Unlocking Bronze Age burial traditions: aDNA analysis within new theoretical frameworks.

Grace Webster, Newcastle University: g.webster3@newcastle.ac.uk

This study investigates Bronze Age burial practices, examining trends in grave goods and burial positioning across genders. Bridging the gap between data-driven studies and theoretical literature, it analyses deviations from normative trends and explores 'minority patterns' (Pape & Ialongo 2023). Drawing primarily on aDNA studies supplemented by osteological reports, findings indicate that binary gendered patterns are less pronounced than anticipated. While gendered and age-related patterns remain visible, trends appear highly localised. The results reveal significant heterogeneity, suggesting Bronze Age identity must be understood flexibly and contextually. Gender nonetheless remains a clear structuring principle within burial practices that resist rigid categorisation.

A dataset of 252 inhumation burials from Early Bronze Age Britain was compiled from two large-scale aDNA studies (Olalde et al. 2018; Patterson et al. 2022), supplemented by secure osteological reports (Fowler & Wilkin 2016; Rogers 2013; Shepherd 2012). Inclusion criteria required confident sex assessment, age data, grave good information, body sidedness, and orientation data.

Each burial was assigned a unique identifier and categorised by genetic or osteological sex, age category, grave goods, body orientation, line of sight, spatial context, and chronological period. Four periods were defined: Period 1 (2500–2250 BC), Period 2 (2250–2000 BC), Period 3 (2000–1750 BC), and Period 4 (1750–1500 BC). Statistical significance was tested at 90% confidence using t-tests. Only inhumations were included; cremations fall outside the scope of this study.

Identity in Early Bronze Age Britain is understood as a relational and fluid construct, shaped through social interactions and materially expressed in mortuary practices (Fowler 2013b). This study rejects Cartesian narratives of fixed, biologically determined selfhood, instead treating identity as under constant construction through embodied social and material relationships (Brück 2004).

Gender is approached as a social process: performed, negotiated, and contextually dependent rather than a direct expression of biological sex (Sørensen 2004; Derevenski 2002). Crucially, burial practices may reflect the gendered understandings of the living as much as the identity of the deceased (Pape & Ialongo 2023). Where Robb & Harris (2018) identify a strong correlation between skeletal sex and burial treatment in the Bronze Age, Gaydarska et al. (2023) critique the rigidity of this position, arguing that gender must remain in flux rather than reaching a fixed endpoint. This study aligns more closely with the latter, emphasising permeability and social dynamism.

Age is similarly treated as a social construct that does not map neatly onto biological categories (Bickle 2014), functioning as a key structuring principle intersecting with gender throughout the life course. Kinship is understood as socially constructed rather than biologically determined, expressed through shared burial spaces and material practices (Brück 2021). Regional variation is acknowledged throughout, with localised patterns foregrounded over universal models

Gendered patterns in body sidedness were statistically significant throughout all periods, with males predominantly buried on the left side and females on the right. However, adherence to the established L/E/S and R/W/S orientation patterns (Shepherd 2012) reached a maximum of only 60%, considerably lower than the ~90% adherence reported for Central Europe. Approximately 10% of burials in both genders consistently opposed the dominant pattern across all periods.

Grave goods showed statistically significant gendered associations: bladed implements favoured male burials, whilst awls, jet, and food vessels were predominantly female-associated. Beakers showed a male preference in Period 3. Age-based trends revealed that infants were uniformly buried on the right side with NE/SW alignment regardless of sex, whilst subadults increasingly conformed to adult patterns as age increased. Regional variation was considerable, with northern counties more closely following established patterns and southern counties displaying greater variability. An interesting trend of P1 males buried L/NW/NE as seen below

	Sidedness	Side + Orientation	Side + orientation +
Fitting the pattern (male in L/E/S)	68 (62%)	49 (45%)	39 (37%)
Fitting the pattern (Female in R/W/S)	66 (63%)	31 (28%)	25 (24%)
Opposing the pattern (male in R/W/S)	27 (25%)	10 (9%)	7 (6%)
Opposing the pattern (female in L/E/S)	23 (22%)	15 (13%)	10 (10%)

Genetic	Side	Orientation	Facing	Body position	Age of dead	County
M	L	NW/SE	N	flexed	mature adult	Wiltshire
M	L	WNW/ESE	NE	flexed	adult	Wiltshire
M	L	NNW/SSW	NE	crouched	adult	Wiltshire
M	L	NW/SE	E	disarticulated	adult	Dorset
M				fragmentary	child	Somerset
M	L	E/W	N	crouched	adult	Northumberlar
M	L	NNW/SSE	NE	crouched	mature adult	Somerset
M	L	NW/SE	N	crouched	mature adult	Somerset

The results indicate that gender functioned as a structuring principle in Early Bronze Age mortuary practice, yet its expression was neither absolute nor uniform. Sidedness demonstrates the highest 'gender intensity' (Schmidt 2005), whilst orientations and facings show considerably weaker gendered patterning. The persistent minority of burials opposing the dominant pattern cannot be attributed to osteological error, given its presence in genetically-sexed individuals, and instead reflects deliberate social differentiation.

The lower adherence to binary patterns in Britain compared to Central Europe may reflect localised cosmological traditions and a broader spectrum of socially negotiated identities, rather than an absence of gendered norms. Age intersects meaningfully with gender: subadult male identities appear archaeologically indistinct from females until adulthood, suggesting the social acquisition of gendered identity over time (Schmidt 2005). Regional heterogeneity further underscores that no single universal model can account for burial variability across Britain.

Overall, Early Bronze Age burial practices reflect a complex, contextually dependent negotiation of identity in which gender, age, kinship, and individuality intersect in ways that resist rigid categorization. The expected shift around 2200 BC was not observed; changes in Period 4 are more plausibly attributed to the rise of cremation than to a fundamental transformation in gender relations. Future research should incorporate cremation assemblages, expand regional datasets, and apply peptide sex-testing to osteological assessments (particularly for mature adult females) to refine current interpretations and address sampling biases.