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“Real men eat meat.”

Understanding the Meat–Masculinity Link in a Framework of
Linked Oppressions - A Psychological Network Analysis

verfasst von | submitted by

Lena van Rutte BSc

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Univ.-Prof. Dr. Veronika Job Sutnar

Abstract in German

Der Zusammenhang zwischen Fleischkonsum und männlicher Identität wurde in zahlreichen Studien empirisch nachgewiesen, jedoch bislang nicht systematisch als Teil eines umfassenden Systems miteinander verknüpfter ideologischer Überzeugungen untersucht. Um diese Lücke zu schließen, untersucht die vorliegende Studie, wie dieser Zusammenhang in ein breiteres ideologisches Netzwerk eingebettet ist, das Hierarchie- und Dominanzvorstellungen verbindet. Auf Grundlage der „Linked-Oppressions“-These, die gemeinsame ideologische Wurzeln verschiedener Arten der Unterdrückung wie Sexismus und Speziesismus annimmt, zielt die vorliegende Studie darauf ab, die psychologischen Mechanismen hinter Fleischkonsum umfassender zu verstehen. Hierzu wurde ein zweiteiliger Ansatz gewählt, der eine konfirmatorische Mediationsanalyse mit einer explorativen Netzwerkanalyse kombiniert. Die Daten wurden mittels eines nicht-probabilistischen Schneeballverfahrens erhoben, was letztlich zu einer Stichprobe von $N = 362$ deutschsprachigen erwachsenen Teilnehmenden führte. Die präregistrierte Mediationsanalyse (H1) prüfte, ob Männlichkeit als Eigenschaft (gemessen mit dem BSRI-R) geschlechtsspezifische Unterschiede im Fleischkonsum erklärt, was jedoch nicht bestätigt wurde. Allerdings zeigten explorative Mediationsanalysen, dass ideologische Überzeugungen (z.B. Soziale Dominanzorientierung) diese Beziehung signifikant, wenn auch nur partiell, vermittelten. Diese Ergebnisse deuten darauf hin, dass normative Glaubenssysteme geschlechtsspezifische Unterschiede im Fleischkonsum besser erklären können als traditionell „männliche“ Eigenschaften. Im Einklang damit identifizierte die Netzwerkanalyse einen dicht vernetzten ideologischen Kern. Fleischkonsum war am stärksten mit Human Supremacy Beliefs verbunden, was auf die zentrale Rolle hierarchischer Ideologien hinweist. Insgesamt stützen die Ergebnisse die „Linked-Oppressions“-These und erweitern sie um strukturelle Einsichten. Dennoch sind die vorliegenden Interpretationen aufgrund von Einschränkungen wie dem Querschnittsdesign, der nicht-probabilistischen Stichprobe und der eingeschränkten Stabilität bestimmter Netzwerkparameter unter Vorbehalt zu sehen.

Schlüsselwörter: Fleischkonsum, Männlichkeit, Linked Oppressions, Soziale Dominanzorientierung, Human Supremacy Beliefs, ambivalenter Sexismus, psychologische Netzwerkanalyse

Abstract

The association between meat consumption and masculine identity has been widely demonstrated. However, it has yet to be systematically examined as part of a broader system of interrelated ideological beliefs. Addressing this gap, the present study investigates how the meat-masculinity link is embedded within a wider ideological network comprising hierarchy and dominance beliefs. Drawing on the Linked Oppressions Thesis, which posits a shared ideological foundation across forms of oppression, such as sexism and speciesism, the present study aims to provide a more integrated account of the psychological mechanisms underlying meat consumption. To this end, a two-part approach combining confirmatory mediation analysis and exploratory network analysis was employed. Data were collected via nonprobability snowball sampling, yielding a final sample of $N = 362$ German-speaking adult participants. The preregistered mediation analysis (H1) evaluating whether trait masculinity (measured with the BSRI-R) accounts for gender differences in meat consumption was not supported. However, exploratory mediation analyses showed that ideological beliefs - specifically Social Dominance Orientation, Human Supremacy Beliefs and hostile as well as benevolent sexism, - significantly, albeit only partially mediated this relationship. This suggests that broader ideological belief systems may better account for gender differences in meat consumption than conventionally “masculine” trait self-descriptions. Consistent with this pattern, the network analysis revealed a densely connected ideological core. Meat consumption showed the strongest association with Human Supremacy Beliefs, underscoring the centrality of hierarchical ideologies. Overall, the findings support the Linked Oppressions Thesis while adding structural nuance. Nonetheless, interpretations should be treated with caution given the study’s limitations such as the cross-sectional design, non-probabilistic sampling, and limited stability of certain network parameters.

Keywords: meat consumption, masculinity, meat-masculinity link, Linked Oppressions, Social Dominance Orientation, Human Supremacy Beliefs, ambivalent sexism, psychological network analysis

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“Real men eat meat.” This widespread attribution is more than just a cultural cliché. In many Western societies, meat consumption is closely linked to notions of traditional masculinity, such as strength and control (Adams, 1990; Rothgerber, 2012). This association is referred to as the meat-masculinity link, which has been empirically supported. Men who more strongly identify with traditional male norms tend to eat more meat (Camilleri et al., 2024). Meat consumption is associated with power, while plant-based diets are often viewed as unmanly or weak (Ruby & Heine, 2011). This association is also reflected in statistical data on meat consumption. Across continents, men consume more meat than women and are less likely to be vegetarian (Hopwood et al., 2024; Rosenfeld & Tomiyama, 2021). In Austria, men consume double the amount of meat as women (Statistik Austria, 2019). Comparable gender differences are evident in Germany and Switzerland (Ahrens, 2022; Ahrens, 2024).

The relevance of these gendered consumption patterns becomes evident when considering the broader consequences of meat consumption. High consumption of meat poses problems on both an individual and global level. Regarding individual health, the consumption of red and processed meat is associated with an increased risk of cardiovascular disease, type 2 diabetes and colorectal cancer (Godfray et al., 2018; Gu et al., 2023). Globally, livestock farming is a major contributor to greenhouse gas emissions and has a greater climate impact than the entire transportation sector (Tirado et al., 2018).

Moreover, ethical concerns regarding meat consumption have been raised. Industrial factory farming subjects animals to a life of suffering, with an estimated number of 3.4 to 6.5 billion animals killed for consumption every single day (Millstein, 2025). Critics refer to this as animal cruelty, exploitation, and the most far-reaching institutionalized form of violence against animals (Donato et al., 2024). Roberts (2008) highlights another concern regarding meat consumption: due to its inefficient use of food resources, meat consumption is incompatible with expected population growth. If current levels of meat consumption continue, widespread hunger is likely to increase.

Despite these well-known negative effects, the global average per capita meat consumption, as well as total consumption, are rising. This is mainly due to increasing average incomes and a growing global population (Godfray et al., 2018). Given the substantial

individual, environmental, and ethical consequences of meat consumption, it is important to consider not only economic and demographic drivers, but also the social and ideological factors that contribute to meat consumption and may sustain gendered patterns such as the meat–masculinity link. If meat is seen as a symbol of masculinity, efforts to promote plant-based diets among men might be more successful when they also challenge traditional gender norms (Adams, 2024). For example, instead of only highlighting the health or environmental benefits of eating less meat, campaigns could frame plant-based eating, as strong, responsible, or forward thinking (Rothgerber, 2012).

While earlier research has demonstrated that meat is associated with traditional masculine identity, the underlying ideological and psychological structures remain only partially understood. This study explores the following research question: How can the meat-masculinity connection be understood in relation to broader ideological constructs of hierarchy and domination?

By conducting a network analysis, this study aims to offer key insights into which systems of beliefs are most strongly related to meat-eating, thereby deepening the understanding of the psychological structures that sustain this link.

Motives for Meat Consumption

Consequently, the focus of the present study is to examine the ideological structures underlying meat consumption. To provide the necessary context, it is essential to first consider broader influences on dietary choices. Motives for meat consumption are multifaceted, ranging from evolutionary physiological needs to complex symbolic systems (Leroy & Praet, 2015).

Initially, access to meat is determined by environmental conditions, income levels, and food availability. While some populations rely heavily on animal-based diets due to ecological constraints, others face economic limitations that restrict meat consumption. In many industrialized contexts, however, where meat is widely available and affordable, consumption patterns are less a matter of necessity and more a reflection of psychological, social, and cultural factors (Godfray et al., 2018).

Leroy and Praet (2015) developed a hierarchical model consisting of five intertwined levels to illustrate the role of meat eating as a biocultural activity. At the base, the physiological level represents the nutritional and evolutionary impact of meat eating on human development. This is followed by the security level, which emphasizes cooperative systems such as resource management and social meat sharing. Building upon these, the community, value and holistic levels show that meat consumption is often embedded in social practices, contributing to group cohesion and shared identity through communal meals or traditional celebrations. At the same time, meat has been widely associated with prosperity and social status and has cultural, symbolic, and ethical implications.

A dominant ethical concern is that people claim to like animals but contribute to their killing by eating them at the same time. This is referred to as the "meat paradox", which creates cognitive dissonance (Loughnan et al., 2010). To resolve this dissonance, people either cease their meat consumption or apply different strategies to justify it. A framework for categorizing such justifications is the "4Ns" model, which posits that meat consumption is commonly rationalized as natural, normal, necessary and nice. Examples of these rationalizations are the perceived necessity of meat for protein intake, the tastiness and pleasure of eating meat and being raised on a carnivore diet (Joy, 2010; Piazza et al., 2015).

However, these conscious narratives may not necessarily reflect underlying drivers of meat consumption. None-reflective and automatic patterns of behavior anchored in broader belief systems may influence these behaviors beyond conscious deliberation (Dhont & Hodson, 2014; Rees et al., 2018). In this regard, the present study aims to further explore the role of ideological belief systems related to dominance and oppression.

Rothgerber (2012) further identified specific justification strategies, which can be broadly divided into direct and indirect approaches and vary in their prevalence across genders. Men were found to be significantly more likely to endorse direct, unapologetic strategies, such as denying animal suffering, asserting hierarchical human-animal relations, and citing health, religion, or human destiny as reasons for meat consumption. In contrast, women tended to rely on indirect, apologetic strategies, including dissociation and avoidance

of information regarding the mistreatment of animals. These gendered patterns are closely tied to the construction of masculinity.

The Meat-Masculinity Link and Linked Oppressions

A central explanation for the gender differences in meat justification strategies and the general preference for meat among men is the so-called “meat-masculinity link”, which construes meat consumption as a symbol of masculine identity (Camilleri et al., 2024). This symbolic link between masculinity and meat has been empirically validated (Camilleri et al., 2024; Ruby & Heine, 2011). For example, Camilleri and colleagues (2024) found that adherence to traditional masculine norms, measured with the *Conformity to Masculine Norms Inventory* (CMNI, Mahalik et al., 2003) positively predicted men’s meat consumption. Trait masculinity, defined as the extent to which individuals internalize culturally masculine ideals, such as assertiveness, competitiveness and independence, has proven to be a stronger predictor than gender alone (De Backer et al., 2019; Ruby & Heine, 2011). In this sense, meat consumption can be interpreted as gendered behavior, enacted to affirm masculine identity and status (Rothgerber, 2012; Buerkle, 2009).

Not only does meat consumption reflect gender roles, but it can also be seen as ideologically charged behavior (Donato et al., 2024). In *The Sexual Politics of Meat* (1990, new ed. 2024), Carol Adams introduces the concept of the “absent referent” to explain how the oppression of animals and the oppression of women are structurally linked. This refers to the structures and processes in patriarchal culture that deprive individual beings, such as animals and women, of their unique subjectivity and living presence, making them invisible, consumable objects (Adams, 2024). Wyckoff (2014) refers to this postulated connection between the oppression of animals through meat consumption and the oppression of women as the “Linked Oppressions Thesis”. This thesis posits that attitudes towards and treatment of both groups are influenced by patriarchal values that emphasize domination, suggesting a structural connection and shared foundation, where each form of oppression reinforces the other (Adams, 2024; Wyckoff, 2014). This line of reasoning is also supported by ecofeminist theory (Adams, 2024).

The concept of linked oppressions also extends to other forms of oppression such as racism (Adams, 2024). The term “sexism” itself was coined in analogy to “racism” in the 1960s, reflecting an early recognition of parallels between the domination of one sex over another and one race over another (Kerner, 2009). Adams (2024) ties racism to the concept of the absent referent, implying that the objectification and dehumanization inherent in meat consumption can mirror and reinforce racist ideologies. Sexism and racism reflect hierarchical thinking that legitimizes the subordination and exploitation of certain groups (Kerner, 2009). Similarly, the subordination of other animals to humans is referred to as “speciesism”. It represents the idea that humans inherently have the right to dominate other animal species (Allcorn & Ogletree, 2018). Speciesism, among other strategies, can be used to justify meat consumption (Rothgerber, 2012; Wyckoff, 2014). In sum, meat consumption is embedded in a broader system of gendered and ideological beliefs related to hierarchy, dominance and inequality.

To examine this structure empirically, the present study draws on several psychological constructs that capture different but interrelated dimensions of this system, which are outlined below.

Masculinity

The central construct linking gender norms to meat consumption is masculinity, which serves as the conceptual starting point for the succeeding ideological variables. Masculinity is a psychological and cultural construct referring to the traits, behaviors, and roles traditionally associated with being male. While many societies have historically relied on a binary understanding of gender, this view has been increasingly challenged. Today, gender is recognized as more fluid, and masculinity is understood as a set of socially shaped norms and ideals that vary across time and culture (Levant & Pryor, 2020). Psychological research often studies masculinity either as a personality trait or as conformity to social norms. Accordingly, various instruments have been developed to capture these different conceptualizations. One of the most widely used measures of trait masculinity is the Bem Sex Role Inventory (BSRI; Bem, 1974; revised by Troche & Rammsayer, 2011), which assesses self-ascribed masculine

traits and is employed in the present study. Other instruments focus on the endorsement of traditional masculine ideologies, such as the Conformity to Masculine Norms Inventory (CMNI; Mahalik et al., 2003).

Political Orientation

To understand the meat-masculinity link, it is necessary to consider the broader ideological belief systems in which it is embedded. These belief systems have a clear political dimension. Traditional masculinity is systematically associated with more conservative and right-leaning political views, which emphasize hierarchy, tradition, and resistance to social change (Stanley et al., 2023). Political orientation has also been directly linked to meat consumption. Individuals with more conservative or right-leaning attitudes tend to consume more meat and to express greater opposition to plant-based diets (Dhont & Hodson, 2014). To assess the role of political orientation within an interconnected network that includes masculinity and meat consumption, political orientation is measured in the present study using the standard left-right self-placement item from the European Social Survey (European Social Survey, 2022). However, left-right self-placement provides only a surface-level indicator of political ideology. Therefore, the two core ideological dimensions underlying right-wing political orientation – Right-Wing Authoritarianism and Social Dominance Orientation – will also be assessed.

Right Wing Authoritarianism and Social Dominance Orientation

On the one hand, Right-Wing Authoritarianism captures the submissive dimension of right-wing ideology, characterized by cultural traditionalism, uncritical submission to authorities, and aggression towards norm violators (Dhont & Hodson, 2014; Nacke & Riemann, 2023). On the other hand, Social Dominance Orientation represents patterns of hierarchical thinking and subordination beliefs and is defined as an individual's preference for social group inequality and a generalized desire for group-based dominance (Dhont & Hodson, 2014; Nacke & Riemann, 2023). Men generally score higher on Social Dominance Orientation, and stronger

Social Dominance Orientation is correlated with a preference for dominance over egalitarianism (Nacke & Riemann, 2023). Conceptually, psychological measures of masculinity and Social Dominance Orientation are interrelated. In developing the CMNI, Mahalik et al. (2003) found that the subscales emotional control, violence, power over women and the “playboy” norm as well as overall conformity to the CMNI showed moderate positive correlations with Social Dominance Orientation.

Together, Right-Wing Authoritarianism and Social Dominance Orientation are particularly relevant for hierarchical thinking and the justification of subordination in a range of contexts, including meat consumption. Veser and colleagues (2015) found that meat-eaters scored higher in both Right-Wing Authoritarianism and Social Dominance Orientation compared to vegetarians and vegans.

Dhont and Hodson (2014) demonstrated that both Social Dominance Orientation and Right-Wing Authoritarianism predict greater acceptance of animal exploitation and higher meat consumption. In their two studies, the latent correlations between Right-Wing Authoritarianism and meat consumption were $r = .38^{**}$ and $r = .30^{**}$, while the corresponding correlations for Social Dominance Orientation were $r = .36^{**}$ and $r = .29^{**}$. These effects were explained by two mediating processes. Firstly, perceived threat from vegetarianism as a non-exploitative ideology mediated the effects of both Social Dominance Orientation and Right-Wing Authoritarianism on meat consumption and acceptance of animal exploitation. Vegetarianism threat was conceptualized as a symbolic threat to the dominant “carnist” mindset: as more people adopt vegetarian diets, some perceive it as challenging familiar traditions, and their way of life. The effects of Social Dominance Orientation on meat consumption were fully mediated by vegetarianism threat, together with Human Supremacy Beliefs – the perceived superiority of humans over animals. Within this structure, Human Supremacy Beliefs serve as a moral “license” that legitimize the use of animals for human enjoyment (Dhont & Hodson, 2014). While both mediators are relevant, the present study focuses specifically on Human Supremacy Beliefs due to their proximity to consumption behavior. Consequently, the following section examines the construct of Human Supremacy Beliefs in greater detail.

Human Supremacy Beliefs

Human Supremacy Beliefs reflect the belief that humans are superior to animals. This implies that animals' lives hold less intrinsic value and that human control over animals is natural. These convictions legitimize and justify the exploitation of animals (Dhont & Hodson, 2014; Wyckoff, 2014). Human Supremacy Beliefs can be viewed as a specific form of Social Dominance Orientation, functioning as an ideological justification for interspecies hierarchy (Weber & Kollmayer, 2022). They are related to speciesism, which captures the moral implications of such beliefs. In this sense, Human Supremacy Beliefs may be understood as a psychological foundation that supports speciesist attitudes and behaviors (Dhont et al., 2016).

In sum, Social Dominance Orientation and Right-Wing Authoritarianism are considered core dimensions of socio-political attitudes and offer a deeper understanding of political beliefs than left-right self-placement. Human Supremacy Beliefs can be understood as a domain-specific expression of Social Dominance Orientation, capturing hierarchical beliefs applied to human-animal relations. Although these constructs are conceptually distinct, they are interrelated and together form a coherent belief system. People endorsing these ideologies may therefore consume meat not only for personal preference but because it aligns with their desire for dominance and resistance to social progress (Dhont & Hodson, 2014). While Human Supremacy Beliefs represent the speciesist dimension of hierarchical thinking within this framework, the Linked Oppression Thesis posits that the domination of animals and the devaluation of women are anchored in a shared ideological foundation of hierarchy and control (Wyckoff, 2014; Adams, 2024). Consequently, sexism is incorporated into the present study as a critical construct to examine how these gendered hierarchical constructs interact with speciesist beliefs to uphold the connection between masculinity and meat consumption. To operationalize sexism, this study draws on the concept of ambivalent sexism, which is discussed in the following.

Ambivalent Sexism

While sexism refers to a system of beliefs, attitudes, and stereotypes that devalue individuals based on their gender, privileging men over women, ambivalent sexism is defined as an ideological framework that combines openly hostile with seemingly positive attitudes towards women to maintain male dominance (Kerner, 2009; Wyckoff, 2014). It encompasses hostile sexism and benevolent sexism. Hostile sexism is characterized by open antipathy and resentment toward women, particularly those who challenge established male power. Benevolent sexism, by contrast, patronizes women by depicting them as delicate beings dependent on male protection behind a façade of care and affection. While hostile sexism is generally socially condemned and often concealed, benevolent sexism is more widespread and less readily recognized as prejudice (Kerner, 2009; Agut et al., 2022). Although hostile and benevolent sexism both support gender inequality, research shows they are not the same. Studies across different countries generally find a small to moderate correlation between them, ranging from $r = .2$ to $r = .3$ (Glick et al., 2000). Distinct from sexism, misogyny is conceptualized as a central enforcement mechanism of patriarchal gender hierarchy, encompassing a general hatred toward women (Kaul & Buchanan, 2023).

Research reveals significant interconnections between these gender-based prejudices and broader ideological stances. Sibley and colleagues (2007) found that Social Dominance Orientation positively predicts Hostile sexism ($\beta = .47^*$), while Right-Wing Authoritarianism positively predicts benevolent sexism ($\beta = .49^*$). Kaul and Buchanan (2023) reported a positive correlation ($r = .24^*$) between Right-Wing Authoritarianism and misogynistic attitudes. A possible explanation for this is that Right-Wing Authoritarianism and Social Dominance Orientation contribute to maintaining the patriarchal status quo by legitimizing male dominance and women's subordinate status in patriarchal society (Sibley et al., 2007).

Regarding masculinity, McDermott and colleagues (2019) found significant positive correlations between traditional masculinity ideologies, measured with the very brief version of the *Male Role Norms Inventory* (MRNI), and benevolent as well as hostile sexism for both men and women. Fitting into the idea of linked oppressions and an overarching belief system, ambivalent sexism has also been linked to meat consumption. For instance, Allcorn and

Ogletree (2018) found a positive correlation between pro-meat-eating justifications and benevolent ($r = .34^*$) as well as hostile sexism ($r = .38^*$). Additionally, individuals high in hostile sexism perceive plant-based meat alternatives as less appealing and distance themselves more strongly from such products (Salmen et al., 2025).

In sum, overarching ideologies such as Right-Wing Authoritarianism, Social Dominance Orientation and more specifically Human Supremacy Beliefs may manifest at the behavioral level in meat consumption and sexist attitudes. Beyond these dispositional constructs, cognitive thinking patterns may further reinforce such belief systems. Therefore, Zero-Sum Mindset is explored as a final construct in the present study.

Zero-Sum Mindset

A “Zero-Sum Mindset” offers insight into how individuals perceive success and relationships. It is based on the concept of zero-sum games from game theory, in which one participant's gain is exactly balanced by another's loss. Transferred to the social world, Zero-Sum Mindset is conceptualized as a mental model of success in which one party's gain is inherently linked to another party's loss (Fearon et al., 2021; Papaioannou et al., 2022). This fosters zero-sum thinking, as in “my win is your loss” and vice versa (Fearon & Götz, 2024). The Zero-Sum Mindset has many implications in social contexts. It hinders cooperation, undermines trust and is associated with group-based dominance (Fearon et al., 2021; Fearon & Götz, 2024). Fearon and Götz (2024) found Zero-Sum Mindset to be a positive predictor of Social Dominance Orientation ($\beta = .28^{***}$). This suggests that individuals who tend to view life through a zero-sum lens are more likely to endorse social dominance (Fearon & Götz, 2024). By concentrating on their need to exert dominance, people high on zero-sum thinking might have a stronger desire to maintain and showcase their masculinity through culturally sanctioned behaviors, such as meat consumption. Although direct empirical findings linking Zero-Sum Mindset to meat consumption are currently lacking, Zero-Sum Mindset may function as a broader cognitive pattern that facilitates the endorsement of ideologies associated with masculinity and dominance, thereby reinforcing the meat-masculinity link. Accordingly, its role is explored in the present study.

The Present Study

Despite extensive work demonstrating the link between masculinity and meat consumption, little is known about how this association is embedded within a broader system of interrelated ideological beliefs. Building on the concept of Linked Oppressions (Adams, 1990/2024; Wyckoff, 2014), the present study examines the meat-masculinity link as part of a broader network of beliefs related to hierarchy and dominance.

To capture the complexity of these interrelated belief systems, an exploratory psychological network analysis is employed. This approach allows the examination of direct associations between multiple variables while controlling for all others and enables the identification of particularly central constructs within the network (Epskamp et al., 2016). Within this framework, the study investigates the interrelations between eight constructs: meat consumption, trait masculinity, political orientation, ambivalent sexism, Right-Wing Authoritarianism, Social Dominance Orientation, Human Supremacy Beliefs, and a Zero-Sum Mindset. Ambivalent sexism is operationalized via its two components, hostile and benevolent sexism. These are included as separate variables, referred to as nodes, within the network, resulting in nine nodes.

Since this network approach is exploratory, no confirmatory hypotheses are formulated regarding the network structure. Instead, the study addresses the following exploratory research question:

Which psychological constructs are most central in the network linking meat consumption, trait masculinity, political orientation, Social Dominance Orientation, Right-Wing Authoritarianism, ambivalent sexism, Human Supremacy Beliefs and Zero-Sum Mindset?

Centrality within the networks is primarily evaluated using betweenness centrality, which captures the extent to which a node connects to other nodes in the network by lying on the shortest paths between them. Nodes with high betweenness therefore function as structural bridges within the network (Epskamp et al., 2017). Since Epskamp and Fried (2018) raise concerns about the stability of betweenness estimates, node strength and closeness are

examined to provide a more robust and multidimensional assessment of node centrality. Regarding the present study, network analysis will help to identify the most suitable concept(s) to target in interventions, aimed at reducing meat consumption.

In addition to the network analysis, the present study includes a hypothesis-driven mediation analysis, to examine the meat-masculinity link at a more detailed level. Specifically, trait masculinity is examined as a potential mediator of the relationship between gender identity and meat consumption. Prior research suggests that meat consumption can function as a means of affirming masculine identity (Camilleri et al., 2024; De Backer et al., 2019). Accordingly, gender differences in meat consumption may partly reflect the internalizations of culturally masculine traits and norms. Based on this reasoning, the mediation analysis tests whether trait masculinity mediates the relationship between gender identity and meat consumption. This leads to the following hypotheses:

***H1a:** Individuals identifying as male report higher levels of trait masculinity than individuals identifying as female or non-binary.*

***H1b:** Higher levels of trait masculinity are associated with higher meat consumption.*

***H1c:** Trait masculinity partially mediates the relationship between gender identity and meat consumption, such that men's higher endorsement of trait masculinity explains, in part, their higher meat consumption compared to individuals of other genders.*

Materials and Methods

Network Analysis

Network analysis is a relatively recent methodological approach in psychology to visualize and statistically examine the complex relationships between psychological variables (Epskamp et al., 2016). Unlike latent variable models assuming unobserved common causes of correlations between items, network models conceptualize psychological constructs as systems of directly interacting components (Cramer et al., 2010, Epskamp et al., 2016). In a

psychological network, variables such as beliefs, attitudes, or symptoms are represented as nodes and the statistical relationships between them are represented as edges (Constantin et al., 2023; Epskamp, 2020). In the present study, a Gaussian Graphical Model (GGM) was estimated using regularized partial correlations (Epskamp & Fried, 2018). Edges represent unique associations between variables after controlling for all other variables in the network. The graphical LASSO algorithm with EBICglasso with the default tuning parameter ($\gamma = 0.5$) was applied to balance sensitivity and specificity.

After estimating the network structure, three centrality metrics were computed to quantify the importance of each node within the network (Constantin et al., 2023; Epskamp et al., 2016). Firstly, *Betweenness Centrality* measures the extent to which a node lies on the shortest paths between other pairs of nodes in the network. Nodes with high betweenness act as bridges for information flow, exerting significant control over communication within the network (Constantin et al., 2023; Epskamp et al., 2016). Secondly, *Strength Centrality* represents the sum of the absolute weights of all direct connections (edges) of a node. Nodes with higher strength are more directly connected to other nodes on the network (Epskamp et al., 2016). Lastly, *Closeness Centrality* indicates how directly a node is connected to all other nodes in the network, calculated as the inverse of the average shortest path length from that node to all other nodes. A high closeness suggests that a node can quickly influence or be influenced by changes across the network (Constantin et al., 2023; Epskamp et al., 2016).

Power Analysis

To determine the required sample size for testing the hypothesized mediation of the relationship between gender identity and meat consumption by trait masculinity (H1a-H1c), an a priori power analysis was conducted using a Monte Carlo simulation analysis in RStudio (Posit team, 2025). Although the specific mediation pathway proposed in the present study has not been tested in this exact form, several related studies provide indirect evidence regarding the expected effect sizes of the relevant paths. For path a (gender $\rightarrow$ trait masculinity), $a = .20$ was used based on Troche and Rammsayer (2011; recoded from Cohen's d), and for path b (trait masculinity $\rightarrow$ meat consumption), $b = .12$ was used based on Rosenfeld

and Tomiyama (2021) reporting gender conformity effects on meat consumption. Results indicated that approximately $N = 210$ participants are required to detect the indirect effect with adequate power.

No established power analysis guidelines exist so far for psychological network analysis (Epskamp & Fried, 2018). Recent recommendations suggest using Monte Carlo simulation studies to estimate adequate sample sizes under varying assumptions about network complexity, effect sizes, and estimation methods (Constantin et al., 2023; Epskamp et al., 2016). In such simulations, synthetic datasets are generated based on a predefined network structure, and key network parameters are estimated repeatedly to evaluate their stability and recovery accuracy. The present network comprises nine nodes, yielding 36 possible undirected edges. In line with prior simulation studies and typical psychological network structures, it is assumed that approximately 10 to 15 of these edges will be non-zero (Constantin et al., 2023). Based on existing simulation research, psychological networks of this size and moderate sparsity can be reliably estimated with a sample size of approximately 250 participants (Constantin et al., 2023). Specifically, Constantin et al. (2023) demonstrated that for a 10-node network with stronger edge weights, an optimal sample size of $N = 249$ was found to achieve sufficient sensitivity. Epskamp and Fried (2018) further illustrated with their *netSimulator* function that a sample size of $N = 250$ achieves an edge weight recovery correlation above 0.8, sensitivity above 0.7, and node strength centrality correlation above 0.8 between the “true” and estimated networks. These thresholds are considered acceptable for reliable estimation (Epskamp & Fried, 2018).

Additionally, a sensitivity analysis was conducted using G*Power (Faul et al., 2007) to determine the minimum detectable correlation coefficient given the planned sample size. With $N = 250$, an alpha level of .05, and a statistical power of .80, the analysis revealed that bivariate correlations of $r = .17$ or higher can be reliably detected. This threshold is considered sufficient because most empirically observed correlations between the relevant constructs are above $r = .2$. Therefore, the planned sample size of $N = 250$ is considered large enough to detect the associations of interest in the network. To account for potential dropouts or failed

attention checks, 10% more participants will be recruited, resulting in a target sample of $N = 275$ and thus exceeding the sample size of $N = 210$ required for mediation analysis.

Procedure

The present study was preregistered on aspredicted.org (#261,878) on December 3rd, 2025, prior to data collection. The preregistration specified the mediation hypotheses (H1a-H1c), exclusion criteria, and target sample size ($N = 275$). The exploratory research question addressing the network analysis was also noted. Ethical approval was obtained from the Departmental Review Board of the Department of Occupational, Economic and Social Psychology of the University of Vienna.

Participants were recruited via non-probabilistic snowball sampling through social media platforms (e.g. WhatsApp, Instagram, Facebook) and personal networks targeting German-speaking adults (18 years or older). Recruitment occurred between December 16th, 2025, and January 12th, 2026.

Participants completed an online questionnaire hosted on QuestionPro (2025, licensed by the University of Vienna). The survey comprised standardized measures of the key constructs, self-constructed items for meat consumption and motives for meat consumption, and demographic questions. Two instructed-response attention check items were embedded to ensure participant attentiveness. These items were designed by Maniaci & Rogge (2013) to detect careless or random responding by requiring participants to select a specific answer and are provided in Appendix A.

Participants received a brief introduction outlining the purpose of the study and their rights as participants. After providing informed consent, they completed demographic questions, followed by the meat consumption screener item. Subsequently, participants completed the psychological scales and the political orientation item in randomized order. For participants who indicated that they consumed meat, additional items assessing meat consumption frequency and motives for meat consumption were included. Average completion time was twelve minutes. Participation was voluntary and anonymous, and

participants could withdraw at any time without consequences. Contact information was provided at all times.

Participants

The present study targeted $N = 275$ participants but remained active for two additional weeks after the target sample size was reached to achieve a more balanced gender distribution, as the initial responses were heavily female-skewed. The resulting dataset comprised 395 completed responses. After removing two technical duplicates, participants who failed at least one of two embedded attention checks ($n = 32$) and one case with implausible age information (181 years), were excluded in accordance with preregistered exclusion criteria. The final analytical sample consisted of $N = 362$ participants. Participants' ages ranged from 18 to 84 years ($M = 44.42$, $SD = 19.10$). 217 participants (59.9%) identified as women and 145 participants (40.1%) as men, while no participants identified as non-binary or other. The distribution of dietary groups across gender is shown in Table 1. The majority ($n = 340$, 93.9%) resided in Austria, followed by 16 participants (4.4%) in Germany and 6 participants (1.7%) in other countries (e.g. France, the Netherlands, Thailand and Canada) which were combined into a single category ("Other countries"). Additional socioeconomic characteristics of the sample are provided in Table 2.

Table 1

Distribution of Dietary Groups by Gender

	vegetarian	vegan	meat-eater	total
female	62	10	145	217
male	17	4	124	145
total	79	14	269	362

Note. Values represent absolute frequencies. Dietary categories are based on self-reported eating behavior.

Table 2*Socioeconomic Sample Characteristics*

Characteristics	n	%
Education (highest completed)		
Compulsory schooling	4	1.1
Upper secondary education	74	20.4
Vocational education	32	8.8
Bachelor's degree or equivalent	126	34.8
Master's degree or PhD	126	34.8
Monthly net household income		
< €1,000	63	17.4
€1,000–1,999	63	17.4
€2,000–2,999	111	30.7
€3,000–3,999	77	21.3
€4,000–4,999	15	4.1
≥€5,000	18	5.0
No response	15	4.1
Residential environment		
Rural area / village	54	14.9
Small town	28	7.7
Suburban area	60	16.6
Big city / metropolis	220	60.8

Note. N = 362 after exclusions. Percentages may not sum to 100 due to rounding. Education categories aligned with D-A-CH national systems and ISCED framework (UNESCO Institute for Statistics, 2012). Income brackets adapted from SEOP (Wagner et al., 2007) and European Social Survey (ESS, 2022). Residential environment classification adapted from Eurostat urbanization research (Eurostat, 2020).

Materials

Instruments used to operationalize the constructs of interest are summarized in Table 3. All measures were administered in German and are presented in the supplementary materials (see Appendix A). Zero-Sum Mindset and Human Supremacy Beliefs were translated from English using back-translation. For comparability, all multi-item scales were rescaled to a 6-point Likert format (1 = *does not apply at all* to 6 = *applies very much*).

Table 3*Instruments*

Construct	Instrument	Number of Items	Sample Item	Original Scale	Reliability
Social Dominance Orientation	Kurzskala Soziale Dominanzorientierung (KSDO-3) (Aichholzer, 2019)	3	„Jede Gesellschaft braucht Gruppen, die oben sind und andere, die unten sind.“	5-point Likert	Cronbach's α = .45 - .74
Right-Wing Authoritarianism	Balancierte Kurzskala autoritärer Einstellungen (B-RWA-6) (Aichholzer & Zeglovits, 2015)	6	„Es würde dem Land besser gehen, wenn die jungen Leute sich mehr auf Werte und Traditionen besinnen würden.“	5-point Likert	Cronbach's α = .62
Zero-Sum Mindset	Zero-Sum Mindset (ZSM) (Fearon & Götz, 2024)	7	„Der Erfolg einer Person bedeutet normalerweise das Scheitern einer anderen Person.“	7-point Likert	McDonald's ω = .82-.92
Trait masculinity	Deutschsprachiges Bem Sex-Role Inventory – Revised (BSRI-R), M-Skala (Troche & Rammsayer, 2011)	15	„Respekt-einflößend“	7-point Likert	Cronbach's α = .83 - .86; rtt = .93
Human Supremacy Beliefs	Human Supremacy Beliefs (HSB) (Dhont & Hodson, 2014)	6	„Das Leben eines Tieres ist einfach nicht gleichwertig mit dem Leben eines Menschen.“	5-point Likert	Cronbach's α = .84 - .90
Ambivalent sexism	Deutsche Version des Ambivalent Sexism Inventory (ASI) – Ambivalenter Sexismus Skala (ASS) (Eckes & Six-Materna, 1999)	22	„Bei einer Katastrophe sollten Frauen vor Männern gerettet werden“ (BS); „Frauen sind zu schnell beleidigt“ (HS)	6-point Likert	Cronbach's α = .83 - .92
Meat consumption	Adapted from Camilleri et al., 2024; De Backer et al., 2019; Ruby & Heine, 2011	4 (including screener)	„Ich esse Fleisch an den meisten Tagen der Woche.“	6-point Likert	-

Note. All scales administered in German. Original response formats shown; all multi-item scales rescaled to 6-point Likert for comparability. Reliabilities (α) from published validation studies. Complete German versions in Appendix A.

Political orientation was assessed using the standard 0 to 10 left-right self-placement from the European Social Survey. Higher scores indicate right-wing orientation (European Social Survey, 2022).

Furthermore, meat consumption was operationalized as a continuous score ranging from 0 to 6, reflecting whether individuals consume meat, how frequently they do so, and whether they are willing to reduce their meat consumption. The measure was conducted in two steps. Firstly, participants answered a screener question to divide them into meat eaters, vegetarians and vegans. Vegetarians and vegans ($n = 93$) received a meat consumption score of 0 and skipped subsequent items. Meat-eaters ($n = 269$) rated four statements on a 6-point Likert scale (1 = *does not apply at all* to 6 = *applies very much*). The development of these items was informed by existing research using similar self-report measures to assess meat consumption (Camilleri et al., 2024; De Backer et al., 2019; Ruby & Heine, 2011). Rather than using detailed food diaries or nutritional assessments, these studies employed brief, behavior-focused self-reported items to capture individual differences in meat intake. The present approach follows this precedent and is suitable for multivariate statistical procedures such as mediation and network analysis. The items were averaged to form the final meat consumption index ($\alpha = .85$ among meat-eaters) and are provided in Table 4.

Table 4

Meat Consumption Items

Items	Description	Response Options
(1) Screener	“Do you eat meat (e.g. beef, pork, poultry, or processed meat like sausage)?”	Yes / No, vegetarian / No, vegan
(2)	“I eat meat regularly”.	1-6
(3)	“I eat meat on most days of the week.”	1-6
(4)	“Meat or meat products (e.g., sausage) are a fixed part of my daily meals.”	1-6
(5)	“I actively try to reduce my meat consumption.” (R)	1-6

Note. (R) = reverse coded. Vegetarians and vegans scored 0, skipped Items 2-5. Meat eaters rated Items 2-5 on 6-point Likert scale. Items were administered in German.

Additionally, this study incorporated an exploratory analysis of motives for meat consumption to investigate a critical potential discrepancy: whether behind individuals' conscious justifications, such as taste or habit, there is a pattern of behavior connected to hierarchy-affirming belief systems.

Meat-eaters (n = 269) completed a self-developed 6-item scale capturing hedonistic, habitual, functional, normative, ideological (anti vegan / vegetarian), and socially conformist motives. Example items include: "I eat meat because I like the taste" (hedonistic), and "I eat meat because I reject vegetarian or vegan lifestyles" (ideological). Responses were given on a 6-point Likert scale (1 = strongly disagree, 6 = strongly agree). Items were analyzed individually, given the motivational heterogeneity. Scale development was informed by previous work examining underlying motivations for meat consumption and food preferences in general (Myers, 2015; Povey et al., 2001; Rothgerber, 2012). All motives for meat consumption items in English are displayed in Table 10 in the results section, while complete German questionnaire items are provided in Appendix A.

Data Analysis

All statistical analyses were conducted using the statistical software R (version 4.5.2; R Core Team, 2023) within the RStudio environment (Posit team, 2025). Data preparation used the *data.table* package (Barrett et al., 2025) for importing QuestionPro (2025) data and the *janitor* package (Firke, 2024) for variable name standardization. The final analytic sample comprised N = 362 participants.

Reverse-coded items were recoded using the 7-x transformation for 6-point Likert scales, creating new variables with the suffix *_r*. Scale scores were computed as item means using the *psych* package (Revelle, 2025), which also provided Cronbach's α reliability estimates. Gender identity was coded as a binary variable distinguishing between female and male participants, since no participant identified as non-binary or other. Political orientation was measured on a left-right continuum and mean-centered for regression-based analyses. Age was treated as a continuous variable, and the remaining demographical variables were coded as categorical factors.

The main analysis consisted of two components: a confirmatory mediation analysis and an exploratory network analysis. Prior to the mediation analysis, assumptions underlying regression-based mediation were evaluated. Linearity was assessed through inspection of scatterplots for each predictor outcome relationship. Normality of residuals was examined using QQ-plots, and homoscedasticity was evaluated using plots of fitted values against residuals. Confirmatory mediation analysis tested Hypothesis 1 and was conducted using structural equation modeling as implemented in the *lavaan* package (Rosseel et al., 2025). The preregistered mediation model simultaneously estimated path *a*, representing the effect of gender on trait masculinity, path *b*, representing the effect of trait masculinity on meat consumption, the direct effect *c'* of gender on meat consumption, and the indirect effect defined as the product of paths *a* and *b*. Indirect effects were estimated using nonparametric bootstrap resampling with 5,000 draws to obtain bias corrected confidence intervals. Hypothesis 1a was additionally examined using an independent Welch's *t*-test comparing trait masculinity between gender groups. Effect size was quantified using Cohen's *d* implemented in the *effectsize* package (Ben-Shachar et al., 2020).

In addition to the preregistered mediation model, exploratory mediation analyses were conducted to examine Social Dominance Orientation, Human Supremacy Beliefs, and hostile as well as benevolent sexism as alternative mediators of the relationship between gender and meat consumption. These exploratory models followed the same structural equation modeling procedures and bootstrap based estimation of indirect effects as the confirmatory mediation analyses.

The second part of the main analysis consisted of the psychological network analysis, as preregistered. A Gaussian Graphical Model was estimated using the *bootnet* package (Epskamp et al., 2016), with network visualization performed using the *qgraph* package (Epskamp et al., 2016). The network was based on regularized partial correlations estimated using the EBICglasso algorithm with a tuning parameter of $\gamma = 0.50$, as preregistered. Prior to network estimation, all variables included in the network were z-standardized.

The primary network consisted of nine nodes representing meat consumption, trait masculinity, political orientation, Social Dominance Orientation, Right-Wing Authoritarianism, Zero-Sum Mindset, Human Supremacy Beliefs, hostile sexism, and benevolent sexism.

In the exploratory analyses, two additional networks were examined: a gender inclusive network incorporating binary gender as an extra node to assess its structural role, and a men-only network ($n = 145$) to investigate male-specific dynamics. For all networks, node strength, betweenness and closeness were computed as centrality indices to identify the most influential constructs within each network. Correlation stability coefficients were computed for centrality indices to evaluate the representativeness and stability of the estimated network structures using the *bootnet* package (Epskamp et al., 2016). Finally, Motives for meat consumption were descriptively analyzed among meat-eaters ($n = 269$), examined for gender differences, and correlated with the central study constructs to explore ideological-behavioral links.

Results

Descriptive Statistics and Preliminary Analyses

Preliminary analyses included reliability analyses, descriptive statistics, and bivariate correlations among the central study variables. To assess reliability, internal consistency was evaluated using Cronbach's α (see Table 5) and was found to be acceptable to good for most scales according to the threshold guidelines outlined by Flandorfer (2019). The internal consistency of the Social Dominance Orientation scale was relatively low ($\alpha = .58$) and was therefore interpreted with caution. The self-developed meat consumption scale showed good internal consistency ($\alpha \approx .85$, 95% CI [.82, .88]). All four items demonstrated satisfactory item-total correlations, and no item removal substantially improved the reliability.

As shown in Tables 5 and 6, most ideological variables showed low endorsement, with the mean scores ranging between 2 and 3. This suggests a general tendency toward disagreement among the sample. Particularly, constructs representing antagonistic worldviews, such as hostile sexism ($M = 2.12$), Zero-Sum Mindset ($M = 2.08$), and Social

Dominance Orientation ($M = 2.23$), showed the lowest levels of support. Right-Wing Authoritarianism ($M = 2.66$) and Human Supremacy Beliefs ($M = 2.59$) followed a similar pattern, whereas trait masculinity ($M = 3.68$) was the only variable to exceed the scale's theoretical midpoint. On average, the participants expressed a predominantly left-leaning political orientation ($M = 3.01$ on a scale of 0 to 10).

Table 5

Internal Consistencies (Cronbach's α), Means and Standard Deviations of all Multi-Item Scales

Variables	M	SD	Cronbach's α
Human Supremacy Beliefs	2.59	0.89	$\alpha = .80$
Benevolent sexism	2.78	0.83	$\alpha = .83$
Hostile sexism	2.12	0.91	$\alpha = .94$
Ambivalent sexism (BS + HS)	2.45	0.75	$\alpha = .91$
Zero-Sum Mindset	2.08	0.66	$\alpha = .78$
Right-Wing Authoritarianism	2.66	0.78	$\alpha = .73$
Social Dominance Orientation	2.23	0.88	$\alpha = .58$
Trait masculinity	3.68	0.73	$\alpha = .88$
Meat consumption	2.41	1.74	$\alpha = .85$

Note. Human supremacy beliefs, benevolent sexism, hostile sexism, Zero-Sum Mindset, Right-Wing Authoritarianism, social dominance orientation, and trait masculinity were measured on 6-point Likert-type scales (1 = strongly disagree to 6 = strongly agree). Meat consumption scores range from 0 to 6, with higher values indicating higher meat consumption. Cronbach's α is reported for all multi-item scales. Values around .7 or higher are commonly interpreted as acceptable, values around .80 as good, and values above .90 as excellent, whereas values clearly below .70 indicate limited internal consistency and should be interpreted with caution (Flandorfer, 2019). Values were rounded to two decimals. $N = 362$.

Pearson correlations among the central constructs are displayed in Table 6. The ideological constructs showed substantial intercorrelations, whereas Zero-Sum Mindset appeared least connected to other constructs. Meat consumption correlated significantly with every construct except Zero-Sum Mindset. The strongest association emerged with Human Supremacy Beliefs ($r = .50$, $p < .001$), followed by moderate correlations with hostile sexism ($r = 0.32$, $p < .001$), political orientation ($r = 0.31$, $p < .001$), and trait masculinity ($r = 0.30$, $p < .001$). Small correlations were found with Right-Wing Authoritarianism ($r = 0.28$, $p < .001$), and benevolent sexism ($r = 0.19$, $p < .01$). Stated correlation strengths are in accordance with Cohen's (1988) conventions. These bivariate associations provided initial indications of the constructs' relevance within the psychological network. Taken together, these zero-order

correlations motivate the subsequent partial correlation (network) approach to disentangle shared variance among the constructs.

Table 6

Means, Standard Deviations, and Correlations of Central Constructs

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Human Supremacy Beliefs	2.59	0.89								
2. Benevolent sexism	2.78	0.83	0.31***							
3. Hostile sexism	2.12	0.91	0.36***	0.49***						
4. Zero-Sum Mindset	2.08	0.66	0.1	0.32***	0.33***					
5. Right-Wing Authoritarianism	2.66	0.78	0.32***	0.44***	0.61***	0.31***				
6. Social Dominance Orientation	2.23	0.88	0.41***	0.34***	0.53***	0.19**	0.52***			
7. Political orientation	3.01	1.87	0.34***	0.29***	0.47***	0.17**	0.53***	0.52***		
8. Trait masculinity	3.68	0.73	0.24**	0.13	0.2**	-0.11	0.11	0.21**	0.25***	
9. Meat consumption	2.41	1.74	0.5***	0.19**	0.32**	0.05	0.28***	0.31***	0.31***	0.3***

Note. *M* and *SD* represent mean and standard deviation, respectively. Values below the diagonal represent Pearson product-moment correlations among all variables. Human supremacy beliefs, benevolent sexism, hostile sexism, Zero-Sum Mindset, Right-Wing Authoritarianism, social dominance orientation, and trait masculinity were measured on 6-point Likert-type scales (1 = strongly disagree to 6 = strongly agree). Political orientation was assessed on a 11-point left-right scale (0 = far left to 10 = far right). Meat consumption scores range from 0 to 6, with higher values indicating higher meat consumption. Correlations are based on pairwise complete observations. Only the lower triangle of the matrix is displayed for clarity. Values were rounded to two decimals. *N* = 362.

* $p < .05$, ** $p < .01$, *** $p < .001$.

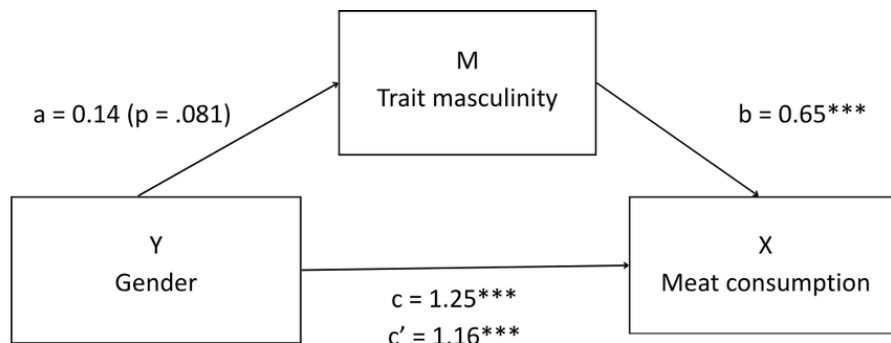
Mediation Analysis of the Gender-Meat Consumption Link via Trait Masculinity (H1a-c)

To test whether trait masculinity mediates the relationship between gender identity and meat consumption (H1a-c), as preregistered, a mediation analysis was conducted using ordinary least squares regression (see Figure 1). Gender was dummy-coded (0 = female, 1 = male). Mediation assumptions, including linearity, normality of residuals and homoscedasticity were adequately met, as confirmed by visual inspection of scatterplots, Q-Q-plots, and residuals plots.

Gender significantly predicted meat consumption ($c = 1.25$, $SE = 0.18$, $p < .001$, 95% CI [0.90, 1.56]) with men reporting higher consumption than women. Gender showed a small positive but non-significant association with trait masculinity ($a = 0.14$, $SE = 0.08$, $p = .068$, 95% CI [-0.08, 0.29]), providing no support for H1a. Trait masculinity significantly predicted meat consumption, controlling for gender ($b = 0.65$, $SE = 0.11$, $p < .001$, 95% CI [0.44, 0.86]), supporting H1b. The indirect effect via trait masculinity was small and non-significant ($ab = 0.09$, $SE = 0.05$, $p = .083$, 95% CI [-0.005, 0.196]), indicating no mediation and thereby not supporting H1c. The direct effect remained substantial ($c' = 1.16$, $SE = 0.17$, $p < .001$, 95% CI [0.82, 1.51]), suggesting that trait masculinity accounts for only a minor portion of gender differences in meat consumption. In sum, gender strongly predicted meat consumption, trait masculinity predicted meat consumption but did not mediate the gender effect, and the direct effect remained substantial, indicating little explanatory power of trait masculinity for the gender difference in meat consumption.

Figure 1

Mediation Model testing H1a-c



Note. Displayed are unstandardized regression coefficients. The indirect effect was non-significant ($ab = 0.09$; $p = .083$). Values were rounded to two decimals. *** $p < .001$. $N = 362$.

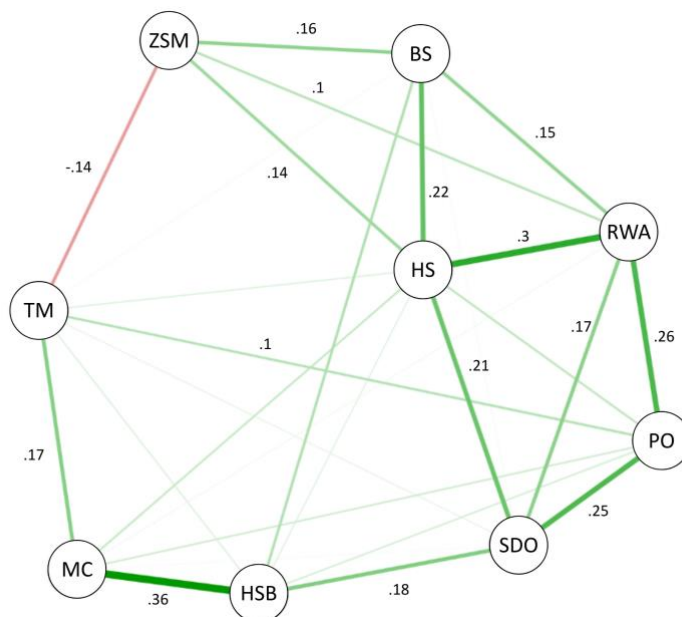
A supplementary Welch t-test yielded consistent results with the mediation analysis by showing no significant gender difference in trait masculinity ($t(337.48) = -1.80$, $p = .072$). Men reported descriptively higher trait masculinity ($M = 3.76$, $SD = 0.66$) than women ($M = 3.62$, $SD = 0.76$), but this difference was not statistically significant, and the effect size was small ($d = 0.19$).

Primary Network Analysis

As preregistered, a Gaussian Graphical Model (GGM) was estimated using EBICglasso regularization ($\gamma = 0.5$) on standardized variables. The network included nine nodes: meat consumption, trait masculinity, political orientation, Right-Wing Authoritarianism, Social Dominance Orientation, Human Supremacy Belief, Zero-Sum Mindset, and hostile as well as benevolent sexism. Accuracy and stability of the estimated network were assessed using case-dropping bootstrap procedures implemented in the *bootnet* package. The correlation stability coefficient (CS = .67) for strength centrality exceeded the recommended threshold of .50, indicating good stability. Closeness centrality demonstrated moderate stability (CS = 0.36), exceeding the minimum threshold of 0.25. In contrast, betweenness centrality showed no stability (CS = 0.00) and is therefore interpreted with caution. The overall network structure and relative importance of central nodes remained stable across bootstrap samples. The structure of the estimated network is shown in Figure 2.

Figure 2

Gaussian Graphical Model of Associations among Central Study Variables (preregistered)



The estimated network included 28 non-zero out of 36 possible edges and revealed a densely connected ideological core cluster comprising political orientation, Social Dominance Orientation, Right-Wing Authoritarianism, and hostile sexism as strongly interlinked. The edge weights in this cluster ranged from .17 to .26, indicating robust associations between these constructs. Meat consumption was directly connected to several nodes in the network, most notably Human Supremacy Beliefs, with which it shared the overall strongest edge within the network (edge weight = .36). In contrast, meat consumption was not directly connected to benevolent sexism or Zero-Sum Mindset in the regularized network and only shared a weak edge weight of .01 with Social Dominance Orientation, which was not retained in the visual network (see Figure 2). To provide a complete overview of all estimated associations within the network, the full matrix of regularized edge weights is presented in Table 8.

Table 8

Regularized Edge Weights of the Primary Network

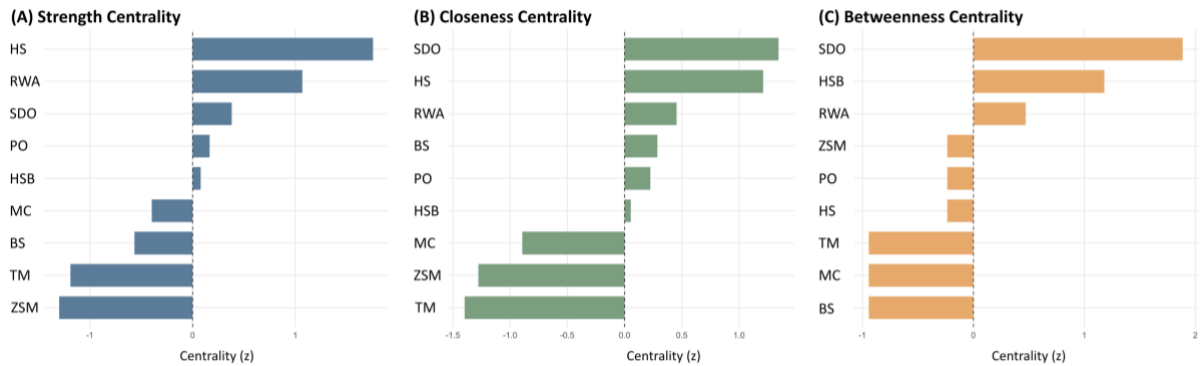
Variable	1	2	3	4	5	6	7	8
1. Human Supremacy Beliefs								
2. Benevolent sexism	0.11							
3. Hostile sexism	0.04	0.22						
4. Zero-Sum Mindset	0	0.16	0.14					
5. Right-Wing Authoritarianism	0	0.15	0.3	0.1				
6. Social Dominance Orientation	0.18	0.01	0.21	0	0.17			
7. Political orientation	0.06	0	0.09	0	0.26	0.25		
8. Trait masculinity	0.05	0.01	0.05	-0.14	0	0.03	0.1	
9. Meat consumption	0.36	0	0.08	0	0.03	0.01	0.07	0.17

Note. Values represent regularized partial correlations (edge weights) estimated using EBICglasso ($\gamma = 0.5$). Edges reflect associations between variables after controlling for all other variables in the network. Due to LASSO regularization, small and potentially spurious associations are set to zero (displayed in gray). Consequently, edge weights are typically smaller than zero-order correlations and should be interpreted comparatively rather than using conventional effect size benchmarks. Accuracy and stability of the estimated network were assessed via bootstrapping procedures. Values were rounded to two decimals. Only the lower triangle of the matrix is displayed for clarity. $N = 362$.

Centrality indices were examined to identify the most influential nodes within the network and are displayed graphically in Figure 3. Detailed values are reported in Table B1 in Appendix B. As shown in Panel A, strength centrality indicated that hostile sexism, Right-Wing Authoritarianism, and Social Dominance Orientation were among the most central nodes, suggesting that these constructs are strongly and directly connected to multiple other variables in the network. A similar pattern emerged for closeness centrality (Panel B), with Social Dominance Orientation, hostile sexism, and Right-Wing Authoritarianism again showing highest values. This indicates that these variables are closely embedded within the network and can be reached efficiently from other nodes. Betweenness centrality (Panel C) revealed that Social Dominance Orientation showed the highest values, followed by Human Supremacy Beliefs and Right-Wing Authoritarianism suggesting that these variables may function as bridges connecting different parts of the network. However, this interpretation should be treated with caution due to the lack of stability of this centrality measure. In contrast, variables such as benevolent sexism, trait masculinity, meat consumption, and Zero-Sum Mindset showed comparatively low centrality across most indices, indicating a more peripheral role. Overall, the centrality results highlight the importance of hierarchical and dominance-related ideologies, particularly Social Dominance Orientation, Right-Wing Authoritarianism, Human Supremacy Beliefs and hostile sexism, in structuring the network of beliefs associated with meat consumption.

Figure 3

Centrality Indices of the Primary Network



Note. Panel A displays strength centrality, Panel B closeness centrality and Panel C betweenness centrality. Values are z-standardized. Higher values indicate greater influence of a node within the network. Strength reflects the sum of direct connections; closeness indicates how proximally a node is connected to all other nodes; betweenness captures the extent to which a node lies on the shortest path between other nodes. Abbreviations: MC = meat consumption, TM = trait masculinity, SDO = Social Dominance Orientation, RWA = Right-Wing Authoritarianism, HSB = Human Supremacy Beliefs, HS = hostile sexism, BS = benevolent sexism, PO = political orientation, ZSM = Zero-Sum Mindset. N = 362.

Exploratory Analyses

Mediation Analyses

Social Dominance Orientation, Human Supremacy Beliefs and hostile as well as benevolent sexism were explored as possible mediators of the relationship between gender and meat consumption (see Table 9). All four ideological mediators showed significant indirect effects, with Human Supremacy Beliefs emerging as the strongest ($ab = 0.53$, $p < .001$, 95% CI [0.36, 0.72]), followed by hostile sexism ($ab = 0.26$, $p < .001$, 95% CI [0.14, 0.40]), Social Dominance Orientation ($ab = 0.21$, $p = .001$, 95% CI [0.10, 0.35]), and benevolent sexism ($ab = 0.10$, $p = .036$, 95% CI [0.02, 0.20]). Direct effects remained significant across all models, indicating partial mediation in each case. As each mediator was examined in a separate model, the results reflect independent indirect effects and should not be interpreted as indicating unique contributions when all mediators are considered simultaneously.

Table 9*Unstandardized Path Coefficients for Mediation Models*

Mediator	a-Path	b-Path	ab-Path	c'-Path
Trait masculinity	0.14	0.65***	0.09	1.16***
Social Dominance Orientation	0.47***	0.46***	0.21**	1.04***
Human Supremacy Beliefs	0.63***	0.85***	0.53***	0.72***
Hostile sexism	0.57***	0.45***	0.26***	0.99***
Benevolent sexism	0.40***	0.25*	0.10*	1.15***

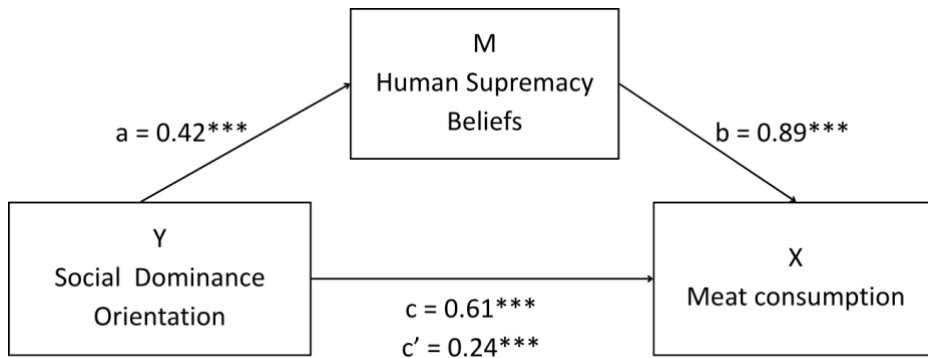
Note. Preregistered and exploratory mediation models exploring the relationship between gender and meat consumption. *ab* = indirect effect; *c'* = direct effect controlling for mediator. Total effect of gender on meat consumption $c = 1.25^{***}$. *** $p < .001$, ** $p < .01$, * $p < .05$. Values were rounded to two decimals. $N = 362$.

In addition to these theory-driven exploratory analyses, another mediation model was derived from the observed network structure. Specifically, the network analysis suggested that the relationship between Social Dominance Orientation and meat consumption may be mediated by Human Supremacy Beliefs. This was examined in a subsequent exploratory mediation analysis (see Figure 4).

As illustrated, Social Dominance Orientation was positively associated with Human Supremacy Beliefs ($a = 0.42$, $p < .001$), and Human Supremacy Beliefs, in turn, was positively associated with meat consumption ($b = 0.89$, $p < .001$). The total effect of Social Dominance Orientation on meat consumption was significant ($c = 0.61$, $p < .001$), and the direct effect remained significant when controlling for Human Supremacy Beliefs ($c' = 0.24$, $p < .001$), while the indirect effect was also significant ($ab = 0.37$, $p < .001$, 95% CI [0.26, 0.49]). These results indicate that Human Supremacy Beliefs partially mediates the association between Social Dominance Orientation and meat consumption.

Figure 4

Exploratory Mediation Model linking Social Dominance Orientation to Meat Consumption via



Human Supremacy Beliefs

Note. Displayed are unstandardized regression coefficients. The indirect effect was significant ($ab = 0.37***$). Values were rounded to two decimals. *** $p < .001$. $N = 362$.

Exploratory Network Analysis Including Gender

The primary network analysis was initially estimated without the inclusion of binary gender as a node. This approach is based on the premise that the meat-masculinity link may be driven more by shared ideological belief systems than by binary gender categories. In order to establish a structural baseline of the fundamental ideological architecture underlying meat consumption, the network excluding gender was estimated first.

However, binary gender is incorporated into an additional exploratory network analysis to examine its role and to control for potential spurious correlations. Including binary gender as an additional node makes it possible to assess whether the identified associations are primarily driven by gender differences or if they represent a robust architecture that exists beyond gender categories.

Therefore, the resulting network consisted of 10 nodes as displayed in Figure 5. It comprised 34 non-zero edges out of 45 possible edges, with detailed edge weights reported in Table B2 in Appendix B. The stability of the estimated network was assessed using case-dropping bootstrap procedures. Consistent with the primary network, strength centrality exhibited good stability, with a correlation stability coefficient of $CS = 0.67$, while closeness centrality showed moderate stability ($CS = 0.36$). Once again, betweenness centrality demonstrated no stability ($CS = 0.00$). Notably, the inclusion of gender did not substantially

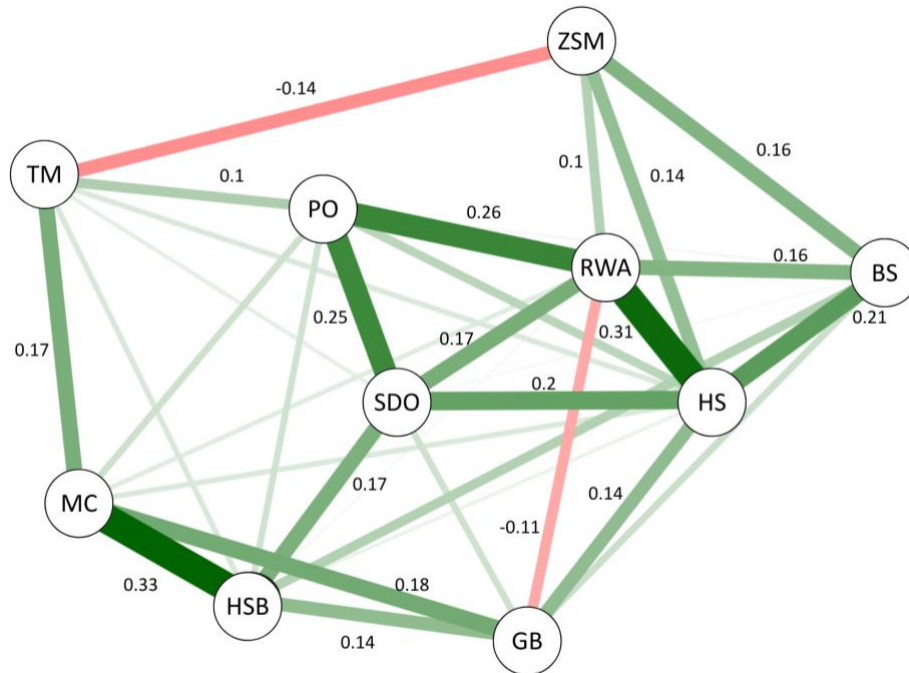
alter the stability of centrality estimates, suggesting that the overall network structure remained robust.

Similarly, the inclusion of gender as an additional node did not substantially alter the overall network structure, indicating that gender differences do not drive the primary connections between constructs. Hostile sexism emerged as the most central node across all three centrality measures (strength, closeness, and betweenness), while Social Dominance Orientation and Right-Wing Authoritarianism consistently ranked second and third. This pattern is largely consistent with the primary network, in which hostile sexism also showed high centrality, particularly in terms of strength, while Social Dominance Orientation exhibited the highest closeness and betweenness values. A complete overview of centrality measures is provided in Appendix B (Table B3).

The central ideological cluster comprising political orientation, Social Dominance Orientation, Right-Wing Authoritarianism and hostile sexism is comparable in both networks. Edges connecting trait masculinity and Zero-Sum Mindset with other nodes in the network were unchanged, while those involving benevolent sexism showed only minimal variation compared to the primary network. The Human Supremacy Beliefs to meat consumption edge was slightly smaller, while gender showed positive connections to both Human Supremacy Beliefs and meat consumption. Notably, the previously small direct edge between Social Dominance Orientation and meat consumption disappeared entirely. However, gender cannot account for this association, as a partial correlation analysis controlling for gender still revealed a significant positive link between Social Dominance Orientation and meat consumption ($r = .24, p < .001$). In summary, gender integrates into the network without disrupting the ideological cluster or its pathways to meat consumption. The relationships between ideological constructs and meat consumption therefore appeared to reflect a broader ideological pattern beyond binary gender.

Figure 5

Exploratory Network Analysis Including Gender



Note. Nodes represent study variables. Abbreviations: MC = meat consumption, TM = trait masculinity, SDO = Social Dominance Orientation, RWA = Right-Wing Authoritarianism, HSB = Human Supremacy Beliefs, HS = hostile sexism, BS = benevolent sexism, PO = political orientation, ZSM = Zero-Sum Mindset, GB = binary gender. Edges represent regularized partial correlations estimated using EBICglasso ($\gamma = 0.5$). Only edges with non-zero weights after regularization are displayed. Edge thickness indicates the strength of associations. Green edges indicate positive associations, red edges indicate negative associations. Numerical edge weights are shown only for edges ≥ 0.10 . Edges represent partial correlations, controlling for every node in the network. Values were rounded to two decimals. $N = 362$.

Exploratory Network Analysis: Male Subsample

A third network analysis including only male participants ($n = 145$) was conducted to gain an additional perspective on the role of masculinity (See Appendix B, Figure B1). The resulting network comprised 28 non-zero edges out of 36 possible edges, with detailed edge weights reported in Table B4 in Appendix B. Compared to the primary full sample network, the overall structure showed some notable differences.

Trait masculinity was no longer directly connected to meat consumption but appeared more strongly integrated in the ideological core, particularly through its connections to benevolent sexism and Social Dominance Orientation. Benevolent sexism showed stronger connections overall, indicating a more cohesive integration within the male only network. Furthermore, the association between political orientation and meat consumption appeared more pronounced, between meat consumption and Human Supremacy Beliefs decreased

slightly. In addition, Zero-Sum Mindset showed a stronger connection to hostile sexism, while being less connected to other variables. Compared to both the primary network and the network including gender, centrality estimates in the men-only network shifted such that political orientation and Social Dominance Orientation emerged as the most central nodes in term of betweenness, while hostile sexism consistently showed the highest strength across all networks and remained highly central across all indices. In contrast, Human Supremacy Beliefs showed consistently lower centrality, indicating a more peripheral role within the men-only network. A complete overview of centrality values is given in the Appendix (Table B5).

Given the reduced sample size, the low to moderate stability of centrality estimates (strength CS = 0.28, closeness CS = 0.28, and betweenness CS = 0.05), as well as the exploratory nature of this analysis, these findings should be interpreted with caution.

Motives for Meat Consumption

While the previous results highlighted the relevance of ideological constructs underlying meat consumption, they do not provide information on how participants consciously justify this behavior. Therefore, six different motives for meat consumption were assessed among meat-eating participants (N = 269) and analyzed exploratory. Descriptive statistics are presented in Table 10. The hedonistic motive showed the highest endorsement (M = 5.04, SD = 0.80), followed by the habitual motive (M = 3.76, SD = 1.25). Functional and normative motives were moderately endorsed, whereas ideological and socially conformist motives showed comparatively low mean levels.

Table 10*Descriptive Statistics of Motives for Meat Consumption*

Motive for meat consumption	Item (translated from German)	Mean	SD	Median
Hedonistic	<i>I eat meat because I like the taste.</i>	5.04	0.80	5
Habitual	<i>I eat meat because I've been used to it since I was a child.</i>	3.76	1.25	4
Functional	<i>I eat meat to build or strengthen my muscles.</i>	2.77	1.51	2
Normative	<i>For me, meat is an essential part of a complete meal.</i>	2.50	1.36	2
Ideological	<i>I eat meat because I reject vegetarian or vegan lifestyles.</i>	1.46	0.83	1
Socially conformist	<i>I eat meat so as not to stand out in a negative way or be a source of conflict.</i>	1.32	0.69	1

Note. Descriptive statistics are based on meat-eating participants only (n=269). Items were rated on a 6-point Likert scale (1= strongly disagree, 6 = strongly agree). Higher values indicate stronger endorsement of the respective motive. Motives were analyzed at the item level due to their conceptual heterogeneity. Motives were assessed among meat-eating participants only (N = 269). Values were rounded to two decimals.

To provide an overview of how motives for meat consumption relate to central study constructs, bivariate correlations were computed (see Table 11). All motives except the socially conformist motive showed significant positive correlations with meat consumption. Notably, normative and ideological motives exhibited the strongest and most consistent associations with ideological constructs, including Social Dominance Orientation, Right-Wing Authoritarianism, Human Supremacy Beliefs, and hostile as well as benevolent sexism. This pattern suggests that particularly these two motives are closely embedded in the broader ideological belief system surrounding meat consumption.

Table 11*Bivariate Correlations between Motives for Meat Consumption and Central Study Constructs*

Motives for meat consumption	Meat Consumption (index)	TM	SDO	RWA	HSB	HS	BS	PO	ZSM
Hedonistic	0.41***	0.07	0.14	0.09	0.29*	0.05	0.07	0.19	-0.07
Habitual	0.31***	0.01	0.15	0.11	0.14	0.14	0.20	0.07	0.10
Functional	0.22*	0.10	0.05	0.14	0.21*	0.15	0.28***	0.13	0.10
Normative	0.66***	0.23*	0.39***	0.36***	0.39***	0.44***	0.37***	0.36***	0.17
Ideological	0.39***	0.11	0.25**	0.3***	0.32***	0.42***	0.26***	0.26***	0.24**
Socially conformist	-0.07	-0.11	0.12	0.06	0.09	0.03	0.16	0.03	0.22*

Note. Pearson correlations (*r*) between motives for meat consumption and central study constructs are reported. TM = trait masculinity, SDO = Social Dominance Orientation, RWA = Right-Wing Authoritarianism, HSB = human supremacy beliefs, HS = hostile sexism, BS = benevolent sexism, PO = political orientation, ZSM = Zero-Sum Mindset. Motives were assessed among meat-eating participants only (*N* = 269). All variables were measured on a 6-point Likert scale, except political orientation (0–10 scale). Values were rounded to two decimals.

* *p* < .05, ** *p* < .01, *** *p* < .001.

Gender differences in the underlying motives for meat consumption were examined using Welch's independent samples *t*-test to provide a more nuanced understanding of the meat-masculinity link (see Table 12). The largest gender difference was observed for the hedonistic motive, with a large effect size indicating higher endorsement among men (*d* = 0.81, *p* < .001). Medium effect sizes were found for ideological (*d* = 0.60, *p* < .001), normative (*d* = 0.55, *p* < .001), and socially conformist motives (*d* = 0.49, *p* = .019), all reflecting higher scores among men. In contrast, no statistically significant gender differences were found for the habitual motive despite a small to medium effect size (*d* = 0.45, *p* = .062), while the functional motive showed no meaningful gender difference at all. These findings highlight that gender differences extend beyond overall meat consumption to the specific motives underlying this behavior.

Table 12*Gender Differences in Motives for Meat Consumption (Welch's t-tests)*

Motives for meat consumption	M (f)	SD (f)	M (m)	SD (m)	t	df	p	d
Hedonistic	4.86	0.85	5.24	0.69	-6.02	220.7	<.001***	0.81
Habitual	3.51	1.30	4.07	1.12	-1.87	256.4	.062	0.45
Functional	2.61	1.47	2.96	1.54	-0.33	262.4	.738	0.33
Normative	2.06	1.07	3.02	1.48	-4.03	266.2	<.001***	0.55
Ideological	1.34	0.70	1.59	0.95	-3.75	265.9	<.001***	0.60
Socially conformist	1.31	0.70	1.34	0.69	-2.35	222.3	.019*	0.49

Note. Means (M) and standard deviations (SD) are reported separately for women (f) and men (m). Group differences were tested using Welch's independent samples t-tests. Cohen's d represents effect sizes. Motives were assessed among meat-eating participants only (N = 269, f = 145, m = 124). All items were rated on a 6-point Likert scale (1= strongly disagree, 6 = strongly agree). Values were rounded to two decimals.

* p < .05, ** p < .01, *** p < .001.

In summary, the exploratory analysis of meat consumption motives among meat-eaters revealed distinct patterns of endorsement and systematic associations with the study's central constructs. Hedonistic motives were most strongly endorsed overall and showed the largest gender difference, while normative and ideological motives demonstrated the most consistent positive correlations with ideological variables. These findings suggest that the latter may play particularly important roles within the broader network of beliefs examined in this study.

Discussion

Meat consumption represents more than an individual dietary choice, as it relates to broader belief systems of dominance and social hierarchy. Against the backdrop of its environmental, ethical, and health-related consequences, understanding the psychological mechanisms underlying meat consumption - and particularly why men consistently consume more meat than women - carries considerable societal relevance. A substantial body of research has documented the so-called meat-masculinity link, showing that adherence to traditional masculine norms predicts higher meat consumption and more favorable attitudes toward meat (e.g. Rothgerber, 2012; Rosenfeld & Tomiyama, 2021; Stanley et al., 2023). Within this framework, meat consumption has been interpreted as a symbolic practice through

which masculine identity is expressed and reinforced. Building on this literature, this study examined how the meat-masculinity link can be understood as part of a broader system of interrelated ideological beliefs. Specifically, it investigated (a) whether gender differences in meat consumption are explained by trait masculinity and (b) which constructs prove structurally central within a network linking meat consumption to dominance-oriented ideologies and sexism.

Firstly, the confirmatory mediation (H1) did not support trait masculinity measured by the Bem Sex Role Inventory (BSRI-R; Bem, 1974, Troche & Rammsayer, 2011) as a variable linking binary gender to meat consumption. While trait masculinity exhibited a positive association with meat consumption and thus functioned as a relevant predictor, it failed to mediate the existing gender difference in consumption behaviour, since female and male participants in the present sample did not differ significantly in their self-ascribed 'masculine' traits. In contrast, exploratory mediation analyses pointed to ideological pathways, with Human Supremacy Beliefs, Social Dominance Orientation, and hostile as well as benevolent sexism each partially mediating the relationship of gender and meat consumption. This pattern of results suggests that differences in meat consumption between genders are primarily driven by differing ideological belief systems rather than by differences in classical, perhaps outdated, masculine personality traits. A plausible theoretical interpretation of this finding relates to the nature of the measurement instruments. While the BSRI-R tends to capture relatively neutral personality attributes (e.g., "logical", "decisive"), norm-oriented or ideological measures of masculinity, such as the Conformity to Masculine Norms Inventory (CMNI; Mahalik et al., 2003) may better reflect the dominance-related or ideologically oriented aspects of masculinity that are behaviorally relevant to gendered meat consumption in this specific context. Sample items of the CMNI include "In general, I control the women in my life", "In general, I must get my way" and "Sometimes, taking violent action is necessary" (Mahalik et al., 2003).

Secondly, the network analyses offered a more differentiated view of how the measured ideological constructs are organized. The primary network analysis revealed a tightly connected ideological core encompassing Social Dominance Orientation, Right Wing Authoritarianism, hostile sexism, and political orientation, which was also present in the two

exploratory networks. Noticeably, Human Supremacy Beliefs showed the most proximal link to meat consumption, indicating that beliefs about human superiority over animals may serve as a direct psychological pathway to meat consumption. This interpretation is reinforced by the finding that Human Supremacy Beliefs partially mediated the relationship between Social Dominance Orientation and meat consumption, in line with findings by Dhont and Hodson (2014). In this sense, Social Dominance Orientation appears to provide a general ideological framework that is translated into domain-specific beliefs, such as Human Supremacy Beliefs, which in turn directly inform behavior such as meat consumption.

However, it is important to consider that these relationships could also be interpreted in the reverse direction. It is plausible that individuals consume meat primarily because they have been socialized into this habit from an early age and enjoy the taste. This is supported by the exploratory analysis of motives for meat consumption in this study, where hedonistic and habitual motives received the highest levels of endorsement. To justify this behaviour, despite ethical and environmental concerns, individuals might adopt the mindset that humans are inherently superior to animals (Human Supremacy Beliefs), thereby making their consumption feel acceptable. This interpretation may be more plausible, as it is supported by research on motivated reasoning, which demonstrates that the act of meat consumption can lead individuals to attribute fewer mental capacities and lower moral status to animals to reduce cognitive dissonance (Rothgerber, 2020). Endorsing such interspecies hierarchies may, in turn, foster a more generalized Social Dominance Orientation and a tendency to think in terms of hierarchies in other social domains, such as gender. In this way, Human Supremacy Beliefs and sexism may function in a mutually reinforcing cycle, where each serves to justify the other within a broader system of domination.

Regardless of whether these ideologies function as primary drivers or post-hoc justifications for behaviour, their structural organization within the network reveals a high degree of psychological coherence. These findings provide strong empirical support for the Linked Oppressions Thesis (Adams, 2024; Wyckoff, 2014), which posits that the exploitation of animals, women, and other marginalized groups is grounded in shared ideological structures that legitimize hierarchy and domination. Importantly, the present results extend this

perspective by demonstrating how these ideologies are structurally interconnected within a psychological network.

Furthermore, the structural organization of the ideological core, specifically the proximity of benevolent sexism to Right-Wing Authoritarianism and the strong association between hostile sexism, Social Dominance Orientation, and Right-Wing Authoritarianism, broadly aligns with the Dual-Process Model of ideology (Duckitt & Sibley, 2006; Sibley et al., 2007). Within this framework, benevolent sexism is theorized to stem from a threat-driven motivation for social cohesion and the maintenance of traditional order, which is indexed by Right-Wing Authoritarianism. Meanwhile, hostile sexism is linked to a competitively driven motivation for intergroup dominance, which is indexed by Social Dominance Orientation. Consistent with the Dual-Process Model, the present results showed that benevolent sexism was uniquely proximal to Right-Wing Authoritarianism across all networks, with no direct edges to Social Dominance Orientation, reinforcing its role as an order-maintaining belief system. However, the finding that hostile sexism exhibited an even stronger connection to Right-Wing Authoritarianism (edge weight = .30) than to Social Dominance Orientation (edge weight = .21) in the primary network suggests that hostile sexism may be more multifaceted in this context than the model originally predicted. Rather than being a purely dominance-based expression, the robust link between hostile sexism and both Right-Wing Authoritarianism and Social Dominance Orientation across all three networks indicates that hostile sexism functions as a central hub within the network. This is further reinforced by the fact that hostile sexism displayed the highest node strength across all three networks. Because strength centrality reflects the sum of all direct connections, this result indicates that hostile sexism is the most strongly embedded construct within the network.

Conceptually, this suggests that hostile sexism functions as a central “motor” of the ideological system, linking and reinforcing multiple forms of dominance-related beliefs. One possible interpretation is that hostile sexism acts as a transmission mechanism, through which hierarchical thinking is normalized across various domains. In line with conceptualizations of misogyny as an enforcement mechanism of gender hierarchy, hostile sexism may facilitate the active devaluation of traits associated with femininity, such as empathy or care. Within the

context of meat consumption, this implies that plant-based diets, which are often associated with compassion and thus feminized, may be actively devalued, thereby reinforcing meat consumption as a symbol of male dominance and ultimately serving as an enforcement mechanism for patriarchy (Kaul & Buchanan, 2023). This interpretation is further supported by recent findings that individuals high in hostile sexism actively distance themselves from plant-based meat alternatives because they perceive them as lacking symbolic masculine value (Salmen et al., 2025).

Ultimately, these findings suggest that in the psychological system underlying meat consumption, hostile sexism does not only reflect competitive dominance but is also deeply anchored in the preservation of traditional social structures and the defense of the status quo. In this sense, hostile sexism may act as a gatekeeper that links gender ideologies to broader systems of hierarchy and contributes to stabilizing the psychological association between masculinity and meat consumption.

Complementing the functional role of hostile sexism as a central “motor” of the network, closeness centrality highlights the role of Social Dominance Orientation as the systems structural backbone or organizational center. While strength centrality focuses on direct connections, closeness reflects how efficiently a node is integrated into the entire system. In the present results, Social Dominance Orientation consistently exhibited high closeness values across all three network specifications. Conceptually, this indicates that Social Dominance Orientation functions as a global anchor for the ideological belief system associated with meat consumption. Because of its high proximity to the other nodes, any shift in generalized attitudes toward hierarchy and group dominance is likely to propagate efficiently throughout the entire network. This means that attempts at changing attitudes towards animals and weakening sexist prejudices simultaneously should take into consideration the role of Social Dominance Orientation. The moderate stability of closeness centrality lends reasonable support to this finding, although it warrants greater caution than strength centrality. Closeness centrality does not offer insight into causal relationships but highlights possible connections that could be explored further.

Additional, though more tentative, insights into the bridging functions within the network are provided by betweenness centrality. In the primary network, Social Dominance Orientation, and, to a lesser extent Human Supremacy Beliefs showed the highest betweenness values. This suggests that these constructs may serve as critical bridges that link more peripheral constructs such as meat consumption to the broader ideological system. Notably, in the gender-inclusive network, hostile sexism emerged with the highest betweenness, further reinforcing its role as the primary connector between the investigated constructs. However, as betweenness centrality demonstrated a complete lack of stability, these specific bridging results must be interpreted with significant caution and should be viewed as exploratory hypotheses rather than definitive structural properties.

Taken together, the centrality indices suggest a highly connected system where hostile sexism provides the immediate drive (strength), while Social Dominance Orientation provides global structural integration (closeness) that keeps the meat-masculinity link anchored within a wider framework of social hierarchy.

Within this framework, political orientation serves as a visible manifestation of the ideological core, being deeply embedded in the network cluster alongside Right-Wing Authoritarianism, Social Dominance Orientation, and hostile sexism. This central positioning aligns with research indicating that right-leaning individuals are more attached to meat consumption as a means of upholding traditional norms and resisting the perceived threat of non-exploitative ideologies (Dhont and Hodson, 2014). Notably, in the male-only subsample, political orientations' structural importance increased significantly, reaching the highest betweenness centrality and thus acting as a primary bridge that translates broad political worldviews into ideological beliefs and concrete behaviour such as meat consumption. These findings may suggest that for men, meat-eating functions as a politically charged performance that reinforces their alignment with a hierarchy-maintaining social order. However, as previously noted, this interpretation also remains highly preliminary due to the documented instability of the betweenness centrality.

In contrast to the highly integrated ideological core, Zero-Sum Mindset occupied a markedly peripheral position within the network. This marginal role is consistently evidenced

across multiple indices, as Zero-Sum Mindset exhibited the lowest strength centrality and one of the lowest closeness values across all network specifications. These results indicate that Zero-Sum Mindset is only weakly embedded within the investigated belief system and possesses minimal direct influence on the other constructs. This provides a nuanced perspective on the theoretical assumption that a generalized zero-sum orientation would actively bolster dominance-related ideologies and thereby reinforce the psychological link between masculinity and meat consumption.

While Fearon and Götz (2024) do not explicitly address dietary habits, they argue that Zero-Sum Mindset serves as a foundational mental model that predicts a preference for dominance over egalitarianism. In line with their findings, the present data showed significant bivariate correlations between Zero-Sum Mindset and hostile sexism, benevolent sexism, Social Dominance Orientation, Right-Wing Authoritarianism, and political orientation. However, these links did not translate into a central structural role within the primary network. Zero-Sum Mindset retained unique edges with hostile and benevolent sexism and Right-Wing Authoritarianism, but not with Social Dominance Orientation or political orientation.

Crucially, Zero-Sum Mindset was the only construct in the model that displayed virtually no association with meat consumption. Furthermore, the observed negative edge between Zero-Sum Mindset and trait masculinity suggests that individuals endorsing agentic ‘masculine’ traits such as leadership and confidence may feel secure enough in their abilities to pursue goals without viewing social interactions as zero-sum games. Unlike more defensive ideologies such as Social Dominance Orientation or hostile sexism, trait masculinity appears to separate from threat-based thinking. Consequently, while Zero-Sum Mindset may facilitate a general competitive worldview, it appears to lack the domain-specific motivational relevance required to actively sustain the ideological and behavioral structures that link masculinity with the consumption of animals.

Taken together, the findings thus far indicate that meat consumption is mainly tied to dominance-oriented ideologies like Human Supremacy Beliefs, Social Dominance Orientation, and hostile sexism, while more distant cognitive patterns like Zero-Sum Mindset play only a minor role. To complement these abstract ideological belief systems and gain a fuller picture

of meat consumption, participants were also directly asked about their personal motives for eating meat.

Descriptively the taste motive received the strongest endorsement, followed by habitual meat consumption rooted in childhood socialization. However, the normative (meat as essential to meals) and ideological motives (rejection of vegetarianism / veganism) were as strongly, and in the case of the normative motive even more strongly, correlated with the actual meat consumption index and with central ideological constructs such as Social Dominance Orientation and Human Supremacy Beliefs. This divergence suggests that people may narrate their eating in personally neutral terms while behaviour is more tightly coupled to normative and ideological meaning structures. Regarding gender differences, the results indicated that they stem from socially and ideologically charged motives rather than mere preference or habit. Notably, the functional motive related to muscle strength showed no meaningful gender difference. Together, this pattern suggests that gender gaps in consumption are better explained by motives aligned with traditional norms and hierarchy-affirming beliefs than by functional considerations.

Ultimately, these findings are consistent with the central takeaway from this thesis, reinforcing the conclusion that gender-specific patterns in meat consumption are not merely a result of personal taste or functional requirement but are deeply anchored in a coherent ideological system of dominance and interrelated forms of oppression.

General Limitations and Directions for Future Research

The present study is subject to several methodological limitations that should be considered when interpreting its findings. As the data is cross-sectional, no causal inferences can be drawn regarding the directions of the observed associations. While network analysis offers insights into the structural interplay of psychological constructs, it does not establish temporal or causal order (Epskamp et al., 2016). Moreover, all variables are assessed through self-report, which introduces the risk of social desirability bias, especially on ideologically sensitive topics such as sexism or political orientation (Paulhus & Vazire, 2007). Although validated scales are used when available, meat consumption and its motives are measured

with self-developed items, which may limit reliability. Moreover, the relatively low internal consistency of the Social Dominance Orientation scale suggest that this construct may not have been captured with sufficient precision.

Additionally, the use of non-probabilistic snowball sampling affects the representativeness of the sample. Although age diversity was reasonable, participants were relatively highly educated and tended toward liberal attitudes and left-leaning political orientation. This limits the generalizability of the results beyond the study population. Finally, network estimation involves several analytical decisions which influence the resulting network structure. Although methodological best practices are followed and model stability will be assessed through bootstrapping procedures, following recommendations by Epskamp and colleagues (2016), the findings should be interpreted with caution. It is important to acknowledge that psychological network analysis remains a relatively recent methodological approach, particularly in the context of ideological constructs. As such, the application of this technique in the present study contributes to a novel and emerging field. However, given the limited number of prior studies using network analysis in this domain, results should be viewed as exploratory. Finally, the analysis of motives for meat consumption was exploratory in nature. The items were self-developed, intentionally heterogeneous, and administered only to a subsample, which limits their comparability and generalizability. Therefore, these findings should be interpreted as preliminary indications pointing toward the ideological embedding of meat consumption rather than as definitive conclusions.

Based on these limitations, several avenues for future research emerge. Firstly, longitudinal designs should be employed to clarify the directionality of the observed relationships. Secondly, the measurement of meat consumption relied on self-reported data, which is susceptible to biases such as social desirability and recall inaccuracies. More direct assessment methods, such as dietary diaries or real-time tracking through food logging or photo application, could provide more accurate and ecologically valid data on meat consumption. Additionally, the exploratory mediation findings identified in the present study should be subjected to hypothesis-driven testing in future research to establish their validity.

Conclusion

The present study demonstrates that the meat-masculinity link is embedded in an ideological system organized around hierarchy and domination beliefs. Across network models, hostile sexism emerged as the most strongly connected construct and functioned as a central motor of the system, linking multiple dominance-oriented beliefs. Meanwhile, Human Supremacy Beliefs showed the most proximal connection to meat consumption and partially mediated the link between Social Dominance Orientation and meat consumption, indicating that beliefs about human superiority serve as a direct psychological pathway that legitimizes meat consumption within a broader hierarchy-maintaining worldview.

While participants most strongly endorsed hedonistic and habitual motives, actual meat consumption was more tightly coupled with normative and ideological reasoning, suggesting that behavior aligns more with dominance-based norms than with neutral preferences. Taken together, these results provide strong empirical support for the Linked Oppressions Thesis, indicating that the exploitation of animals and the devaluation of women are anchored in shared ideological structures that legitimize hierarchy and domination. Applied to practice, interventions aiming to reduce meat consumption may be more effective if they address its ideological structure. Specifically, by deconstructing Human Supremacy Beliefs as the proximal justification and attenuating Social Dominance Orientation as the broader hierarchy-maintaining frame, meat intake could potentially be reduced while also dampening dominance-orientated cognition across other domains, including sexist attitudes and behaviors. However, this implication should be taken with a grain of salt due to the limitations outlined above.

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Appendix A

Complete Questionnaire (German Language)

Demographic Variables

Gender

Mit welchem Geschlecht identifizieren Sie sich?

- ☐ Weiblich
- ☐ Männlich
- ☐ Nicht-binär
- ☐ Anderes - bitte angeben:

Age

Bitte geben Sie Ihr Alter in Jahren an.

(Drop-Down Optionen 18 Jahre - 100 Jahre)

Income

Wie hoch ist Ihr ungefähres monatliches Nettoeinkommen? (In Deutschland / Österreich in Euro, in der Schweiz in Schweizer Franken.)

Antwortoptionen:

- ☐ Unter 1.000 € / CHF
- ☐ 1.000 – 1.999 € / CHF
- ☐ 2.000 – 2.999 € / CHF
- ☐ 3.000 – 3.999 € / CHF
- ☐ 4.000 – 4.999 € / CHF
- ☐ 5.000 € / CHF oder mehr
- ☐ Möchte ich nicht angeben

Country of residence

In welchem Land befindet sich Ihr aktueller Hauptwohnsitz?

- ☐ Österreich
- ☐ Deutschland
- ☐ Schweiz
- ☐ Anderes – bitte angeben:

Type of residential area

Wie würden Sie Ihre Wohnumgebung am ehesten beschreiben?

- ☐ Ländlicher Raum / Dorf
- ☐ Kleinstadt
- ☐ Vorstadt / Stadtrand
- ☐ Großstadt

Level of education

Welchen höchsten Bildungsabschluss haben Sie erreicht?

- ☐ Kein Schulabschluss
- ☐ Pflichtschule (z.B. Volks- / Grundschule, Hauptschule)
- ☐ Matura / Abitur / Berufslehre
- ☐ Fachschule / Lehre / Ausbildung mit Abschluss
- ☐ Hochschulabschluss (Bachelor oder gleichwertig)
- ☐ Höherer Studienabschluss (Master, Diplom, PhD)

Political Orientation

In der Politik spricht man manchmal von "links" und "rechts". Wo auf der folgenden Skala würden Sie sich selbst einstufen, wenn 0 für links steht und 10 für rechts?

0 (links) - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 (rechts)

Meat Consumption

(1) Essen Sie Fleisch (z. B. Rind, Schwein, Geflügel oder verarbeitetes Fleisch wie Wurst)?

- ☐ Ja
- ☐ Nein, ich ernähre mich vegetarisch.
- ☐ Nein, ich ernähre mich vegan.

(Falls Option 2 oder 3 gewählt wird, werden die nächsten Fragen übersprungen.)

Sie haben angegeben, dass Sie Fleisch essen. Bitte beantworten Sie die folgenden Aussagen. Wie sehr treffen die folgenden Aussagen auf Sie zu?

(2) „Ich esse regelmäßig Fleisch.“

(3) „Ich esse Fleisch an den meisten Tagen der Woche.“

(4) "Fleisch oder Fleischprodukte (z. B. Wurst) sind ein fester Bestandteil meiner täglichen Mahlzeiten."

(5) „Ich versuche aktiv, meinen Fleischkonsum zu reduzieren.“ (R).

Antwortskala:

1 = Trifft überhaupt nicht zu – 6 = Trifft vollkommen zu

Motives for Meat Consumption

- (1) „Ich esse Fleisch, weil es mir schmeckt.“ (*hedonistisch*)
- (2) „Für mich gehört Fleisch zu einer vollständigen Mahlzeit dazu.“ (*kulturell/normativ*)
- (3) „Ich esse Fleisch, um Muskeln aufzubauen oder zu stärken.“ (*funktional/körperlich*)
- (4) „Ich esse Fleisch, weil ich es von klein auf so gewohnt bin.“ (*traditionell/sozialisiert*)
- (5) „Ich esse Fleisch, um nicht negativ aufzufallen oder anzuecken.“ (*sozial-konformistisch*)
- (6) „Ich esse Fleisch, weil ich vegetarische oder vegane Lebensweisen ablehne.“ (*ideologisch/abwehrend*)

Antwortskala (1–6):

1 = Trifft überhaupt nicht zu

2 = Trifft nicht zu

3 = Trifft eher nicht zu

4 = Trifft eher zu

5 = Trifft zu

6 = Trifft vollkommen zu

Social Dominance Orientation

- (1) Jede Gesellschaft braucht Gruppen, die oben sind und andere, die unten sind.
- (2) Der Versuch, alle sozialen Gruppen gleich zu machen, ist ungerecht.
- (3) Gleiche Chancen für alle sozialen Gruppen muss oberstes Ziel sein. (R)

Antwortskala (1–6):

1 = Trifft überhaupt nicht zu

2 = Trifft nicht zu

3 = Trifft eher nicht zu

4 = Trifft eher zu

5 = Trifft zu

6 = Trifft vollkommen zu

Right-Wing Authoritarianism

- (1) Wir sollten dankbar sein für führende Köpfe, die uns genau sagen können, was wir tun sollen und wie.
- (2) Die Zeiten, in denen strikte Disziplin und Gehorsam zu den wichtigsten Tugenden gehören, sollten vorbei sein. (R)
- (3) Unsere Gesellschaft muss einmal wirklich hart gegen Kriminelle durchgreifen.
- (4) Es ist wichtig, auch die Rechte von Verbrechern zu schützen. (R)
- (5) Es würde dem Land besser gehen, wenn die jungen Leute sich mehr auf Werte und Traditionen besinnen würden.
- (6) Unser Land braucht Menschen, die sich Traditionen widersetzen und neue Ideen ausprobieren. (R)

Antwortskala (1–6):

1 = Trifft überhaupt nicht zu; 6 = Trifft vollkommen zu

Zero-Sum Mindset

- (1) Der Erfolg einer Person bedeutet normalerweise das Scheitern einer anderen Person.
(*"The success of one person is usually the failure of another person."*)
- (2) Das Leben ist so, dass wenn eine Person gewinnt, jemand anderes verlieren muss.
(*"Life is such that when one person gains, someone else has to lose."*)
- (3) Wenn jemand viel für andere tut, verliert er oder sie.
(*"When someone does much for others, they lose."*)
- (4) In den meisten Situationen sind die Interessen verschiedener Menschen unvereinbar.
(*"In most situations, different people's interests are incompatible."*)
- (5) Wenn eine Person gewinnt, bedeutet das nicht, dass jemand anderes verliert. (R)
(*"When one person is winning, it does not mean that someone else is losing."*)
- (6) Das Leben ist wie ein Tennisspiel – Eine Person gewinnt nur, wenn eine andere Person verliert.
(*"Life is like a tennis game—A person wins only when another person loses."*)
- (7) Der Erfolg einer Person ist nicht das Scheitern einer anderen Person. (R)
(*"One person's success is not another person's failure."*)

Antwortskala (1–6):

1 = Trifft überhaupt nicht zu; 6 = Trifft vollkommen zu

Trait Masculinity

Wie sehen Sie sich selbst? Bitte geben Sie auf der Skala von 1 („nie“ oder „fast nie“) bis 6 („immer“ oder „fast immer“) an, inwieweit die Eigenschaften jeweils auf Sie persönlich zutreffen.

- | | |
|-------------------------------------|-----------------------------------|
| 1) Besitzt Führungseigenschaften | 2) Tritt bestimmt auf |
| 3) Respekteinflößend | 4) Verteidigt die eigene Meinung |
| 5) Hartnäckig | 6) Ist bereit, etwas zu riskieren |
| 7) Kraftvoll | 8) Furchtlos |
| 9) Zeigt geschäftsmäßiges Verhalten | 10) Logisch |
| 11) Selbstsicher | 12) Entscheidungsfreudig |
| 13) Mächtig | 14) Dominant |
| 15) Erfolgsorientiert | |

Antwortskala (1-6): Nie (1) – 2 – 3 – 4 – 5 – Immer (6)

Human Supremacy Beliefs

- (1) Menschen haben das Recht, Tiere nach Belieben zu nutzen.
("Humans have the right to use animals as they see fit.")
- (2) Den Menschen wurde von Gott das Recht gegeben, über Tiere zu herrschen.
("Humans were given the right by God to rule over animals.")
- (3) Das Leben eines Tieres ist einfach nicht gleichwertig mit dem Leben eines Menschen.
("The life of an animal is just not of equal value as the life of a human being.")
- (4) Es ist lächerlich zu glauben, dass Tiere die gleichen Rechte haben wie Menschen.
("It is foolish to think that animals have the same rights as humans.")
- (5) Tiere sind hauptsächlich dazu da, vom Menschen genutzt zu werden.
("Animals are on Earth primarily to be used by humans.")
- (6) Die Tierhaltung ist für den Menschen von Vorteil.
("Animal agriculture is beneficial to humans.")

Antwortskala (1–6):

1 = Trifft überhaupt nicht zu

2 = Trifft nicht zu

3 = Trifft eher nicht zu

4 = Trifft eher zu

5 = Trifft zu

6 = Trifft vollkommen zu

Ambivalent Sexism

- (1) Egal wie erfolgreich ein Mann auch sein mag, ohne eine Frau, die ihn liebt, fehlt ihm etwas ganz Wichtiges. (B)
- (2) Viele Frauen versuchen unter dem Deckmantel der Gleichberechtigung, besondere Vergünstigungen zu erlangen, wie z. B. eine Bevorzugung bei der Besetzung von Arbeitsstellen. (H)
- (3) Bei einer Katastrophe sollten Frauen vor Männern gerettet werden. (B)
- (4) Die meisten Frauen interpretieren harmlose Äußerungen oder Handlungen als frauenfeindlich. (H)
- (5) Frauen sind zu schnell beleidigt. (H)
- (6) Man kann im Leben erst richtig glücklich sein, wenn man einen Partner hat, den man liebt. (B)
- (7) Was Feministinnen wirklich wollen, ist, dass Frauen mehr Macht bekommen als Männer. (H)
- (8) Viele Frauen haben eine Art von Ehrlichkeit, die nur wenige Männer besitzen. (B)
- (9) Frauen sollten von Männern umsorgt und geschützt werden. (B)
- (10) Die meisten Frauen sehen gar nicht, was Männer alles für sie tun. (H)

- (11) Frauen versuchen, Macht zu erlangen, indem sie Männer immer mehr beherrschen. (H)
- (12) Jeder Mann sollte eine Frau haben, die er wirklich liebt. (B)
- (13) Männer sind ohne Frauen unvollkommen. (B)
- (14) Frauen übertreiben Probleme, die sie am Arbeitsplatz haben. (H)
- (15) Hat eine Frau erst mal einen Mann „rumgekiegt“, dann versucht sie, ihn an die kurze Leine zu legen. (H)
- (16) Wenn Frauen in einem fairen Wettbewerb gegenüber Männern den Kürzeren ziehen, behaupten sie gerne, sie seien diskriminiert worden. (H)
- (17) Eine Frau sollte von ihrem Mann auf Händen getragen werden. (B)
- (18) Viele Frauen haben Spaß daran, mit Männern zu „spielen“, indem sie sich zuerst verführerisch geben, dann aber die Annäherungsversuche der Männer zurückweisen. (H)
- (19) Verglichen mit Männern haben Frauen ein besseres moralisches Empfinden. (B)
- (20) Ein Mann sollte bereit sein, sein eigenes Wohl zu opfern, um für seine Frau sorgen zu können. (B)
- (21) Feministinnen stellen an Männer vollkommen berechtigte Forderungen. (H) / (R)
- (22) Verglichen mit Männern haben Frauen einen feineren Sinn für Kultur und einen besseren Geschmack. (B)

Antwortskala (1–6):

1 = *Trifft überhaupt nicht zu*

2 = *Trifft nicht zu*

3 = *Trifft eher nicht zu*

4 = *Trifft eher zu*

5 = *Trifft zu*

6 = *Trifft vollkommen zu*

Attention Check Items

- (1) Diese Aussage ist ein Aufmerksamkeitstest. Bitte wählen Sie hier die Antwort „Stimme zu“.

Antwortskala: 1 – *Stimme überhaupt nicht zu* – 6 – *Stimme vollkommen zu*

- (2) Um sicherzustellen, dass Sie aufmerksam antworten, kreuzen Sie bitte bei dieser Frage „trifft überhaupt nicht zu“ an.

Antwortskala: 1 – *Trifft überhaupt nicht zu* – 6 – *Trifft vollkommen zu*

Appendix B

Additional Tables

Table B1

Centrality Indices for the Primary Network

Panel A: Strength (z)		Panel B: Closeness (z)		Panel C: Betweenness (z)	
HS	1.76	SDO	1.34	SDO	1.89
RWA	1.07	HS	1.21	HSB	1.18
SDO	0.38	RWA	0.45	RWA	0.47
PO	0.17	BS	0.29	HS	-0.24
HSB	0.08	PO	0.22	PO	-0.24
MC	-0.39	HSB	0.05	ZSM	-0.24
BS	-0.57	MC	-0.89	MC	-0.94
TM	-1.19	ZSM	-1.28	BS	-0.94
ZSM	-1.30	TM	-1.40	TM	-0.94

Note. Values represent z-standardized centrality indices and are rounded to two decimals. Variables are ordered by centrality within each panel. Abbreviations: MC = meat consumption, TM = trait masculinity, SDO = Social Dominance Orientation, RWA = Right-Wing Authoritarianism, HSB = Human Supremacy Beliefs, HS = hostile sexism, BS = benevolent sexism, PO = political orientation, ZSM = Zero-Sum Mindset. N = 362.

Table B2*Regularized Edge Weights of the Exploratory Network including Gender*

Variable	1	2	3	4	5	6	7	8	9
1. Gender binary									
2. Benevolent sexism	0.07								
3. Hostile sexism	0.14	0.21							
4. Human Supremacy Beliefs	0.14	0.1	0.02						
5. Zero-Sum Mindset	0	0.16	0.14	0					
6. Right-Wing Authoritarianism	-0.11	0.16	0.31	0.01	0.10				
7. Social Dominance Orientation	0.06	0.01	0.2	0.17	0	0.17			
8. Political orientation	0	0	0.09	0.06	0	0.26	0.25		
9. Trait masculinity	0	0.01	0.05	0.05	-0.14	0	0.03	0.10	
10. Meat consumption	0.18	0	0.05	0.33	0	0.04	0	0.06	0.17

Note. Values represent regularized partial correlations (edge weights) estimated using EBICglasso ($\gamma = 0.5$). Edges reflect associations between variables after controlling for all other variables in the network. Due to LASSO regularization, small and potentially spurious associations are set to zero (displayed in gray). Consequently, edge weights are typically smaller than zero-order correlations and should be interpreted comparatively rather than using conventional effect size benchmarks. Accuracy and stability of the estimated network were assessed via bootstrapping procedures. Values were rounded to two decimals. Only the lower triangle of the matrix is displayed for clarity. N = 362.

Table B3*Centrality Indices for the Exploratory Network including Gender*

Panel A: Strength (z)		Panel B: Closeness (z)		Panel C: Betweenness (z)	
HS	1.69	HS	1.75	HS	1.62
RWA	1.48	SDO	0.97	SDO	0.92
SDO	0.28	RWA	0.87	RWA	0.92
HSB	0.22	HSB	0.19	MC	0.21
MC	-0.01	PO	0.05	HSB	0.21
PO	-0.06	BS	-0.05	TM	-0.49
BS	-0.50	MC	-0.48	PO	-0.49
GB	-0.57	GB	-0.64	ZSM	-0.49
TM	-1.23	TM	-1.22	GB	-0.49
ZSM	-1.31	ZSM	-1.44	BS	-1.90

Note. Values represent z-standardized centrality indices and are rounded to two decimals. Variables are ordered by centrality within each panel. Abbreviations: MC = meat consumption, TM = trait masculinity, SDO = Social Dominance Orientation, RWA = Right-Wing Authoritarianism, HSB = Human Supremacy Beliefs, HS = hostile sexism, BS = benevolent sexism, PO = political orientation, ZSM = Zero-Sum Mindset. GB = Gender binary. N = 362.

Table B4*Regularized Edge Weights of the Exploratory Men-only Network*

Variable	1	2	3	4	5	6	7	8
1. Human Supremacy Beliefs								
2. Benevolent sexism	0							
3. Hostile sexism	0.08	0.14						
4. Zero-Sum Mindset	0	0.06	0.2					
5. Right-Wing Authoritarianism	0.06	0.15	0.28	0.07				
6. Social Dominance Orientation	0.12	0.01	0.25	0	0.15			
7. Political orientation	0.10	0.04	0.09	0	0.28	0.18		
8. Trait masculinity	0	0.23	0.02	-0.09	0	0.19	0.08	
9. Meat consumption	0.28	0	0.04	0.04	0.04	0	0.19	0.02

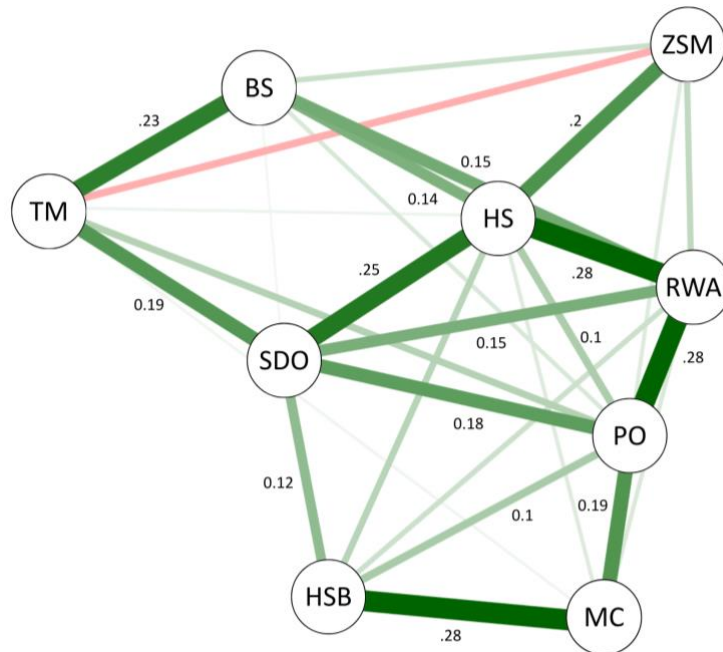
Note. Values represent regularized partial correlations (edge weights) estimated using EBICglasso ($\gamma = 0.5$). Edges reflect associations between variables after controlling for all other variables in the network. Due to LASSO regularization, small and potentially spurious associations are set to zero (displayed in gray). Consequently, edge weights are typically smaller than zero-order correlations and should be interpreted comparatively rather than using conventional effect size benchmarks. Accuracy and stability of the estimated network were assessed via bootstrapping procedures. Values were rounded to two decimals. Only the lower triangle of the matrix is displayed for clarity. N = 145 (men only).

Table B5*Centrality Indices of the Exploratory Men-only Network*

Panel A: Strength (z)		Panel B: Closeness (z)		Panel C: Betweenness (z)	
HS	1.41	SDO	1.19	PO	1.18
RWA	1.15	HS	1.06	SDO	1.18
PO	0.85	RWA	1.05	RWA	0.85
SDO	0.55	PO	0.82	MC	0.85
BS	-0.58	TM	-0.49	HS	-0.48
HSB	-0.61	BS	-0.56	TM	-0.48
TM	-0.62	MC	-0.88	BS	-0.81
MC	-0.73	ZSM	-1.08	ZSM	-1.15
ZSM	-1.43	HSB	-1.09	HSB	-1.15

Note. Values represent z-standardized centrality indices and are rounded to two decimals. Variables are ordered by centrality within each panel. Abbreviations: MC = meat consumption, TM = trait masculinity, SDO = Social Dominance Orientation, RWA = Right-Wing Authoritarianism, HSB = Human Supremacy Beliefs, HS = hostile sexism, BS = benevolent sexism, PO = political orientation, ZSM = Zero-Sum Mindset. N = 145 (men only).

Figure B1
Exploratory Network Analysis within the Male Subsample



Note. Nodes represent study variables. Abbreviations: MC = meat consumption, TM = trait masculinity, SDO = Social Dominance Orientation, RWA = Right-Wing Authoritarianism, HSB = Human Supremacy Beliefs, HS = hostile sexism, BS = benevolent sexism, PO = political orientation, ZSM = Zero-Sum Mindset. Edges represent regularized partial correlations estimated using EBICglasso ($\gamma = 0.5$). Only edges with non-zero weights after regularization are displayed. Edge thickness indicates the strength of associations. Green edges indicate positive associations, red edges indicate negative associations. Numerical edge weights are shown only for edges ≥ 0.10 . Edges represent partial correlations, controlling for every node in the network. Values were rounded to two decimals. N = 145 (men only).

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