

INTERDISCIPLINARY NARRATIVE REVIEW

Embodied Agency and Governed Bodies

Hand–Brain Evolution, Cumulative Culture, and Gendered Moral Regulation
in the Islamic Republic of Iran

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Scientific integrity note. The manuscript retains the author's concern with creativity and coercive gender governance, while rejecting causal claims that are unsupported, stigmatizing, or diagnostically invalid.

Abstract

Human dexterity is often narrated as a single evolutionary breakthrough in which an opposable thumb produced tools, art and the modern mind. Contemporary evidence supports a more complex account. Human manual capacities emerged mosaically through anatomy, sensorimotor control, neural plasticity, material engagement, teaching and cumulative social learning. These processes widened opportunities for technical and symbolic innovation, but they do not establish a biological hierarchy among living people and do not explain religiosity, sexual preoccupation, psychopathy or political ideology. This article offers a structured interdisciplinary narrative review of hand evolution, toolmaking, neural plasticity, cumulative culture and creativity, followed by a bounded documentary analysis of gendered moral regulation in the Islamic Republic of Iran. The Iranian corpus comprises constitutional and statutory texts, family law, United Nations human-rights findings and Iran-focused scholarship. It shows how dress, gender mixing, marriage, sexuality and public space are repeatedly represented as matters of moral and political order, authorizing surveillance, segregation and punishment. The resulting pattern is best described as sexual governance or state regulation of gendered bodies, not as evidence of officials' private sexual obsession or psychiatric disorder. The article distinguishes the advocacy and analytic term *gender apartheid* from the more firmly codified international-law category of gender persecution. It proposes an institutional pathway linking coercive regulation to reduced autonomy, safety, mobility, exchange and creative participation, while recognizing Iranian pluralism, resistance and agency. The central conclusion is normative and evidence bounded: embodied agency and bodily autonomy are complementary public goods, whereas manual dexterity cannot be used to rank human worth or diagnose belief.

Keywords: embodied cognition; human hand; toolmaking; cumulative culture; creativity; Iran; compulsory hijab; gender segregation; sexual governance; gender persecution

Highlights

- Human dexterity reflects both hands, joint mechanics, tactile systems, cortical control and learning; it did not arise from a single change to a “left thumb.”
- Neanderthals were technically capable hominins who made complex tools and interbred with *Homo sapiens*; their disappearance cannot be reduced to being “unfit.”
- No credible evidence connects weak hand–brain coordination with religiosity, sexual preoccupation, psychopathy, low education or diminished human worth.
- Iran’s compulsory-veiling, segregation, family-law and surveillance systems are empirically analyzable as institutional sexual governance.
- UN investigations support the language of gender persecution; “gender apartheid” remains an influential but not yet standalone codified international crime.

Central thesis

Human creativity is an embodied, socially transmitted and materially scaffolded capacity. Political institutions influence whether it can flourish by distributing autonomy, education, safety, mobility, time and access to collaboration. This institutional bridge—not a biological or psychiatric claim—connects the evolutionary review with the Iran case.

1. Introduction: from creative hands to governed bodies

Hands are central to the human story. They cut, carry, point, gesture, write, paint, operate instruments and transform environments. Yet the popular claim that modern humans appeared when one thumb “turned toward” the fingers compresses a long, branching evolutionary history into a single anatomical event. Both human thumbs are opposable; opposition exists in other primates; and dexterity depends on proportions, muscles, joints, touch, motor planning and practice. Stone tools at Lomekwi date to approximately 3.3 million years ago, before the earliest widely accepted fossils assigned to *Homo*, demonstrating that toolmaking cannot be equated with the sudden origin of *Homo sapiens* (Harmand et al., 2015; Kivell, 2015).

A second popular narrative treats evolution as a ladder: creative *Homo sapiens* survived, whereas supposedly inferior Neanderthals were removed. Archaeological and genomic evidence contradicts this simplification. Neanderthals habitually used precision grips, produced specialized technologies and fibre cord, and exchanged genes with *H. sapiens* (Green et al., 2010; Hardy et al., 2020; Karakostis et al., 2018). Their loss as a distinct population is better approached through demography, climate, competition, stochastic vulnerability and assimilation than through a moralized concept of “fitness” (Villa & Roebroeks, 2014).

The author’s motivating concern is nevertheless important: societies flourish when people can learn, experiment, make, cooperate and contribute. The scientific task is to formulate that concern without classifying less-manual, religious, sexually active, disabled, poor or politically conforming people as biologically deficient. Creativity exists in manual, linguistic, mathematical, scientific, musical, social, organizational and digital domains. Human worth is not conditional on market productivity or invention.

The second half of this article examines the Islamic Republic of Iran. It does not diagnose religious believers or infer the private thoughts of state officials. Instead, it asks how laws and institutions repeatedly make women’s dress, mixed-gender interaction, marriage, sexuality and reproduction into objects of rule. Following scholarship on sexual politics and gendered states, this pattern is called *sexual governance*: an institutional field in which bodies and intimate relations are classified, monitored and

sanctioned (Afary, 2009; Connell, 1990; Foucault, 1978). The state is not treated as synonymous with Iranian society, which is religiously, politically and culturally plural and has generated sustained women-led resistance, scholarship, art and scientific achievement.

2. Aim, questions and review design

This article has two evidence streams. The first is an integrative narrative review of manual evolution, embodied cognition, neural plasticity, toolmaking, social learning and creativity. The second is a documentary narrative analysis of Iranian constitutional and statutory texts, United Nations findings and Iran-focused scholarship. The streams are connected at the level of opportunity for embodied agency—not by a claim that anatomy causes ideology.

2.1 Research questions

1. What does current evidence permit us to claim about dexterity, tool use, neural plasticity and cumulative culture across hominin lineages?
2. How can creativity be conceptualized without reducing it to manual production or using it as a hierarchy of human worth?
3. How do Iranian legal and policy texts construct dress, gender interaction, sexuality and family relations as governmental problems?
4. Which claims about gender persecution, “gender apartheid,” creativity and well-being are supported, and which exceed the evidence?

2.2 Source selection and analytic procedure

Peer-reviewed reviews and key primary studies were purposively selected across paleoanthropology, neuroscience, cultural evolution and creativity research. Priority was given to sources that directly tested anatomy–function relations, measured learning-related brain change, synthesized cumulative cultural evolution, or corrected claims of Neanderthal inferiority. This is a structured narrative review rather than a systematic review: it does not claim exhaustive database coverage, formal risk-of-bias scoring or meta-analysis.

The documentary corpus includes the Constitution of the Islamic Republic of Iran; the Civil Code; the 2013 Family Protection Act; Books I, II and Five of the Islamic Penal Code; the 2023 concluding observations of the UN Human Rights Committee; reports of the Independent International Fact-Finding Mission on Iran published in 2024, 2025 and March 2026; and selected Iran-studies scholarship. Documents were read for: (1) the problem represented; (2) the subjects constructed; (3) the legitimating vocabulary; (4) the intervention authorized; (5) enforcement mechanisms; and (6) counter-

narratives and silences. This procedure draws on problem-representation analysis and feminist critical discourse analysis (Bacchi, 2009; Lazar, 2007).

English translations were checked against stable official or institutional sources where available. The current Persian Civil Code was used for amended provisions; older English translations are treated cautiously. Before submission to a legal journal, all Persian quotations and current statutory wording should be independently verified by a qualified bilingual legal researcher. Evidence was reviewed through 30 July 2026; the latest UN Fact-Finding Mission report in the corpus was issued in March 2026.

2.3 Epistemic and ethical boundaries

The analysis concerns observable anatomy, behavior, institutions and texts. It does not infer psychiatric diagnosis from ideology; equate religiosity with pathology; treat same-sex conduct as evidence of corruption; or classify people as social burdens because they create less measurable economic value. Unverified allegations about officials' private sexual conduct are excluded. Same-sex behavior is not a disorder, and weaponizing it as an accusation would stigmatize sexual minorities who themselves face criminalization in Iran. The term *psychopathy* is not used as a political insult; it requires individual clinical assessment and validated measures.

3. The creative hand in human evolution

3.1 A mosaic, not a single opposable-thumb event

Human manipulation combines relatively long thumbs, short fingers, mobile joints, robust thenar musculature, sensitive glabrous skin and fine corticospinal control. Comparative morphology indicates that human-like hand proportions required less evolutionary change from the human-chimpanzee last common ancestor than older ladder-like accounts implied (Almécija et al., 2015). Biomechanical modelling places improved thumb-opposition efficiency within a gradual hominin pattern, with enhanced capacity near early *Homo*, rather than a feature appearing only with modern humans (Karakostis et al., 2021).

A recent phylogenetic analysis across living and fossil primates found an association between relative thumb length and relative brain size, especially neocortical measures (Baker et al., 2025). The finding is consistent with coordinated evolution of manipulation and cognition, but association is not directional proof. Thumb length alone cannot identify tool use, and the analysis does not establish whether dexterity enlarged brains, larger brains enabled dexterity, or shared ecological and social pressures influenced both.

3.2 Practice changes the nervous system

Embodied-cognition research emphasizes that thinking is partly grounded in perception, action and the environments in which tasks are performed (Barsalou, 2008). Motor training can alter cortical representations and white-matter organization within an individual lifetime (Dayan & Cohen, 2011; Ejaz et al., 2015). Stone-tool training recruits distributed sensorimotor, visuospatial, action-planning and working-memory systems, and longitudinal work has reported training-related change in frontoparietal pathways (Hecht et al., 2023; Putt et al., 2017; Stout et al., 2008).

These findings support a developmental claim: sustained practice can refine hand–brain coordination. They do not support an evolutionary ranking of contemporaries. Neural plasticity is task specific, lifelong and multidirectional; a person who does not sculpt or make stone tools may develop exceptional verbal, mathematical, musical, interpersonal or digital expertise. Disability likewise does not imply inferior cognition or citizenship.

3.3 Tools, art and cumulative culture

Artifacts do more than reveal pre-existing thought. They stabilize procedures, carry information across generations and create new problems for learners. Cumulative cultural evolution occurs when socially transmitted modifications build over time so that later practices exceed what a single person would readily invent alone (Boyd et al., 2011; Mesoudi & Thornton, 2018). Teaching, imitation, language, norms, cooperation and population structure therefore matter alongside manual control.

The archaeological record also rejects a universal sequence of hunting, painting, sculpture, instruments, agriculture, slavery and industry. Social formations overlap and vary regionally. Symbolic material practices appeared unevenly: engraved ochre, pigment processing, ornaments, incised surfaces and rock art occur at different times and places. A drawing from Blombos Cave is approximately 73,000 years old, while a Sulawesi hand stencil was recently assigned a minimum age of 67,800 years; the biological identity of the latter’s maker is not directly known (Henshilwood et al., 2018; Oktaviana et al., 2026). These finds illustrate distributed experimentation rather than a single march toward “civilization.”

3.4 Neanderthals were not failed non-creators

Neanderthal hand-use patterns are consistent with frequent precision grasping (Karakostis et al., 2018). Their archaeological record includes composite tools, hafting, specialized bone implements and three-ply plant-fibre cord (Hardy et al., 2020). Genomic evidence demonstrates interbreeding with *H. sapiens* and continuing Neanderthal ancestry in many living populations (Green et al., 2010). The boundary between “them” and “us” was therefore porous.

Why Neanderthals disappeared as a distinct population remains debated. Small effective population sizes, geographic fragmentation, climatic fluctuation, competition, disease, stochastic events and absorption through interbreeding may all have contributed. The archaeological evidence does not justify a simple superiority complex in which modern humans survived because they alone were creative (Villa & Roebroeks, 2014).

4. Creativity, agency and well-being

Creativity is commonly defined as producing something both novel and appropriate to a context (Runco & Jaeger, 2012). It ranges from everyday problem solving to professional and historically eminent work. Contemporary neuroscience implicates interactions among default-mode, executive-control and salience-related networks rather than a single “creative center” or a motor-only pathway (Beaty et al., 2016). Social evaluation, domain knowledge, motivation, resources and institutions shape whether potential becomes visible output (Hennessey & Amabile, 2010).

Creative activity can accompany meaning, engagement and flourishing. Daily-diary research has found temporal associations between everyday creativity and next-day well-being, but these observational effects do not prove that creative people are healthier or morally better (Conner et al., 2018). Self-determination theory offers a more careful bridge: conditions supporting autonomy, competence and relatedness tend to support intrinsic motivation and well-being (Ryan & Deci, 2000). The public-policy implication is to widen opportunities to learn and contribute—not to devalue people who are ill, caregiving, unemployed, disabled, retired or less conventionally productive.

Religious life is heterogeneous. It can coexist with art, scholarship, science, dissent, solidarity and well-being. A large meta-analysis found a small positive overall association between religion or spirituality and life satisfaction, with substantial variation across dimensions and settings (Yaden et al., 2022). This literature is incompatible with treating religiosity itself as evidence of poor mentality. The proper target of criticism is coercive governance, whether religious or secular.

5. Evidence audit: what the evolutionary evidence cannot establish

Table 1 separates propositions that can be retained from those requiring correction. This audit is not cosmetic. Without it, the paper would commit category errors—moving from paleoanthropological evidence about populations and artifacts to psychiatric claims about living groups—and an ecological fallacy, in which associations at one level are treated as causes at another.

Proposition	Evidence status	Scientific reformulation
Modern humans appeared when the left thumb opposed the fingers.	Contradicted	Both thumbs oppose; dexterity evolved mosaically and predates <i>H. sapiens</i> .
Toolmaking and hand practice engage brain systems.	Supported with limits	Practice recruits and can reorganize distributed sensorimotor and cognitive networks; directional evolutionary causation remains difficult to identify.
Art and technology accumulated through human history.	Supported with limits	Innovation depends on material skill plus teaching, cooperation, language, demography and cumulative cultural transmission; no single global stage sequence applies.
Neanderthals disappeared because they were unfit and uncreative.	Contradicted	They used complex technologies and interbred with <i>H. sapiens</i> ; their demographic disappearance was likely multicausal.
Low manual creativity causes religiosity, sexual preoccupation or psychopathy.	Unsupported	No credible causal evidence links these constructs. Belief, sexuality and clinical diagnosis require separate theories and individual-level evidence.
Coercive institutions can constrain creative participation.	Plausible; testable	Autonomy, safety, time, mobility, education and exchange are institutional mediators; effects should be studied directly rather than biologized.

Table 1. Evidence audit of the motivating propositions. “Unsupported” means the proposed causal relationship is not established by the cited literature, not that the topic is beyond study.

Research on thought suppression provides one narrow point of relevance. Meta-analytic work finds that attempts to suppress a thought can sometimes increase its later accessibility (Wang et al., 2020). Clinical guidance on compulsive sexual behaviour likewise distinguishes impaired control and functional harm from high sexual interest or distress based solely on moral disapproval (Kraus et al., 2018). Neither literature permits a diagnosis of Iranian officials, religious people or any social class. Institutional discourse can be saturated with sexual morality even when nothing is known about officeholders’ private desires.

6. Iran: political theology and gendered moral regulation

6.1 Constitutional architecture

Iran’s post-revolutionary constitutional order explicitly combines republican institutions with Twelver Shi’i political theology. Article 4 subjects laws and regulations to Islamic criteria. Article 5 locates leadership during the occultation of the Hidden Imam in a qualified jurist. Article 8 constitutionalizes the

duty to enjoin good and forbid wrong, while Article 10 positions the family as a foundational Islamic unit (Islamic Republic of Iran, 1989). These provisions help explain why clothing, sexuality and family relations can be framed as collective political concerns rather than solely private choices.

This constitutional evidence supports the description *Twelver Shi'i theocracy*. It does not prove that every officeholder is an apocalyptic actor or believes the state is imminently to be transferred to Imam Mahdi. Messianic and apocalyptic rhetoric has been especially visible in particular factions and periods, including under Mahmoud Ahmadinejad; such claims must be attributed to specific actors rather than generalized to all religious Iranians or to every state institution (Sadeghi, 2023).

6.2 Criminal regulation of dress and consensual interaction

Article 638 of Book Five of the Islamic Penal Code penalizes women who appear in public without what the law defines as Islamic hijab. Article 637 penalizes certain intimate acts between an unmarried woman and man outside *zina*. Books I and II criminalize same-sex sexual acts, with severe penalties for specified conduct (Islamic Republic of Iran, 1996, 2013b). Together these rules do not establish private obsession. They establish a legal architecture in which consensual conduct, clothing and gender interaction are matters of criminal jurisdiction.

The 2024 “Hijab and Chastity” law would add harsher penalties and extensive reporting duties. Its legal status requires precision: the United Nations Fact-Finding Mission reported in March 2026 that it was still awaiting presidential signature or promulgation, while older mandatory-veiling provisions remained operative. It is therefore inaccurate to state that the entire harsher law was already in force. It is equally inaccurate to infer that compulsory veiling had ended.

6.3 Enforcement, surveillance and the production of salience

The UN Fact-Finding Mission documented technology-enabled enforcement including SMS warnings, the Nazer reporting application, vehicle sanctions, business closures, camera systems, drones and facial-recognition capabilities. Its March 2026 report recorded claims of 80,000 trained volunteer enforcers in Tehran, 97,500 warnings around Nowruz 2025, vehicle impoundments and at least 50 business closures for serving unveiled women (United Nations Human Rights Council [UNHRC], 2025, 2026). Amnesty International's 2024 investigation independently documented surveillance, road stops, mass vehicle confiscation, prosecution and corporal punishment (Amnesty International, 2024).

This enforcement system illustrates why *sexual governance* is more precise than “officials think about sex all the time.” When databases, transport systems, businesses, schools and citizens are recruited to classify dress and interaction, gendered bodies become repeatedly visible administrative objects. Regulation can therefore produce discursive saturation: sexual morality is constantly named, inspected

and recorded. That institutional effect can be observed without speculating about individual psychopathology (Foucault, 1978).

6.4 Spatial segregation and unequal access

Gender segregation in Iran is selective rather than total. It has operated across public transport, education, recreation, employment and sport, but policies vary across time and institution, and women have negotiated or repurposed segregated spaces. Shahrokni's study of buses, women-only parks and stadium access shows that spatial rules do more than separate bodies: they distribute safety, visibility, mobility and claims to citizenship (Shahrokni, 2020). The defensible formulation is therefore not that men and women are separated everywhere, but that state-sponsored segregation produces unequal and shifting access to public space.

6.5 Family law and temporary marriage

The Civil Code retains structural asymmetries. Article 1105 designates the husband as head of the family; Article 1114 generally locates the marital home at the husband's chosen residence unless otherwise stipulated; and Article 1117 permits a husband to oppose work deemed incompatible with family interests or dignity. Article 1041 permits marriage below 13 solar years for girls and 15 for boys under specified guardian-and-court conditions. The UN Human Rights Committee has urged a uniform minimum marriage age of 18 and repeal of compulsory-veiling provisions (Islamic Republic of Iran, n.d.; United Nations Human Rights Committee, 2023).

Temporary marriage (*sigheh* or *mut'a*) is expressly recognized in Articles 1075–1076. Related provisions regulate the dower, maintenance and termination, and Article 21 of the 2013 Family Protection Act makes registration mandatory in specified circumstances, including pregnancy, party agreement or a contractual condition. Scholarship shows that temporary marriage has contested meanings spanning religious legitimacy, sexual access, economic need, stigma and legal vulnerability (Haeri, 2014; Islamic Republic of Iran, 2013a, n.d.; Mir-Hosseini, 1999). Its existence is relevant to the gendered allocation of rights and risks; it is not evidence that a population or government is clinically sexually obsessed.

7. Documentary narrative analysis

Across the bounded corpus, the central narrative is not simply “sex is forbidden.” It is that visible bodies and intimate relations can endanger a moral, familial and national order, and must therefore be rendered governable. Five recurrent frames are summarized in Table 2. They overlap, and the corpus contains institutional disagreement as well as resistance. The table describes documentary patterns; it does not claim access to private intent.

Narrative frame	Constructed problem	Authorized response	Analytic limit
Moral disorder	Unveiled dress or mixed-gender intimacy is represented as public harm, not private choice.	Criminal penalties, morality policing, warnings and institutional discipline.	Shows legal salience, not private sexual desire.
Protective paternalism	Hierarchical family authority is represented as cohesion, dignity or protection.	Asymmetric residence, employment, marriage and divorce powers.	Protection claims must be assessed against agency and material effects.
Reciprocal vigilance	Moral conformity is made a collective duty; citizens and businesses become monitors.	Reporting apps, volunteer enforcers, SMS notices and business sanctions.	Enforcement is uneven and actively resisted.
Security and threat	Women-led dissent is associated with disorder, foreign influence or attacks on values.	Surveillance, prosecution, force and restrictions on assembly and expression.	Security rhetoric does not erase protesters' civic claims.
Woman, Life, Freedom	Coercive control itself is represented as the crisis; bodily autonomy becomes a claim to citizenship.	Everyday non-compliance, protest, art, documentation and transnational advocacy.	A plural counter-narrative, not a single unified constituency.

Table 2. Narrative frames in the documentary corpus. Sources include the Constitution, statutory texts, UN findings and Iran-focused scholarship.

The frames reveal a governing paradox. Sexuality is presented as something to contain, yet the apparatus of containment multiplies classifications, inspections and discussions of dress, intimacy and gender mixing. This is the sense in which regulation can “sexualize” public administration: it turns bodies and relationships into persistent objects of knowledge and intervention. The term should not be used to suggest that Iranian citizens are unusually sexual, nor to collapse consensual sexuality into harm.

Counter-narratives are indispensable. The 2022 Woman, Life, Freedom movement made bodily autonomy, dignity and equal citizenship central political claims. Women’s everyday non-compliance, artistic work, professional participation and legal activism demonstrate agency under constraint. An analysis that portrays Iranians as passive products of the state would reproduce the same hierarchy it seeks to criticize (Hoodfar & Sadr, 2010; UNHRC, 2024, 2025).

8. “Gender apartheid” and gender persecution

The phrase *gender apartheid* communicates a system in which law and administration organize durable, status-based domination across public and private life. UN experts stated in 2023 that Iran’s proposed hijab law could be described as a form of gender apartheid (Office of the United Nations High Commissioner for Human Rights [OHCHR], 2023). The term has significant analytic and advocacy force because it highlights systemic architecture rather than isolated discrimination.

Its legal status, however, must be stated accurately. Apartheid is codified in existing international criminal law through racial categories; *gender apartheid* is not presently a standalone named crime in the Rome Statute. Proposals to recognize it explicitly are part of ongoing legal development. By contrast, persecution on gender grounds is included in Article 7(1)(h) of the Rome Statute and elaborated in the International Criminal Court Prosecutor’s policy (International Criminal Court, Office of the Prosecutor [ICC-OTP], 2022).

The strongest established characterization in the present corpus is therefore *gender persecution*. The UN Fact-Finding Mission concluded that violations during the repression of the Woman, Life, Freedom protests included crimes against humanity and persecution on gender grounds. Its March 2026 report further stated that individual violations in law and practice cumulatively amounted to gender persecution, particularly in relation to mandatory hijab enforcement and other documented patterns (UNHRC, 2024, 2026). These are UN investigative findings, not final judgments of an international criminal court, and their defined scope should be preserved.

Terminology rule

Use “gender persecution” when making a claim grounded in existing international criminal law and UN findings. Use “gender apartheid” as an attributed analytic or advocacy concept, and state that its standalone codification remains unsettled.

9. Integrated conceptual model

Figure 1 preserves the valuable intuition in the author’s argument while removing the unsupported biological bridge. The upper pathway describes long-run biocultural interaction: manual anatomy and plasticity enable material engagement; material practices are taught and socially transmitted; cumulative culture expands technical and creative repertoires. The lower pathway is institutional: gendered moral regulation changes autonomy, safety, mobility and time, thereby altering access to education, work, collaboration and public participation. Resistance, solidarity and informal networks can buffer, contest or redirect these effects.

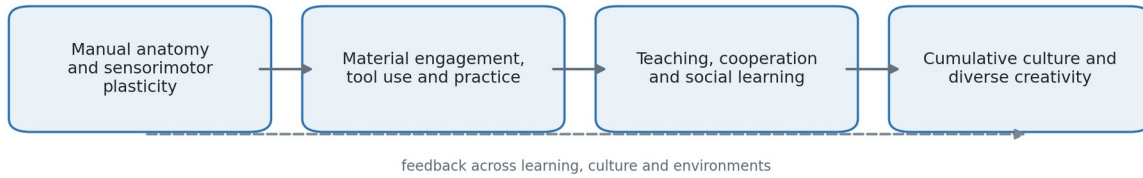
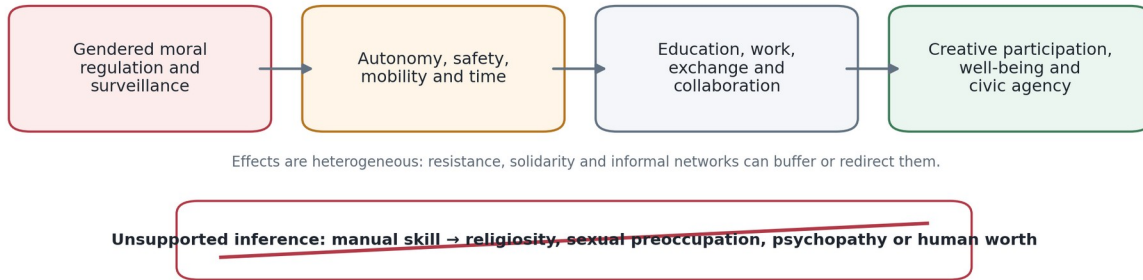
A Evidence-supported biocultural pathway**B Institutional opportunity pathway**

Figure 1. Evidence-bounded conceptual model. Solid arrows represent plausible, researchable pathways; the crossed statement is an unsupported inference explicitly rejected by this review.

9.1 Testable propositions

1. **Biocultural learning:** depth of domain-specific practice, access to instruction and social transmission will predict skilled creative output better than a general measure of manual dexterity alone.
2. **Institutional opportunity:** perceived surveillance and sanction risk will be associated with reduced mobility, mixed-gender collaboration and public participation, mediated by psychological safety and available time.
3. **Discursive salience:** intensified regulation of dress and intimacy will increase the frequency and administrative reach of sexual-morality discourse without demonstrating increased private sexual desire.
4. **Heterogeneity and resistance:** effects will vary by gender, age, class, region, ethnicity, religiosity, disability and network support; counter-practices may increase solidarity and political creativity even under coercion.

Future research could test these propositions through a preregistered Persian-language corpus study, longitudinal surveys of autonomy and creative self-efficacy, and carefully designed interviews with artists, students, entrepreneurs and professionals. Work involving people inside Iran would require stringent security, consent and data-minimization protocols. No participant should be exposed merely to strengthen an academic argument.

10. Limitations

- This is an integrative narrative review and documentary analysis, not a systematic review, causal experiment, psychiatric assessment or international-court judgment.
- Evolutionary evidence cannot establish causal relations between manual coordination and religiosity, sexuality, authoritarianism, family background or psychopathy.
- Official discourse reveals institutional representations and authorized practices, not the private desires, sincerity or diagnoses of officeholders.
- Translation, censorship, inaccessible archives and the selective survival of documents can bias the Iranian corpus. Current Persian legal wording should be independently checked before publication.
- The state is not synonymous with Iranian society. The review cannot represent the full range of secular, religious, ethnic, regional, class, generational and political positions.
- Creativity–well-being findings are often observational and context dependent; they do not make productivity a condition of dignity or health.
- “Gender apartheid” is a developing analytic and legal proposal. The manuscript attributes the term and distinguishes it from already codified gender persecution.

11. Conclusion

The human hand matters profoundly, but not because one thumb suddenly created a superior species. Dexterity emerged through a mosaic of anatomy, neural control, practice, material engagement and social transmission. The cultural achievements associated with *Homo sapiens* are collective and cumulative, and they coexist with evidence of technical sophistication and gene flow in other hominins. These findings support investment in learning, making and creative opportunity. They do not license biological hierarchies among living people.

The Islamic Republic’s regulation of dress, gender interaction, public space, marriage and consensual sexuality is best criticized on documentary, legal and institutional grounds. Compulsory-veiling rules, asymmetric family law, segregation, criminal sanctions and technology-enabled surveillance construct gendered bodies as continuing problems of public order. The resulting discursive saturation can reasonably be described as sexual governance. It cannot responsibly be converted into a psychiatric diagnosis of rulers or religious believers.

The defensible bridge between the two halves of the paper is agency. People develop and contribute through access to safety, education, time, mobility, tools, cooperation and the freedom to experiment. Bodily autonomy and creative citizenship are therefore complementary public goods. A society does not

advance by ranking citizens as fit or burdensome; it advances by reducing coercion and widening the conditions under which diverse capacities can be exercised.

Declarations

Ethics approval: Not applicable. No human participants or identifiable private data were involved.

Funding: No external funding is declared.

Competing interests: The author declares no competing interests.

Author positionality: The author identifies a personal connection to Iranian society and writes from a critical perspective on the Islamic Republic. This standpoint motivates the inquiry and is disclosed so readers can evaluate its interpretive implications.

Data availability: All materials analyzed are publicly accessible through the references. No new dataset was created.

Peer-review status: This is a scholarly draft prepared for further editorial and subject-matter review; it has not undergone journal peer review.

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