevention and health equity promotion.

Broadening the Scope of Minority Stress Theory

Originally developed to explain the elevated stress among individuals with sexual minority status, MST has since been adopted and tested by researchers in psychology, sociology, and public health as a foundational framework to unveil significant health disparities across socially marginalized groups besides its original range, such as gender, race and ethnicity, immigration status, and neurodiversity (Botha & Frost, 2020; Matsuno et al., 2024; Testa et al., 2015; Valentín-Cortés et al., 2020; Wei et al., 2010). Furthermore, the broader MST framework has expanded the understanding of its implication, to explain the stress-negative affect-psychopathology mechanism beyond mental health outcomes (Baams et al., 2015; Chodzen et al., 2019; Hatzenbuehler, 2009), extending to the mechanism of neurological and immunological

dysregulation caused physical and behavioral health disparities, such as pain, fatigue, diabetes, asthma, substance use, and sexual victimization (Flentje et al., 2020; Frost et al., 2015; Lehavot & Simoni, 2011; Li et al., 2022; Lick et al., 2013).

A New Era: Relational and Intersectional Extensions to MST

As Minority Stress Theory (MST) has been examined and adapted across diverse cultural contexts, revealing both its robustness and the need for cultural nuance, the ongoing evolution of the theory continues to address emerging complexities in minority experiences. Recent expansions of MST have begun shifting the focus from individual-level stress processes to relational and contextual dimensions, marking a new era in MST scholarship. LeBlanc et al. (2015) integrated MST with stress proliferation theory to illustrate how minority stress unfolds at the dyadic level through two pathways: (a) status-based stress, wherein social stigma surrounding same-sex relationships triggers negative experiences, and (b) role-based stress, whereby stigma permeates partner interactions (e.g., conflict over legal guardianship or public displays of affection). Building on this dyadic minority stress framework, numerous empirical studies have examined the reciprocal impacts between individual-level minority stressors—such as internalized homophobia and identity concealment—and relational outcomes within minority couples and coparents, demonstrating the far-reaching effects of minority stress beyond the individual level (e.g., Cao et al., 2016). Although LeBlanc and colleagues (2015) clearly connect individual-level minority stress to couple functioning, their framework stops short of extending these processes to the broader family systems or a collective family identity.

Extended from the couple level conceptualization of minority stress, the Temporal Intersectional Minority Stress (TIMS) model (Rivas-Koehl et al., 2023) takes a step further by emphasizing the broader impacts of minority stress, extending from individuals to relational and

family structure. Within the context of family research, TIMS critically highlights the role of intersectionality—exploring how race, gender identity, class, and sexuality interact with temporal factors such as generation, sociopolitical climate, and cohort effects in shaping the transmission and evolution of minority stress. However, like many extensions of Minority Stress Theory, the TIMS model remains primarily individual-focused. Although it conceptually broadens the scope of minority stress to include queer families—particularly when discussing stressors and outcomes—it does not fully articulate how minority stress circulates through and manifests across different levels of the family system.

Taken together, these studies exemplify a new era of MST in the last decade—one that recognizes the relational, developmental, and intersectional aspects of minority stress. They demonstrate that relational conflict, life course transition, and evolving sociopolitical contexts all contribute significantly to minority stress experiences. However, none fully propose a family-centered framework that captures collective identity and systemic family processes. Even in these advanced models, the concept of family often remains an add-on rather than the focal point.

To address this limitation, the next section shifts focus from individual experiences of minority stress to the role of family in shaping and responding to stress. Understanding how families define themselves, function as systems, and adapt to stressors is essential for expanding MST beyond the individual level.

Theoretical Foundations of Minority Family Stress Model

Understanding how minority stress operates within families requires a thorough review of existing literature on family structure and dynamics. A foundational understanding of what constitutes a family is essential before engaging with theoretical perspectives on family

functioning and stress process. Building upon this foundation, Family Systems Theory (Bowen, 1966; Minuchin, 2020) provide a lens for conceptualizing the intra-family processes; the Family Life Course Perspective (Elder, 2018) offers a developmental framework for understanding the interaction between significant family transitions and their impact on family dynamics; and the Family Ecology Perspective (Bronfenbrenner, 1979; Demo et al., 2005) broadens the scope from internal family processes to their interactions with broader ecological and temporal contexts. In addition to those foundational family theories, family stress and resilience frameworks offer specialized insights into how families navigate challenges and adapt over time. Together, these theoretical foundations illuminate how minority stress unfolds across different levels of the family structure, ultimately informing the development of the Minority Family Stress Model.

Defining Family

Understanding how minority stress operates within families first requires clarifying how families are defined and conceptualized. As family structures become increasingly diverse, scholars have shifted away from traditional biological and legal definitions toward a relational and systemic approach. This perspective emphasizes the dynamic and self-regulating nature of families. Families are defined as two or more individuals connected by long-term socioemotional bonds and enduring responsibilities, particularly in providing support and nurturance to interdependent members through ongoing adaptation and responsiveness (Demo et al., 2005; Scabini & Manzi, 2011).

Given the contagious nature of minority stress (LeBlanc et al., 2015) —where stress experienced by one family member can affect others through emotional, behavioral, or relational spillover—adopting a systems perspective is especially valuable for studying minority family stress, as it highlights the mechanisms of family functioning and offers a lens to examine how

minority stress unfolds within family systems. Understanding families as dynamic systems allows us to more fully explore how minority stress influences family roles, relationships, and overall functioning—ultimately shaping families' adaptive responses over time.

Family System Theories

Minuchin's (2020) structural perspective provides a foundational framework for understanding family composition. He conceptualized the family system as comprising individuals, subsystems (e.g., couples, siblings, parents), and boundaries. Subsystems form based on generation, role, or function, while boundaries serve as implicit rules regulating the degree of closeness and distance among family members. These boundaries operate at multiple levels—between individuals, between individuals and subsystems, and between subsystems themselves—governing family interactions as they adapt to developmental and situational changes. A well-functioning family maintains clearly defined roles and distinct yet flexible boundaries between members and subsystems.

While Minuchin focuses on the structural organization of families, Bowen (1966) adopts a more holistic perspective, viewing the family as an emotional system in which members are deeply interconnected. Longitudinally, emotional response patterns are transmitted across generations, while horizontally, individual and family emotional health is modulated through mechanisms such as emotional contagion (i.e., the automatic, unconscious transfer of emotions via facial expressions, vocal tone, or body language), self-differentiation, and triangulation. Self-differentiation refers to an individual's capacity to maintain their own identity and emotional autonomy while remaining connected to others. Triangulation occurs when two individuals in conflict involve a third person to alleviate tension, sometimes leading to dysfunctional dynamics.

In a healthy family, members exhibit a high level of differentiation while maintaining emotional connectedness.

Both Minuchin's (2020) and Bowen's (1966) frameworks provide crucial insights into the internal structure and interactive processes of family systems. Their inward focus lays the groundwork for understanding emotional functioning mechanisms before delving into family stress theories. However, this perspective alone may be insufficient for fully capturing family stress within a broader social context. To address this limitation, the Family Ecology Perspective offers an expanded theoretical foundation, situating family systems within larger social, economic, and cultural environments.

Family System in Context: Ecological and Life Course Perspectives

Rooted in Bronfenbrenner's (1979) ecological system theory, the family ecology perspective shifts the focus of family scholarship from internal family mechanisms to examine the interaction between families and broader contextual factors. Situating the family within the larger society, this perspective highlights the dynamic, bidirectional relationships between families and their surrounding environments, including school settings, workplaces, communities, culturally embedded social values, policies and laws, and the ever-moving wheel of history. These external forces are not merely environmental backdrops but actively shape and are shaped by families and their individual members.

A central strength of the family ecology perspective is its capacity to account for the multi-layered social and structural determinants of family functioning, an essential consideration when examining minority family stress. Unlike frameworks that primarily emphasize internal family dynamics, this approach highlights the systemic and institutionalized nature of stressors that minority families encounter. Social marginalization, discrimination, and health disparities

are not experienced in isolation but are embedded within broader sociopolitical and economic structures (Hatzenbuehler, 2016). Consequently, the family ecology perspective provides a comprehensive lens for analyzing how these structural inequities interact with family-level processes, shaping stress and resilience at multiple systemic levels.

While social, cultural, and political factors influence families at any given moment, the ecological perspective also acknowledges the role of time through the chronosystem. The chronosystem highlights that families are not static entities but evolve alongside changing sociopolitical landscapes, recognizing that adaptation is a process rather than a singular event. The chronosystem provides a conceptual bridge to introduce the family life course perspective, which further elaborates on how family experiences change over time (Elder, 1977, 1994). The family life course perspective specified two interwoven temporal dimensions: the developmental trajectory of families, reflecting transitions such as family formation, parenting, and aging, and the broader historical and sociopolitical contexts (Elder, 2018) that shape how families experience and respond to these changes. For example, changes in immigration policies, evolving cultural norms around gender and sexuality, or economic recessions are not merely external events but forces that shape family structures, relationships, and well-being. Thus, a life course approach reinforces the idea that family stress responses and adaptation must be understood as an ongoing negotiation between internal processes and broader social transformations.

Informed by family system theories, family life course perspective, and ecology perspective, modern conceptualizations of family functioning reflect the idea of family ecosystem interaction (Boss et al., 2016; McCubbin & Patterson, 1983; Walsh, 2003). Recognizing the need for a theoretically integrated approach, Henry and colleagues (2015)

proposed a four-level conceptualization of family systems: individual, subsystem, overall family system, and family-ecosystem interface. This new theoretical structure of family system highlights the intersection of multiple internal and external forces that shape family adaptation, recovery, or transformation in response to adversity.

This integration of family systems, family ecology, and life course perspectives provides a solid theoretical foundation for studying family stress and resilience with both breadth and depth. Building on this understanding of how families develop, function, and change over time—both internally and in relation to larger social systems— the next section turns to family stress theories. Exploring how family systems manifest under stress-specific conditions provides a more direct pathway for theorizing the Minority Family Stress Model, helping to contextualize stress as not just an individual internal struggle but a structural and systemic force shaping family life.

Family Stress Models

Family stress models bridge family and stress theories, providing insights into how families collectively interpret, navigate, and adapt to stress. This perspective is particularly valuable in complementing MST, a health disparities framework that prioritizes health consequences. Applying MST's stressor-process-outcome structure to reexamine family stress theory allows for a systematic integration of family dynamics into minority stress research. This broader perspective clarifies the stress process and highlights family-level outcomes that remain underexplored in MST, ultimately strengthening societal capacity to address the impact of stress on minoritized families.

Stressors in the Family Context

MST (Meyer, 2003) distinguishes between two types of stressors: distal stressors, which are external events rooted in prejudice, and proximal stressors, which are internal responses—such as vigilance, concealment—to a stigmatizing environment. This distinction provides a valuable lens for reexamining how stressors have been conceptualized within family stress theories.

Family stress theories conceptualize stressors from a functioning perspective, focusing on events or conditions that disrupt the family's equilibrium and necessitate adaptive responses (Hill, 1949). Across various models, stressors are consistently classified as either external—arising from outside the family—or internal—originating within the family system. For instance, Hill's ABC-X Model identifies stressors as events that provoke change, such as internal interpersonal conflict or external disruptions like economic hardship or natural disasters. The FAAR Model (Patterson, 1988) formalizes this distinction by defining internal demands as those that emerge within the family unit (e.g., unmet role expectations) and external demands as those that stem from the broader environment (e.g., job loss or societal shifts). Similarly, the Contextual Model differentiates between external contexts—such as economic conditions, racism, or war—and internal contexts, including family structure, values, and relational dynamics (Boss et al., 2016).

Viewed through this lens, MST's distal stressors can be meaningfully mapped onto external family stressors, as both involve external forces that disrupt family functioning. However, MST expands this category by explicitly centering structural oppression and chronic marginalization—dimensions often underdeveloped in traditional family theories (Bryant & Awosan, 2022). In contrast, MST's proximal stressors have a more complex relationship with internal family stressors. While family models acknowledge internally generated strains—such

as caregiving burdens, role conflict, or value misalignment—they rarely address the internal psychological toll of navigating stigma, anticipating rejection, or concealing aspects of one's identity. In the context of minority stress, such proximal stressors are not merely personal or interpersonal challenges within the family; rather, they are internalized responses to systemic marginalization that unfold within relational contexts.

Taken together, this comparison reveals the potential for conceptual integration. An integrative model like MSFM builds on these strengths by examining how minority status generates both external and internal stressors, and how families collectively interpret, absorb, and respond to these stress experiences over time.

Coping in the Family Context

Like MST, family stress models highlight the importance of cognitive appraisal—the collective interpretation of stressors—as a key element of coping. Families assess the severity of stressors and available resources, which shapes whether they experience crisis or adaptation (Hill, 1949; McCubbin & Patterson, 1983). The FAAR model (Patterson, 1988) expands this by highlighting how differences in individual appraisals and meaning-making influence the family's overall capacity to adapt. Depending on how these differences are reconciled, coping may take the form of coordinated strategies or fragmented individual responses.

Beyond cognitive appraisal, internal resources are central to family coping. These include relational, emotional, and structural strengths such as role flexibility, communication, and cohesion (Boss et al., 2016; Frost & Meyer, 2023). Role flexibility enables families to redistribute responsibilities and adapt during periods of stress. The Circumplex Model highlights how adaptable roles, rules, and leadership structures support family stability (Olson, 1989), while the FAAR Model views families as dynamic systems that continuously redefine role

expectations in response to evolving demands (Patterson, 1988). Effective communication further facilitates coping by enabling shared meaning-making and conflict resolution. It fosters cohesion and adaptability by balancing emotional closeness with role flexibility (Olson, 1989), and is particularly crucial when navigating stressors shaped by cultural or structural marginalization (Boss et al., 2016). Through communication, families reinforce cohesion, the emotional bond among members, which acts as a protective factor in the face of adversity (McCubbin & Patterson, 1983; Olson, 1989).

Alongside internal resources, families also mobilize external resources to enhance coping. Several models emphasize the protective role of external supports, arguing that community belongingness (e.g., cultural validation), institutional resources (e.g., financial aid, healthcare, legal protection), and social networks are crucial for building resilience and preventing stress accumulation (Boss et al., 2016; Hobfoll & Spielberger, 1992; McCubbin & McCubbin, 1996; Patterson, 1988). External resources directly influence family role distribution, emotional regulation, problem-solving, and meaning-making processes. Without adequate external support, family cohesion and effective communication may be compromised, further exacerbating stress. The integration of internal and external resources aligns with Meyer's (2015) later advocacy for recognizing both individual and community resilience in the context of minority stress.

The Family Adaptive System (FAS) framework (Harrist et al., 2019; Henry et al., 2015; Henry & Harrist, 2022) synthesizes key coping processes into four interrelated subsystems: meaning, emotion, control, and maintenance. The meaning system shapes how stressors are appraised, influencing whether they are perceived as manageable or overwhelming. The emotion system regulates affective responses, while the control system governs decision-making and role

distribution. The maintenance system sustains daily routines and resource management, reinforcing long-term stability. By framing adaptation as a family–ecosystem interface, the FAS framework emphasizes the active role that family systems and their members can play in reshaping their living and social environments.

While MST identifies social support as a moderating factor, family stress models offer a deeper systems-level view of coping. Families are not merely sites of individual support but function as adaptive units—co-constructing meaning, regulating emotions, redistributing roles, and coordinating resources through relational processes. Integrating these collective coping mechanisms into minority stress theory can significantly enrich the conceptualize resources and interventions for marginalization related disparities.

Family Outcomes and Collective Stress

Classic family stress models conceptualize family outcomes based on adaptation. In response to a crisis or stressor, families typically experience short-term adjustments followed by long-term adaptation, which can be either beneficial or harmful (Hill, 1949; McCubbin & Patterson, 1983). When families successfully reorganize resources and integrate new roles over time, they achieve a state of balance (McCubbin & Patterson, 1983; Olson, 1989). In contrast, families that rely on temporary stabilizing strategies such as emotional suppression, distancing, or overdependence on external aid may lead to prolonged dysfunction. Strength-based perspectives shift the focus from adaptation to resilience. The Family Resilience Model (McCubbin & McCubbin, 1996) suggests that family outcomes should not be framed as a binary distinction between functional and dysfunctional but rather as a spectrum that acknowledges the coexistence of strengths and vulnerabilities depending on context and timing.

Stress impacts multiple specific domains of family functioning, regardless of where a family falls on this adaptability spectrum. Conger's Family Stress Model (1992, 2002; Masarik & Conger, 2017) illustrates how economic instability generates parental emotional distress, which in turn leads to interparental conflict and declines in parenting quality, ultimately affecting child emotional and behavioral well-being. Similarly, the Circumplex Model (Olson, 1989) conceptualizes family stress outcomes in terms of cohesion, flexibility in roles and rules, leadership structures, and communication. These frameworks emphasize that stress is not experienced in isolation by individual family members but instead reverberates through relational and structural aspects of family life.

Research on family stress outcomes provides key insights for shaping the outcome component of MFSM. While MST focuses on individual health, family stress models highlight the systemic and relational nature of stress, demonstrating its impact on family cohesion, communication, and role dynamics. These models also emphasize that both individual and family-level adaptation can lead to resilience or maladaptation. Integrating these perspectives into MFSM ensures a more comprehensive understanding of minority family stress, recognizing both vulnerabilities and strengths rather than framing outcomes solely in terms of dysfunction.

Inspirations to the Advancement of MST

Family stress theories offer critical conceptual tools for advancing MST, particularly by framing stress processes as unfolding across two interrelated thresholds: the internal dynamics of the family system and the ecological contexts in which families are embedded. This dual-level lens provides a systemic understanding of how families experience, respond to, and are shaped by stress. It highlights how adaptation is not only a response to disruption, but also a recursive process in which outcomes influence future coping capacity (Boss et al., 2016). This perspective

extends MST's individual-level focus by illuminating how minority stress operates within and across family units and their broader environments.

However, traditional family stress models are limited in their applicability to families experiencing marginalization—not only because they often presume standard North American family forms (Fish & Russell, 2018), but more fundamentally because they are not designed to explain health and functioning disparities. While Conger's model of economic hardship has been applied to understand structural inequality among families from ethnic minority communities through its focus on resource scarcity (Emmen et al., 2013), most family stress models often assume that stress processes are universal. Such assumptions overlook how marginalization creates distinct exposures, restricts access to critical resources, and reshapes the contours of adaptation. For minoritized families, chronic structural barriers and identity-based stigma do not merely increase the quantity of stress—they qualitatively transform its nature, meaning, and impact.

Integrating the relational insights of family stress theory with MST's structural focus enables a more comprehensive understanding of how minority stress is experienced—not only individually, but also relationally and contextually. MFSM builds on this synthesis to explain why families experiencing marginalization face distinct health and functioning outcomes. By accounting for how stress is shaped and sustained through family dynamics and ecological constraints, MFSM provides a foundation for both targeted interventions and structural policy change.

The Minority Family Stress Model (MFSM)

Define Minority Family and Minority Family Stress

Drawing from classic and contemporary family theories (Fish & Russell, 2018; Henry et al., 2015; Minuchin, 2020; Walsh, 2015), we define *minority family* (status; Figure 1, panel A) as a family system whose fundamental structural and functional characteristics significantly diverge from dominant family norms within their broader sociocultural context. This divergence arises from marginalized social statuses held by one or more family members and operates at multiple family-system levels, including the individual, subsystem, and overall family system.

Minority families may differ from dominant family systems across three foundational system-level dimensions (Walsh, 2015). First, minority families exhibit distinct *family structures* that encompass both family membership—such as single-parent households, same-sex couples, cross-cultural families, adoptive families, or families of choice—and organizational arrangements, which may range from nuclear to extended or multigenerational forms of co-residence. Second, minority families often display unique distributions of *roles and hierarchical structures*. Such arrangements may diverge significantly from traditional societal expectations regarding caregiving responsibilities, economic provision, emotional nurturing roles, or authority patterns. For example, families may differ from gender-based role assignments, adopt more egalitarian power dynamics, or uphold culturally specific hierarchies less familiar to dominant societal norms. Third, minority families demonstrate distinctive *family interactional processes*, encompassing internal communication styles, boundary management practices, and emotional differentiation patterns. These processes are evident in how family members negotiate their internal cohesion, manage relationships and boundaries with external contexts, and respond emotionally and relationally to systemic marginalization.

The structural and functional dimensions outlined above are critically shaped by minority statuses operating at multiple levels within the family system. Individual-level minority statuses (Figure 1, A1)—such as a family member's disability, gender identity, or sexual orientation—can profoundly influence the family's structure, roles, and interactional dynamics, leading to significant divergence from dominant norms. Subsystem-level minority statuses (Figure 1, A2), such as same-sex partnerships or single parenthood, similarly reshape family roles, structural configurations, and internal and external interaction patterns. At the system-level (Figure 1, A3), shared minority statuses, exemplified by families from ethnic minority communities collectively experiencing marginalization due to cultural or immigrant social positioning, frequently result in distinctive structures (e.g., multigenerational co-living arrangements), specialized caregiving roles (e.g., grandparents as primary caregivers), and culturally specific hierarchical and interactional dynamics (e.g., hierarchical communication, collective decision-making practices). Importantly, minority family status is always contextually situated, and what is regarded as a minority family in one sociocultural setting may not be recognized as such in another.

Drawing on Meyer's (2003) distinction in Minority Stress Theory between externally assigned minority status and internally developed minority identity, we similarly distinguish between *minority family status* (see Figure 1, panel A) and *minority family identity* (see Figure 1, panel B). Minority family status refers to a family's externally ascribed position within sociocultural hierarchies, often based on deviations from dominant family norms. To understand how families respond to such marginalization, we draw on family scholars' conceptualization of family identity as the shared understanding among family members of "who we are" (Hill, 1949; Patterson, 1988). This broader construct encompasses values, beliefs, roles, and relational meanings that define the family as a unit. Within this broader framework, minority family

identity refers specifically to the shared meaning-making processes through which families interpret and negotiate their marginalized status. This identity formation involves ongoing relational negotiation and may manifest in patterns such as open acknowledgment, pride, and mutual support—or alternatively, secrecy, avoidance, and internal conflict (Henry et al., 2015).

Both externally imposed minority family statuses and internally negotiated minority family identities critically shape the phenomenon of minority family stress, defined as the cumulative, chronic, and often normalized pressures arising from stigma, systemic marginalization, and persistent divergence from dominant sociocultural family norms (Bryant & Awosan, 2022). These pressures are not merely external but become embedded within daily family interactions, continuously influencing structural configurations, role distributions, and internal and external relational patterns. Over time, these dynamics shape family health, adaptive capacity, and developmental trajectories across the lifespan.

Processes of Minority Family Stress

Echoing Minority Stress Theory, the process of minority family stress can be categorized into two pathways: the *distal family stress process* (see Figure 1, panel C1) and the *proximal family stress process* (see Figure 1, panel C2). Distal and proximal stressors, shaped by broader ecological conditions of minority family status, are influenced by minority family identity which can either buffer or amplify their impact on family outcomes. Distal and proximal stressors may intersect around the same issue, with distal stressors (e.g., structural inequalities) shaping the broader context in which proximal stressors (e.g., internalized stigma, concealment) emerge or intensify. Both types of stressors can operate simultaneously at the levels of individual family members, subsystems, and the overall family system, creating ripple effects shaped by how the family interprets and responds to their marginalized status.

The distal family stress process encompasses external stressors stemming from broader societal structures. These stressors can be categorized into three levels: micro, exo, and macro (Demo et al., 2005). Microlevel stressors include direct discrimination or violence occurring in immediate settings, such as verbal or physical harassment, social exclusion, or hate crimes against the minority family or its members. Exo-level stressors arise from institutional barriers, like employment discrimination and denial of healthcare, that affect the family's access to resources and opportunities. Macrolevel stressors encompass broader societal forces, such as economic, legislative, and cultural marginalization (e.g., minority cultural stigmatization, anti-LGBTQ+ laws). These layers of distal stressors, though external to the family, interact with the family–ecosystem interface by shaping the broader social, structural, and cultural contexts in which families live and function. Through this interface, external pressures permeate the family system, activating internal adaptive processes and contributing to the emergence of proximal stress experiences (Henry et al., 2015; Henry & Harrist, 2022).

The proximal family stress process involves the internal responses and dynamics that arise within the family in reaction to distal stressors. Different from its original conceptualization as an intrapsychic process, proximal family stress process is an intrafamilial and relational process that impact all levels of family system. Adapting from MST (Meyer, 2003), proximal family stress processes can be conceptualized as three interrelated elements: internalized mainstream family norms, expectation of social rejection, and concealment of minority status/identity. First, *internalized mainstream family norms* refer to dominant narratives about what constitutes a "proper" family, including norms around family composition, gendered role expectations, interactive style, and socioeconomic performance etc. Internalizing these norms may lead to feelings of shame, ambivalence, or pressure to conform to socially valued models of

family life. For example, a queer adult might feel compelled to enter a heterosexual marriage to appease their parents, while a disabled father might avoid school meetings out of fear that others see him as an incapable parent.

The *expectation of social rejection* refers not only to fears of discrimination from the broader society but also to anticipated rejection within the family system itself. For example, a family with a transgender adolescent may expect bullying and exclusion at school, while immigrant parents may fear judgment from their U.S.-born children for not fully assimilating to mainstream culture. Heightened vigilance to potential rejection within the family can compromise trust and weaken emotional bonds.

Lastly, *concealment*—while sometimes serving as a coping mechanism—can occur in response to both external stigma and internal family dynamics. For instance, the family of a neurodivergent child may hide the diagnosis from neighbors to avoid stigma, while a parent may withhold their undocumented status from their children to protect them from fear. Yet, despite its protective intent, concealment among family members can create internal tension, strain relationships, hinder open communication, and pose barriers to accessing needed resources.

The Moderating Role of Minority Family Identity

As defined earlier, minority family identity is a dynamic concept that reflects a family's collective interpretation of their minority status. Depending on its developmental stage, this identity may be more *fragmented* or more *integrated*. Fragmented identities can limit communication and contribute to avoidance and conflict, whereas integrated identities enhance effective communication and emotional ties as the family navigates stress. Examples of identity integration at varying levels include a child with sexual minority identity who has come out only to their mother, with both agreeing to keep it a secret from other family members (fragmented),

and a family that openly embraces their child's disability while actively seeking external support (integrated).

While distinct from the Family Adaptive System (FAS; Harrist et al., 2019), minority family identity is shaped by how families navigate and mobilize resources across the four FAS subsystems—meaning, emotion, control, and maintenance—under conditions of minority stress. These systems do not determine identity outcomes in a linear or uniform way. Rather, strengths in one or more domains may serve as leverage points that help families foster identity integration even when other areas remain constrained. In what follows, we illustrate how different subsystem patterns can support or hinder this integrative process—not by mapping directly onto identity states, but by creating conditions that facilitate coherence, resilience, and meaning-making.

In families with a more fragmented identity, malfunctioning in one or more subsystems may be observed. The meaning system may reflect internalized stigma or avoidance of minority-related topics, undermining a shared family narrative. The emotion system may show warmth in general interactions but suppress emotional expression around identity-related experiences, fostering silence and tension. The control system may enforce rigid boundaries or unspoken rules that discourage open discussion of marginalized status, limiting role flexibility. Meanwhile, the maintenance system may meet daily needs but resist seeking external support due to fear of judgment or mistrust, leading to resource strain. However, families with a more integrated minority identity may demonstrate strengths in more subsystems: the meaning system affirms the family's minority status through shared narratives; the emotion system supports open and validating emotional expression; the control system establishes flexible boundaries that protect authenticity and collective decision-making; and the maintenance system reflects stable

supportive routines and proactive engagement with community resources. These subsystems are not isolated contributors to family identity, but interact dynamically—sometimes in tension, sometimes in synergy—to shape how the family navigates its minority status. Importantly, identity integration does not require all four systems to function optimally. Instead, the presence of strengths in even one or two subsystems can serve as leverage points that catalyze broader systemic change (Henry & Harrist, 2022), supporting the emergence of a more coherent and resilient minority family identity over time. Such identity development, in turn, lays the foundation for the family to exercise agency and engage in social advocacy and transformations.

Health Outcomes of Minority Family Stress

The interaction between minority family stress processes—both distal and proximal—and the family's ability to navigate these stressors through a fragmented or integrated minority family identity plays a crucial role in shaping the *health outcomes of minority families* (see Figure 1, panel D). Just as stressors are experienced across different levels of the family system.

To differentiate this discussion from general family stress outcomes, it is essential to clarify the unique contours of minority family health. While traditional family stress frameworks typically assess family functioning through domains such as communication, problem-solving, and role clarity, the health outcomes of minority family stress are shaped by chronic exposure to structural marginalization, internalized stigma, and identity-contingent vulnerability (Bryant & Awosan, 2022). These stressors are systemic and enduring, not circumstantial. As such, minority family health must be understood not only as functional adaptation under pressure, but as the family's ability to affirm identity, maintain emotional and relational integrity, and sustain well-being within a stigmatizing ecological context.

Before discussing specific health outcomes, it is helpful to revisit what is means to be a healthy family. From a pure functioning perspective, a healthy family was described as one with balanced performance across tasks like problem-solving, communication, and role coordination (Epstein et al., 1978). Other system approaches emphasized the importance of clear yet flexible subsystem *boundaries*, and close emotional ties (Bowen, 1966; Minuchin, 2020). Resilience frameworks emphasizing family strengths and adaptability in context, recognizing the legitimacy of diverse family forms and rejecting static normative ideals (Walsh, 2015). In this view, family health is not a matter of conformity to fixed standards but an evolving capacity to respond to adversity with cohesion, cultural congruence, and relational strength.

Integrating the family system approach with minority health disparity scholarship, we discuss minority family health outcomes across levels of family system. At the individual level, minority family stress impacts both mental and physical health. Drawing from the original MST (Meyer, 2003), individuals within minority families may experience anxiety, depression, identity conflict, or somatic symptoms because of either direct discrimination from the society or intrafamily proximal processes. For example, a linguistic minority youth may suppress their heritage language to avoid bullying at school, and even when at home communicating with immigrant parents, leading to identity strain and anxiety. Such internalized pressures may not only compromise psychological well-being but also strain relational and cultural connectedness within the family system.

At the subsystem level, relationships within the family—such as parent-child, couple, or sibling dynamics—are shaped by how families navigate external discrimination and internalized norms. These relational spaces may suffer when minority family identity is fragmented. For instance, a parent may feel ambivalent about publicly supporting their gender-expansive child

due to fear of social reprisal, leading to emotional distancing and reduced support. The quality of emotional communication, mutual support, and relationship satisfaction within subsystems reflects how effectively families are able to manage minority stress together.

At the family system level, health is not merely the sum of individual well-being or subsystem harmony. Rather, it is an emergent property of the family's capacity to coordinate meaning-making, role functioning, emotional support, and daily routines—particularly under conditions of chronic minority stress. Core indicators of family health—such as cohesion, adaptability, and culturally congruent communication—can be disrupted when minority family identity becomes fragmented. For instance, families may avoid engaging with external support networks due to shame or mistrust, undermining their maintenance system. They may also enforce rigid roles that suppress authentic expression, weakening their control and emotional regulation systems. Conversely, when minority family identity is integrated, families are more capable of interpreting stressors collectively, expressing emotions safely, flexibly adjusting boundaries, and seeking support strategically. The outcome is not merely functional endurance but a form of dynamic resilience—one that actively affirms identity in response to stress.

Ultimately, the health outcomes of minority family stress must be understood as multilayered, intersectional, and ecological. They reflect not only how families function, but how they feel, make meaning, and relate in environments shaped by structural exclusion and social vulnerability. This understanding positions minority family health as both a process and an outcome—shaped by and shaping the family's ongoing negotiation with the world around them.

Discussion

The Minority Family Stress Model (MFSM) advances health disparities research by integrating family system theories with individual centered Minority Stress Theory (MST;

Meyer, 2003). Expanding MST beyond individual experiences, MFSM highlights how minority family identity moderates stress processes across multiple system levels. The model clarifies the distinction between distal and proximal stressors within family contexts, emphasizing their dynamic interactions with broader ecological contexts. By elucidating these multilayered mechanisms, MFSM provides a foundation for empirical testing, innovative theoretical exploration, and actionable interventions to reduce family health disparities.

Implications

Testability and Empirical Research Implications

Guided by White and Klein's (2008) criterion of testability, the MFSM provides clear pathways for empirical examination. Testability refers to the extent to which theoretical constructs and propositions can be empirically supported or refuted. Employing the deductive theorizing approach (Buehler et al., 2015) researchers can systematically derive testable hypotheses from MFSM's abstract constructs (Cao et al., 2023). For example, a general empirical pathway could posit that minority family identity (measurement scale to be developed) moderates the impact of family-based discrimination and microaggressions (which could be adapted from existing individual-level discrimination and microaggression scales, e.g., Racial and Ethnic Microaggressions Scale; Nadal, 2011) on individual mental health outcomes, such as depression and anxiety (e.g., PHQ-9; Kroenke et al., 2001), dyadic family relationship satisfaction (e.g., Inventory of Parent and Peer Attachment; Armsden & Greenberg, 1987), and overall family communication and adaptability (e.g., flexibility and communication subscales of FACES IV; Olson, 2011). These associations may further be mediated by the family's endorsement of culturally specific family norms (scale to be adapted or developed), emotional

closeness (FACES IV cohesion subscale; Olson, 2011), and openness (Family Expressiveness Questionnaire; Halberstadt, 1986). Such hypotheses concretely illustrate how MFSM can guide rigorous empirical research.

Methodologically, the MFSM underscores the importance of longitudinal designs in family health disparities research, facilitating an understanding of how minority family stress processes evolve over time. Researchers are encouraged to employ advanced statistical techniques, such as multilevel modeling to reflect nested family system structures and cross-lagged panel modeling to capture reciprocal, dynamic relationships among stressors, moderators, mediators, and health outcomes. Such analytical rigor is essential to account for complexities inherent in family research, including intersectional experiences of marginalization.

Yet, as illustrated, critical constructs within MFSM, such as minority family identity, family-based discrimination experiences, and family norm endorsement, currently lack robust measurement tools. This gap naturally transitions to MFSM's heuristic value, highlighting how the model stimulates innovative measurement development and further research.

Heuristic Value: Future Research Inspirations

Following White and Klein's (2008) criterion of heuristic value, the MFSM offers substantial potential to stimulate further intellectual curiosity and research innovation. First, given the central moderating role of minority family identity, there is a critical need to develop and validate robust measurements capturing its nuanced dimensions, such as family-level identity integration and coherence across multiple subsystems. Similarly, the construct of family-based discrimination and microaggressions requires precise operationalization, encouraging researchers to either adapt existing individual-level discrimination scales or develop entirely new

family-specific measures. The exploration and measurement of culturally tailored family norm endorsement also present fertile areas for future psychometric research.

Moreover, the MFSM framework invites research that bridges basic health disparity mechanisms and translational family health disparity interventions. Specifically, by clarifying minority family identity as a leverage point for reducing family health disparities, researchers can design culturally tailored preventive interventions and clinical programs focused explicitly on facilitating minority family identity integration. Such interventions could subsequently inform implementation science research aimed at robustly delivering and evaluating family-based programs in diverse minority contexts, thus advancing the health disparities translational research continuum from mechanism identification to effective dissemination.

Practical Utility: Clinical and Policy Implications

According to White and Klein's (2008) criterion of practical utility, a robust theoretical model should provide actionable guidance for addressing real-world social issues and informing practice and policy. The MFSM explicitly addresses family health disparities, offering several practical implications. First, insights from MFSM underscore the need for policy advocacy and legislative efforts aimed at fostering inclusive family cultures, challenging rigid, exclusionary societal norms about family composition, roles, and interaction processes. Such policy initiatives can include promoting legal recognition and protections for diverse family structures, funding culturally responsive community resources, and supporting social movements advocating for equity in family health outcomes.

Clinically, the MFSM encourages mental health professionals and service providers to adopt a systemic perspective, even when working with individual clients. By identifying minority family identity integration as a potential leverage point for positive change, clinicians

can strategically facilitate family-level interventions targeting subsystem alignment (e.g., meaning, emotion, control, maintenance). Existing culturally informed family interventions—such as attachment-based family therapy for adolescents with sexual minority identity (Diamond & Shpigel, 2014), culturally adapted parenting programs for immigrant families (Parra-Cardona et al., 2017), and multidimensional ecosystemic family approaches (Falicov, 2012)—can be expanded and refined using MFSM insights to further promote family identity integration, resilience, and health equity. This approach emphasizes therapeutic efforts that not only support individual mental health but also enhance overall family system functioning and community-level connectedness.

Limitations and Future Directions

Despite these strengths, the MFSM also has limitations that highlight important directions for future research. First, given its primary goal of integrating family systems theory into Minority Stress Theory, the model broadly incorporates complex constructs—such as intersectionality, historical temporality, and the family life-course perspective—but does not deeply unfold each of these aspects. Models like the Theory of Intersectional Minority Stress (TIMS; Rivas-Koehl et al., 2023) provide more extensive and nuanced exploration of intersectionality and temporality. Therefore, future studies might explicitly integrate MFSM with TIMS to more comprehensively capture how multiple marginalized statuses dynamically shape family stress trajectories over time.

Second, the MFSM intentionally defines "minority families" broadly, encompassing diverse forms of marginalization related to individual identities, family structures, and social roles. While this broad scope enhances the general applicability of the model, it may sacrifice nuanced understanding of how minority stress processes differ across specific marginalized

statuses, sociocultural contexts, and dominant societal narratives. Most illustrative examples of this article were U.S.-based; thus, the model's cultural specificity and applicability to global contexts need further investigation. Future research should explore culturally specific adaptations of MFSM constructs—particularly minority family identity and culturally relevant family norms—to deepen theoretical understanding and practical applicability in diverse contexts.

Conclusion

The Minority Family Stress Model (MFSM) provides an integrative theoretical framework designed to clarify mechanisms underlying health disparities experienced by non-dominant or non-traditional families facing chronic marginalization and systemic exclusion. By situating Minority Stress Theory within a multilayered family systems context, MFSM explicitly demonstrates how systemic minoritization and marginalization stressors circulates and manifests at different levels within the family system to influence health outcomes at individual, subsystem, and whole-family levels. Central to the MFSM is the moderating role of minority family identity, defined as the family's collective interpretation and management of their marginalized status, which can either buffer or exacerbate these stress processes. Thus, the MFSM advances health disparities scholarship by systematically unpacking the complex interplay between chronic ecological marginalization and family-level functioning, laying a clear foundation for empirical research, culturally informed family interventions, and policy advocacy aimed at promoting equity and resilience among minoritized families.

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DEVELOPMENT AND VALIDATION OF THE CHINESE SEXUAL MINORITY FUTURE FAMILY FORMATION LOSS (FFFL) SCALE

Introduction

Family formation is widely regarded across cultures as a developmental milestone that affirms adult identity, fosters belonging, and signals fulfillment of social expectation (Soulsby & Bennett, 2017; Thomas et al., 2017; Yang & Yen, 2011). For sexual minorities, however, this developmental pathway is often structurally foreclosed. Regardless of whether family formation is a personal aspiration, heteronormativity based marriage laws, parenthood restrictions, and cultural norms prevent sexual minorities' family related social roles and statuses from being legally supported or socially acknowledged (Goldberg & Allen, 2020). Such exclusion can result in an enduring awareness of absence, even without specific significant life events. Existing research has long examined grief as a response to event-based losses such as death or separation, yet it has paid far less attention to the diffuse and ongoing forms of loss that may not be tied to discrete life events but nonetheless emerge through exclusion from dominant family narratives. This study introduces the concept of *Future Family Formation Loss* (FFFL) and presents preliminary psychometric validation data drawn from sexual minorities in China—a context where legal constraints and Confucianism can intensify this culturally unarticulated loss.

Positioning Loss in Sexual Minority Family Formation

Understanding loss in the context of sexual minority family formation requires a theoretical framework to capture not only how individuals perceive loss, but also how social structures actively construct what is recognizable as loss. The social constructionist perspective of loss provides this foundation. Rather than treating the perception of loss as a self-evident

response to discrete events, it proposes that the perception of loss is shaped by social processes, such as the legitimization of what count as loss, the degree of support or obstruction in meaning-making of that loss, and the societal permission to grieve over that loss (Neimeyer et al., 2014). For sexual minorities, this social constructionist dynamic manifests in a particular tension. Society tends to recognize loss through a normative lens, framing it as the inability to form a heteronormative family. This framing defines what sexual minorities "seemingly" lack, yet it obscures the losses that sexual minorities themselves experience. Unmet family aspirations and structural exclusion rarely receive social acknowledgment. What counts as loss, and for whom, is thus not a neutral determination but a socially constructed one.

Scholarly attention to the mental health disparities associated with sexual minority family formation has begun to emerge, most notably through the lens of grief. Recent scale development efforts have focused on grief over the loss of conceptual parenthood (Simon & Farr, 2021), offering a promising means of assessing this domain-specific mental health disparity. However, grief-focused measures capture individuals' emotional responses to deprivation rather than the structural and cultural conditions that give rise to it. Understanding the underlying mechanisms of this disparity requires shifting analytical focus toward loss itself, understood as the perceived reduction of resources to which individuals are emotionally invested (Harvey & Miller, 1998), rather than the emotional responses that follow. This distinction matters because, as Hatzenbuehler (2016) argues, psychological distress among sexual minorities is often perpetuated by culturally and structurally embedded processes that individual-level emotional measures alone cannot capture. A contributing factor to this gap is the longstanding conceptual slippage between loss and grief in existing measures: instruments labeled as loss scales frequently assess passive grief responses such as sadness, numbness, or longing, rather than the

prior cognitive process of recognizing what has been lost (Comtesse et al., 2023; Golub et al., 2013; Kartoz et al., 2022; Niemeier et al., 2004). As a result, the structural conditions that construct loss experiences have remained largely unmeasured.

Harvey's (1998) resource reduction framework offers a productive foundation for addressing this gap, and has informed several existing instruments. These measures address losses across intrapersonal domains (e.g., self-concept, competence), interpersonal domains (e.g., social standing, relational support), and structural domains (e.g., civil rights, welfare benefits), as exemplified by the Perceived Impact of Life Event Scale (PILES; Servaty-Seib, 2014) and inventories designed for cross-cultural relocation (Vromans et al., 2012; Wang et al., 2015). This domain structure offers a useful conceptual foundation for the present study. Critically, Harvey and Miller (1998) further specified that the identification of loss requires a combination of subjective and objective markers: a subjective indication by the individual that a major loss has been experienced, and an "objective" (i.e., externally ascribed) concurrence by knowledgeable others. This dual-marker approach aligns with a social constructionist understanding of loss, in that it explicitly acknowledges the possibility of systematic divergence between individual perception and social recognition. Harvey and Miller themselves noted that when outsiders have been socialized not to see a particular form of loss, the individual's subjective perception should take priority. This insight is especially pertinent to sexual minority family formation loss, where such divergence is not incidental but structurally produced. The losses that sexual minorities themselves perceive are rooted in unmet family aspirations and structural exclusion. Yet these losses often go unacknowledged by a society that does not recognize them as legitimate. On the other hand, Harvey and Miller (1998) also acknowledged a second form of divergence—one in which an individual does not perceive a major loss, yet observers view the situation as clearly

involving one. In the context of sexual minority family formation, this divergence takes a structurally distinct form: the imposition of a loss narrative reflects not an absence of perceptual capacity, but the active exercise of social power, whereby dominant cultural norms define sexual minorities' lives as deficient regardless of individual experience or endorsement. These two directions of divergence between subjective and objective appraisals are not merely theoretical possibilities but reflect distinct and measurable dimensions of loss experience, dimensions that existing instruments have yet to fully capture.

Several existing loss constructs offer partial insight into the experience of sexual minority family formation loss, yet none fully captures its complexity. Anticipatory loss typically refers to a future-oriented loss in which individuals still possess what is expected to be lost, such as in terminal illness or impending divorce (Levy, 1991). While sexual minority family formation loss shares the feature of involving something that has not yet occurred, it differs in that a socially recognized pathway to family life was never granted to begin with. Its temporal character is not anticipatory but foreclosed, and its emotional impact is sustained and diffuse rather than tied to an impending event. Ambiguous loss, as introduced by Boss (2004), describes losses that lack closure, such as when a loved one is physically absent but psychologically present, or vice versa. Sexual minority family formation loss also entails a lack of closure, but its ambiguity does not stem from uncertainty about whether something has been lost. Rather, it stems from uncertainty about whether something can ever be obtained. This distinction reflects not personal confusion but structural foreclosure. Of all existing constructs, disenfranchised grief (Doka, 1999) most closely anticipates the social dynamics at play. Doka’s central argument that society determines whose grief is legitimate offers an important theoretical precedent. However, disenfranchised grief operates at the level of emotional response: it addresses the social invalidation of grieving,

rather than the prior question of whether the loss itself is socially recognized. Disenfranchised loss, as we conceptualize it, moves the analysis upstream: the concern is not whether one's grief is acknowledged, but whether the perception of loss itself is granted social legitimacy. In the context of sexual minority family formation, structural exclusion shapes what can be recognized as loss before any emotional response takes place.

Yet even taken together, these constructs share a critical blind spot: none systematically captures the experience of loss that is not merely unacknowledged, but actively imposed. Existing frameworks attend to what society fails to recognize, but not to what society actively prescribes. For sexual minorities navigating heteronormative family norms, loss is not only personally felt and socially invisible, but also externally assigned. Dominant cultural narratives may project deficit onto sexual minorities in domains where individuals themselves perceive no loss: assuming they have failed to continue a bloodline, fulfill filial duties, or achieve the markers of respectable adulthood, regardless of whether these roles align with their personal aspirations. This imposed sense of deficiency does not require personal endorsement to exert psychological force. Even individuals who do not perceive themselves as lacking must nonetheless cope with a social environment that perceives and treats them as lacking. The dimension of socially imposed loss has no systematic precedent in existing loss frameworks, and its absence represents a critical gap in both theory and measurement.

Conceptualization of Future Family Formation Loss (FFFL)

Building upon the conceptual need for a contextualized framework of loss for sexual minority family aspirations, we introduce Future Family Formation Loss (FFFL) that captures the reduction of resources resulting from cultural, legal, and normative exclusion. FFFL emerges from socially situated comparison between sexual minorities' family aspirations and the

dominant heteronormative conceptualization of family, through which perceived discrepancies are rendered as loss (Dorri & Russell, 2022; Godfrey et al., 2022; Pollitt et al., 2021). This loss is not episodic, but is characterized by temporal diffuseness, structural deprivation, and normative coercion. These features underscore how FFFL may affect individuals beyond those with explicit aspirations for family formation—through prevailing social narratives that define family as a moral and adult-defining norm from which they are symbolically excluded.

These structurally produced divergences in loss perception constitute the defining features of FFFL, giving rise to two interrelated but distinct dimensions: socially *disenfranchised loss* and socially *imposed loss*. Disenfranchised loss refers to the personally meaningful experience of reduced access to tangible and intangible resources relevant to family formation, due to heteronormative barriers. This form of loss is internally perceived and subjectively significant, even when unrecognized or invalidated by society. In contrast, imposed loss captures a socially constructed sense of deficiency—one that may not be personally endorsed but is perceived as externally assigned. It reflects the societal projection of what constitutes wholesome personhood, as experienced by sexual minorities. For instance, an individual who does not wish to marry or have children may nonetheless perceive that society views these absences as markers of moral failure or incompleteness. In this way, imposed loss emerges not from within the self, but from the awareness of normative expectations.

By integrating disenfranchised and imposed loss, the FFFL construct crystallizes the role of sociocultural context in shaping resource deprivation. This model offers a contextually attuned lens through which to understand the layered and often conflicting experiences of sexual minorities navigating family formation in societies that treat heteronormativity as the default or only legitimate framework for adulthood and relational legitimacy.

Cultural Context of Chinese Sexual Minorities and Family Formation

The Chinese sociocultural context provides a compelling lens through which to examine FFFL. Culturally, Confucian values emphasize filial piety, biological reproduction, and heterosexual marriage as foundational to adulthood and moral legitimacy (Jeffreys & Wang, 2018; Slote & De Vos, 1998; Sun et al., 2021). These cultural expectations frame family formation not only as a personal milestone but also as a social obligation—positioning unmarried, childless adults as incomplete or even irresponsible.

For Chinese sexual minorities, these normative expectations amplify the experience of imposed loss. Individuals may be perceived as having failed to fulfill societal duties, even if they do not personally endorse these values. This perceived failure illustrates the powerful influence of third-order beliefs: I believe that society believes I have failed. Such dynamics are especially salient in collectivist cultures where relational self-construals and sensitivity to social evaluation play a central role in identity development (Kim et al., 2005; Markus & Kitayama, 1991; Wu & Keysar, 2007). As a result, some sexual minorities may feel pressured to participate in "Xing Hun" (形婚; Huang & and Brouwer, 2018)—heterosexual marriages between gay men and lesbians—for the sake of norm conformity. Meanwhile, legal structures in China do not recognize same-sex partnerships, limit access to joint parenthood, and censor LGBTQ+ representation in mainstream media (Tong-Yu, 2016). This systemic exclusion of same-sex families generates disenfranchised loss of an invisible and impossible path.

Together, these cultural and structural forces reinforce the salience of FFFL in the Chinese context. Disenfranchised and imposed losses intersect at the juncture of identity and social legitimacy, suggesting that Chinese sexual minorities may bear complex, culturally specific burdens of unacknowledged or socially mischaracterized loss. Within this sociocultural

terrain, FFFL does not exist in isolation. The cultural pressures and structural exclusions that give rise to disenfranchised and imposed loss are themselves embedded within a broader ecology of minority stress—one that shapes the everyday lives of Chinese sexual minorities navigating heteronormative expectations. The following section situates FFFL within this framework.

Situating FFFL in the Minority Stress Framework

Building on the conceptualization of FFFL and its Chinese sociocultural embedding, we situate its two dimensions within the broader minority stress framework to illuminate how each operates as a distinct form of structurally produced stress. Drawing on Frost and LeBlanc's (2014) integration of structural stigma and nonevent stress within the minority stress framework, as well as Hatzenbuehler and Link's (2014) conceptualization of structural stigma as a direct determinant of health disparities among stigmatized populations, we examine how Disenfranchised Loss (DL) and Imposed Loss (IL) relate to existing minority stress processes, cultural pressures specific to the Chinese context(Sun et al., 2021), and health outcomes (Meyer, 2015). This theoretical mapping is illustrated in Figure 2 (See Appendix B).

Disenfranchised Loss in Minority Stress

As conceptualized above, disenfranchised loss reflects the personally meaningful experience of reduced access to family-related resources due to heteronormative barriers. Within the minority stress framework, this dimension operates as a distal nonevent stressor: it emerges not from discrete discriminatory events, but from the chronic awareness of being structurally foreclosed from socially valued family roles (Frost & LeBlanc, 2014; Meyer, 2015). As Pearlin (1999) characterized nonevent stressors, they are "*products of structured disjunctures between socially valued goals and differential access to opportunities for their achievement*"—a

characterization that maps directly onto the experience of sexual minorities whose family aspirations are systematically obstructed by legal and normative barriers. In the Chinese context, where same-sex partnerships receive no legal recognition and access to joint parenthood remains structurally unavailable (Tong-Yu, 2016), these barriers are particularly concrete and pervasive.

Enacted stigma, representing experiences of overt discrimination, constitutes a different form of distal stress within the minority stress framework (Sun et al., 2021). Whereas enacted stigma is event-based, DL is nonevent-based, capturing the cumulative weight of structural non-access rather than discrete experiences of differential treatment. Both are expected to be positively associated, as each reflects the concrete manifestation of heteronormative structural exclusion in individuals' lived experiences. *Perceived stigma*, reflecting individuals' awareness of general societal anti-LGBTQ attitudes (Liu at el., 2009), provides the broader social backdrop against which family-related resource reduction becomes recognizable. As a general perception of collective social hostility rather than a domain-specific loss appraisal, perceived stigma is expected to be positively associated with DL, though this association is likely more distal in nature. *Family norm endorsement*, reflecting the degree to which individuals personally endorse Confucian family norms, may be positively associated with DL: similar to how general norm conformity intensifies minority stress experiences (Sun et al., 2021), the more strongly individuals internalize heteronormative family values, the more acutely they may perceive their inability to fulfill these values as a meaningful personal loss. *Conceptual future parent grief* reflects unresolved grief over the perceived foreclosure of a future parent identity among sexual minorities (Simon & Farr, 2021). As the emotional response most proximate to the loss appraisal process captured by DL, it is expected to be positively associated with DL.

Imposed Loss in Minority Stress

Imposed loss, by contrast, captures the socially constructed deficiency assigned to sexual minorities. Within the minority stress framework, this dimension operates differently from DL: rather than reflecting the frustration of a personal anticipated goal, IL represents structural stigma functioning as a context stressor (Hatzenbuehler & Link, 2014). The family life of sexual minorities was defined as incomplete or morally deficient relative to heteronormative family standards, regardless of whether individuals themselves hold family formation aspirations. This form of stress does not require a thwarted personal goal to exert psychological force; the mere awareness of being perceived as deficient by society is itself a source of chronic stress.

Perceived stigma shares conceptual overlap with IL in that both involve the perception of socially constructed negative definitions. However, IL is more specific: it captures not just the awareness of negative attitudes, but the perception of a socially prescribed deficit in the particular domain of family formation. Accordingly, perceived stigma is expected to be positively associated with IL, with the two constructs remaining empirically distinguishable by virtue of this domain specificity. Acceptance concern, on the other hand, represents a proximal stressor reflecting fears of interpersonal rejection due to one's sexual identity (Meyer, 2015; Sun et al., 2021). It is expected to be positively associated with IL: the awareness of being socially defined as deficient in the domain of family formation may intensify concerns about interpersonal rejection and social acceptance, or vice versa. Conceptual future parent grief is also expected to be positively associated with IL, though the association is expected to be weaker than that with DL, given that socially imposed deficit perceptions are more distal from personally experienced grief responses than individually meaningful loss appraisals.

Despite the chronic stress associated with both DL and IL, minority stress theory recognizes that social support can buffer the adverse health effects of stressors (Meyer, 2015). In the Chinese context, LGB-specific family support represents a particularly salient protective factor, given the centrality of family relationships in Confucian culture (Sun et al., 2021). This specific type of support refers to the degree to which sexual minorities perceive acceptance and affirmation from their families regarding their sexual identity, which may attenuate the psychological burden of both DL and IL. Both DL and IL are expected to be positively associated with psychological distress outcomes, including depressive and anxiety symptoms, consistent with evidence that nonevent stress and structural stigma independently predict mental health disparities among sexual minorities (Frost & LeBlanc, 2014; Hatzenbuehler & Link, 2014). Given their distinct theoretical positions, however, the two dimensions may differ in the strength of their associations with specific distress outcomes: DL, as a form of personally experienced resource reduction, may be more proximally linked to depressive responses, while IL, as a form of chronic awareness of social threat, may be more closely associated with anxiety.

Research Goals

In response to these conceptual and measurement gaps, the present study has two primary goals. First, it aims to generate a culturally grounded item pool to operationalize FFFL among Chinese sexual minorities. Second, it seeks to examine the psychometric properties of the newly developed FFFL scale. In doing so, we examine whether DL and IL demonstrate theoretically coherent and empirically distinguishable patterns of association with related minority stress constructs, consistent with their conceptualization as related but distinct dimensions of family formation loss. Collectively, these goals establish the empirical foundation for a culturally and theoretically robust understanding of loss in the context of minority family formation.

Methods

Item Development and Refinement

Item generation was guided by psychology of loss, social constructivism, minority stress, structural stigma as well as prior qualitative findings on Chinese sexual minority family aspirations (Harvey & Miller, 1998; Hatzenbuehler, 2016; Li et al., 2024; Meyer, 2003; Neimeyer et al., 2014). The initial pool was refined through expert consultation and stakeholder cognitive interviews (Peterson et al., 2017). The initial item pool was refined through two rounds of expert consultation with two counseling psychologists specializing in Chinese sexual minority mental health and a survey design methodologist, covering scale structure, item clarity, content relevance, and survey design. Items were revised after each round, with consultants asked to assess whether prior feedback had been adequately addressed. A total of 4 items were dropped from the Disenfranchised Loss subscale and 8 from the Imposed Loss subscale, yielding final item counts of 16 and 14, respectively. To further enhance the scale's readability and cultural relevance, three individuals from the target population completed the scale and participated in individual cognitive interviews, providing feedback on item clarity, potential confusion, and wording (Peterson et al., 2017). Items were further refined based on participant feedback.

Procedures

The study was approved by the Purdue University Institutional Review Board (IRB-2024-711), and informed consent was obtained prior to participation. An online survey was developed using Qualtrics. Participants were recruited through partnerships with queer NGOs and community social media influencers in China, including Chinese Rainbow Network, Future Family, Asian Friends Untucked, Guangdong LGBTQ+ Nonprofit Alliance, Tong Xun Lu Tou

She, Yuan Yu Long, and A Shi Mao Mi Ya, as well as the researcher's personal network. Eligibility criteria were: (1) age 18 or older, (2) currently residing in China, and (3) self-identifying as a sexual minority. Upon completing the primary survey, eligible participants received an auto-generated response ID and were redirected to a secondary survey to redeem compensation for 20 RMB. Eligibility for compensation required meeting all inclusion criteria, a minimum completion time threshold, and accurate responses to honeypot questions (i.e., survey items with preset correct answer used to detect inattentive or fraudulent survey responses). Recruitment occurred in two waves: September 2–23, 2025, and January 20–February 4, 2026.

Participants

A total of 1,513 surveys were collected. Preliminary screening for bot and inattentive responses applied five criteria: meeting all inclusion criteria, total completion time exceeding 450 seconds, accurate honeypot responses, and minimum click counts and time spent on each FFFL subscale (≥16 clicks and seconds for the 16-item DL subscale; ≥14 clicks and seconds for the 14-item IL subscale). After preliminary screening, 836 surveys were retained.

Data Cleaning

Due to the detection of a substantial number of potentially fraudulent responses (e.g., ballot box stuffing and duplicate entries) during manual review, an additional round of data cleaning was conducted to further identify and exclude automated bot responses and inattentive respondents. Drawing on approaches commonly used in response quality detection and behavioral data screening (Leiner, 2019), we utilized behavioral timing metrics to flag low-quality responses. To establish empirically grounded thresholds for genuine human engagement, a reference sample of 97 responses was identified based on the presence of meaningful written

content (e.g., qualitative feedback/comments to researcher and the study, personal background information, thoughts and feelings towards queer Chinese community) in an open-ended comment field appended to the final survey page. These responses were treated as indicative of attentive and authentic participation. Minimum observed values from this reference sample were extracted for page submission times and click counts across key survey sections. Responses falling below any single threshold were flagged as invalid. This procedure excluded an additional 210 responses, and one response with an implausible age value (99 years) was removed, yielding a final analytic sample of n = 625.

Among 625 valid responses, missing data were minimal across scale items. Participants missing 20% or more of items within a given scale were assigned a missing value for that scale's total score but retained for other analyses (Parent, 2013), resulting in slightly varying effective sample sizes across analyses (range: 621–625). For cases missing fewer than 20% of items on a scale, person-mean imputation was used. Demographic variables for which participants selected "prefer not to disclose" were treated as missing and are reported as such in Table 2.

Of the final 625 participants, 52.6% (*n* = 329) identified as woman, 39.8% (n = 249) as man, 6.4% (*n* = 40) as non-binary/gender queer, 0.5% (*n* = 3) as others. The majority of participants identified as gay or lesbian (*n* = 441, 70.6%), followed by bisexual (*n* = 110, 17.6%), pansexual (*n* = 51, 8.2%), asexual (*n* = 14, 2.2%), and other sexual identities (*n* = 7, 1.1%). Sample age ranged from 18 to 47 (Mean = 26.1, SD = 5.8). Most participants are currently in a committed relationship (*n* = 273, 43.7%), followed by single (*n* = 207, 33.1%), dating (*n* = 116, 18.6%), married (*n* = 19, 3%), and other relationship status (*n* = 10, 1.6%). Among those 408 with a current partner, 90.1% (*n* = 368) are with a partner of same gender. Most participants do not have children (*n* = 613, 98.1%). Majority of participants reported a perceived SES as similar

to most others (n = 337, 53.9%), followed by slightly higher than average (n = 167, 26.7%), slightly lower than average (n = 76, 12.2%), significantly lower than most others (n = 21, 3.4%), and significantly higher than most others (n = 20, 3.2%). Majority of the participants reported their highest degree as college (n = 406, 65%), followed by graduate (n = 118, 18.9%), associate (n = 72, 11.5%), high school or vocational school (n = 25, 4%), and middle school (n = 1, 0.2%). Less than half of the participants are the only child of their family (n = 286, 45.8%).

Measurements

Future Family Formation Loss (FFFL) Scale

The FFFL scale assesses family formation-related loss across two dimensions: disenfranchised loss (DL; 16 items) and imposed loss (IL; 14 items). Items were rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree), with higher subscale totals indicating greater perceived loss. Participants received the following instructions prior to responding. For DL: "Below are statements about sexual minority families. Here the word 'Partner' refers to non-heterosexual partners. If you do not have a partner at this time, please answer based on past relationships or imagined scenarios. Please read each statement carefully, consider to what extent it reflects your perceptions, then choose the best matching option. There is no right or wrong answer." For IL: "Below are statements about negative social perceptions of sexual minority families. These perceptions may or may not reflect your own views. Please read each statement carefully, consider to what extent it reflects your perception of Chinese society, then choose the best matching option. There is no right or wrong answer."

Sample DL items include "Compared to heterosexuals, I am more likely to worry about my partner leaving me for reasons unrelated to our relationship" and "Compared to

heterosexuals, I find it harder to meet my parents' expectations regarding marriage and family." Sample IL items include "Society believes that same-sex partnerships lack a foundation for long-term stability" and "Society believes that sexual minorities are unable to fulfill their filial duties toward their parents." Both DL (α = .89) and IL (α = .92) demonstrated good initial internal consistency with the current sample before further psychometric evaluation. Additional psychometric properties are reported in the Results section.

Scale Validation

Convergent Validity

Convergent validity was examined with respect to enacted stigma, perceived stigma, and family norm endorsement. Enacted stigma is measured by a 7-item subscale (α = .84) from the China MSM Stigma Scale (Neilands et al., 2008), previously used to test minority stress theory among Chinese gay men (Sun et al., 2021). Items were rated on a scale of 1 (Never) to 5 (Always), with higher scores reflecting greater frequency of experienced overt discrimination. Example items include "How often have you lost a job or career opportunity for being homosexual?" and "How often have you been hit or beaten up for being homosexual?"

Perceived stigma is measured by 6 items (α = .86) adapted from Chinese HIV and homosexuality related stigma scales (Liu et al., 2009). Original items targeting gay men were adapted to be inclusive of all sexual minority populations. Items were rated on a scale of "1" to "5", higher scores indicated a greater perception of perceived public homosexual stigma. Example items include "Many people unwillingly accept sexual minorities." and "Many people have negative attitudes towards homosexuality."

Family norms endorsement is measured by a six-item measure (α = .82) from the Chinese Family Panel Studies (CFPS; Institute of Social Science Survey, 2021), focusing on filial piety related values. Similar items have been used to assess filial piety endorsement among Chinese sexual minorities (Li & Patterson, 2022). This scale evaluates the degree a society enforces traditional Confucian values emphasizing respect, obedience, and care for parents, as well as the obligation to maintain family honor. Example items include "One should have at least one child to carry on the family line" and "Individuals should give up their personal ambitions for the sake of their parents." Responses are rated on a Likert scale ranging from 1 (Strongly disagree) to 5 (Strongly agree), with higher average scores indicating stronger endorsement of filial piety.

Concurrent Validity

Concurrent validity is examined in relation to conceptually closely related construct—conceptual future parent grief. The Conceptual Future Parent Grief (CFPG) Scale (Simon & Farr, 2021) is a 12-item measure (α = .94) designed to assess unresolved grief related to the cultural expectation of becoming a parent. Each item is rated on a scale from one (strongly disagree) to six (strongly agree), with higher scores reflecting greater conceptual grief related to future parenthood. Example items include "Parenthood is no longer achievable," and "I'm damaged."

Incremental Validity

Incremental validity was examined in relation to depressive and anxiety symptoms. Following the Chinese minority stress model (Sun et al., 2021), enacted stigma, acceptance concern, and LGB-specific family support were included as baseline predictors, representing a distal stressor, a proximal stressor, and a protective factor, respectively.

Acceptance concern was measured by an adapted 3-item subscale (α = .90) from the Lesbian, Gay, and Bisexual Identity Scale (LGBIS; Sun et al., 2021). Items were rated from one to five, with higher scores reflecting greater fear of rejection/ judgment due to one's sexual identity. Example items include "I often wonder whether others judge me for my sexual orientation" and "I think a lot about how my sexual orientation affects the way people see me."

LGB-specific family support was measured by a 3-item scale (α = .88) adapted from the LGBIS (Sun et al., 2021). rated on the same 5-point Likert scale as acceptance concern, with higher scores indicating greater perceived family support. Items include "I am confident that if I come out, I will have good relationships with my family," "I believe that my parents will love me the same even if I come out to them," and "I am confident to face my family's reactions no matter their attitudes toward my sexual orientation."

Depressive and anxiety symptoms were measured by the Patient Health Questionnaire-9 (PHQ-9; α = .87;(Kroenke et al., 2001) and the Generalized Anxiety Disorder-7 (GAD-7; α = .89; Spitzer et al., 2006), respectively. The PHQ-9 rates symptom frequency over the past two weeks (0 = *not at all* to 3 = *nearly every day*; total range 0–27); the GAD-7 follows a similar format (total range 0–21). Higher scores indicate greater symptom severity. Both have demonstrated strong reliability and validity in Chinese populations (Lin et al., 2021).

Discriminant Validity

Discriminant validity was examined using the Chinese short form of the Marlowe-Crowne Social Desirability Scale (Tao et al., 2009). The scale consists of 14 dichotomous (yes/no) items, for context relevancy concern, 6 items were retained (α = .59). Example items include: "I sometimes would talk behind someone's back," and "No matter whom I'm talking to,

I'm always a good listener" Items 1, 5, and 6 are reverse coded. Higher total score indicates higher tendency to respond in a social-desirable manner.

Data Analysis

To examine the factor structure of the FFFL scale, factor analysis was conducted. The final sample (n = 625) was randomly split into two independent subsamples using a fixed random number seed (seed = 20260327) to ensure replicability. Following Mundfrom et al. (2005), a total of 400 responses were allocated for EFA, which meets the conservative recommendations for sample sizes in factor analysis involving more than 25 items (30 items in this study) and communalities below .60. The remaining sample (n = 225) was allocated for CFA, which met the minimum sample size recommendation of 200 participants (Kline, 2023).

For EFA, three criteria were used to determine the number of factors to retain: (1) examination of the scree plot (eigenvalue >1), (2) parallel analysis, and (3) interpretability of the factors. Items removal criteria include: factor loadings below 0.40, cross-loadings greater than 0.32, or primary-to-cross-loading differences less than 0.20 (Worthington & Whittaker, 2006). For CFA, model fit was evaluated using multiple fit indices, including the Comparative Fit Index (CFI ≥ .90), the Tucker-Lewis Index (TLI ≥ .90), the Root Mean Square Error of Approximation (RMSEA ≤ .08), and the Standardized Root Mean Square Residual (SRMR ≤ .08; Kline, 2023).

Scale Validation

Internal consistency was assessed using Cronbach's alpha (N =625), with values of .70 or higher considered indicative of good internal consistency (Tavakol & Dennick, 2011). Convergent, discriminant, and concurrent validity were evaluated using Pearson correlation analysis. Incremental validity was assessed through two hierarchical linear regression, with

depressive symptoms and anxiety symptoms as separate dependent variables. Minority stressors protective factors were entered as baseline in step one, and DL and IL were entered to examine incremental variance explained in step two. Both significant changes in R^2 between steps and β coefficients for both subscales were used to evaluate the incremental validity.

Results

Descriptive analysis, EFA, Pearson correlation, and hierarchical linear regression were conducted using IBM SPSS 30 for Mac OS. Parallel analysis and CFA were conducted using R Studio 4.3.3 with the *psych* package and *lavaan* package respectively. Descriptive statistics for all study measurements were presented in Table 3, and correlation matrix was presented in Table 4. Skewness (range: -1.61 to -.35) and kurtosis (range: -1.36 to 2.57) for the initial 30 items fall into the acceptable range, suggesting approximate multivariate normality (Kline, 2023).

Factor Analysis

Exploratory Factor Analysis (EFA)

Before factor extraction, the pre-assumed common variances between items were verified by Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (.92) and Bartlett's test of sphericity ($\chi^2(435) = 5982.10$, $p < .001$). Factors were extracted using principal axis factoring with oblique rotation ($\kappa = 3$; $N = 400$) due to the expected theoretical correlation between the two proposed factors (i.e., DL and IL; (Costello & Osborne, 2019; Fabrigar et al., 1999).

For factor retention, results from the scree plot, eigenvalues, and parallel analysis were compared. The scree plot indicated a clear elbow after the second factor, suggesting a two-factor solution. However, the eigenvalue criteria (factor eigenvalue >1; factor 1 to 6 = 9.92, 3.46, 1.98, 1.23, 1.15, 1.05, respectively) and parallel analysis suggested a six-factor solution. Due to the

discrepancy observed across three criteria, two- and six-factor solutions were further compared for theoretical interpretability. Within the six-factor structure, three items (DL4, DL8, DL10) failed to achieve the minimum loading threshold of .40 on any factor, indicating poor item-level fit. The remaining factors revealed a theoretically recognizable but psychometrically problematic pattern: the additional factors emerging within the Disenfranchised Loss dimension reflected the content domains used to guide item development, including couplehood-related loss (DL1, DL2, DL3), family-of-origin related loss (DL5, DL6, DL11, DL12, DL13, DL14), and social safety and recognition related loss (DL7, DL9, DL15, DL16). A parallel pattern was observed within the Imposed Loss dimension, where items describing societal invalidation of same-sex couplehood (IL1, IL2, IL3) formed a cluster separate from the broader IL items. Therefore, a two-factor solution was retained for subsequent analysis.

The two-factor solution accounted for 44.6% of total variance. All 30 items demonstrated primary factor loadings greater than .40 and factor cross-loadings below .32 (see Table 5; Worthington & Whittaker, 2006). Factor one consists of all 16 items of disenfranchised loss (loadings: .44~.80), while factor two consists of all 14 items of imposed loss (loadings: .42~.68). The two factors were moderately positively correlated (r = .48). Based on the predefined item retention criteria, all 30 items were retained.

Confirmatory Factor Analysis (CFA)

CFA was conducted using a subsample (n = 225) to verify the factor structure identified in the EFA, using maximum likelihood (ML) estimation. Item-level normality was assessed through skewness and kurtosis values. Three competing models were compared: (1) a single-factor model, in which all 30 items loaded onto one general factor, serving as a statistical baseline; (2) a correlated two-factor model, in which 16 items loaded onto disenfranchised loss

(DL) and 14 items loaded onto imposed loss (IL), serving as a confirmation of the EFA results; and (3) a second-order factor model, in which DL and IL further loaded onto a higher-order FFFL factor, serving as an alternative theory-driven model. The correlated two-factor model was then refined based on model modification indices. Model fit indices are presented in Table 6.

The single-factor model demonstrated poor fit (CFI = .57, TLI = .54, RMSEA = .12 [90% CI: .12, .13], SRMR = .13). The correlated two-factor model fit significantly better than the single-factor model ($\Delta\chi^2(10) = 975.76$, $p < .001$), providing further evidence that DL and IL represent empirically distinct constructs. Although a second-order factor model was examined, it demonstrated identical fit indices to the correlated two-factor model. This equivalence can be explained by the mathematical redundancy between a second-order model with only two first-order factors and a correlated two-factor model (Kline, 2023). Following the principal of parsimony, the correlated two-factor model was retained for subsequent model refinement.

Based on the proposed model fit criteria, the initial correlated two-factor model demonstrated inadequate fit (CFI = .79, TLI = .77, RMSEA = .085[90% CI: .08, .09], SRMR = .08). Modification indices were examined to explore items with substantial residual covariances that was not accounted for by the latent factors. Residual covariances were added only when two conditions were jointly met: (a) the modification index value was substantial (≥10), and (b) a clear theoretical rationale existed based on content similarity between item pairs within the same subscale (MacCallum et al., 1992). A total of 11 residual covariances were added, reflecting pairs of items sharing overlapping content themes, including parenthood legitimacy (IL4–IL5), parenthood pragmatic challenges (DL7–DL9), relationship legitimacy (IL1–IL2, IL2–IL3), family and filial duty (IL9–IL10), social recognition (DL15–DL16), family

of origin acceptance (DL11–DL12), relationship stability (DL1–DL3), and sexual minority parent family legitimacy (IL12–IL13).

Despite improvements in model fit, two items consistently demonstrated low standardized factor loadings, including DL2 ("Compared to heterosexuals, I lack role models for how to navigate my relationship with my partner"; factor loading = .39) and DL10 ("Compared to heterosexuals, my partner and I lack role models for the division of labor in parenting"; factor loading =.41). Both items also showed substantial residual covariances with multiple other items, and both shared a common focus on the absence of same-sex relationship role models — a construct conceptually distinct from the core disenfranchised loss dimension. Accordingly, DL2 and DL10 were removed, reducing the DL subscale from 16 to 14 items and the total scale from 30 to 28 items. Two residual covariances involving DL2 were also removed accordingly, leading to a final set of 9 residual covariances.

The final correlated two-factor model, comprising 28 items (14 items for each) and nine theoretically justified residual covariances, demonstrated good model fit: CFI = .91, TLI = .91, RMSEA = .06 [90% CI: .048, .064], SRMR = .06. All standardized factor loadings were statistically significant ($p < .001$), ranging from .38 to .76 for the DL subscale and from .40 to .76 for the IL subscale. Internal consistency of the final scale was re-examined using the full sample ($n = 625$). Both DL ($\alpha = .88$) and IL subscale ($\alpha = .92$) demonstrated good internal consistency. The two factors were moderately and positively correlated ($r = .44$, $p < .001$), indicating that DL and IL represent related but empirically distinguishable constructs.

Scale Validation

To further evaluate construct validity, Pearson correlations were conducted to examine between both dimensions of FFFL and theoretically related constructs within the Chinese sexual

minority stress context (See Table 4). For convergent validity, both DL and IL were positively associated with enacted stigma, perceived stigma (p <.01), but not with filial piety (DL: r = .06, IL: r = .00, p > .05). Among which, DL showed a stronger positive association with enacted stigma (r = .31) than IL (r = .19), whereas perceived stigma demonstrated comparable positive association with both DL (r = .49) and IL (r = .47). For concurrent validity, both DL and IL were positively associated with conceptual future parent grief (DL: r = .37, IL: r = .23, p < .01), with DL showing a stronger association than IL. For discriminant validity, neither DL (r = -.05) nor IL (r = -.03) was significantly associated with social desirability.

For incremental validity, hierarchical multiple regression was conducted predicting depressive (model 1) and anxiety symptoms (model 2) respectively. In Step one, enacted stigma, acceptance concerns, and perceived LGB specific family support were entered as baseline predictors. In Step two, DL and IL were added. For both depression and anxiety symptoms, addition of DL and IL did not significantly contribute to improvement of model fit (model 1: ΔR^2 = .002, p > .05; model 2: ΔR^2 = .005, p > .05). As an exploratory analysis, DL and IL were also examined as predictors of conceptual future parent grief. The addition of FFFL subscales resulted in a significant increment in explained variance (ΔR^2 = .012, p < .005).

Discussion

The present study introduced Future Family Formation Loss (FFFL) as a theoretically grounded and culturally situated construct that captures two complementary dimensions of loss experienced by Chinese sexual minorities: disenfranchised loss (DL) and imposed loss (IL). Drawing on a social constructionist framework of loss (Neimeyer et al., 2014), Harvey and Miller's (1998) resource reduction model, and the minority stress framework (Meyer, 2015), we developed and refined an initial item pool and conducted preliminary psychometric validation

through a sequential EFA-CFA design in a community sample of Chinese sexual minorities. The results supported a correlated two-factor structure, demonstrated adequate internal consistency for both subscales, and provided evidence of convergent, concurrent, and discriminant validity. This discussion situates these findings within the broader theoretical framework, addresses key psychometric decisions, and outlines the implications and limitations of the present work.

The Source of Loss Appraisal as a Core Organizing Principle of FFFL

Support for a correlated two-factor structure suggests that future family formation loss may be organized primarily around distinct sources of loss appraisal rather than specific domains of family-related loss. Although the alternative six-factor solution identified several domain-specific clusters corresponding to couplehood, family-of-origin relationships, and social recognition, these domains ultimately converged into two broader dimensions. This pattern suggests that the source of loss appraisal may represent a more fundamental organizing principle of FFFL than the specific domain in which the loss is experienced. Whereas loss research has often focused on the content or domain of loss experiences, the present findings suggest that future family formation loss among sexual minorities may be more meaningfully differentiated according to whether the loss is personally experienced (DL) or socially imposed (IL).

Conceptually, DL and IL capture two distinct sources of loss appraisal. DL reflects the personal perception of reduced access to valued family-related resources, whereas IL reflects the perception of socially imposed deficit narratives regarding family formation. The moderate correlation between DL and IL further supports this two-factor conceptualization of FFFL. On one hand, the association between the two dimensions suggests a shared foundation, as both emerge from the same heteronormative social context that simultaneously constrains sexual minorities' family aspirations and imposes normative deficit definitions onto their lives. On the

other hand, the moderate rather than strong magnitude of this correlation supports their empirical distinctiveness, indicating that personally experienced and socially imposed loss appraisals do not necessarily develop to the same extent within individuals. While the present findings cannot determine the precise nature of the relationship between DL and IL, several possibilities warrant future investigation. Drawing on theories of structural stigma and nonevent stress (Frost & LeBlanc, 2014), as well as social constructionist perspectives on loss (Neimeyer et al., 2014), one possibility is that societal deficit narratives regarding family formation (captured by IL) may shape how individuals perceive and interpret family formation loss (captured by DL). Future research may further examine whether the association between DL and IL reflects asymmetric dependence, hierarchical organization, or other forms of interdependence.

Distinguishing Family-Related Loss from Resource Scarcity

An additional finding concerns the removal of two role model-related items from the DL subscale. Although the absence of same-sex relationship and parenting role models may represent a meaningful challenge for sexual minorities, these items demonstrated consistently weak associations with the broader disenfranchised loss construct. One possible explanation is that role model absence reflects a lack of informational guidance and symbolic representation rather than a direct reduction of valued family-related resources. Consistent with Harvey and Miller's (1998) conceptualization of loss as the perceived reduction of emotionally invested resources, participants may have distinguished between barriers that complicate family formation and the loss of family-related opportunities themselves. From this perspective, role model absence may function as a contextual condition contributing to future family formation loss rather than constituting a core component of the loss experience.

Delineating the Boundaries of FFFL within MST based on Validation Evidence

Convergent and concurrent validity analyses supported FFFL as a domain-specific minority stress empirically distinguishable from broader sexual minority stigma. Both DL and IL demonstrated comparable moderate associations with perceived public stigma (DL: $r = .49$; IL: $r = .47$), suggesting a shared embeddedness in an anti-LGBTQ+ social context yet distinct focus on family formation.

The differential associations of DL and IL with enacted stigma ($r = .31$ vs. $r = .19$) further illuminate the conceptual boundaries of each dimension within the minority stress framework. Both associations were significant and positive, consistent with the theoretical expectation that event-based and non-event-based minority stressors co-occur within a shared heteronormative social context (Meyer, 2015). Yet the stronger association observed for DL reflects its closer proximity to concrete personal experiences of discrimination. Drawing on Pearlin's (1999) characterization of nonevent stressors, discrete discriminatory events may serve as catalysts that render structural disjunctures in family formation personally visible and emotionally salient. IL, by contrast, does not require the accumulation of personal discriminatory events to develop. As a collectively oriented form of awareness, IL may emerge through cultural exposure, social observation, and collective identity processes that operate independently of individual stigma experience. In this sense, IL reflects a higher-order critical consciousness, in which individuals perceive systemic normative structures imposed on sexual minority as a group rather than one’s own experiences (Watts et al., 2011). The weaker association between IL and enacted stigma is thus theoretically consistent: IL does not require the accumulation of personal discriminatory events to develop, as it may emerge through cultural exposure, social observation, and collective identity processes that operate independently of individual stigma experiences. Together, these patterns suggest that FFFL operates at multiple levels of social analysis

simultaneously, a characteristic that distinguishes it from existing minority stress constructs that have predominantly focused on individual-level psychological experiences (Li & Zhou, 2025) These interpretations, however, remain theoretical given the cross-sectional design of the present study.

Filial piety endorsement, used as a proxy for Confucian family norm endorsement, was not significantly associated with either DL or IL. This null finding likely reflects two limitations. First, the measure primarily captured children's obligations toward parents (e.g., obedience, care, and cohabitation), with limited coverage of norms central to FFFL, such as heterosexual marriage expectations, reproductive obligations, and family legitimacy. The proposed correlation also requires an additional inferential step: that endorsing filial piety implies believing that heterosexual family formation is a necessary component of fulfilling filial duties. This assumption may not hold among sexual minorities who have renegotiated traditional family values through queer identity development (Li et al., 2024). Second, filial piety scores in the present sample were notably low (M = 13.99 out of 30) likely reflecting a floor effect among young adults born in the late 1990s—the only-child generation raised within increasingly nonhierarchical, child-centered family structures consistent with Yan's (2018) concept of *Neofamilism*. Future research should employ measures more directly targeting heterosexual marriage and reproductive obligations, and distinguish between personal norm endorsement and perceived societal enforcement to clarify their differential relationships with FFFL.

Concurrent validity was supported by significant positive associations between both FFFL dimensions and conceptual future parent grief (DL: r = .37; IL: r = .23). These associations are consistent with the theoretical positioning of loss and grief as conceptually distinct but related psychological processes (Harvey, 2001). As with the enacted stigma measure,

DL showed a stronger association with CFPG than IL, consistent with DL's closer proximity to personally experienced loss appraisals discussed above.

With respect to incremental validity, the addition of DL and IL did not significantly improve the prediction of depressive or anxiety symptoms beyond enacted stigma, acceptance concerns, and LGB-specific family support (PHQ-9: $\Delta R^2 = .002$, $p = >.05$; GAD-7: $\Delta R^2 = .005$, $p >.05$). This pattern should not be interpreted as evidence against the construct validity of FFFL. Rather, it first reaffirms the predictive utility of the Chinese minority stress model (Sun et al., 2021), in which enacted stigma and acceptance concerns positively predicted, and LGB-specific family support negatively predicted, psychological distress. More fundamentally, the absence of incremental prediction is theoretically consistent with the conceptualization of loss as a cognitive appraisal of resource reduction that is distinct from clinical symptomatology (Harvey, 2001; Harvey & Miller, 1998). Perceiving a reduction in family formation resources is a normative psychological response to structural exclusion — one that does not directly manifest as elevated depressive or anxiety symptoms, particularly in a community sample where floor effects were evident (PHQ-9: $M = 2.78$ out of 27; GAD-7: $M = 2.43$ out of 21). The PHQ-9 and GAD-7, as clinical screening instruments, may be insufficiently sensitive to capture the more diffuse and anticipatory nature of future family formation loss. Consistent with this interpretation, exploratory analyses revealed that DL and IL demonstrated significant incremental validity in predicting Conceptual Future Parent Grief ($\Delta R^2 = .012$, $p <.005$). This alternative result suggests that the predictive utility of FFFL may be better captured through outcomes that are theoretically closer to the loss appraisal process itself. Future research should examine FFFL in relation to additional outcomes proximate to loss experience, such as meaning-making, identity coherence, psychological flourishing, and help-seeking behavior.

Limitations and Strengths

Several limitations of the present study should be acknowledged. The sample was recruited primarily through LGBTQ+-specific community networks and social media platforms, which likely introduced selection bias toward individuals with established queer community connections. This sampling approach may have resulted in a sample that is younger, more educated, and more urban than the broader Chinese sexual minority population, limiting the generalizability of the findings. The relatively high outness to peers (M = 3.43 out of 5) further suggests that participants may predominantly be individuals with established queer social networks. Additionally, although the study did not explicitly exclude transgender individuals, the scale was developed with LGB experiences in mind and may not adequately capture the unique challenges faced by transgender individuals, whose experiences warrant dedicated investigation.

Several methodological limitations also warrant consideration. First, the cross-sectional design precludes causal conclusions. Second, the online survey format, while enabling large-scale community recruitment, introduced data quality challenges: the first wave of data collection was suspended following a substantial influx of automated bot responses after public sharing of the survey link. Although a rigorous post-hoc screening procedure was implemented, residual data contamination cannot be fully ruled out. Third, the social desirability measure used demonstrated suboptimal internal consistency (α = .59), which may have limited the sensitivity of the discriminant validity analysis, though the near-zero correlations observed between social desirability and both FFFL subscales provide some reassurance.

Despite these limitations, the present study offers several notable strengths. The FFFL scale represents the first psychometrically validated instrument measure family formation loss among Chinese sexual minorities, addressing a significant gap in minority stress research. Particularly, the IL subscale offers a novel operationalization of structurally imposed normative

pressures which has historically resisted quantification. Together, DL and IL extend minority stress measurement beyond individual-level psychological experiences to capture structural dimensions of loss in non-Western contexts. The present study also provides further empirical support for the Chinese minority stress model (Sun et al., 2021) in a broader sample that includes both men and women. Finally, a methodological strength of this study lies in its use of empirically derived timing thresholds for data quality screening. Building on recommendations that response-time criteria should be informed by observed response behavior rather than arbitrary cutoffs (Ulitzsch et al., 2024), behavioral timing thresholds were calibrated using a high-confidence reference subsample of authentic respondents. This approach may provide a practical strategy for improving data quality in online surveys of hard-to-reach populations.

Implications

China has the largest sexual minority population of any nation (Wong, 2015), with approximately 14.38% of Chinese youth identifying as LGB (Li et al., 2022). Yet this population remains significantly underserved in research and clinical practice, particularly regarding the psychological impact of family formation under legal and social exclusion. The present study addresses this gap through the development and preliminary validation of the FFFL scale.

For research, the FFFL scale provides a methodological model for developing culturally embedded measures of nonevent minority stress, and invites future longitudinal research on FFFL, its relationships with identity development and meaning-making, and its applicability across diverse Chinese sexual minority populations. Clinically, the distinction between DL and IL offers a theoretically grounded framework for assessment and intervention: DL may help clinicians identify clients personally grappling with foreclosed family formation opportunities, while IL may surface awareness of societal deficit narratives that exert psychological pressure

independent of personal aspiration. Clinicians are encouraged to approach these experiences with an affirming, loss-informed lens rather than a deficit-oriented framework, recognizing family formation loss as a normative response to structural exclusion rather than a pathological symptom. More broadly, the scale addresses the historical invisibility of queer Asian populations in psychological research, offering a resource that is locally grounded in Chinese sociocultural realities yet potentially adaptable to other Confucian-influenced East Asian contexts.

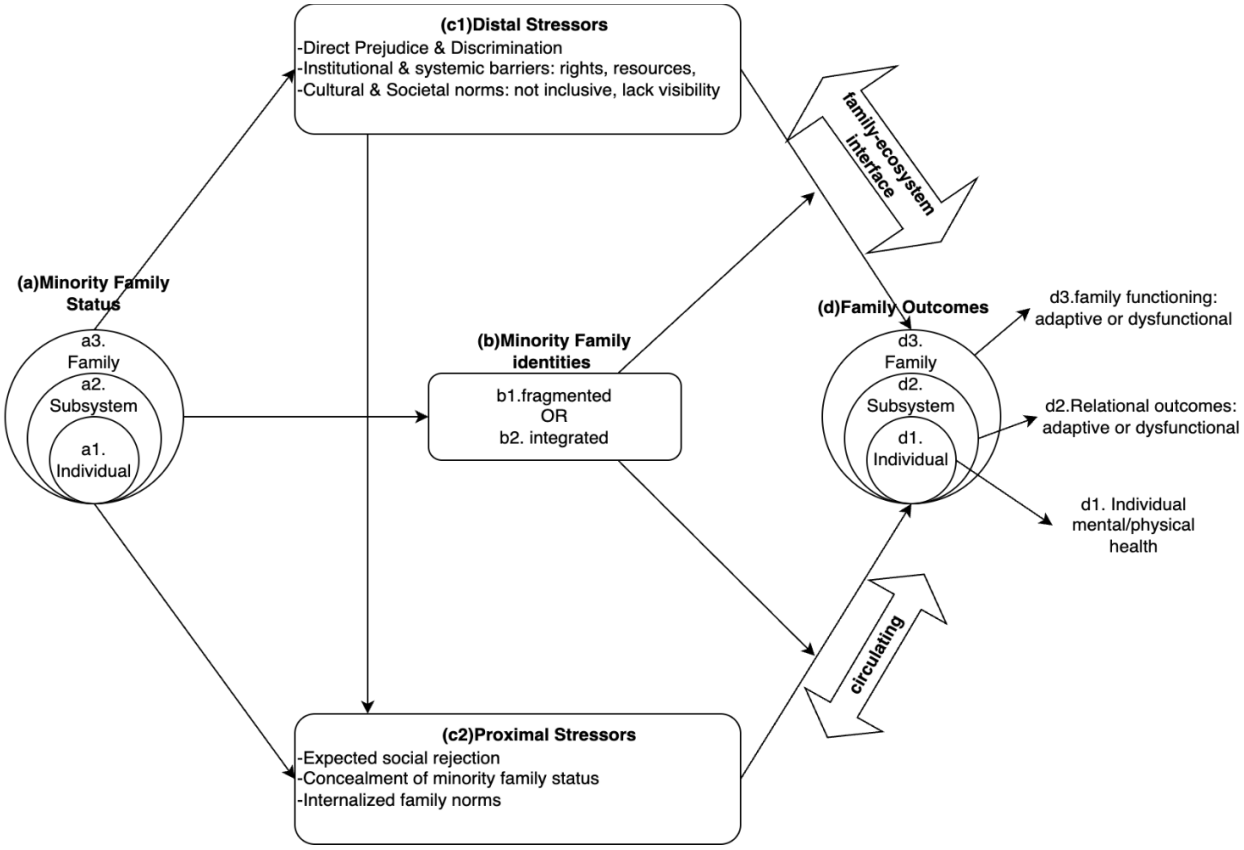
Conclusion

The present study introduced and provided preliminary psychometric validation for the Future Family Formation Loss (FFFL) scale, a culturally grounded measure of two theoretically distinct dimensions of loss among Chinese sexual minorities: disenfranchised loss and imposed loss. Drawing on social constructionism, psychology of loss, and minority stress frameworks, the scale addresses a significant measurement gap in non-event distal minority stress research. Results supported a correlated two-factor structure with adequate reliability and validity, while reaffirming the predictive utility of the Chinese minority stress model. As a domain-specific and culturally situated tool, the FFFL scale offers researchers and clinicians a means of capturing forms of loss that are often structurally produced yet socially unacknowledged. Future research should examine its longitudinal dynamics, cultural adaptability, and clinical utility across diverse sexual minority populations.

Appendix A. Minority Family Stress Framework (MFSM) Conceptual llustration

Figure A1.

The health disparity mechanism model of minority family stress.



Case Vignette: Demonstration of the Minority Family Stress Model (MFSM)

A working-class Asian immigrant lesbian single mother conceived her biracial son through in vitro pregnancy (IVP) at an informal clinic due to intense familial pressure to continue the lineage. Her aging parents later immigrated to the U.S. to assist with caregiving but have never acknowledged her sexual orientation. As the son enters adolescence, he increasingly takes on caregiving responsibilities while navigating his own identity development.

Distal minority family stressors operate across multiple ecological levels. At the macrosystem level, the family experiences heightened anti-Asian racism during and after the COVID-19 pandemic, deepening their sense of fear and isolation. The mother also faces intersectional stigma within the local Asian immigrant community and avoids public events to protect her parents, further cutting the family off from communal support. At the exosystem level, the grandparents' limited English proficiency creates persistent barriers in accessing health care, requiring the mother to miss work frequently. Eventually, she is laid off for excessive absences. At the microsystem level, the grandparents face racial harassment in their neighborhood, while the son, who often defends them, becomes a target himself at school, where he is mocked for their visible cultural differences.

These external stressors activate proximal stress processes within the family. The mother internalizes dominant norms of the idealized family and feels inadequate for raising a child outside a heterosexual two-parent household. To compensate, she adopts a strict, authoritarian parenting style while managing caregiving and financial pressures. She expects rejection from both the communities and her own family, which leads to emotional withdrawal and identity concealment. The grandparents, shaped by heteronormative family norms, avoid discussing their daughter's sexuality or their grandson's biracial identity. Anticipating conflict, the son mirrors

this concealment—hiding his experiences of bullying to avoid worrying his grandparents and avoiding questions about his background to prevent tension between them and his mother.

At this point, the family's minority family identity is fragmented. Without a shared, affirming narrative, emotional expression is constrained, roles are rigid, and support is limited. Despite maintaining basic functioning, the family avoids internal open communication and external help-seeking due to mistrust, language barriers, and internalized stigma.

A turning point occurs when the son's school behavior deteriorates after a bullying incident. In response, the mother seeks family therapy and joins an online support group for Asian queer parents. Over time, the family begins to communicate more openly about their shared experiences of marginalization, renegotiate emotional boundaries, and validate one another's struggles. Through this process, they begin constructing a more coherent and resilient minority family identity, fostering healthier emotional dynamics, improved access to support, and enhanced overall well-being—demonstrating the systemic and transformative processes articulated by the MFSM.

Table A1.

Definitions of Key Terms in Minority Stress Theory and the Family Minority Stress Model.

Terms	Definition	References
Structural Stressors	The sociopolitical and institutional forces that systematically disadvantage certain groups across multiple domains—such as education, housing, healthcare, and legal protection. These stressors operate independently of individual bias and are embedded in the rules and policies, laws, norms, and resource distributions of society.	(Gee & Ford, 2011)
Marginalized Communities	Social groups that experience exclusion, disadvantage, or reduced access to resources, power, or recognition due to systemic factors such as race, gender, sexual orientation, immigration status, or socioeconomic position.	(Crenshaw, 1994)
Minoritized Individuals	Persons who are rendered into minority status through social, political, or legal processes, regardless of numerical representation, often facing systemic disadvantages.	(Sensoy & DiAngelo, 2017)
Unequal Social Conditions	Social, economic, and environmental disparities—such as income inequality, educational access, housing insecurity, and neighborhood safety—that unevenly shape individuals' and families' life chances and health outcomes across social groups.	(Link & Phelan, 1995)
Chronic Marginalization	Persistent and cumulative experiences of social exclusion, devaluation, and restricted access to societal benefits, often reinforced through intersecting system of oppression.	(Collins, 2022; Meyer, 2003)

Health Disparity	Preventable differences in health outcomes and access to healthcare services that are linked to social, economic, and environmental disadvantages.	(Braveman et al., 2011)
Disproportionate Health Outcomes	Patterns of mortality, illness, disability, or malfunctioning that occur at higher rates in certain populations due to unequal exposure to risk and differential access to protective factors.	(Braveman et al., 2011)
Minority Stress	The unique, chronic stressors related to one's stigmatized social identity, which compound general life stress and negatively impact health and well-being.	(Brooks, 1981; Meyer, 2003)
Minority Family Stress	Family systems shaped by social exclusion, resource inequity, and normative invalidation, often navigating chronic stress and constrained relational functioning due to structural marginalization.	Minority Family Stress Model (MSFM)
Minority Family	A family system whose fundamental structural and functional characteristics significantly diverge from dominant family norms within their broader sociocultural context. This divergence arises from marginalized social statuses held by one or more family members and operates at multiple family-system levels, including the individual, subsystem, and overall family system.	MSFM
Minority Family Status	A family's externally ascribed position within sociocultural hierarchies, often based on deviations from dominant family norms.	MSFM
Minority Family Identity	The shared family understanding and negotiation of their marginalized status. It is a dynamic process that exists along a spectrum from fragmented (disjointed, silenced, or conflicted identity) to integrated (coherent, affirmed, and jointly held identity).	MSFM

Distal Family Stress Process	Family-level exposure to external, often structural, minority stressors—such as discriminatory policies, community exclusion, or institutional bias—that impact the family system through direct or indirect interactions with the broader environment.	MSFM
Proximal Family Stress Process	Internal stress processes within the family system that arise in response to minority status, including anticipated rejection, concealment of identity, and internalized dominant norms. These processes shape family interactions, communication, and emotional climates.	MSFM

Appendix B. Future Family Formation Loss (FFFL) Scale Supplementary Information

Figure B1.

Positioning FFFL in the Minority Stress Framework.

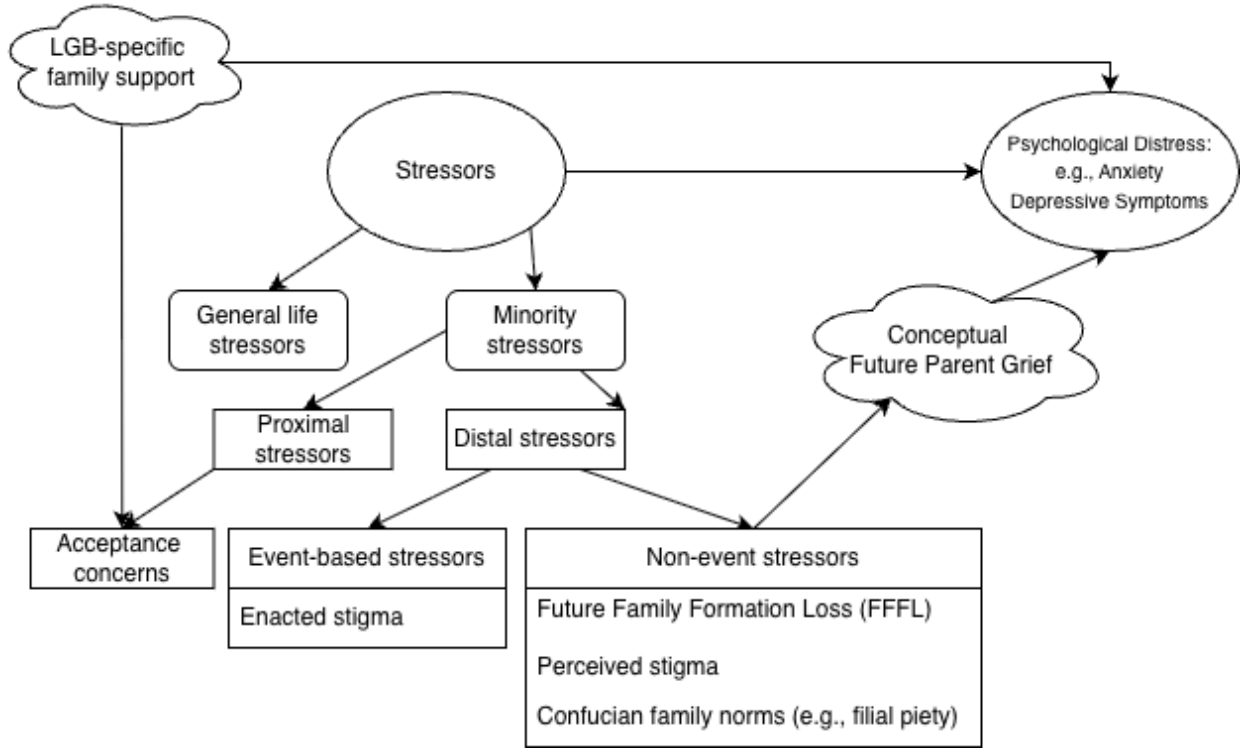


Table B1.

Demographic Characteristics of the Sample (N = 625).

Characteristic	n	%
Assigned Sex at Birth		
Male	292	46.7
Female	327	52.3
Missing	6	1.0
Gender Identity		
Man	249	39.8
Woman	329	52.6
Genderqueer/Non-binary	40	6.4
Other	3	0.5
Missing	4	0.6
Sexual Orientation		
Gay/Lesbian	441	70.6
Bisexual	110	17.6
Pansexual	51	8.2
Other	21	3.4
Missing	2	0.3
Age, M (SD) [range]	25.94 (5.05) [18–47]	
Relationship Status		
Single	207	33.7
Committed relationship	273	44.4
Dating	116	18.9
Married	19	3.1
Other	10	1.6
SES		
Significantly below average	21	3.4
Slightly below average	76	12.2
Average	337	53.9
Slightly above average	167	26.7
Significantly above average	20	3.2
Missing	4	.6
Education		
Middle school and below	1	.2
High school or vocational school	25	4.0
Associate degree	72	11.5
Bachelor's degree	406	65.0
Graduate degree	118	18.9
Missing	3	.5
Only-Child		
No	336	53.8
Yes	286	45.8
Missing	3	.5

NOTE: Percentages may not sum to 100% due to rounding. Additional demographic variables (education, socioeconomic status, relationship status, outness) are available from the corresponding author upon request.

Table B2.

Descriptive Statistics and Internal Consistency Reliability for All Study Measures (N = 625)

Measure	n	Range	M	SD	α
FFFL Scale					
Disenfranchised Loss (DL)	625	15–70	55.00	9.86	.88
Imposed Loss (IL)	625	13–65	49.52	11.05	.92
Convergent Validity					
Enacted Stigma	625	7–32	13.76	5.14	.84
Perceived Stigma	625	6–30	22.47	4.82	.86
Filial Piety	625	6–28	13.99	4.99	.82
Proximal Stressor & Protective Factor					
Acceptance Concerns	624	3–15	9.81	3.66	.90
LGB-specific Family Support	624	3–15	9.43	3.50	.88
Concurrent Validity					
Conceptual Future Parent Grief	624	4–60	29.19	12.77	.94
Discriminant Validity					
Social Desirability	624	0–6	4.04	1.52	.59
Psychological Distress					
Depressive Symptoms (PHQ-9)	624	0–18	2.78	3.57	.87
Anxiety Symptoms (GAD-7)	623	0–14	2.43	3.27	.89

NOTE: FFFL = Future Family Formation Loss; PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7. Range reflects observed minimum and maximum scores in the current sample. α = Cronbach's alpha based on the full analytic sample.

Table B3.

Means, Standard Deviations, and Intercorrelations among Study Variables (N = 623–625)

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Disenfranchised Loss	-										
2. Imposed Loss	.44**	-									
3. Enacted Stigma	.31**	.19**	-								
4. Perceived Stigma	.49**	.47**	.354**	-							
5. Filial Piety	.06	-.002	.29**	.08*	-						
6. Acceptance Concerns	.39**	.26**	.37**	.50**	.33**	-					
7. Family Support	-.36**	-.26**	-.11**	-.18**	.24**	-.16**	-				
8. CFPG	.37**	.23**	.54**	.37**	.33**	.50**	-.15**	-			
9. Social Desirability	-.05	-.03	.004	-.02	.23**	.02	.14**	-.01	-		
10. Depression (PHQ-9)	.17**	.15**	.24**	.19**	-.08	.18**	-.21**	.28**	-.25**	-	
11. Anxiety (GAD-7)	.16**	.17**	.24**	.20**	-.07	.19**	-.17**	.28**	-.23**	.80**	-

*NOTE: CFPG = Conceptual Future Parent Grief Scale; PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder-7. M and SD are based on the full analytic sample. Effective sample sizes ranged from 623 to 625 due to missing data. *p < .05. **p < .01.*

Table B4.

EFA Pattern Matrix for the Two-Factor Solution of the FFFL Scale (n = 400)

Item		Factor 1	Factor 2
	Imposed Loss (Factor 1)		
IL6	Society believes that same-sex-parent families are unable to provide children with a healthy developmental environment.	.80	
IL10	Society believes that choosing not to have biological children reflects an avoidance of family responsibility among sexual minority individuals.	.78	
IL9	Society believes that sexual minority individuals bring shame to the family because they cannot marry heterosexually.	.77	
IL13	Society believes that same-sex couples forming families violate traditional family values.	.75	
IL14	Society believes that same-sex-parent families undermine social harmony.	.75	
IL11	Society believes that families formed by same-sex couples lack social legitimacy.	.72	
IL7	Society believes that sexual minority individuals fail to fulfill the obligation of continuing the family bloodline.	.72	
IL4	Society believes that same-sex couples are unable to fulfill parenting roles effectively.	.71	
IL5	Society believes that sexual minority individuals lack the ability to raise the next generation.	.71	
IL8	Society believes that sexual minority individuals are unable to fulfill filial responsibilities toward their parents.	.64	
IL12	Society believes that families formed by same-sex couples lack legal legitimacy.	.64	
IL3	Society believes that same-sex couples lack the commitment necessary to maintain a marital relationship.	.62	
IL2	Society believes that same-sex couples are unable to establish stable family role responsibilities.	.55	
IL1	Society believes that same-sex relationships lack a stable foundation for long-term commitment.	.44	
	Disenfranchised Loss (Factor 2)		
DL12	Compared to heterosexual couples, my partner and I have greater difficulty gaining respect and acceptance from extended family members.		.68
DL5	Compared to heterosexual couples, my partner and I receive less support from our families.		.67
DL14	Compared to heterosexual individuals, I feel less likely to become a recognized and respected role model within my family.		.66
DL8	Compared to heterosexual individuals, I am more likely to lose family support in childrearing.		.63
DL4	Compared to heterosexual couples, my partner and I have greater difficulty receiving recognition and blessings from others.		.63
DL13	Compared to heterosexual couples, my partner and I are more likely to be ignored or avoided by extended family members.		.62
DL15	Compared to heterosexual couples, the family my partner and I build is less likely to receive social respect and recognition.		.60
DL11	Compared to heterosexual individuals, I find it more difficult to meet my parents' expectations regarding marriage and family.		.59
DL7	Compared to heterosexual individuals, I worry that having children of my own would involve greater challenges.		.55
DL9	Compared to heterosexual individuals, I need to make greater efforts to protect my children from discrimination and harm.		.55
DL6	Compared to heterosexual couples, my partner and I have less contact with each other's families.		.50
DL10	Compared to heterosexual couples, my partner and I lack sufficient role models for parenting and caregiving.		.48
DL1	Compared to heterosexual individuals, I feel that my intimate relationship is less secure and stable.		.47
DL2	Compared to heterosexual individuals, I feel less certain about how to build a harmonious relationship with my partner.		.44
DL16	Compared to heterosexual couples, the family my partner and I build is less likely to enjoy the social benefits and rights typically granted to families.		.43
DL3	Compared to heterosexual individuals, I am more likely to worry that my partner may leave me due to external pressures.		.42

NOTE: Factor loadings below .40 are suppressed. Extraction method: Principal Axis Factoring. Rotation method: Promax with Kaiser Normalization. Factor 1 = Imposed Loss; Factor 2 = Disenfranchised Loss.

Table B5.

Fit Indices for Competing CFA Models (n = 225)

Model	χ^2	df	CFI	TLI	RMSEA [90% CI]	SRMR
1. Single-factor model	1557.71	350	.57	.54	.124 [.118, .130]	.13
2. Correlated two-factor model (initial)	1055.77	404	.79	.77	.085 [.078, .091]	.08
3. Second-order factor model	1055.77	403	.79	.77	.085 [.079, .091]	.08
4. Correlated two-factor model (final, with residual covariances and item removal)	581.95	340	.914	.905	.056 [.048, .064]	.06

NOTE: CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = confidence interval; SRMR = Standardized Root Mean Square Residual. Models 1 to Model 3 were estimated using the initial 30 items. The final model (Model 4) included 28 items following removal of DL2 and DL10, with 9 theoretically justified residual covariances.

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