

# Exploration of Motivational Differences in German and Icelandic Equestrians

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## Abstract

Little is known about how institutionalized structures in Germany and agrarian traditions in Iceland influence riders' motivational profiles and shape participation norms. In this study, we examine the extent to which differences in equestrianism depend on the cultural context and type of rider, thereby closing a gap in cross-national research on sport motives. A representative sample of German ( $n = 788$ ) and Icelandic ( $n = 145$ ) riders completed the Bernese Motive and Goal Inventory (BMZI). Group differences were analyzed using effect sizes, and a two-way ANOVA was conducted to examine interactions between country and rider type. Results revealed that competitive riders in both countries prioritized competition and external image, while leisure riders emphasized intrinsic motives such as nature engagement and well-being (e.g., Icelandic leisure vs. competitive,  $d = 0.44$ ). German riders, supported by institutionalized sport structures, reported higher activation and aesthetic motives (German leisure vs. Icelandic leisure,  $d = 0.45$ ), whereas Icelandic riders, influenced by regulatory challenges, prioritized heritage and practical horsemanship, with leisure riders reporting stronger distraction motives ( $d = 0.59$ ). Cross-country interactions emerged, including German competitive riders valuing horse handling more than their Icelandic counterparts ( $d = 0.74$ ). Perceived femininity of equestrianism was significantly higher among German riders ( $d = 2.47$ ), and fitness and physique motives were low across all groups. These findings underscore the importance of sociocultural frameworks and gender perceptions in shaping equestrian motivations, advancing debates on how sports adapt to local identities, and informing more inclusive participation models.

## Keywords

Sport motivation; sport motives; riders; equestrian sports; equestrianism; cross-cultural differences

## 1. Introduction

Athletes are typically driven by a mix of intrinsic and extrinsic factors, like performance, power, and affiliation as key motivators [1]. However, cultural contexts heavily influence which motives take priority. In Germany, health, fitness, and social interaction are stronger drivers of sports participation than competition [2]. Similarly, Nordic countries emphasize health and fitness motives more than Central Euro-

pean nations, reflecting cultural differences in how societies view sports [3].

The key characteristic of equestrianism is the interaction between humans and horses. Hence, success at competitions depends not only on the performance of the human, but also on the interaction between the pair. The sport's complexity also stems from the rider-horse partnership: success depends not just on the athlete's skill but also on the horse's well-being and responsiveness. As a result, competitive

riders balance external goals, like winning, with internal rewards such as overcoming fears or mastering challenges. In contrast, leisure riders - those who ride for recreation rather than competition - prioritize distinct motives related to the psychological benefits of riding, such as reduced anxiety, enhanced self-esteem, and improved problem-solving skills [4–6], which remain less explored in the research.

Given these distinctions, we investigate cross-national variations in motives among equestrian athletes and leisure riders, with a focus on Germany and Iceland. By comparing two unique equestrian traditions, our research illustrates the extent to which differences according to cultural context and gender perceptions play a role in participation goals, relationship dynamics with horses, and perceived rewards of equestrian involvement among athletes and non-athletes.

## 2. Literature Review

### 2.1. Equestrian Motives and Gender-Specific Perception of Sports

Overall, the motivation of equestrians is a little-researched topic [7,8]. Some studies have focused on elite equestrians, in which the motives of success and goal achievement were given priority [9,10]. In their study, Luke *et al.* [8] investigated equestrians' motivations for keeping and training horses. The main motive was achieving goals in equestrian sports. The respondents also stated that they worked hard to develop their knowledge and skills in equestrian sports. They were highly motivated to take part in competitions and club activities, and financial gain was important to many equestrians. In addition to the achievement of goals, it was therefore also about the need for autonomy and the need for connection in terms of the partnership between horse and human.

This emphasizes that gender plays a predominant role rather than being merely an option to consider in equestrian sports is gender. While men and women are physically active in different ways, traditional gender norms often dictate which sports are perceived as suitable. "Masculine" sports - linked to strength, risk, and competition (e.g., soccer, boxing) - attract more men, while "feminine" activities emphasizing aesthetics (e.g., ballet, skating) draw more women [11]. These choices reinforce traditional gender roles, with men prioritizing competition and physical prowess, and women emphasizing body image [12,13]. However, Kontro *et al.* [3] noted that men more frequently cite fitness and health as motivators, while women prioritize sociability, though exceptions exist. For example, Tóth *et al.* [14] found no significant gender differences in motives for sport persistence, suggesting complexity. Similarly, Seippel [15] highlighted overlapping influences: while social background shapes engagement, sport type, competitive level, age, and gender collectively influence participation patterns.

In equestrianism, motives and gendered norms interact in complex ways. Unlike most other athletic disciplines, equestrian activities depend on a dynamic human-animal relationship, combining athleticism with interspecies communication. Horses are not merely sporting equipment but responsive social partners, whose agency and emotional feedback shape rider experience [16]. This interspecies in-

teraction fosters distinct motivational profiles: affiliation motives (e.g., bonding with horses) often characterize leisure riding, while performance-oriented motives (e.g., technical mastery, competitive success) dominate competitive disciplines [17]. Competitive athletes across sports often prioritize skill mastery, achievement, and external validation, exhibiting ego-oriented behaviors such as showcasing superiority or seeking recognition [18,19]. For example, competitive cyclists and swimmers score higher on ego-oriented scales than their leisure counterparts, correlating with stricter training adherence [18]. In contrast, leisure participants typically emphasize intrinsic enjoyment, health, and flexibility, as seen in Norwegian leisure athletes, who prioritize fun and avoid rigid schedules [15,19]. Recent research has emphasized that such motives are mediated by the emotional attunement between rider and horse, where empathy, trust, and mutual responsiveness play a critical role [20]. This mirrors broader divides in sport participation between leisure and competition, while also introducing a relational, cross-species dimension rarely addressed in mainstream sport psychology [15]. Moreover, the psychological and developmental aspects of equestrian motives are deeply intertwined with gender-specific socialization processes [21–23].

From a developmental psychology perspective, equestrianism has long been conceptualized as a structured yet emotionally rich domain that supports girls' psychosocial growth. Early contributions proposed that horses function as transitional objects that facilitate developmental tasks. Meyer [24] and Rose [22] argued that interactions with horses support the transition from childhood to adolescence by fostering autonomy, affect regulation, and a sense of competence. Drawing on Bowlby's [25,26] attachment theory, Adolph and Euler [21] conceptualized the horse as a non-human attachment figure—a secure base that enables exploration while providing emotional safety and continuity. Their findings indicated that girls often experience equestrian engagement as emotionally stabilizing, empowering, and meaningful. In contrast, boys more frequently framed horses in instrumental terms, aligned with traditional masculine domains such as warfare, utility, and competitive success [27]. These gendered motivational patterns were substantiated in empirical studies. Euler [27], in a survey of 930 children and adolescents, found that girls disproportionately selected horses as their most desired possession, whereas boys prioritized vehicles; notably, boys' interest in horses declined with age. Gille *et al.* [28] interpreted this divergence as a product of gendered cultural codes that increasingly position equestrianism as a feminized space, leading to boys' gradual disengagement.

Recent findings corroborate the enduring emotional significance of equestrianism for girls. Hauge *et al.* [29] found that adolescent girls reported higher levels of emotional closeness, trust, and perceived companionship with horses than boys. These bonds were positively associated with psychological well-being indicators, including self-esteem and emotional resilience. The authors argued that for girls, the horse–human relationship continues to serve as a relational context for identity development and affective regulation. These findings reinforce earlier theoretical and empirical models, suggesting that equestrianism remains embedded in gendered developmental trajectories, where

relational and affective motives are particularly salient for female adolescents.

Historical analyses provide further insights into these gender-specific patterns. Hedenborg [30] examined their evolution in Sweden, Great Britain, and the USA, focusing on horse racing and the Olympic Games. While equestrianism was traditionally male-dominated, especially in military contexts, women in Sweden gained recognition as amateur riders and professional trainers. However, professional female jockeys faced restrictions until the 1970s. In contrast, Great Britain and the USA maintained stricter gender divisions, though Olympic equestrian events saw earlier female participation [31]. These trends illustrate equestrian sports' shift from male dominance to one of the few Olympic disciplines with mixed-gender competition, yet gender norms continue to shape participation and public perception.

The psychological benefits of equestrianism also contribute to its motivational appeal, particularly among women. Lee Davis *et al.* [16] conducted in-depth interviews with 52 women and 8 men aged 20 to 70, revealing that equestrian interactions were widely perceived as stress-relieving and psychologically beneficial, with female participants especially emphasizing the therapeutic aspects of horse–rider relationships. Similarly, Schütz and Warnstädt [32] surveyed 903 riders and non-riders, finding that non-riders associated equestrianism more strongly with femininity, whereas active riders – especially female riders – perceived it as a gender-neutral or even masculine sport. Additionally, female riders reported a stronger emotional connection to their horses, often describing them as trusted confidants who could sense their emotions and provide emotional support [32]. German male riders reported fewer psychological benefits compared to females, likely influenced by the sport's perceived femininity [33]. In Iceland, equestrianism is less gendered, with 47% of male riders reporting positive effects [34].

Beyond competitive aspirations, intrinsic enjoyment and well-being serve as primary motivators for equestrian participation. Gille *et al.* [28] examined non-competitive riders and found that over 90% identified their primary motive as the joy of interacting with horses. Other frequently mentioned motives included the physical and emotional benefits of riding, as well as the sense of freedom and escape that equestrianism provides. These findings align with Staats *et al.* [23], who found that women more frequently turned to animals, including horses, for social support, particularly in times of loneliness, whereas men tended to cite more utilitarian reasons for engaging with animals.

## 2.2. Equestrianism in Iceland

The regulations governing Icelandic horses and their participation in international equestrian sports present unique challenges for both riders and their horses. Rooted in historical and biological considerations, these strict rules aim to protect the genetic purity and health of the breed while simultaneously imposing limitations on Icelandic equestrian athletes. Icelandic horses are subject to a strict re-entry ban once they leave the country, a regulation dating back to the Althing parliament's decree in the year 982. This rule, designed to prevent the introduction of foreign equine diseases, has led to the complete isolation of the breed for over

a millennium [35]. While this policy has successfully safeguarded Icelandic horses from infectious diseases, it also means that any horse participating in international competitions must permanently remain abroad. Consequently, Icelandic equestrians face a difficult decision when entering international events, as competing with their horse requires accepting an irreversible separation.

The ban on horse re-entry has direct consequences for Icelandic equestrian sports. The FEIF World Championships, held biennially, can never take place in Iceland due to these import restrictions, forcing Icelandic riders to travel abroad for international competition. Additionally, riders must adhere to stringent biosecurity measures, as even leather riding equipment from other countries is prohibited from entering Iceland. Any non-leather gear must undergo extensive disinfection before importation [36], adding another logistical hurdle for Icelandic equestrians preparing for competitions. Beyond logistical complications, the emotional and financial ramifications of these regulations are profound [37]. Riders who compete internationally must either sell their horses abroad, establish permanent stabling outside Iceland, or abandon international ambitions altogether. This predicament often affects career trajectories, as some riders opt to remain in Iceland to retain their horses, while others relocate to participate in international events. The financial burden of maintaining horses abroad, coupled with the difficulty of securing sponsorships and transportation, further complicates international competition for Icelandic riders.

With a national horse population of approximately 80,000 and a human population of 382,000, Iceland maintains an extraordinary ratio of nearly one horse for every five inhabitants [34]. While this reflects the deep cultural and economic significance of equestrian activities, the challenges posed by international competition remain a contentious issue. Icelandic riders navigate the trade-offs between national regulations and global competition as a unique characteristic of Icelandic equestrian sports.

Despite these challenges for competitive riders, the regulations have inadvertently contributed to the global popularity of Icelandic horses. Today, approximately 180,000 Icelandic horses exist worldwide, with 100,000 residing outside of Iceland. This expansion has led to a growing international community of Icelandic horse enthusiasts and increased interest in equestrian tourism in Iceland. The Landssamband Hestamannafélaga, Iceland's national equestrian federation, regulates competitions, breeding, and education, ensuring the continued development of Icelandic equestrianism despite international restrictions. With a total membership of 12,470, it ranks as Iceland's fourth-largest sports federation and organizes the nation's most prominent equestrian events.

## 2.3. Equestrianism in Germany

The German Equestrian Federation serves as the central governing body for equestrian sports in Germany, overseeing 17 regional federations and 7,198 riding and driving clubs. With 3,347 affiliated equestrian centers and 57,163 direct members, the German Equestrian Federation coordinates seven core disciplines: dressage, show jumping, eventing, driving, vault-

ing, endurance riding, and para-equestrian sports. Sub-organizations include the German Olympic Committee for Equestrianism, the German Riders' and Drivers' Association, and the German Judges' Association, ensuring structured governance across competitive and leisure activities [38].

Equestrianism ranks among Germany's most popular sports, with approximately 2.32 million participants, including 840,000 active riders and 1.48 million occasional riders [39]. The term "rider" broadly encompasses individuals engaged in any horse-related activity, from competitive sports to leisure riding. Ownership and care arrangements reflect this engagement: 600,000 households own at least one horse, while 920,000 participate in leasing or shared ownership arrangements. Privately owned horses total 1.25 million, with 45% housed in boarding stables, nearly one-third kept privately, and the remainder kept on farms without formal riding facilities. Demographic trends reveal a decline in young riders but a growing cohort of participants over 40. Traditional disciplines dominate preferences, with dressage leading, followed by show jumping and gaited horseback riding. Notably, many unregistered riders prioritize outdoor riding over competitive pursuits, and most active riders began their engagement before age 12 [40].

The appeal of equestrianism in Germany extends beyond competition. A profound bond with horses and a desire to connect with nature are central motivators [40]. Emotional fulfillment often outweighs competitive ambitions, particularly among leisure riders. This aligns with a growing trend toward non-riding activities, such as groundwork, liberty training, and holistic horse care, which emphasize partnership over performance. A study conducted by the German Equestrian Federation [41] highlights the transformative impact of equestrian engagement: Riders scored higher than non-riders in traits such as determination, enthusiasm, and emotional balance, suggesting that long-term interaction with horses fosters personal development. Such findings reinforce the cultural perception of horses as catalysts for character-building and well-being [41].

The primary objective of this study is to compare motives for participating in equestrianism between Germany and Iceland, focusing on rider types (leisure vs. competitive), cultural contexts, and gender perceptions. Equestrianism adds complexity to this framework due to the unique rider-horse partnership. In Iceland, historical policies - such as the ban on re-entering exported Icelandic horses - reinforce cultural pride and exclusivity, creating motives tied to heritage preservation. These policies also impose logistical challenges for Icelandic riders in international competitions. Germany, conversely, emphasizes competitive excellence and leisure engagement, with female riders dominating participation (80% of German Equestrian Federation members are female; [40]).

This study explores whether German competitive riders are primarily driven by goal-oriented motives, such as competitive achievement, while Icelandic riders prioritize intrinsic or culturally rooted goals linked to their unique equestrian heritage. It also examines how perceptions of femininity in Germany may discourage male participation or influence their motives - potentially leading them to distance them-

selves from "feminine" associations - contrasting with Iceland's gender-neutral horse culture, which fosters shared motivations across genders. Furthermore, the analysis compares leisure riders in both countries, assessing their emphasis on flexibility, enjoyment, and horse-bonding versus competitive riders' focus on mastery and external validation. By incorporating gender-specific perceptions and cultural contexts, this study sheds light on the different motivations for participation in equestrian sports in Germany and Iceland and shows the extent to which there are differences in individual involvement in the sport, which may be associated with social norms, historical strategies, and gender-specific conditions, for example.

### 3. Materials and Methods

#### 3.1. Procedure and Participants

We recruited 933 equestrians via social media (WhatsApp, Instagram, Facebook) between March and August 2024 through the online survey platform Unipark. Participants completed the questionnaire in German or English and provided active consent prior to participation. Descriptive statistics for the total sample and subgroups (Icelandic vs. German riders) are presented in **Table 1**.

#### 3.2. Measures

Equestrian motives were assessed using an adapted and translated version of the *Berner Motiv- und Zielinventar im Freizeit- und Gesundheitssport* (BMZI; [42]), a German-language instrument designed to measure exercise-related motives and goals on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Subscale reliability using Cronbach's alpha was acceptable to excellent across both German and English versions (German  $\alpha = .72-.91$ ; English  $\alpha = .76-.95$ ).

Below, we provide brief descriptions, example items, and internal consistency for each motive, beginning with the BMZI subscales:

- Activation ( $\alpha = .75$ ): stimulation, arousal, and energy enhancement. E.g., "*To feel energized and awake.*"
- Aesthetics ( $\alpha = .84$ ): enjoyment of movement quality or environment. E.g., "*Because I enjoy experiencing the beauty of movement in sport.*"
- Competition ( $\alpha = .86$ ): comparison with others and achieving superiority. E.g., "*To compete with others.*"
- Contact ( $\alpha = .92$ ): social interaction and shared experiences. E.g., "*To be social with others.*"
- Distraction ( $\alpha = .89$ ): psychological relief or detachment from daily stress. E.g., "*To reduce stress.*"
- Fitness ( $\alpha = .86$ ): maintaining or improving physical condition. E.g., "*To maintain good physical condition.*"
- Physique ( $\alpha = .91$ ): improving appearance or body shape. E.g., "*To lose weight.*"

Additionally, we included six equestrian-specific subscales developed by the authors to capture motives beyond those addressed by the BMZI. These were evaluated using explor-

atory factor analysis and demonstrated acceptable internal consistency (German  $\alpha = .59-.78$ ; English  $\alpha = .53-.89$ ).

- Enjoying horses ( $\alpha = .59$ ): pleasure from being around horses. E.g., "Because I enjoy horses."
- Experience of nature ( $\alpha = .77$ ): contact with nature through equestrian activity. E.g., "Because I like being outdoors in nature."
- External image ( $\alpha = .75$ ): self-presentation and impression management. E.g., "Because it is a sport with a high reputation."
- Handling horses ( $\alpha = .55$ ): enjoyment of horse care and grooming. E.g., "Because I like looking after horses."
- Well-being ( $\alpha = .79$ ): mental and emotional health improvement. E.g., "Because horses make me feel good."
- Perceived femininity ( $\alpha = .70$ ): alignment with gender norms and expressions. E.g., "For me, riding is more of a female sport."

### 3.3. Statistical Analysis

To assess group differences, we conducted a series of two-way analyses of variance (ANOVA) to examine the main and interaction effects. Post hoc comparisons were evaluated using effect sizes rather than significance testing, following Cumming's [43] recommendations, as we relied primarily on effect sizes in this exploratory approach to quantify the magnitude of differences. Differences are described through mean and standard deviation comparisons, with effect sizes reported as Cohen's  $d$  and interpreted according to Cohen's [44] guidelines:  $d = 0.2$  (small),  $d = 0.5$  (medium), and  $d = 0.8$  (large). All analyses were conducted in R 4.4.1 (Posit, PBC, Boston, MA, USA).

## 4. Results

**Table 2** reports means, standard deviations, and effect sizes ( $d$ ) for all motivational dimensions, emphasizing between-country differences across competitive and leisure riders. These values form the basis of interpreting key group contrasts, particularly cross-national trends. In contrast, **Figure 1** visually highlights the motivational profiles for each rider group, differentiating BMZI-based and horse-specific motives. Together, **Table 2** and **Figure 1** support a detailed comparison of equestrian motives across national and role-based rider subgroups.

### 4.1. Activation

Activation motives revealed nuanced patterns. Within Germany, leisure riders reported slightly higher activation than competitive riders ( $d = 0.18$ , trivial). Icelandic riders displayed sharper contrasts, with leisure riders scoring notably higher than competitive riders ( $d = 0.70$ , moderate). Cross-nationally, German competitive riders reported substantially higher activation than Icelandic competitive riders ( $d = 0.95$ , large), and German leisure riders surpassed Icelandic leisure riders ( $d = 0.45$ , small-to-moderate). The largest difference emerged between German leisure and Icelandic competitive riders ( $d = 1.37$ , very large).

### 4.2. Aesthetics

Aesthetic appreciation varied significantly. In both countries, competitive riders prioritized aesthetics more than leisure riders (Germany:  $d = -0.51$ , moderate; Iceland:  $d = -0.60$ , moderate). Cross-nationally, German leisure riders valued aesthetics more than Icelandic leisure riders ( $d = 0.33$ , small), while Icelandic competitive riders showed marginally lower levels than German competitive riders ( $d = 0.18$ , trivial). The most pronounced difference occurred between Icelandic leisure and German competitive riders ( $d = -0.88$ , large).

**Table 1:** Demographic and group-specific characteristics of the sample.

| Demographic variable              | Total sample<br>( $N = 933$ ) | Icelandic riders<br>( $n = 145$ ) | German riders<br>( $n = 788$ ) |
|-----------------------------------|-------------------------------|-----------------------------------|--------------------------------|
| Age, $M$ (SD)                     | 39.51 (19.31)                 | 37.41 (17.99)                     | 39.90 (19.53)                  |
| Female, $n$ (%)                   | 851 (91%)                     | 33 (23%)                          | 739 (94%)                      |
| Professional involvement, $n$ (%) | 284 (30.4%)                   | 61 (42%)                          | 232 (29%)                      |
| Horse owners, $n$ (%)             | 615 (66%)                     | 84 (58%)                          | 531 (67%)                      |
| Horses owned, $M$ (SD)            | 3.95 (9.86)                   | 8.09 (17.22)                      | 3.19 (7.56)                    |
| Riding discipline                 |                               |                                   |                                |
| Gaited riding, $n$ (%)            | 653 (70%)                     | 87 (58%)                          | 566 (72%)                      |
| Leisure riding, $n$ (%)           | 115 (12%)                     | 26 (18%)                          | 89 (11%)                       |
| Breeding, $n$ (%)                 | 23 (3%)                       | 13 (9%)                           | 10 (1%)                        |
| Show jumping, $n$ (%)             | 67 (7%)                       | -                                 | 67 (8%)                        |
| Classical horsemanship, $n$ (%)   | 19 (2%)                       | 11 (7%)                           | 8 (1%)                         |
| Other, $n$ (%)                    | 60 (6%)                       | 11 (7%)                           | 49 (6%)                        |

Dashes (-) indicate that this subgroup is not represented in the sample.

**Table 2:** Means and standard deviations for motives, and mean differences between Germany and Iceland by rider type.

| Outcome              | Leisure riders (n = 642) |      |                   |       | Competitive riders (n = 291) |      |                  |      |       |             |      |      |
|----------------------|--------------------------|------|-------------------|-------|------------------------------|------|------------------|------|-------|-------------|------|------|
|                      | Germany (n = 536)        |      | Iceland (n = 106) |       | Germany (n = 252)            |      | Iceland (n = 39) |      |       |             |      |      |
|                      | M                        | SD   | e                 | d     | M                            | SD   | M                | SD   | e     | d           | M    | SD   |
| Activation           | 4.21                     | 0.73 | 0.35              | 0.46  | 3.86                         | 0.93 | 4.08             | 0.92 | 0.90  | <b>0.95</b> | 3.17 | 1.14 |
| Aesthetics           | 3.47                     | 1.14 | 0.36              | 0.31  | 3.11                         | 1.31 | 4.04             | 0.93 | 0.19  | 0.20        | 3.85 | 1.17 |
| Competition          | 1.88                     | 0.88 | 0.01              | 0.01  | 1.87                         | 0.74 | 3.40             | 0.85 | 0.19  | 0.22        | 3.22 | 0.89 |
| Contact              | 2.96                     | 1.01 | 0.26              | 0.25  | 2.70                         | 1.04 | 3.07             | 1.00 | 0.33  | 0.33        | 2.74 | 1.07 |
| Distraction          | 3.33                     | 1.16 | 0.25              | 0.21  | 3.08                         | 1.11 | 3.24             | 1.17 | 0.77  | 0.67        | 2.46 | 1.00 |
| Fitness              | 2.89                     | 0.98 | 0.11              | 0.11  | 2.78                         | 1.01 | 2.98             | 1.02 | 0.20  | 0.19        | 2.78 | 1.17 |
| Physique             | 1.57                     | 0.82 | 0.06              | 0.07  | 1.51                         | 0.78 | 1.61             | 0.89 | -0.16 | -0.18       | 1.77 | 0.96 |
| Enjoying horses      | 4.68                     | 0.48 | 0.06              | 0.12  | 4.62                         | 0.63 | 4.70             | 0.63 | 0.30  | 0.48        | 4.40 | 0.62 |
| Experience of nature | 4.50                     | 0.70 | 0.11              | 0.15  | 4.40                         | 0.94 | 4.38             | 0.81 | 0.38  | 0.46        | 4.00 | 0.97 |
| External image       | 1.56                     | 0.78 | -0.24             | -0.28 | 1.80                         | 1.06 | 2.28             | 1.07 | -0.49 | -0.45       | 2.77 | 1.04 |
| Handling horses      | 4.44                     | 0.64 | 0.04              | 0.07  | 4.40                         | 0.74 | 4.49             | 0.71 | 0.53  | 0.74        | 3.96 | 0.79 |
| Well-being           | 4.53                     | 0.67 | 0.22              | 0.30  | 4.31                         | 0.96 | 4.61             | 0.64 | 0.56  | <b>0.83</b> | 4.05 | 0.86 |

e: unstandardized mean difference; d: standardized mean difference. Large effects ( $|d| \geq 0.8$ , [44]) are marked in **bold**.

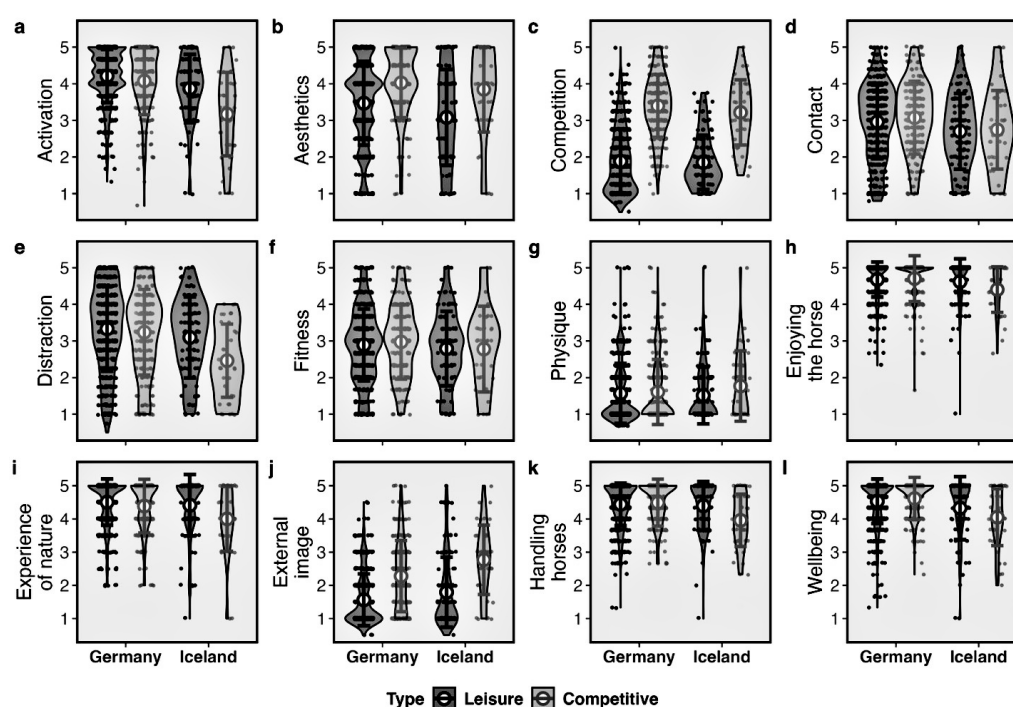


**Figure 1:** BMZI motives and equestrian-specific motives among competitive and leisure riders in Germany and Iceland. a–g: BMZI motives. h–l: equestrian-specific motives using items formulated for this study.

### 4.3. Competition

As expected, competition motives starkly divided leisure and competitive riders in both countries, with very large effects (Germany:  $d = -1.74$ ; Iceland:  $d = -1.74$ ). Cross-country differences were minimal for leisure riders ( $d = 0.04$ , trivial) and small for competitive riders (German > Icelandic:  $d = 0.21$ ). Icelandic leisure riders reported far lower competition motives than German competitive riders ( $d = -1.87$ , very large).

### 4.4. Contact

Contact motives showed limited variation. Within-country differences were negligible (Germany:  $d = -0.12$ ; Iceland:  $d = -0.04$ ). Cross-nationally, German riders scored slightly higher than Icelandic counterparts (leisure:  $d = 0.25$ , small; competitive:  $d = 0.33$ , small). The largest gap was small-to-moderate ( $d = -0.37$ ).

#### 4.5. Distraction

Marked divergence appeared in Iceland, where leisure riders scored higher than competitive riders ( $d = 0.59$ , moderate). German differences were trivial ( $d = 0.08$ ). Cross-country, German riders scored moderately higher than Icelandic competitive riders (leisure:  $d = 0.76$ ; competitive:  $d = 0.67$ ).

#### 4.6. Fitness

Fitness motives showed minimal variation, with all differences trivial (within-country:  $|d| \leq 0.08$ ; cross-country:  $|d| \leq 0.19$ ).

#### 4.7. Physique

Physique-related motives were consistently low. Icelandic competitive riders scored slightly higher than leisure riders ( $d = -0.31$ , small). Cross-country differences were trivial to small (max  $|d| = 0.24$ ).

#### 4.8. Enjoying Horses

Enjoyment was universally high. Icelandic leisure riders scored higher than competitive riders ( $d = 0.35$ , small), while German riders showed near-identical scores ( $d = -0.05$ ). Cross-nationally, German competitive riders exceeded Icelandic competitive riders ( $d = 0.48$ , moderate), with a moderate gap between German leisure and Icelandic competitive riders ( $d = 0.56$ ).

#### 4.9. Experience of Nature

Nature-related motives were robust. Icelandic leisure riders scored higher than competitive riders ( $d = 0.44$ , moderate), while German differences were trivial ( $d = 0.16$ ). The largest cross-country difference was moderate (German leisure > Icelandic competitive:  $d = 0.70$ ).

#### 4.10. External Image

Competitive riders reported higher external image concerns in both countries (Germany:  $d = -0.81$ , large; Iceland:  $d = -0.92$ , large). Cross-nationally, Icelandic competitive riders scored higher than German competitive riders ( $d = -0.46$ , small).

#### 4.11. Handling Horses

Icelandic leisure riders scored higher than competitive riders ( $d = 0.58$ , moderate), while German differences were trivial ( $d = -0.07$ ). German competitive riders exceeded Icelandic competitive riders cross-nationally ( $d = 0.74$ , moderate).

#### 4.12. Well-being

Well-being motives were consistently high. Icelandic leisure riders scored higher than competitive riders ( $d = 0.29$ , small), while German differences were trivial ( $d = -0.12$ ). German competitive riders reported higher well-being than Icelandic competitive riders ( $d = 0.83$ , large).

In summary, main effects of country were observed for the motivational factors activation, aesthetics, contact, distraction, handling horses, enjoying horses, and experience of nature. German and Icelandic riders differed significantly on these factors, with the largest country differences found for activation, followed by aesthetics and distraction. Significant main effects of rider type (leisure vs. competitive) were observed, particularly for competition, aesthetics, and experience of nature. Competitive riders scored higher on competition than leisure riders. Interaction effects between country and rider type were found for activation, distraction,

handling horses, and enjoying horses. The interaction effect was strongest for handling horses. Minimal variation across groups (country and rider type) was observed for fitness and physique. Across the entire sample, the motives physique and external image were rated comparatively low.

#### 4.13. Differences in Perceived Femininity

To further illustrate differences across countries and riding contexts, we considered differences in the perception of equestrianism as feminine. The analysis revealed that in Germany, equestrianism is generally perceived as highly feminine, as indicated by the high mean score on the femininity perception scale (Figure 2). The difference between leisure and competitive riders within Germany is minor ( $d = -0.12$ ), with competitive riders exhibiting slightly higher femininity perceptions. In contrast, in Iceland, the difference between leisure and competitive riders is more pronounced, with a strong effect size observed (Table 3).

Between-country comparisons show very large differences. Competitive riders in Germany perceive equestrianism as substantially more feminine than their Icelandic counterparts ( $d = 1.51$ ), reflecting an entire scale-point difference on a five-point scale, a considerable gap given the sample size. The contrast is even more pronounced among leisure riders, with German leisure riders scoring higher in femininity perception than Icelandic leisure riders ( $d = 2.10$ ). Cross-group comparisons reveal further notable effects: German leisure riders perceive equestrianism as substantially more feminine than Icelandic competitive riders ( $d = 1.30$ ). The most substantial difference is observed between Icelandic leisure riders and German competitive riders, with a mean difference of 1.51 scale points and an absolute effect size of  $d = 2.47$ , indicating a particularly pronounced difference in perceptions.

These findings underscore the relevance of gendered perceptions in sport engagement. The pronounced main effects of perceived femininity in relation to rider type and country highlight the sociocultural framing of equestrianism as a gendered activity (Figure 2b). This framing appears to restrict participation, particularly among German males, as reflected in the demographic skew of our sample. The salience of these gender-related effects indicates that equestrianism may exert a stronger influence on motivational structures than cultural context alone.

### 5. Discussion

This study explored how motivational orientations vary between leisure and competitive equestrians in Germany and Iceland, revealing that participation is profoundly shaped by cultural frameworks and individual rider objectives. Intrinsic motivators, such as well-being and a connection with nature, are especially prominent among leisure riders, while those who compete tend to focus on extrinsic goals, including achievement and recognition. This division is consistent with Self-Determination Theory [45] and has been observed in a variety of sports, from cycling to team athletics, as documented by Moreno-Murcia *et al.* [18] and Seippel [15]. German riders, in particular, are inclined toward performance-oriented motives like activation and competition, whereas Icelandic riders place greater value on cultural connection and practical horsemanship. These patterns align

with the findings of Kontro *et al.* [3], which indicate that Nordic athletes often prioritize heritage and well-being over competitive outcomes, distinguishing them from their Central European counterparts.

A striking gender gap characterizes German equestrianism, where 94% of participants are female, reflecting broader sociocultural narratives that construct the sport as feminine. Such perceptions discourage male involvement, a phenomenon paralleling trends in other aesthetic sports [11]. In contrast, Iceland's equestrian culture is more gender-neutral, supporting balanced participation across genders. This contrast underscores the significant role of gendered socialization, rather than biological differences, in shaping motivations for sports participation [12,17]. The findings of Hauge *et al.* [29] reinforce this interpretation, as their intervention study found that adolescent girls derive pronounced emotional and psychological benefits from equine-assisted activities, including increased self-esteem, self-efficacy, and perceived social support. These effects were less pronounced among boys, suggesting that equestrianism may serve as a particularly salient context for identity formation and emotional development among girls.

The unique human-horse partnership emerges as a central component of equestrian motivation, especially in Iceland, where "handling horses" is highly valued among competitive riders. This dynamic extends achievement goal theory by illustrating how interspecies bonds can generate hybrid intrinsic and extrinsic rewards. Riders not only pursue personal accomplishment but also derive unique satisfaction from achieving goals in partnership with a trusted animal, a phenomenon documented by Hauge *et al.* [29] and further theorized by Dashper [17]. The horse, in this context, functions as both a secure base and an active collaborator, amplifying affiliation motives and providing emotional stability. This finding addresses a notable gap in the sports motivation literature, which has traditionally neglected the role of human-animal partnerships in shaping motivational orientations and psychological outcomes.

From a practical perspective, these findings suggest several actionable implications. Governing bodies and coaches in Germany should address the underrepresentation of men by rebranding equestrianism as a gender-neutral activity, for

example, by emphasizing its athletic rigor and historical associations with cavalry. Additionally, developing programs that integrate competitive goals with well-being could help retain a more diverse range of riders. In Iceland, leveraging cultural pride may enhance international competitiveness, and simplifying logistical challenges for athletes, such as subsidized overseas stabling, could help mitigate the effects of export restrictions.

In terms of participation and funding, promoting the psychological benefits of leisure riding, such as stress reduction and emotional resilience, may attract adult beginners and help counteract the decline in youth engagement seen in Germany. Emphasizing equestrianism's unique combination of competitive excellence and mental health benefits could also justify redirecting public funding toward community initiatives, including therapeutic riding programs for veterans.

Competition design should also reflect these insights. German federations might consider balancing elite events with competitions that reward horsemanship and partnership rather than focusing solely on technical metrics. Meanwhile, Icelandic federations could advocate for policy reforms to reduce barriers to international competitive participation.

This study makes a significant contribution to the sports motivation literature by addressing a notable gap: the traditional neglect of human-animal partnerships. The rider-horse relationship amplifies affiliation motives, as seen in the higher importance placed on "handling horses" among Icelandic competitive riders, exceeding levels typically observed in sports centered solely on human interaction. This dynamic extends achievement goal theory by illustrating how interspecies bonds can generate hybrid intrinsic and extrinsic rewards, such as the unique satisfaction derived from winning with a trusted animal partner. The cross-cultural perspective further refines our understanding of gender's influence, showing that while German men may distance themselves from equestrianism due to its feminized image, Icelandic men associate riding with national identity. This demonstrates how cultural narratives can override more universal gender norms in shaping sports participation and motivation.

**Table 3:** Means and standard deviations for perceived femininity and pairwise differences between Germany and Iceland by rider type.

| Perceived femininity                | Group 1 |      |       |              | Group 2 |      |
|-------------------------------------|---------|------|-------|--------------|---------|------|
| Group 1 - Group 2                   | M       | SD   | e     | d            | M       | SD   |
| Within-Countries                    |         |      |       |              |         |      |
| Leisure (DE) - Competitive (DE)     | 3.06    | 0.71 | -0.08 | -0.12        | 3.14    | 0.66 |
| Leisure (IS) - Competitive (IS)     | 1.63    | 0.49 | -0.50 | <b>-0.90</b> | 2.13    | 0.72 |
| Between-Countries                   |         |      |       |              |         |      |
| Competitive (DE) - Competitive (IS) | 3.14    | 0.66 | 1.01  | <b>1.51</b>  | 2.13    | 0.72 |
| Leisure (DE) - Leisure (IS)         | 3.06    | 0.71 | 1.43  | <b>2.10</b>  | 1.63    | 0.49 |
| Leisure (DE) - Competitive (IS)     | 3.06    | 0.71 | 0.93  | <b>1.30</b>  | 2.13    | 0.72 |
| Leisure (IS) - Competitive (DE)     | 1.63    | 0.49 | -1.51 | <b>-2.47</b> | 3.14    | 0.66 |

DE = Germany; IS = Iceland; e: unstandardized mean difference; d: standardized mean difference. Large effects ( $|d| \geq 0.8$ , [44]) are marked in **bold**.

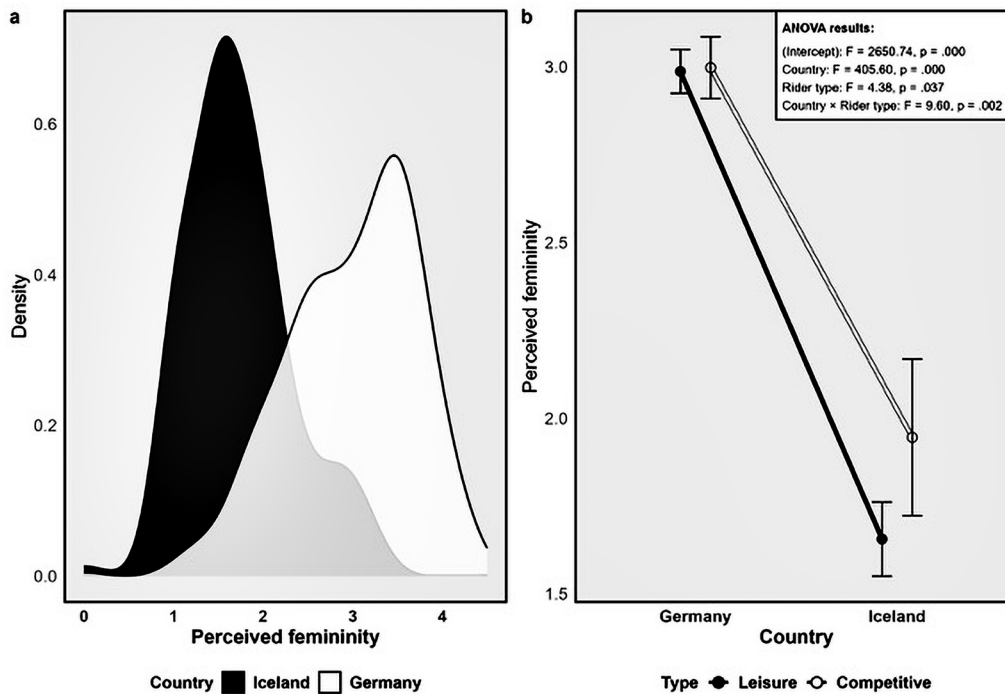


**Figure 2:** Differences in perceived femininity. a) Overall density of perceived femininity of equestrianism (1 = strongly disagree, 5 = strongly agree) between Germany and Iceland. b) Interaction of rider type and perceived femininity.

## 6. Limitations and Outlook

Several limitations of this study warrant careful consideration. First, the cross-sectional design restricts conclusions about causal relationships between cultural background, gender, rider type, and motivational orientations. Additionally, the relatively small sample sizes in specific subgroups, most notably competitive riders in Iceland, may reduce statistical power and limit the generalizability of subgroup-specific findings. While perceived femininity emerged as a central theme, it was modeled as an outcome rather than an explanatory factor; future research should examine its interaction with gender identity, rider type, and motivational profiles to better understand its potential mediating role.

Second, the study relied exclusively on self-reported motives and employed custom-formulated, equestrian-specific items. While these items captured domain-relevant content, the lack of complementary qualitative data limits interpretive depth. Incorporating interviews or open-ended questions in future studies could enrich the understanding of how equestrian identities are constructed and experienced across cultural and gendered dimensions.

Lastly, some concerns about measurement consistency must be noted. Differences in the internal reliability of the adapted BMZI scales and the equestrian-specific items may affect construct validity and comparability. This highlights a broader need for psychometric refinement and validation of domain-specific motivational instruments in equestrian sport research.

## 7. Conclusion

This study highlights differences in equestrianism motives between Germany and Iceland. While several core motives,

such as health- and appearance-related dimensions, showed minimal variation between groups, clear contrasts emerged in competition, aesthetics, and distraction motives, particularly among competitive riders. However, these motivational patterns alone do not fully explain the observed group differences. Instead, perceived femininity revealed the strongest divergence between countries and rider types, indicating that it plays a central role in shaping how equestrianism is experienced and framed. This finding is particularly significant given the different historical and cultural traditions in the use and meaning of horses in Germany and Iceland. The results underscore the influence of cultural and gender norms on motivational orientations within equestrianism. They also highlight the need to challenge restrictive gender expectations, especially within the German context, to foster more inclusive and equitable participation across genders.

## Authors' Contributions

KS: Conceptualization, Methodology, Formal analysis, Validation, Writing – Original draft, Writing – review & editing. CS: Formal analysis, Software, Validation, Visualization, Writing – Original draft, Writing – review & editing. MH: Conceptualization, Data curation, Writing – Original draft, Resources.

## Data Availability

The data and analysis code for this study are available upon reasonable request. Item wordings are accessible on the Open Science Framework: <https://doi.org/10.17605/OSF.IO/YFMC6>.

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## Conflicts of Interest

The authors declare that they have no conflicts of interest.

## Ethical Approval

This study was conducted in compliance with all applicable laws and institutional guidelines, adhering to the ethical standards of the university. Informed consent was obtained from all participants prior to their inclusion in the study. The rights, privacy, and confidentiality of all participants were strictly maintained throughout the research process.

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