

Research Article

To hunt or not to hunt: Is it that simple for female hunters?

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ABSTRACT

Natural resource agencies and researchers have often focused efforts to reduce the constraints women face in hunting. However, many women continue to hunt despite these barriers, suggesting a need to understand the complex decisions they make. This study explores the decision space that women navigate despite logistical, cultural, and personal constraints. This mixed method study used free lists ($n = 50$) and semi-structured interviews ($n = 22$) to identify the most salient decisions women make to go hunting. These included decisions about gear, household responsibilities, hunting partners, land access, and pre-planning. Interviews revealed how women strategically make decisions to navigate constraints by connecting actions across domains such as safety, time, and social support. Gear decisions, for example, were shaped by cost, safety, and confidence, and some women expressed insecurity about lacking the “right” equipment. Many participants also emphasized peer support and sought community with other women. Hunting also required prioritizing personal time, often in tension with expectations around caregiving and household roles. These findings suggest that state agencies and conservation organizations can play an active role in supporting women—not only through outreach and education, but by facilitating access to peer networks and reducing gear-related barriers. Programs like gear libraries or donation drives may reduce early-entry obstacles and help foster confidence. Efforts to reframe women's leisure as necessary may help women who struggle with guilt around household duties. Overall, this study highlights women's agency to navigate barriers, make complex decisions, act on their hunting goals, and it offers practical insights to improve recruitment and retention.

Management implications

Our findings can support natural resources managers and other implementing partners in adapting and creating opportunities to strengthen women's decision-making and agency in outdoor recreation (Table 2). The decisions women make concerning gear may be intimidating for beginners as they consider investing in the range of often costly products sold to hunters. R3 program leaders could help hunters navigate purchasing decisions by providing information detailing essential items (e.g., clothing, safety gear, hygiene products) and guidance on affordable, high-quality options (Isensee et al. in press). Agencies and organizations could further help reduce the burden of gear acquisition by developing or supporting gear libraries or gear drives. For example, Deer Camp, a nonprofit in Montana, created a gear library to loan

different clothing, boots, and safety gear to novice hunters, especially women (DEER CAMP, n.d.). This model could be replicated in other places or even scaled up to meet growing demand as new hunters seek to try equipment. Additionally, hunter education could include optional safety videos about self-defense options in the field and potential gear that help address safety concerns. Women want to hunt with their families yet have safety concerns with bringing children in the field. Hunter education could address this by developing an optional educational course on how to safely hunt with children. However, our study also described that women are accustomed to feelings of guilt associated with taking leisure time for themselves despite exhaustion, which underscores the need for messaging that redefines leisure as strength,

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not selfishness. These messages could be trialed and developed in women's hunting communities, especially given the role of women-led hunting organizations in building mentorship opportunities and supporting peer learning. However, the messages would also benefit from reaching wider audiences to ensure that women receive more social support to pursue hunting as recreation. Furthermore, we learned that agencies and organizations are interested in helping women navigate land access opportunities in their area to better benefit from public investments in hunting land programs. Whether women decide to hunt on private land or public land, many face difficulty accessing land—particularly women without personal connections to large landowners and who may be intimidated to ask permission of strangers. Videos and other training opportunities can help women develop the confidence and knowledge to ask for permission to hunt on private land or access desirable lands through state agency-developed programs. Finally, agencies and organizations can provide a hunting basics check list to help women feel confident to take the final steps to hunt. Combined, these efforts could support women's equal opportunity to participate in hunting and other related outdoor recreation opportunities.

1. Introduction

Hunting is an important outdoor recreational activity that provides a myriad of ecological, economic, and social benefits (Wildlife Society, 2010). For instance, state agencies primarily fund wildlife management expenses through revenue from hunting license, gun, and ammunition sales (Wildlife Society, 2010). Additionally, people who participate in hunting reap physical and mental health benefits, including stress relief from being in nature, exercise, and access to lean meat (Stedman et al., 2017). Hunting is also a social activity that helps individuals gain a sense of place and belonging to a wider community of hunters. Yet, the benefits of hunting may be declining as fewer Americans participate in the hunting tradition (US Fish and Wildlife Service, 2022).

As state agencies grapple with record low participation rates in hunting, they increasingly turn to programs to recruit, retain, and reactivate (R3) hunters, with growing attention on women's participation (Jones, 2007). Whether intentionally or opportunistically, women have hunted since time immemorial (Anderson et al., 2023; Hoffman et al., 2023). However, women currently comprise only 22 % of hunters, but they are the fastest-growing demographic in hunting and represent an opportunity to increase hunting participation (US Fish and Wildlife Service, 2022). Additionally, women influence their families activities, meaning their participation may be critical to introducing children to the activity as the next generation of hunters (McFarlane, & Watson-Boxall, 2013; Covelli, 2011).

Women face complex barriers to participation in hunting. Researchers recognize various scales of constraints (e.g., structural, interpersonal, intrapersonal) that can limit participation. Past researchers often examined these constraints in isolation from each other, yet they can compound and exacerbate challenges to women's participation (Adams & Steen, 1997; Metcalf et al., 2015). For example, as compared to women who participate in non-hunting outdoor recreational activities, female hunters prefer to hunt with a companion for various reasons, including gaining access to hunting lands, alleviating fear of crime, and developing confidence in their skills (Cole et al., 2024; Covelli, 2011; Smith et al., 2022). By extension, some women who do not know other women who hunt and do not feel comfortable hunting with men may choose not to hunt unless they can find other ways to navigate the barriers that prevent their participation (Cole et al., 2024).

To better understand women's abilities to overcome these hurdles, this study sought to examine women's agency, defined as their ability to set goals and act on them, to hunt (Donald et al., 2020). Due to the complexity shaping women's agency in hunting, we wanted to find ways to better understand the relationship between constraints, strategies,

and participation. Using a mixed-methods research approach, this study aimed to (1) understand the decisions female hunters make to hunt, and (2) describe how female hunters navigate those decisions.

2. Literature review

2.1. Constraints-based hunting literature and women in the outdoors

Over the past few decades, as state agencies sought to grow broader participation in hunting, researchers largely focused on various scales of constraints impacting female hunters' participation. Researchers described structural constraints as external factors related to the environment and often included overcrowded hunting lands, a lack of game, site closures, complex rules and regulations, and financial barriers (Adams & Steen, 1997; Heyser et al., 2022; Metcalf et al., 2015). Researchers have also documented how interpersonal and intrapersonal constraints have impacted women's ability to hunt. Interpersonal constraints refer to interactions between individuals, while intrapersonal constraints refer to an individual's feelings of confidence, often referred to as "self-efficacy" (Cole et al., 2024; Covelli, 2011; Smith et al., 2022).

Research found these constraints to disproportionately impact women's participation compared to men (Adams & Steen, 1997). For structural constraints, female hunters struggle to access private hunting lands where they may have better chances of harvesting wildlife because many lack personal connections with private landowners (Heyser et al., 2022). Furthermore, Metcalf et al. (2015) found that some female hunters were more impacted than others by the need for a companion, with family-oriented hunters having less reliable hunting companions compared to general enthusiasts or more casual female hunters. Smith et al. (2022) later described that most female hunters, regardless of their experience level, benefited from social support, whether a hunting companion or support from the wider hunting community.

The categorization of constraints into structural, interpersonal, and intrapersonal enabled researchers to identify impacts on women's ability to hunt. Yet scholars now recognize that the socioenvironmental context around hunter recruitment and retention is expansive and includes an individual's emotions, community support, physical landscape, and the sociopolitical climate (Larson et al., 2014). As a result, more recent literature describes how constraints interact and compound. For example, Heyser et al. (2022) described how female hunters often gained hunting land access through their male hunting partners and were only able to access the land if their partner was also present. Additionally, Smith et al. (2022) demonstrated that hunting companionship influenced women's emotions and whether they self-identified as hunters. Combined, this highlights that research that examines constraints as stand-alone forces may minimize or simplify how we understand women's experiences and the effects of gender roles on hunting participation.

As a result, some scholars argue for research approaches centered around women's lived experiences to better account for the ways that gender shapes access, meaning, and participation in activities like hunting (Henderson, 1996; Henderson & Gibson, 2013; Warren, 2015). For instance, Henderson (1996) discussed the importance of understanding societal expectations of women because they take on many roles throughout their lives which can hinder their participation in leisure. Additionally, compared to fathers, mothers disproportionately carry household and childcare responsibilities which can reduce their ability to engage in outdoor activities (Redmore & Tynon, 2011; Lloyd et al., 2016; Warren, 2015). Yet there is nuance between participation, constraints, and negotiation strategies for women—what Warren (2015) described as women's individual agency that contributes to their continued participation in outdoor leisure despite constraints. Furthermore, Pohl et al. (2000) found that women who participate in outdoor recreation develop critical thinking skills and an enhanced ability to act, which can positively influence their agency in everyday life.

Few studies have sought to understand how women exercise agency

in hunting. Keogh George (2016) conducted a qualitative study to describe female hunters' motivations, journeys, and strategies to navigate constraints. The author found female hunters felt empowered when able to redefine hypermasculine norms, in part by hunting with fathers or spouses (Keogh George, 2016). Bragg-Holtfreter (2017) interviewed female hunters in North Carolina and found that many participants enjoyed hunting with family members, especially their fathers, and were motivated by outside time and the possibility of providing meat to their families. Finally, Asselin (2019) interviewed women to understand how they navigated their apprehensions and motivations to hunt and found that self-reflection was a key dynamic to pursue new activities such as hunting. This highlights the significant gap in available research on women's agency in response to constraints in hunting.

2.2. Women's agency and decision-making research

Although gender expectations may negatively impact women's ability to recreate outdoors, women are adaptable and able to prioritize leisure (Henderson, 1996; Henderson & Gibson, 2013; Warren, 2015). Additionally, Smith (2011) argued that constraints-based research assumes women as passive subjects, entirely shaped by external circumstances; she found that women exercise and gain agency by making choices and decisions within their lives. As a result, state agencies looking to bolster women's participation may benefit from a better understanding of their decision-making processes and ability to navigate challenges to successfully hunt (Donald et al., 2020; Smith, 2011). Donald et al. (2020) defined women's agency as their ability to set and act on goals across economic, social, and political contexts, and they emphasized the roles of self-efficacy and sense of control to achieve their desired goals.

More recently, researchers identified benefits from understanding women's agency and decision-making to improve overall natural resource management (Szaboova et al., 2022; Espada & Kainer, 2023). For example, Szaboova et al. (2022) found that women's agency and decision-making played a large role in the resilience of commercial fishing businesses. Espada and Kainer (2023) found that some women 'powered through' social obstacles within the timber management industry and were able to strengthen their individual agency to become decision-makers.

In the realm of hunting, a few studies have examined hunters' behaviors and decisions (Hrubes et al., 2001; Wszola et al., 2020). Hrubes et al. (2001) applied the theory of planned behavior to hypothesize future hunting behavior, where they examined the relationships between hunting participation and hunters' intentions, attitudes, and behaviors (Hrubes et al., 2001). Later, Wszola et al. (2020) used Bayesian analysis to describe how pheasant hunters navigate hunting decisions based on hunting land access. However, qualitative researchers encouraged others to explore the nuances in leisure participation, including through agency (Henderson, 1996; Warren, 2015; Stodolska, 2020). Recently, Stodolska (2020) sought to understand minority groups' participation in recreational programs offered by local park agencies. The researchers used grounded theory to describe participants' individual, interpersonal, and context around constraints, and found previous constraints frameworks were insufficient (Stodolska, 2020). In our study, we applied an inductive research approach to identify and examine women's agency and decision-making processes to hunt, with implications for R3 efforts and approaches.

3. Methods

3.1. Data collection approach

Our research team included three female researchers who came to this study without prior hunting experience and one male researcher who is an experienced hunter. Over the course of this project, we participated in formal training and informal mentorship to gain

firsthand insight into the process of becoming hunters, and those insights shaped this work. We used a mixed method approach to explore and describe how women understand and navigate decisions to hunt. The South Dakota Board of Regents IRB approved this study (IRB = 2305003-EXP). Data were collected from May to October 2023.

Attending educational programming for women in hunting provided an opportunity to learn more about women's decision-making and agency from an accessible population. We participated in six educational outdoor events geared towards women in South Dakota, Montana, and Wyoming. These events were hosted by state agencies and nonprofit organizations, including a mentored hunt, hunting dog training camp, and other outdoor education programs that taught other outdoor skills such as outdoor survival, fishing, and wildlife viewing. This range of events targeted different experience levels, hunt types, and geographies, which provided a maximum variation sampling approach in terms of potential study participants. While at these events, we recruited initial participants with a range of hunting experience, spanning women who have only taken a hunting educational course to experienced mentors and program leaders with decades of experience. We used snowball sampling to identify additional participants, meaning participants suggested other potential participants within their community—an especially useful way to identify potential participants in hard-to-reach populations such as female hunters (Bernard, 2006; Keogh George, 2016). In total 50 women participated—all completed a free listing exercise about their decisions to hunt, while a subset also participated in semi-structured interviews ($n = 22$). Participants ranged in age (from college-age to retirees), experience level (from novice to experienced hunters), and preferred hunt type (e.g., big game, upland, waterfowl).

To increase credibility and confirmability of our findings and interpretation, we conducted a community of practice with women who are leaders in the hunting community (Watkins et al., 2018). We hosted sixteen leaders of women's hunting and fishing groups for a three-day workshop hosted in Brookings, SD in September 2023. During our time together, we led a workshop to discuss preliminary results of how women make decisions to hunt. Leaders helped us to identify relevant decision categories and strategies used by participants to navigate decisions, increasing credibility that our findings reflected women's perspectives to hunt in South Dakota, Montana and Wyoming.

3.2. Free list methodology and analysis

Free list methodology is a structured elicitation method where participants are asked to list items they associate within a cultural domain (Bernard, 2006). Since participants tend to list items in order of familiarity and importance, researchers can use Smith's S formula to analyze both the frequency of an item across all lists and its average rank to assess its cultural importance (Bernard, 2006; Placek et al., 2023; Quinlan, 2005). The importance of an item is determined by its salience statistic, which is measured by an item's rank and frequency of occurrence across lists (Quinlan, 2005). Free listing as a method enables researchers to elicit group-level understandings of a domain of interest, and a sample size of approximately 30 participants is considered sufficient to capture the core elements of a domain (Bernard, 2006; Quinlan, 2017). Additionally, researchers encourage pairing free listing with interviews to clarify the meaning of the listed items and to ensure the credibility and confirmability of the participants' responses and the interpretations drawn from them (Quinlan, 2017).

From May to October 2023, 50 female hunters completed a free list activity with the prompt: "Please list all of the decisions women make in order to hunt?" Each participant described all the decisions she could think of for a 3-min period. A total of 34 participants wrote their list in-person, while 16 provided their free list orally during interviews (Jackson, 2024).

Free list data were first imported to a spreadsheet and cleaned by consolidating similar phrases that referred to the same underlying decision, as recommended in free list analysis protocols (Fig. 1) (Quinlan,

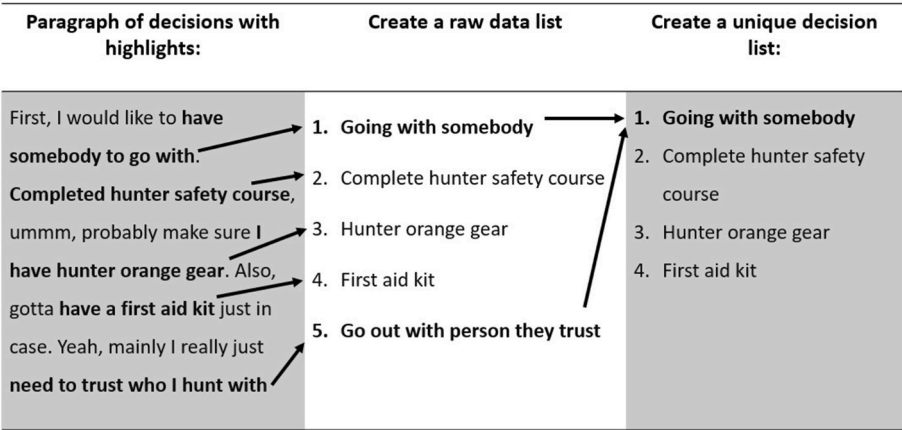


Fig. 1. Orally collected free lists were converted from free-form data (left column) to a complete raw data list using a grounded theory approach to best capture an individual's list of decisions (center column)(Charmaz, 2006). The complete unique decision list (right column) required removing duplicate decisions.

2005). To organize the data, the research team grouped 131 responses into 20 decision categories by identifying high salience items. Authors independently coded related phrases based on participant observations and workshops with hunting leaders and then grouped responses into themed decision categories over the course of three 2-h sessions (Fig. 2). We analyzed the importance of the final 20 decision categories using the Smith and Borgatti salience analysis in program R (R Core Team, 2023; Smith & Borgatti, 1997; Wickham, 2016; Wickham et al., 2023). We calculated salience by averaging the decision category's rank in each individual list and then we averaged all the rankings against the total number of lists (Quinlan, 2005). To establish an objective threshold for identifying important decisions, we followed Chaves et al. (2019), who applied a Monte Carlo simulation to evaluate the probability of an item's salience value occurring by chance. In this method, a null model is generated by simulating random lists with the same number of items and participants as the original data, but with item order randomized. If sampled decision salience value is less than the null scenario value, the decision's salience value did not happen at random and it is considered significant (Chaves et al., 2019). We used this method to identify high-salience items that were verified with probabilistic interpretation.

3.3. Semi-structured methodology and analysis

We additionally used semi-structured interviews to learn more about how women navigate their listed decisions and elicit more context

around their decision-making processes (Appendix A). We probed for description of participant's experiences related to issues of land access, perceptions of safety, household responsibilities, and the impact of community support. In total, we interviewed 22 participants that were a subset of the 50 participants. Interviews lasted between 30 and 90 min, with the average interview lasting 43 min. All interviews were transcribed and cleaned using Otter.AI to ensure accuracy (Otter.ai, 2021).

Transcripts were uploaded to MAXQDA 2022 software (VERBI Software, 2021), and we conducted an inductive thematic analysis focused on the statistically significant decision categories. Specifically, we coded transcripts to describe key components of salient decision categories and to identify relationships across salient decision categories. To support dependability and credibility, we wrote analytic memos throughout the coding process to organize and compare decision-making processes and values across sampled individuals (Charmaz, 2006). This triangulated approach allowed us to strengthen our interpretation of women's decision-making processes by comparing qualitative themes from interviews and patterns identified in the salience analysis.

4. Results

Among the 20 decision categories, five were statistically significant decisions. In order of relevant salience, these were: gear, household responsibilities, hunting partners, hunting land access, and general pre-

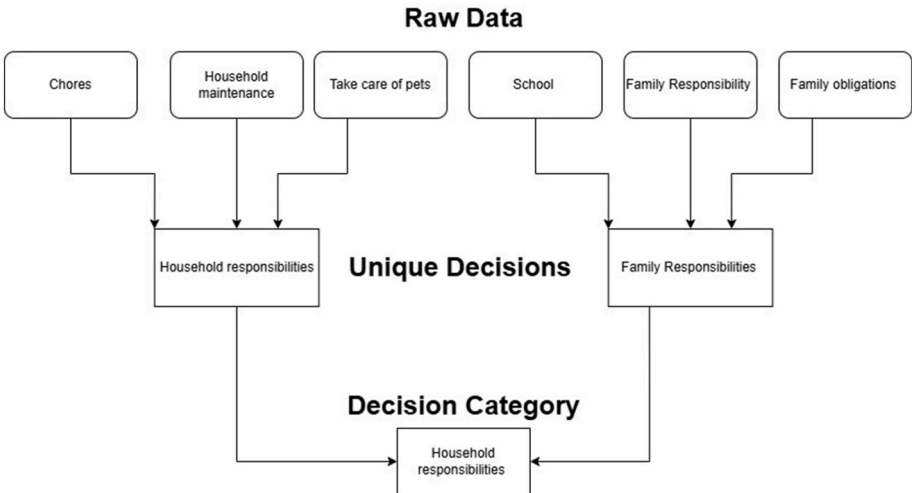


Fig. 2. An example of the stepwise process the research team took to translate an individual list to unique decision items to group decision categories.

planning (Table 1). In the sections below, we describe these categories in greater detail to examine how women understood these decisions and to illustrate how they exercise agency to navigate related constraints.

4.1. What gear do I need to bring?

Seventy percent of participants listed gear first among the decisions women make to hunt (salience = 0.51, p-value <0.001). These decisions often depended on the type of hunt. For example, participants explained that upland bird hunting required less gear compared to big game hunts due to the difference in size of game. Additionally, participants noted that bringing dependents on the hunt, including children but also dogs, added gear-related decisions, especially with regards to safety (e.g., hearing protection for children, more first aid supplies). Participants also listed gear for self-defense against wildlife or other hunters, and for anticipating their hygiene needs.

Many participants also discussed decisions about durable, well-fitting clothes. Participants explained that the clothing needed to fit, be comfortable, and keep them warm and dry during a hunt. However, participants expressed challenges finding affordable, well-fitting gear since most hunting gear is designed by, sized for, and marketed to men. An experienced hunter expressed frustration, “*There is not a gigantic market for women made things. I see lots of women in the field in men's pants with belts up underneath their boobs to keep [their pants] up.*” Participants felt that women's clothing is often designed for fashion rather than practicality, such as pants with too few and too shallow pockets. Many experienced hunters clarified that if women did not feel comfortable in their clothes, they were less likely to hunt, but that they would seek out information on quality gear options from other female hunters.

Many participants discussed decisions around blaze colored safety vests and hats to be visible to other hunters on the landscape. Participants described that although there were legal requirements for wearing blaze orange (or fluorescent pink in South Dakota and Wyoming) for hunting big game, many chose to voluntarily wear extra items to maximize their visibility to other hunters. An experienced hunter explained, “*Women, like most hunters, want fluorescent clothing to stay safe and seen out in the field, whether pink or orange. Pink camo can be unifying for women in the hunting community but can pose a safety risk because women are then easily identifiable.*” Some experienced hunters indicated that their state governments adjusted legislation to include fluorescent pink as a hunt safe color. However, they expressed general disinterest in that color option for concern that other hunters could easily identify them as women, increasing safety concerns. Overall, participants emphasized that wearing fluorescent clothing, whether orange or pink, was necessary to remain safe in the field.

Participants identified additional safety gear such as handguns or bear spray to address safety concerns to both potentially dangerous wildlife and to provide protection from other hunters. A participant who mentors other women shared:

It's important for women to have a secondary way to defend themselves like a handgun or bear spray. We [women] have such high anxiety, it's important to have something that makes us feel safe. It's easy to be intimidated out in the wild by human and animal predators.

Some participants invested in bear spray first because it is effective against both wildlife and humans, while handguns require additional investments and training. A few participants who hunted alone emphasized their decision to carry a handgun, which made them feel more secure against these potential threats while hunting.

Participants also expressed the need to prepare for the worst, including by ensuring they had access to emergency gear and the ability to contact somebody nearby if they needed assistance. Emergency gear decisions related to a range of possibilities, from inclement weather to personal injury, and included first aid kits, extra clothes, and satellite communication devices. Participants described a range of emergency scenarios that led them to sleep outside or in their vehicles due to rain or

Table 1

Findings from the freelist exercise, including unique decision responses (n = 131) (columns one and two, listed alphabetically) and their associated decision category (n = 20). Each decision category's salience analysis score and significant salience p-value are also included, with culturally significant categories italicized.

Unique Decision (n = 131)		Decision Category (n = 20)	Salience Analysis	Salience p-value
Bring cooler	Hygiene products	Gear	0.5055	0
Gear	Period product			
Childcare	Mom guilt	Household responsibility	0.4467	0
Family responsibilities	Nursing			
Family activity	Responsible for household	Who to go with	0.4082	0
Guilt	Selfish			
Experience of other in hunting party	Going with men	Where to hunt	0.3738	5e-04
Go alone	If partner is a hunter			
Go with friend	Relationships	Pre-planning	0.3237	0.0152
Go with partner	Who to go with			
Access	Distance from residence	Available time	0.2694	0.1368
Access to private land	Private vs public land			
Access to public access program land	Roads near public land	Hunting knowledge	0.2652	0.1605
Access to public land	Roads to hunt			
Ask permission	Where to hunt	Hunting knowledge	0.2652	0.1605
Avoid crowds	Where to live			
Access to bathroom	Pack food and water	Safety	0.2436	0.2933
Assess needs	Parking situation			
Be prepared	Plan the hunt	Safety	0.2436	0.2933
Clean the gun before use	Practice			
Go to gun range	Scouting	Safety	0.2436	0.2933
Go to gun range with somebody	Scouting with partner or by herself			
Hire an outfitter	Sleep	Safety	0.2436	0.2933
Know the landscape	Transportation			
Lodging for trip	Time	Safety	0.2436	0.2933
Length of trip	Know how to operate firearms			
Able to use app	Know how to pack gear	Safety	0.2436	0.2933
Access knowledge	Know how to shoot			
Access to knowledge	Know how to track	Safety	0.2436	0.2933
Have the skill set	Know land regulations			
Hunter Education Course	Know the regulations	Safety	0.2436	0.2933
Know how to clean the gun	Know where to get license			
Know how to cook game	Know where to go	Safety	0.2436	0.2933
Know how to field dress the meat	Knowledge			
Know how to identify target species	First aid	Safety	0.2436	0.2933
Blaze orange	Handgun			
Cell service	Safety	Safety	0.2436	0.2933
Emergency contact				
Fear				

(continued on next page)

Table 1 (continued)

Unique Decision (n = 131)		Decision Category (n = 20)	Saliency Analysis	Saliency p-value
Being comfortable	Confident with shot	Confidence	0.2109	0.4495
Challenge	Experience			
Comfortable to ask for permission	Independence			
Comfortable to go alone	Know how to use gear			
Comfortable to take kill shot	Mentally able to go			
Comfortable with firearms	Personal experience			
Comfortable with gear	Self doubt			
Confidence				
License/tags	Target species	Type of hunt	0.2066	0.4103
Season	Type of hunt			
Access to firearm	Gun	Weapon	0.1748	0.1798
Ammo	Weapon			
Choose weapon				
Weather		Weather	0.1746	0.1792
Commit to activity	New experience	Motivation	0.1414	0.0435
Connect with outdoors	Recreation			
Food motivator	Success			
Have the motivation to do it	Tradition			
Expense of gear	Money	Cost	0.1237	0.0153
Expense of travel				
Help with packing meat out	Trophy vs harvest	Post-harvest planning	0.1175	0.0108
Pack it out	Where to process			
Pack out the meat	Where to store harvest			
Group hunt details	Mentor	Community	0.1121	0.0067
Interaction with other hunters	Reach out to people familiar with area			
Know how to find a mentor	Treatment from other hunters			
Dogs	Equipment for dogs	Dogs	0.0971	0.0015
Day of the week	Day of the week	Timing of hunt	0.064	0
Physically able to go		Physically able to go	0.0537	0
Able to execute an ethical shot	Ethics	Ethics	0.0475	1

snowstorms and were grateful for emergency supplies. Many participants also used satellite communication devices to communicate with family, friends, or emergency responders, since cellular networks can be unreliable in the field, particularly in more desirable and remote locations.

Critically, participants highlighted women's-specific hygiene and bodily care needs, including for menstruation and nursing. A mentor hunter explained, "Especially when it comes to the female body. Menstrual cycle, peeing in the woods, nursing, or pregnant. All that is obviously on us." Participants addressed this by hunting on land with access to a bathroom or investing in products that allowed them to hunt in more remote areas for longer periods of time (e.g., antimicrobial pee cloths, menstrual cups, and female urination devices). Some mothers explained the need for additional gear such as a breast pump for nursing mothers. Overall, many participants made numerous decisions to stay comfortable and

safe while hunting and often shared that they learned about gear options from other women in their hunting networks or through online communities.

4.2. Will my household duties be covered in my absence?

Household responsibilities were the second highest ranked decision category, and it was listed by 58 % of participants (saliency = 0.45, p-value <0.001). Participants described the feeling of needing to "get ahead" of household chores like meals, laundry, pet care, childcare and home administration tasks before hunting to try to reduce the burden of chores that would need to be done afterward. A hunter who is married with two sons reflected on her own experiences as well as those of her female married friends with children, sharing that, "... they have spouses and kids, but they are still making all of those decisions. I feel like there are less decisions for [husbands]." Many felt that they bore the lion's share of household management, often in ways that felt overwhelming and endless.

Many mothers listed household responsibilities because childcare decisions were primarily their responsibility. One mother described the weight of her responsibility stating, "A gigantic contributing factor was childcare. If you go out with a partner or even by yourself, women have to find somebody they trust to take care of their kids. And hunting is an activity that it doesn't have a start time and an end time." Mothers often first considered whether their spouse would be able to watch the children or if they would join the hunt. If the spouse could not watch the children, participants would then be responsible to find childcare, which was especially difficult for mothers without nearby family given the early start time and unknown end time. Ultimately, these participants revealed that this narrowed their decisions about what lands and species they could hunt.

Some mothers decided to bring their children along for the hunt to address childcare limitations but stressed the importance of their child's safety. This often led them to choose fewer or less challenging hunts. For instance, a novice upland bird hunter described an easy hunt as, "We'll [husband and herself] hit the back roads with our child in the back seat usually around naptime, and we take turns with who drives." A participant mentioned she liked hunting on public roads because it was near her residence and the vehicle was a secure place for the children. Other participants hunted with their young children in tow but emphasized the importance of the children's safety. A mother who hunts with her small children explained, "For upland bird hunting, I can wear a baby on my back and throw some earmuffs on them." Mothers who chose to bring children with them described extra preparation to make sure their children would be comfortable during their time out in the field, but they largely found the experience to be rewarding and an important bonding time with their children.

Many married participants shared the sentiment of feeling largely responsible for the household and feeling anxious about leaving to hunt. Although only a few participants expressed guilt or selfishness, many mothers highlighted the difficulty of prioritizing their leisure. A mother described it as, "There's a systemic issue we have with mom guilt ... You almost have this feeling of obligation to be the motherly role." This motherly role, some participants explained, was in direct contrast to their decision to take time to hunt, but many also expressed that hunting was a leisure time that rejuvenated them. Ultimately, many participants conveyed that hunting decisions required balancing household and childcare duties with a desire to attend to their own leisure time.

4.3. Who will I hunt with?

Decisions about who to go with were the third highest ranked decision category, listed by 70 % of participants (saliency = 0.41, p-value <0.001). This category included decisions about hunting alone or with a hunting partner(s). Several participants shared they also liked to arrive with a partner and hunt separately rather than hunting completely

Table 2

Each salient decision category presents unique management opportunities to improve women's capacities to hunt. Management opportunities are those identified directly in response to decisions women reported making. Each management opportunity addresses constraints types summarized in the above literature review and can be advanced by a range of implementing partners.

Decision Category	Management Opportunity	Constraints addressed	Implementing Partners
Gear	● Develop gear libraries or gear drive events ● Provide information about essentials and trusted brands ● Provide information about gear for safety	● Reduce structural constraints by improving access to gear to relieve financial costs ● Reduce interpersonal constraints by improving access to information ● Reduce intrapersonal constraints by improving feelings of safety in the field	Government agencies Nonprofit organizations
Household Responsibilities	● Provide education course about safely hunting with children ● Market women's pursuit of leisure for themselves and family	● Reduce interpersonal and intrapersonal constraints by encouraging women to pursue hunting for themselves or families, while prioritizing rest and safety	Government Agencies Nonprofit organizations Hunting Media Hunting Corporations
Who to go with	● Develop instructional videos on self-defense techniques in the field ● Create community through educational programs for intermediate and advanced level hunters	● Reduce intrapersonal constraints by helping women feel safe to hunt alone ● Reduce interpersonal constraints by helping women develop hunting communities for social support	Government Agencies Nonprofit organizations
Where to hunt	● Develop instructional and training opportunities to enable hunters to access a range of state and federal lands and to ask private landowners for access	● Reduce structural constraints by improving access to diverse hunting lands ● Reduce intrapersonal constraints by helping women feel more confident	Government Agencies Nonprofit Organization Hunting Technology Companies
Preplanning	● Develop a series of locational, seasonal and species-specific checklists to help hunters prepare for the season and for each hunt	● Reduce intrapersonal constraints by helping women feel more confident	Nonprofit Organization Hunting Media

alone. An older, experienced hunter described, *"Companionship has been and is important to me. Not that I need to walk side by side but arrive together and then hunt a mile apart."* For some participants, having somebody nearby to potentially help in an emergency was comforting. Less experienced hunters said hunting independently near a companion helped them build confidence to hunt alone in the future. A few experienced hunters said that they sometimes enjoyed hunting alone.

Hunting with family (e.g., fathers, spouses, in-laws), mentors, or friends was a major theme. A few novice participants shared that their husbands introduced them to hunting and how they developed bonds with extended family through hunting, sometimes even without their spouses present. Some participants expressed a stronger preference for hunting with other female family members, with one experienced hunter describing how she *"... brought my two daughters-in-laws because [the rest of the family are] all hunters. I wanted them to experience it. They're both excited because they have tags for this year to go hunting and are new to South Dakota."* Hunting with family was desirable even when participants had access to a wider hunting community.

Some participants alternatively preferred to join or plan group hunts with female friends who they felt had more similar hunting goals. For example, one experienced hunter said:

Women pay attention more to the little details over men. With my men groups, they don't care. They're going out there to kill something and have a good time. With my women friends, we are like, who's gonna bring water, food? Are we going to have a place to stay? How are we going to potty? Y'all, bring toilet paper.

Participants noted that sharing responsibilities in this way spread the burden of planning all details of the hunt.

Upland bird hunts presented a unique set of decisions for hunting partners. In group hunts, participants worried about safety and emphasized gun safety as a top priority. Novice participants highlighted it was helpful to go with people who know how to hunt. However, one experienced participant said she wanted to know others' experience levels before deciding to go and would not feel safe hunting with novices.

4.4. Do I go hunting on private or public land?

Where to hunt ranked fourth among decision categories, listed by 62 % of participants (salience = 0.38, p-value <0.001). This decision category was centered around access to different types of hunting land, including public, private, and public access program land. Some participants said decisions about where to hunt intersected with considerations such as travel times to hunting lands, walking distance from parking lots to quality spots, and whether there might be other people at or near the hunting location. Participants also shared that overlapping concerns, like family responsibilities or safety issues, influenced their decisions about where to hunt.

In particular, the likelihood of getting a tag and harvesting wildlife impacted where participants chose to hunt. An experienced hunter said, *"I'm willing to drive. If I know the numbers are good, it's a greater chance of you filling your tag. I'm going to drive the extra hour, where it's more secluded, to increase my chances of tagging birds."* Participants weighed trade-offs between higher chances of success on more distant public lands where they might be able to avoid crowds and the pull of family responsibilities that kept them closer to home. One mother explained, *"All these big-ticket areas that people apply for, I don't apply for them. I pick places that are usually within like 45 min to an hour away from my house."* This participant, like several others, said that they tended to return to their same hunting spots year after year due to limited time to explore new hunting locations.

Many participants expressed a preference to hunt on public land, in part because of an understanding that public land represents land for all, and many developed strategies to avoid interacting with other hunters. An upland bird hunter said, *"Public land has been something that I relied on my entire hunting experience. Public land has been a great resource that does not require me to approach strangers for access."* Those who hunted on public lands described strategies such as going later in the season, hiking deeper into "backcountry" areas, and hunting on weekdays. Participants who hunted on public lands felt it was a more exciting challenge to harvest game.

Social etiquette around interactions with other hunters was often

learned through mentorship and influenced how participants navigated public lands. An experienced hunter said, *"The biggest deciding factor is the people you're encountering on that land. There are unspoken rules in public land hunting, and if you're there first and someone comes up behind you, the second person respectfully leaves and lets you hunt."* Experienced hunters said social interactions impacted decisions to stay or leave, especially when they perceived conflict and/or safety concerns. Many participants planned a backup location in case preferred spots were occupied and they expected other hunters to do the same.

A few participants used private land to hunt, but most participants expressed difficulty asking landowners for permission. Hunters who had direct connections to landowners—family, friends, or coworkers—felt safer knowing they were alone on the property, unlike on public land. Some participants without direct connections to the landowner reported positive interactions when asking to hunt on their land, even if they felt intimidated to ask permission. While some expressed gendered safety concerns, others felt their gender may play to their advantage. For example, one novice big game hunter described the fear as, *"I feel like I'm trespassing before I get close enough to even ask them,"* while another participant explained that *"As a woman, in my experience, it is much easier. But it can also backfire because people will look down on you."* Overall, participants viewed private land as safer than public land due to fewer hunters, but still highly valued access to public land.

4.5. Am I prepared?

General pre-planning ranked fifth among decision categories, and was listed by 60 % of participants (salience = 0.32, p-value <0.015). This category included longer-term planning, like whether they had scouted for hunting spots and practiced with their weapons, as well as shorter-term planning, like whether they had their items packed for the field. Many novice hunters expressed concern with staying within public and private boundaries and used phone-based GPS tools with up-to-date land ownership data to scout or locate property boundaries to avoid illegal trespass. One experienced hunter described using this technology to navigate land boundaries, offering that she *"... used OnX [hunting map phone application] to do a lot of scouting, mostly state land, Forest Service, BLM [Bureau of Land Management], and BMAs [Block Management Areas]."* Participants also described scouting alone or with a partner; checking for transportation, lodging, and bathroom access; and identifying primary and back-up locations.

Participants emphasized the importance of practicing with weapons before hunting season and some chose not to hunt if they felt unfamiliar or unpracticed with their weapon. A novice hunter said, *"I was not feeling prepared with hunting. The gun aspect makes it more of a barrier to get into it. And why would you take a whole weekend off if you're not prepared."* Mentorship or formal training enabled some participants to gain confidence with their weapons and develop skills such as field dressing and processing game. Many participants developed these skills through community events, including women-only courses, or by hiring outfitters and guides.

Other decisions were connected with general pre-planning, including gear, safety, and family responsibilities. For instance, participants noted the importance of preparing essentials such as food, water, ammunition, and other gear in case of inclement weather, injuries, or dangerous wildlife. An experienced big game hunter explained, *"I think weather—all the variables that could go wrong and [you] try and prepare yourself. We have been caught out in fog, and almost camped out overnight with a survival tarp up where we hunt is grizzly and wolf country, so there's a lot more planning preparation with that."* Some married participants felt obligated to pack emergency provisions not just for themselves, but for their spouses as well, illustrating the interconnectedness of family responsibilities with pre-planning decisions.

5. Discussion and conclusion

This paper contributes to scholarship on women's decision space in hunting by describing the sequence of decisions and strategies used to overcome well-established barriers to hunting. We applied a cultural salience analysis to identify and rank the many decisions women make to hunt (Bernard, 2006; Quinlan, 2005). Women's decisions were broad in scope, spanning all aspects of the hunting experience—from pre-planning and gear selection, to where to store meat after the harvest. They included practical logistics, such as packing the right gear; strategic considerations, like balancing multiple constraints; personal preferences about hunting partners; and social dynamics, including expectations around domestic responsibilities. After grouping the 131 decisions into 20 categories, five emerged as most prominent in women's decision space: gear, household responsibilities, hunting partners, access to hunting lands, and general pre-planning. Overall, decision categories highlighted women's ability to navigate complex barriers and act on their hunting goals.

These findings expand our understanding of women's hunting participation by showing that their decisions are shaped by their perception of and ability to respond to constraints. Women demonstrated substantial agency in their hunting decisions by actively developing strategies to navigate constraints and pursue their goals. For example, participants often expressed concern for ensuring their physical and emotional needs are met before planning specific details of the hunt. They were able to address those individual needs with decisions that encompassed gear, companionship, and general preparation. Researchers previously recognized that female hunters often also addressed fears of crime and wildlife through companionship (Cole et al., 2024). However, women clarified that, along with companionship, they prepared and invested in personal self-defense weapons to address fears. Our results further demonstrated that women prepared multiple other strategies to manage external threats and prioritize personal safety. Our results underscored the value of decision categories in offering a more nuanced and dynamic understanding of how women evaluate and overcome constraints.

Our findings also show that hunting decisions are shaped by social and cultural factors related to household responsibilities, as found in other leisure research (e.g., Henderson, 1996; Little, 2002). Women balance their desire for personal leisure time with family responsibilities and societal expectations of women and mothers (Metcalfe et al., 2015; Schroeder et al., 2006). Family-oriented hunters often were burdened with planning the family hunting activity and researchers found women prepared for both themselves and their families (Metcalfe et al., 2015). Our results showed that participants perceived general indoor household duties, especially childcare, as primarily their responsibility, and many expressed feeling a sense of guilt for leaving some indoor chores unfinished or prioritizing their personal leisure time. In a similar study in the context of fishing, Schroeder et al. (2006) identified that women felt pressured to bring home fish to feel as though their time spent in leisure was productive and to compensate for taking time away from their family. Likewise, our results revealed that societal expectations were barriers to women's full participation, and women had to navigate the tension between their own leisure and domestic expectations (Henderson, 1996; Llyod et al., 2016).

We also found that social support—especially from other female hunters, mentors, family, and the broader hunting community—was important for women to participate and build their confidence as hunters. Taken further, our results highlight that social support is key for women to navigate interpersonal and societal expectations and to decide to hunt. For example, mothers felt supported to participate in even extended hunting trips when their family provided childcare. Beyond family, community networks, including mentored hunting events or through social media pages, proved critical for mothers looking for practical information for how to safely bring children on a hunt. The ability to receive tried and tested advice from other mothers who hunt

increased participants' confidence around decisions to hunt. In these ways, social support played a key part in building women's confidence and agency to hunt, overall highlighting the diverse factors that influence women's decision-making.

Additional research could further investigate how decision categories differ across demographics such as age, geographic location, class, race, and how different populations navigate constraints and exercise agency to participate in hunting. As a growing availability of hunter education programs seek to recruit and retain hunters, future research could also explore how various kinds of educational offerings may influence experiences and outcomes for different demographics. For example, there are questions about if and how young men build community to hunt, and what the impacts of that community might be on their experiences in the outdoors. Future research could also deepen lines of inquiry on how mothers navigate emotions like guilt to participate in leisure. Furthermore, free listing and other ethnographic methods are well used within the hunting context, but our work shows their potential to offer a more holistic understanding of participant decisions around outdoor recreation.

As more women participate in hunting, it is important that state agencies, NGOs, and other programs targeting female hunters gain a better understanding of their perspectives in order to provide effective support. Continued support for R3 programs can impact women's participation in outdoor recreation not merely for the technical skills they can learn, but also for their ability to develop necessary community support. Likewise, our findings reinforce the view that women's agency is expressed not only through outcomes, but also through the accumulation of small, strategic decisions over time. Like Szaboova et al. (2022), we found that women's hunting decisions had ripple effects—strengthening their confidence, building resilience, and enabling continued participation in the face of persistent challenges. By focusing on agency, researchers can better recognize women's participation despite constraints and describe their resourcefulness and competence in the outdoors.

CRediT authorship contribution statement

Hayley Nash Jackson: Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **Lauren Redmore:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Funding acquisition. **Christopher A. Cheek:** Writing – review & editing, Validation. **Jennifer Zavaleta Cheek:** Writing – review & editing, Writing – original draft, Validation, Supervision, Project administration, Funding acquisition.

Declaration of competing interest

The authors do not have any known competing financial or personal interests to influence the work within this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jort.2025.101012>.

Data availability

Dataset is cited in paper and linked to an open source dataset.

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