

Transgenerational genocidal trauma of the Holodomor: Mental-health-relevant motifs in public testimonies

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Abstract. The Holodomor (1932–1933) persists in family narratives, household rules, and commemorations that may shape community health across generations. Using an open-source intelligence (OSINT) approach, we compiled and froze a unique-heavy corpus of public, non-academic testimonies in English and Ukrainian (N = 163) from the National Museum of the Holodomor-Genocide, the Ukrainian Canadian Research & Documentation Centre, and institutionally hosted YouTube interviews. We coded 10 motifs (presence or absence) and analysed frequencies, pairwise co-occurrences, and descriptive transmission-motif associations (Fisher's exact test/ χ^2). Identity and collective memory and explicit storytelling were most prevalent (n = 106 and n = 163), followed by food-security behaviours (n = 75), distrust/institutional mistrust (n = 64), and scarcity mindset/thrift (n = 48). Food-security behaviours co-occurred more with storytelling and identity/memory than with ritual/commemoration (food × story = 75; food × identity = 19; food × ritual = 0). Food-security also showed a directionally positive association with hypervigilance/anxiety (OR = 2.05; a = 13, b = 62, c = 8, d = 80; two-sided Fisher p = .16). Associations involving parenting/discipline and ritual/commemoration were small or unstable due to very low marker-present denominators (n = 4 and n = 2). The co-occurrence hub centered on storytelling, identity/memory, food-security, and hypervigilance, with distrust and scarcity as neighbours. Public testimony, handled ethically and systematically, can serve as a pragmatic indicator system to inform trauma-aware community practice and guide mixed-methods follow-ups.

Keywords: the Holodomor, intergenerational trauma, public memory, postmemory, food-security behaviours, hypervigilance, oral storytelling, Ukraine.

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Кокун Олег, Засекина Лариса. Міжпоколінні наслідки геноцидної травми Голодомору: мотиви, релевантні для психічного здоров'я, у публічних свідченнях.

Анотація. Голодомор (1932–1933) зберігається в родинних наративах, повсякденних регулятивних практиках і формах меморіалізації, які можуть бути пов'язані з міжпоколінними ефектами травматичного досвіду та впливати на психосоціальне функціонування спільнот у довготривалій перспективі. Застосовуючи підхід розвідки з відкритих джерел (open-source intelligence, OSINT), ми зібрали та зафіксували унікально-насичений корпус публічних, неакадемічних свідчень англійською та українською мовами ($N = 163$) з фондів Національного музею Голодомору-геноциду, Українсько-канадського дослідно-документаційного центру, а також інституційно розміщених відеоінтерв'ю на платформі YouTube. Було закодовано 10 мотивів (наявність / відсутність) і проаналізовано їхні частоти, попарні співпояви та описові асоціації між мотивами міжпоколінної передачі досвіду (точний критерій Фішера / χ^2). Найпоширенішими виявилися мотиви ідентичності та колективної пам'яті, а також нарративного передавання досвіду ($n = 106$ і $n = 163$ відповідно). Далі за частотністю йшли поведінкові патерни, пов'язані з продовольчою безпекою ($n = 75$), недовіра / інституційна недовіра ($n = 64$) та установка дефіциту як стійка когнітивна схема ($n = 48$). Поведінкові патерни продовольчої безпеки частіше співпоявлялися з нарративним передаванням досвіду та ідентичністю/колективною пам'яттю, ніж із ритуальними та меморіальними практиками (їжа \times оповідь = 75; їжа \times ідентичність = 19; їжа \times ритуал = 0). Крім того, ці поведінкові патерни продемонстрували напряму позитивну асоціацію з гіпервигильністю (підвищеною настороженістю як симптоматичним маркером підвищеного збудження) та тривожними симптомами (OR = 2,05; a = 13, b = 62, c = 8, d = 80; двобічний критерій Фішера $p = .16$). Асоціації, пов'язані з батьківськими практиками та дисциплінарними стратегіями, а також з ритуалами й меморіалізацією, були слабкими або статистично нестабільними через дуже малі підгрупи з наявним маркером ($n = 4$ і $n = 2$ відповідно). Осередок співпояв формувався навколо нарративного передавання досвіду, ідентичності/колективної пам'яті, поведінкових патернів продовольчої безпеки та симптомів підвищеного збудження, з недовірою та установкою дефіциту як суміжними елементами. Публічні свідчення, опрацьовані етично та систематично, можуть слугувати прагматичною індикаторною системою для інформування травма-інформованих практик роботи зі спільнотами та для планування подальших змішаних досліджень без діагностичного узагальнення.

Ключові слова: Голодомор, міжпоколінні ефекти травматичного досвіду, колективна пам'ять, постпам'ять, поведінкові патерни продовольчої безпеки, гіпервигильність, тривожні симптоми, нарративне передавання досвіду, Україна.

Introduction

The Holodomor – the Soviet state-engineered famine of 1932–33 – left millions dead and created an enduring genocidal trauma among Ukrainian families and the diaspora (Wolowyna, 2020). Here, we define genocidal trauma as the deep psychological and emotional harm caused by exposure to genocide (Hamburger, 2017; Zasiékina, 2020). Today, the Holodomor endures not just as history but through daily memories, family dynamics, and community mental

health, shaping generational perceptions of danger, deprivation, identity, and belonging. Public memory infrastructures – such as the National Museum of the Holodomor-Genocide’s digital testimony portals and diaspora oral-history projects – publicly share fragments of those lived experiences (National Museum of the Holodomor-Genocide [NMHG], 2020; UCRDC, n.d.-a, n.d.-b). These sources comprise an extensive, authentic record of how people recall and narrate the famine and its aftermath, potentially affecting mental health across generations. However, despite significant intergenerational trauma research, few studies systematically analyse public, non-academic testimonies as data to reveal recurring, mental-health-relevant motifs at scale (Alexander et al., 2004; Hirsch, 2012).

We use *motif* to mean a recognisable pattern that recurs across testimonies and is theoretically relevant to psychological well-being and mental health – an adaptation of the folklore/narrative sense of motif as a recurring unit (Thompson, 1955–1958; Riessman, 2008). Motifs can be behavioural (“never waste bread,” hiding food, hoarding staples), affective (hypervigilance, chronic worry, fear of authority), narrative (explicit storytelling vs. partial disclosure or family silence), or ritual/social (annual commemorations, bread-blessing, diaspora memorial gatherings) (Bandura, 1977; Connerton, 1989). Treating motifs as *units of observation* allows us to bridge memory studies (concerned with how societies narrate past violence) and mental-health research (concerned with how risk and resilience move through families and communities). This approach resonates with Hirsch’s concept of postmemory – the ways descendants inhabit transmitted stories, images, and affects – and with sociological models of cultural trauma that emphasise how communities enact and institutionalise collective suffering (Alexander et al., 2004; Hirsch, 2012).

Scholarly work has documented multiple pathways through which genocidal trauma may reverberate across generations, including family narrative socialisation, household practices that encode danger or scarcity, stress-physiology calibration, and community-level commemoration (Gorbunova & Klymchuk, 2020; Hirsch, 2012; Zasiékina, 2020; Zasiékina et al., 2021). Research on Holocaust-survivor families, for instance, has linked parental exposure to altered neuroendocrine profiles and epigenetic marks in offspring; while mechanisms remain debated, the convergence of biological and psychosocial evidence supports the plausibility of intergenerational effects (Yehuda et al., 2016; Yehuda & Lehrner, 2018). Translating that insight to the Holodomor context, one expects to observe both affective carry-overs (e.g., vigilance) and practice-level rules (e.g., food thrift) persisting as tacit safety strategies. Our analysis seeks to describe *mental-health-relevant patterns* that

are visible, frequent, and structured within open-web testimonies (NMHG, 2020; UCRDC, n.d.-a).

Public testimony platforms provide a distinctive vantage point for this inquiry. The NMHG's "Testimonies" and "Voices/Unknown Pages" series, the UCRDC survivor archives and Children of Holodomor Survivors Speak project, and institutionally hosted interviews on YouTube together comprise a large, growing, and heterogeneous corpus of openly accessible narratives (NMHG, 2020; UCRDC, n.d.-a, n.d.-b). Because these materials reflect what individuals, families, and communities choose to make public, they capture what gets said, enacted, and repeated in contemporary settings. At the same time, public corpora are curated and uneven: they often foreground certain geographies, languages, or exemplary life stories; some present-day summaries compress complex experiences; and coverage is contingent on digitisation and outreach. Both their strengths (scale, immediacy, ecological validity) and limits (curation, selection) shape what can be inferred (Olick & Robbins, 1998; Schwartz & Cook, 2002).

Our study treats public testimony as OSINT (open-source intelligence) data: information that is lawfully and openly available and can be systematically collected, organised, and analysed to answer a specific question. We adapt OSINT principles – query design, corpus freezing, and transparent coding – to a scholarly, non-investigative setting focused on memory and mental-health relevance (SANS Institute, 2023). This method brings several advantages: it enables reproducible sampling across platforms; it encodes decision rules for inclusion; and it emphasises transparency about what the corpus can and cannot show. Crucially, OSINT in research must meet higher ethical standards than newsroom or investigative practice: researchers must minimise harm, paraphrase rather than extract personally identifying details from non-institutional sources, and avoid scraping behind access barriers, even when technically possible (van der Woude, 2024).

Within this framework, motifs function as the bridge between qualitative meaning and quantitative structure. Coding motif presence per item (per the study codebook) allows us to compute frequencies and co-occurrences without sacrificing narrative context. For example, a museum page where a witness describes confiscations with metal rods and cooking gophers to survive would be coded for Food-Security Behaviours, Hypervigilance/Anxiety, and Explicit Storytelling (Viniarsky, 2021); a UCRDC descendant page recounting household bread rules would be coded for Parenting/Transmission and Food-Security Behaviours (UCRDC, n.d.-b); and a commemorative post linking the Holodomor to the current full-scale invasion of Ukraine would connect Identity/Memory, Explicit Storytelling, and (when relevant) a war-linkage flag (NMHG, 2020). The point is not to force causal claims, but to map the

recurring shapes of how genocidal trauma experience is lived and relayed. The research aligns with rapidly developing digital technologies that play a dual role in the study of genocide and its psychological consequences: they serve as tools for prevention, documentation, and remembrance, yet also shape collective and individual experiences of post-traumatic effects and recovery (Tirosh & Mikel-Arieli, 2023).

This “public memory as data” lens matters for at least three reasons. First, it highlights practice-level legacies that clinicians, educators, and community workers can recognise (e.g., food-related rules as intergenerational safety strategies rather than mere frugality). Second, it complements scholarship on epigenetic and neuroendocrine correlates by showing how meaning and behaviour are transmitted within families and communities – what descendants say they were told, what they remember being taught, and what they still do (Yehuda et al., 2016; Yehuda & Lehrner, 2018). Third, it offers memory institutions feedback about what resonates: which kinds of testimony and framing are picked up, repeated, and transformed across platforms and languages, and where gaps remain (e.g., under-documented regions or life stages) (Alexander et al., 2004; Hirsch, 2012).

The present study leverages a focused OSINT corpus of Ukrainian- and English-language items curated from NMHG portals, UCRDC archives, and institutionally hosted interviews to test its central thesis: that recurring motifs in public testimony reflect the intergenerational psychological impact and memory transmission of the Holodomor. We examine three questions: (1) What is the prevalence and distribution of key motifs across platforms and languages? (2) How do motifs co-occur, with emphasis on Food-Security Behaviours? (3) Are transmission markers (Parenting/Discipline, Ritual/Commemoration) associated with mental-health-relevant motifs such as Food-Security Behaviours and Hypervigilance/Anxiety?

These questions assume that intergenerational effects can include adaptive and protective legacies alongside burdens in community mental health. Our goal is to describe the structure of public motifs with enough clarity that future mixed-methods work – combining clinical assessment, family interviews, and digital corpora – can test mechanisms more directly. The Methods section operationalises the OSINT sampling and coding rules; the Results quantify motif frequencies and co-occurrences and report descriptive associations; and the Discussion interprets what public testimony patterns can (and cannot) tell us about the transgenerational genocidal trauma of the Holodomor (NMHG, 2020; UCRDC, n.d.-a).

Method

Design and Overview

We conducted an OSINT-style qualitative content analysis of public, non-academic materials in Ukrainian and English that reference the Holodomor and its legacy. The analytic unit was the motif: a recurrent, recognisable pattern relevant to mental health and/or its transmission (e.g., food-security practices, hypervigilance, family storytelling, commemorative rituals). Using a structured codebook, we marked the presence/absence of motifs per item and examined motif co-occurrence across the corpus. The design balances qualitative sensitivity (curated institutional testimonies and pages) with quantitative description (theme frequencies and co-occurrence structure).

Data Sources and Sampling Frame

Primary source domains were: the National Museum of the Holodomor-Genocide (NMHG) testimony portals (e.g., “Voices/Unknown Pages”), the Ukrainian Canadian Research & Documentation Centre (UCRDC) survivor and Children of Holodomor Survivors Speak collections, and institutionally hosted YouTube interviews (NMHG, 2020; UCRDC, n.d.-a, n.d.-b). A small number of public Reddit threads were included when they contained explicit family narratives suitable for paraphrase. We treated these sources as open-source (OSINT) materials and applied research-grade ethics to public data (SANS Institute, 2023; van der Woude, 2024). Items included both survivor (primary witness) and descendant testimonies.

Inclusion and exclusion criteria

Eligible items were publicly accessible (no login/paywall), in Ukrainian or English, and contained first- or second-hand testimony, institutional summaries of survivor/descendant experience, or commemorative practices that yielded ≥ 1 mental-health or transmission motif under the codebook.

Excluded were scholarly publications (peer-reviewed or preprints), gated content, purely administrative notices without testimony/practice content, personal posts with restricted privacy settings, and URL-level duplicates.

Corpus Construction and Freeze

We iteratively harvested and deduplicated records, then froze a corpus with a high proportion of unique records to minimise synthetic segmentation. The

final frozen set used for analysis comprised N = 163 included items (EN = 158; UA = 5). Platform distribution (normalised to top-level labels) was: Holodomor Museum (n = 69), UCRDC (n = 59), YouTube (n = 34), Reddit (n = 1).

For each item, we stored: URL, platform, language, publication date (if provided), author/source type, geographic tag (if public), kinship mention, mental-health motifs, transmission markers, commemorative context (Y/N), war-linkage flag (explicit post-2022 linkage Y/N), coder notes, and a brief paraphrase of salient content.

Segmentation Protocol (Applied Sparingly)

Long interviews or multi-story pages were eligible for segmentation into discrete sub-items only when they contained clearly separable motifs (e.g., a block on food practices distinct from a block on fear/anxiety). Segments inherit the parent URL with a timestamp for YouTube (a single t parameter in seconds) or with a page anchor for institutional pages (a single #seg... marker). To keep the corpus unique-heavy, segments were retained only when they provided clear, distinct motif evidence; otherwise, we favoured single-page-level records.

Guardrails. Segments were not used to create artificial counts; no content was invented or inferred beyond what was visible; paraphrases were neutral and minimal.

URL Normalisation, Segment Addressing, and Link Stability

To ensure reproducibility without relying on brittle fragments, we stored both a canonical page URL and an explicit segment locator (implemented deterministically; no network calls):

For institutional pages, we removed fragments from the stored URL and recorded the first segment token encountered (e.g., #seg01) in separate fields: `segment_type = page_anchor`, `segment_marker = seg01`. Stacked fragments such as #seg01#seg005 were collapsed to the first anchor only, because anything after the first # is ignored by standard URL parsing and often by servers.

For YouTube, we allowed a single t parameter, kept the first occurrence when duplicates existed, and converted XmYs formats to total seconds (e.g., 4m12s → 252): `segment_type = video_ts`, `segment_marker = 252`.

We lowercase the scheme/host, deduplicate query keys (keeping the first occurrence), and remove fragments from `url_canonical`. We flagged when multiple analytic rows intentionally point to the same canonical page via

dupe_count, preserving the one-row-one-segment design even when many segments originate from the same page/video.

Because anchors are client-side hints and page owners may later change structure, we treat segment markers as researcher-side bookmarks. In text, we cite the canonical URL (which opens reliably), and the dataset provides the segment locator so readers can re-identify the exact passage even if an anchor later breaks. This approach follows open-source investigations practice (SANS Institute, 2023; van der Woude, 2024).

Codebook and Operationalisation

We coded 10 core motifs (presence/absence per item), grouped as mental-health-relevant and transmission-relevant categories:

1. Explicit Storytelling (family or public narration of Holodomor experience).
2. Identity and Collective Memory (belonging, postmemory, nation/kin identity tied to the famine).
3. Food-Security Behaviours (saving bread, hiding food/grain, salvaging by-products, ritual respect for food).
4. Scarcity Mindset / Thrift (generalised frugality beyond food; saving/repurposing as safety).
5. Distrust / Institutional Mistrust (fear or avoidance of authorities, concealment behaviours).
6. Hypervigilance / Anxiety (fear tones, watchfulness, persistent worry linked to famine memory).
7. Sleep Disturbance (nightmares, insomnia linked to family narratives).
8. Family Silence / Partial Disclosure (avoidance or fragmentary telling within families).
9. Parenting / Discipline Transmission (rules/norms explicitly taught to children/grandchildren).
10. Ritual / Commemoration (annual memorials, bread-blessing, candles, museum ceremonies).

A separate War-linkage flag captured explicit linkage of Holodomor memory to post-2022 wartime experience.

Decision rules were:

- Code a motif only when concretely evidenced (quoted/paraphrased behaviour, explicit narrative, or ritual description).
- Prefer specific over broad coding (e.g., Food-Security vs. generic scarcity when food practices are described).
- Multiple motifs can be applied to a single item; over-coding discouraged (apply only clearly present markers).

- Mark Parenting/Discipline only when the item states a rule/lesson was taught/passed down; do not infer from the mere presence of a rule.
- Mark Family Silence only when avoidance/partial disclosure is explicitly stated.

Coding Procedure and Quality Control

All items were single-coded using the codebook and decision rules. For transparency, coder notes briefly paraphrased justification (personally identifiable information minimised unless already public on institutional pages). For future replications, we outline a reliability plan with 10–15% double-coding and reporting of Cohen's κ and/or Gwet's AC₁ to account for prevalence/imbalance (Cohen, 1960; Gwet, 2008).

In the manuscript, we cite the canonical URL for items and rely on the dataset's segment fields for exact localisation. The freeze date/time and the list of included URLs are preserved, allowing descriptive analyses to be replicated on the same set.

Ethical Considerations

We limited the collection to public-facing materials and avoided scraping behind logins or paywalls. For non-institutional sources (e.g., Reddit), we paraphrased rather than quoted where feasible to reduce traceability, and we avoided handles/username in the dataset. Institutional pages (NMHG/UCRDC) often already publish names; those were not redacted. This study is descriptive and does not attempt individual-level clinical assessment (SANS Institute, 2023; van der Woude, 2024).

Analytic Strategy

Descriptive Frequencies

We computed motif frequencies (count of items in which a motif was present). For presentation, we report the overall frequencies (see Results) and, where relevant, stratify descriptively by platform (Museum, UCRDC, YouTube) and language (UA vs. EN).

Transmission–motif Associations (Descriptive Tests)

Where counts permitted, we examined associations between transmission markers (Parenting/Discipline; Ritual/Commemoration) and mental-health

motifs (e.g., Food-Security; Hypervigilance) using proportions and risk differences (Wilson intervals for descriptive precision) and Fisher's exact or exploratory χ^2 tests for presence/absence (two-sided). Given the exploratory aim and modest cell sizes, p-values are descriptive (no multiple-comparison correction).

Sensitivity Checks

We re-summarised frequencies/co-occurrences after (a) excluding the single Reddit item and (b) excluding War-linkage items. The leading motifs and the core Identity/Storytelling–Food-Security–Hypervigilance block remained qualitatively stable (see Results).

Limitations Inherent to the Method

- *Curation and selection.* Institutional portals privilege certain geographies, life histories, and genres; digitisation status biases availability.
- *Single-coder design.* Reliability was proposed but not executed; results should be read as descriptive signals.
- *No clinical measures.* We observe publicly narrated patterns, not symptoms or diagnoses; interpretations are non-clinical.
- *Language imbalance.* EN-heavy coverage (EN = 158 vs. UA = 5) reflects digitisation and diaspora availability; cross-language comparisons are tentative.
- *Segmentation.* While minimised, segmentation can inflate counts if over-applied; hence, the unique-heavy freeze and conservative rules.

Results

Corpus Overview

The frozen, unique-heavy OSINT corpus comprised N = 163 items (English = 158; Ukrainian = 5). Platforms (normalised): Holodomor Museum (n = 69), UCRDC (n = 59), YouTube (n = 34), Reddit (n = 1) (Table 1). Items are institutional witness/descendant pages, interview landing pages with embedded audio/video, and curated collection entries; segmentation was minimised in favour of page-level uniqueness.

RQ1 – Prevalence and Distribution of Key Motifs

Motif frequencies (presence per item) are summarised in Table 2. Every item was coded Explicit Storytelling (n = 163). Salient second-tier motifs were Identity & Collective Memory (n = 106), Food-Security Behaviours (n = 75),

Distrust/Institutional Mistrust (n = 64), and Scarcity Mindset/Thrift (n = 48). Less-frequent motifs included Hypervigilance/Anxiety (n = 21), Sleep Disturbance (n = 21), Parenting/Discipline Transmission (n = 4), and Ritual/Commemoration (n = 2). Because items can carry multiple motifs, totals in Table 2 exceed N.

Table 1

Corpus Composition by Platform and Language (N = 163)

Platform	n
Holodomor Museum	69
UCRDC	59
YouTube	34
Reddit	1
Language	n
English	158
Ukrainian	5

Table 2

Theme Frequencies (Presence Per Item)

#	Theme	Count
1	Explicit Storytelling	163
2	Identity & Collective Memory	106
3	Food-Security Behaviours	75
4	Distrust/Institutional Mistrust	64
5	Scarcity Mindset/Thrift	48
6	Hypervigilance/Anxiety	21
7	Sleep Disturbance	21
8	Parenting/Discipline Transmission	4
9	Ritual/Commemoration	2

Note. Counts reflect presence/absence per item; items can carry multiple motifs.

RQ2 – Co-occurrence Structure (Food-Security Focus)

RQ2a – Food-Security with Storytelling/Identity vs Ritual

Food-Security Behaviours co-occurred far more often with Explicit Storytelling and Identity & Collective Memory than with Ritual/Commemoration (Table 3).

Specifically: Food × Storytelling = 75, Food × Identity/Memory = 19, and Food × Ritual = 0 (the latter does not appear in Table 3 because it lies below the top-12 threshold). This pattern suggests that food-related household rules are embedded primarily in family narrative and identity work rather than in formal commemorative practice.

RQ2b – Affective–Behavioural Pairing (Food-Security × Hypervigilance)

The 2×2 contingency of Food-Security Behaviours and Hypervigilance/Anxiety yielded a = 13, b = 62, c = 8, d = 80 (Table 4). The odds ratio = 2.05 (Haldane–Anscombe corrected) with Fisher’s two-sided p = .1592. This directionally positive association aligns with the idea that threat-related affect can co-travel with safety-oriented food practices, while remaining descriptive given modest cell sizes.

Table 3
Top Motif Co-Occurrences

#	Theme A	Theme B	Co-occurrence Count
1	Explicit Storytelling	Identity & Collective Memory	106
2	Explicit Storytelling	Food-Security Behaviours	75
3	Explicit Storytelling	Distrust/Institutional Mistrust	64
4	Food-Security Behaviours	Distrust/Institutional Mistrust	58
5	Explicit Storytelling	Scarcity Mindset/Thrift	48
6	Identity & Collective Memory	Scarcity Mindset/Thrift	39
7	Explicit Storytelling	Hypervigilance/Anxiety	21
8	Explicit Storytelling	Sleep Disturbance	21
9	Identity & Collective Memory	Food-Security Behaviours	19
10	Food-Security Behaviours	Scarcity Mindset/Thrift	16
11	Food-Security Behaviours	Hypervigilance/Anxiety	13
12	Distrust/Institutional Mistrust	Scarcity Mindset/Thrift	12

Note. Twelve highest pairwise co-occurrence counts across items.

Table 4

*H*₂ – Food-Security × Hypervigilance (2×2 Contingency)

Outcome	Food-Security present	Food-Security absent
Hypervigilance present	13	8
Hypervigilance absent	62	80

Note. Fisher's exact $p = 0.1592$; Odds Ratio (Haldane–Anscombe corrected) = 2.05

RQ3 – Transmission Markers Associated with MH-Relevant Motifs

- Descriptive associations of transmission markers with outcomes are shown in Table 5 (note the very small n for marker-present rows, which limits inferential claims):
- Parenting/Discipline → Food-Security. With the marker present ($n = 4$), 0/4 (0.0%) items also had Food-Security, versus 75/159 (47.2%) without the marker; risk difference = $-.472$, OR = .12, Fisher's $p = .1252$.
- Parenting/Discipline → Hypervigilance. With the marker present ($n = 4$), 0/4 (0.0%) had Hypervigilance, versus 21/159 (13.2%) without; risk difference = $-.132$, OR = .72, Fisher's $p = 1.0000$.
- Ritual/Commemoration → Food-Security. With the marker present ($n = 2$), 0/2 (0.0%) had Food-Security, versus 75/161 (46.6%) without; risk difference = $-.466$, OR = .23, Fisher's $p = .5001$.
- Ritual/Commemoration → Hypervigilance. With the marker present ($n = 2$), 1/2 (50.0%) had Hypervigilance, versus 20/161 (12.4%) without; risk difference = $+.376$, OR = 6.90, Fisher's $p = .2418$.

Given the tiny marker-present denominators ($n = 4$ and $n = 2$), these comparisons are unstable and should be read as descriptive signals rather than as evidence of reliable differences.

Network Overview (Informative Summary)

The twelve highest motif pairings are listed in Table 3. The core hub centres on Explicit Storytelling with Identity/Memory ($n = 106$), Food-Security ($n = 75$), Distrust/Institutions ($n = 64$), and Scarcity/Thrift ($n = 48$). Behaviourally focused pairings include Food-Security × Distrust ($n = 58$) and Food-Security × Scarcity ($n = 16$); affective-behavioural coupling appears as Food-Security × Hypervigilance ($n = 13$). Identity-adjacent pairings such as Identity/Memory ×

Scarcity (n = 39) and Identity/Memory × Food-Security (n = 19) suggest that household practices and thrift are often narrated within an identity frame.

Table 5
RQ2 – Transmission Markers Associated with Outcomes

Marker → Outcome	n (mar- ker=1)	n (mar- ker=0)	Outcome present (%) with marker	Outcome present (%) without marker	Risk difference	Odds ratio	Fisher p
Parenting/Discipline → Food-Security	4	159	0 (0.0%)	75 (47.2%)	-.472	.12	.1252
Parenting/Discipline → Hypervigilance	4	159	0 (0.0%)	21 (13.2%)	-.132	.72	1.0000
Ritual/Commemoration → Food-Security	2	161	0 (0.0%)	75 (46.6%)	-.466	.23	.5001
Ritual/Commemoration → Hypervigilance	2	161	1 (50.0%)	20 (12.4%)	.376	6.90	.2418

Note. Proportions, risk differences, odds ratios, and Fisher's exact p-values reported.

Discussion

This study analysed open-web, non-academic testimonies about the Holodomor to find mental-health-relevant motifs and their co-occurrence structure in a unique-heavy, frozen corpus (N = 163). The approach used OSINT procedures to turn public memory materials into analysable evidence while keeping strong ethical guardrails. This work links memory studies and trauma science by handling motifs—recurrent behaviours, affects, narratives, and rituals—as observable units that transmit intergenerational meanings.

Summary of Principal Findings

First, Identity & Collective Memory and Explicit Storytelling were the most prevalent motifs, with Food-Security Behaviours, Distrust/Institutional Mistrust, and Scarcity Mindset/Thrift forming a consistent second tier (Table 2). This ordering indicates that publicly narrated legacies of the Holodomor are anchored in who we are and what we tell, and are frequently instantiated at the household level (e.g., food rules, thrift practices). The strong presence of

storytelling and identity resonates with postmemory accounts in which descendants inherit vivid, affect-laden narratives and images of a catastrophe they did not directly live (Danieli, 1998; Hirsch, 2012; Kellermann, 2001).

Second (RQ2a), Food-Security Behaviours occurred much more with Explicit Storytelling and Identity/Memory than with Ritual/Commemoration (Food×Story = 75; Food×Identity = 19; Food×Ritual = 0; Table 3). This reveals that food-related household rules—like "never waste bread" or hiding food—are mainly part of family narrative and identity, not formal rituals.

Third (RQ2b), we saw a positive affect-behaviour pairing. Items with Food-Security Behaviours often included Hypervigilance/Anxiety (2×2 counts a = 13, b = 62, c = 8, d = 80; OR = 2.05; Fisher's two-sided p = .1592; Table 4). This wasn't statistically significant, but the odds ratio (≈ 2) is consistent with the idea that feelings of danger go with safety practices around food. Clinically, this is plausible based on evidence for intergenerational stress (Masten & Narayan, 2012; Yehuda & Lehrner, 2018).

Fourth (RQ3), associations involving Parenting/Discipline Transmission and Ritual/Commemoration were small and unstable due to very low denominators in the marker-present groups (n = 4 and n = 2, respectively; Table 5). Directionally, Parenting→Food-Security was lower than expected (0/4 vs 75/159), underscoring that explicitly named "taught rules" were rarely recorded verbatim in public pages; by contrast, implicit rules embedded in storytelling appeared robustly via Food×Story. Ritual→Hypervigilance had a large point estimate (OR = 6.90), but it rested on only two ritual-present items, so it should not be over-interpreted. Overall, RQ3 mainly highlights a documentation/availability constraint in public sources rather than a substantive absence of transmission.

Finally, the co-occurrence hub centres on Storytelling, Identity/Memory, Food-Security, and Hypervigilance. Distrust/Institutions and Scarcity/Thrift are close neighbours (Table 3). This network suggests families use narrative and household rules, with vigilance and mistrust, to pass on famine meanings.

Interpretation and Implications

Public Memory As an Indicator System

Treating public testimony as data surfaces patterns that are simultaneously recognisable to practitioners and measurable across many items. The dominance of Identity/Storytelling motifs suggests that meaning-making remains central to how Holodomor legacies are carried forward – consistent with cultural-trauma frameworks in which communities narrate injury, assign responsibility, and weave suffering into collective identity (Alexander et al., 2004; Zasiékina & Zasiékin, 2020). By contrast, the relative scarcity of

Ritual/Commemoration in this corpus does not imply that ritual is unimportant; rather, it suggests that ritual content is less frequently detailed at the micro-practice level in the particular public sources we analysed (or is housed on pages that do not meet inclusion rules).

Affective–Behavioural Coupling Without Clinical Inference

The Food-Security ↔ Hypervigilance link supports the idea of an emotion–behaviour package that clinicians and educators can recognise. Food conservation rules appear with vigilance and worry. These paired motifs could shape trauma-informed talks. For example, frugality or hoarding may be viewed as safe strategies rooted in family memory, not as “non-compliance.” This idea stands apart from biological evidence of intergenerational effects in other forms of trauma (Dekel & Goldblatt, 2008; Yehuda et al., 2016).

Institutions, Mistrust, and Safety

The high co-occurrence of Food-Security with Distrust/Institutional Mistrust (Table 3: Food×Distrust = 58) fits survivor accounts that emphasise confiscations, searches, and vigilance toward authorities – motifs visible in curated museum stories (e.g., metal-rod searches; animal foraging) and diaspora pages that underline how safety was negotiated (NMHG, 2020; Viniarsky, 2021). Building from this, for community practitioners and policymakers, such patterns advise sensitivity around documentation demands, aid distribution, and institutional encounters that might inadvertently trigger historically mediated mistrust. This is in line with recent findings indicating that genocidal trauma can disrupt fundamental processes of social learning and trust, leading to epistemic mistrust – a reduced willingness to regard information from others as reliable or relevant. Such mistrust not only erodes community cohesion but also increases vulnerability to psychological distress and psychopathology (Weiland et al., 2024).

Methodological Contribution

Using OSINT methods in trauma/memory research offers reproducible sampling, transparent inclusion/exclusion criteria, and scalable coding while respecting public data ethics (SANS Institute, 2023; van der Woude, 2024). Our motif operationalisation converts qualitative family memory into quantifiable observations without collapsing meaning: presence/absence and co-occurrence preserve the shape of narratives and practices. This is especially valuable when

platforms (museum portals, oral-history indexes, institutional YouTube) curate at scale but remain heterogeneous in format and depth.

Limitations

Two paths are immediate. First, replicate and extend the OSINT corpus by: (a) deepening Ukrainian-language harvesting; (b) partnering with archives to include structured metadata (kinship, era, region); and (c) applying double-coding with reliability metrics. Second, pursue mixed-methods follow-ups: short qualitative interviews anchored on the identified motifs (e.g., food rules, vigilance, mistrust) and modest survey modules assessing distress, coping, and identity – not for diagnosis, but to see whether the co-occurrence shapes map onto individual variation in well-being. For memory institutions, the results suggest experimenting with micro-practice prompts (inviting detail on household rules or affective tones) to balance commemorative framing with practice-level texture.

Future Directions

Two paths are immediate. First, replicate and extend the OSINT corpus by deepening Ukrainian-language harvesting, partnering with archives to include structured metadata (kinship, era, region), and applying double-coding with reliability metrics. Second, run mixed-methods follow-ups: short qualitative interviews centred on identified motifs (such as food rules, vigilance, mistrust) and modest survey modules assessing distress, coping, and identity. The aim is not diagnosis, but to see if the co-occurrence shapes map to individual variation in well-being. For memory institutions, the results suggest trying micro-practice prompts that invite detail on household rules or affective tones. This would balance commemorative framing with more practice-level texture.

Conclusion

Across a large open-web corpus, Holodomor memory appears in a motif constellation built around storytelling, identity, food practices, vigilance, thrift, and mistrust. The Food-Security pairing with Storytelling/Identity (and its directional coupling with Hypervigilance) implies that families continue to transmit the famine's lessons through what they tell and what they do. Public testimony, when handled ethically and systematically, can therefore function as a pragmatic indicator system for intergenerational legacies – one that helps

practitioners recognise adaptive safety strategies and memory-anchored risks within communities.

Data Availability Statement

The data for this study is openly available at <https://lib.iitta.gov.ua/id/eprint/746216>.

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