

MINIATURE PIGS AS THERAPEUTIC ANIMALS – PREDISPOSITIONS AND LIMITATIONS

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Abstract

Miniature pigs are perceived as companion animals. The domestication process and the adaptive abilities of these animals enable interactions with humans. Their popularity is increasing thanks to social media. This review discusses the morphological and behavioral characteristics of miniature pigs and their predispositions for the role of therapeutic animals. High intelligence, innate curiosity, cognitive abilities and learning capacity make it possible to introduce and use them in human therapy. Regular human–animal contact appears beneficial for the animal by reducing its stress, and also improves mood and alleviates symptoms of fear and anxiety in caregivers. Miniature pigs are useful, among other applications, in therapy for people on the autism spectrum and those with neurological problems. The paper reviews and analyzes various factors determining the suitability of miniature pigs for participation in animal-assisted therapy, with particular emphasis on their cognitive traits, natural behavior and husbandry requirements. Their practical use faces various limitations—legal, sanitary and behavioral. Aggression can be a problem and is the main factor disqualifying animals from therapy. The use of the behavioral plasticity and trainability of miniature pigs requires further research.

Keywords: pigs, companion animals, intelligence, therapy, AAI

Introduction

Miniature pigs are a group of breeds belonging to the domestic pig species (*Sus scrofa domestica*) (Goldie and Roe, 2025). Recently, interest in keeping miniature pigs in home environments has increased (Marino and Colvin, 2015; Pérez Fraga et al., 2020; Zybert et al., 2023). These animals have an average lifespan of 12–18 years, a relatively low body weight and early maturation. They reach somatic maturity at approximately 2 years of age (Beyga and Rekiel, 2003). Key species-specific needs of pigs include group living, rooting, exploratory behavior, maintaining social relationships, and opportunities for effective thermoregulation, which is limited by the absence of functional sweat glands (Gieling et al., 2011; Reimert et al., 2014; Gerencsér et al., 2019; Netzley and Pelled, 2023). The high level of cerebral cortex development (Jelsing et al., 2006; Rekiel et al., 2023) and the ability to use social information in foraging strategies (Held et al., 2000) indicate the considerable cognitive potential of miniature pigs. Adaptive abilities, highly developed senses, intelligence, curiosity, learning ability and willingness to

interact with humans provide, among other things, a basis for considering their use in animal-assisted therapy (Bystrova, 2023; Netzley and Pelled, 2023).

The aim of this paper is to present and discuss the predispositions and limitations associated with the use of miniature pigs as companion animals and/or participants in therapy.

Domestication and popularity of pigs

Pig domestication took place approximately 9,000 years ago (Hemmer, 1990; Гладырь et al., 2009). Domestic pigs originating in the Middle East appeared in Europe around 5,500 BCE (Larson et al., 2007). By comparison, dogs (*Canis familiaris*) were domesticated 14,000–35,000 years BCE (Galibert et al., 2011). Dogs were used as animals that protected people, met the need for security, increased chances of survival and served as companions (Power, 2012). In pigs, after domestication, artificial selection began and was—and still is—directed toward meat and fat production. Animals selected for breeding were those that were not afraid of humans, produced and reared numerous offspring, gained body weight rapidly, and had relatively low husbandry and feeding requirements (Nawroth et al., 2013; Komlatsky and Velichko, 2019).

In the 1950s, a new direction of selection emerged in connection with the use of pigs as laboratory animals. Rapid body-weight gain and the large size reached after somatic development, however, became disadvantages. There was a need to develop pigs whose body weight would not exceed 40–45 kg (Yang et al., 2021). The first miniature pig breeds originated from Vietnamese pot-bellied pigs and wild pigs from Southeast Asia. An exception was the Yucatan breed, originating from southeastern Mexico and areas of Latin America (Beyga and Rekiel, 2003). The term ‘miniature pigs’ became established because of their relatively low body weight and small size compared with domestic pigs kept for production purposes (Goldie and Roe, 2025). It should be emphasized that only a small proportion of the domestic pig population is kept for purposes other than production (Klocek et al., 2019).

Miniature pigs are highly popular as companion animals in the United States, Canada, Japan, England, France and Germany (Hager and Rekiel, 2015; Zybert et al., 2023). Interest in them continues to grow (Marino and Colvin, 2015; Pérez Fraga et al., 2020). According to the American AMPA registry (<https://americanminipigassociation.com/breeders/mini-pig-breeder-resources/mini-pig-breeds/>), which compiles information on miniature pigs, there are more than a dozen breeds treated as pets. These include Ossabaw Island pigs, Juliana pigs, Kunekune, Vietnamese pot-bellied pigs, Meishan, Yucatan and Göttingen pigs. Their popularity is due largely to social media, where hundreds of thousands of posts with the hashtag #petpig have already been shared and videos under the phrase ‘pet pig’ have received millions of views on TikTok (Goldie and Roe, 2025). Miniature pigs are increasingly kept in households, where they are regarded as integral family members and serve as companion animals. They show high adaptive abilities, developed social competence and considerable willingness to interact with humans (Bystrova, 2023). They are relatively easy to tame and train (Pérez Fraga et al., 2020). Unfortunately, unlike dog and cat owners, pig owners have limited access to qualified trainers and behavior specialists, because training and behavior modification in pigs until recently generated little demand (Bystrova, 2023), and research on this topic is scarce (Tynes, 2021). In shaping and correcting behavior, pigs differ substantially from typical companion animals such as dogs and cats (Bystrova, 2023). Nevertheless, the specific way in which they perceive their surroundings makes it possible to develop methods for training and controlling miniature-pig behavior.

Fundamentals of ethology. The senses

A pig's vision is sufficiently developed to enable contact with humans (Bystrova, 2023). In communication with people, pigs generally use visual and acoustic cues. They respond actively to the color of a person's clothing and can learn to recognize not only a particular individual but also human faces in 2D images. The pig eye is structurally similar to the human eye; pigs have a wide field of vision but limited accommodative ability (Klocek et al., 2019). Pigs have limited perception of colors in the red and green ranges (Tanida et al., 1991; Götz et al., 2020).

Pigs actively use their sense of smell in threatening situations and to maintain contact between individuals (Bystrova, 2023). The use of pigs to search for truffles is widely known (Mustafa et al., 2020). It is also sometimes claimed that miniature pigs can be used to detect psychoactive substances (Klocek et al., 2019). However, scientific evidence confirming their use and effectiveness in this field is lacking.

Domestic pigs have a strongly developed need to explore their environment (Dubois, 2006). Smell and exploration with the snout are their main tools for learning about the world and finding food (Rørvang et al., 2023). Food should therefore be provided in a place that allows it to be obtained by rooting, for example in a container filled with soil (Tynes, 2015). Pigs can recognize the sound of the human voice and respond to its frequency and speech tempo. They can also recognize emotions in the human voice (Bystrova, 2023). Because of their very good hearing, prolonged noise, sudden sounds, excessively loud conversations and shouting may cause stress leading to apathy or stereotypies. A particular sound can evoke positive or negative associations in pigs (Klocek et al., 2019).

How pigs perceive human movements, body posture and gestures is a subject of research (Bystrova, 2023). Animals are less distrustful of a person who remains motionless, kneels or crouches than of someone who moves or stands upright. Human gestures attract attention when performed at the pig's eye level. To control a pig's behavior, a person should learn to recognize signs of fear and stress in the animal, which may be expressed through body language and vocalization. Contact with people is most often perceived positively by pigs; when people ignore them, pigs may even initiate contact. This can be used as a reinforcer in training. Not every interaction with a person is perceived positively by the animals; for example, lifting a pig causes panic and severe stress in individuals not accustomed to the procedure. The specific nature of pigs' social behavior should be taken into account in training and behavior modification. Group membership and learning in the presence of conspecifics are of key positive importance, whereas separation from the group is undesirable and detrimental (Bystrova, 2023).

Cognitive abilities of pigs

Pigs are highly intelligent animals with flexible minds and innate curiosity (Netzley and Pelled, 2023). The number of cortical neurons in pigs—for example, the Göttingen miniature breed—is 253 million at birth and increases to 324 million during life (Jelsing et al., 2006). In commercial pigs it is 425 million and does not change. As an animal ages, its self-confidence and learning ability increase (Netzley et al., 2021), a phenomenon also observed in humans. Pig intelligence is evidenced by their ability to interpret and use information from a mirror image. They can locate objects, such as a food bowl, that are not directly visible to them on the basis of a mirror image (Broom et al., 2009). Pigs can effectively use information possessed by other individuals and modify their own foraging strategies (Held et al., 2000). Higher-ranking individuals followed subordinate pigs that knew the location of food and then took over access to the food source. Koba et al. (2012) showed that 4–6-month-old Göttingen pigs can learn to

distinguish between people. However, they had difficulty transferring information from photographs to real-life situations. Piglets respond to their names as early as 2–3 weeks after birth (Hager and Rekiel, 2015; Rekiel et al., 2023). In an unsolvable-task test, pigs remained engaged for quite a long time in independently manipulating the problem object (Pérez Fraga et al., 2020). According to those authors, this may have resulted from pigs' strong exploratory motivation and high cognitive curiosity.

Miniature pigs become bored quickly and require continuous physical and intellectual stimulation. A lack of such stimulation can lead to aggressive and/or destructive behavior (Veissier and Boissy, 2007; Jääskeläinen et al., 2014). Isolation and boredom lead to sham chewing, biting and destruction of objects (Amalraj et al., 2018). When pigs are kept in commercial housing, environmental enrichment is recommended and used in practice to prevent mutual injury and stereotypies (Lee et al., 2024; Lee et al., 2025). Beattie et al. (1996) showed that simply increasing space is not sufficient for pigs; the environment should be enriched with objects that occupy their attention. Pigs prefer new and unfamiliar objects, which beneficially prolongs the time they interact with them (Netzley et al., 2021). Both dog toys and children's toys can be successfully used for intellectual stimulation of miniature pigs (Dubois, 2006; Horback, 2014; Hager and Rekiel, 2015; Marcet-Rius et al., 2020). Commonly used items include olfactory accessories such as food-dispensing balls, snuffle mats with different levels of difficulty, and food puzzles. Ball pits or containers filled with plush toys are also used and may satisfy the need for exploration and rooting. In addition, toys that emit sounds or light, as well as rustling toys and toys producing various noises, are used. The variety of accessories that can be employed is also illustrated by videos and photographs featuring miniature pigs on platforms including YouTube, TikTok, Instagram and Facebook.

Miniature pigs can be taught commands such as recall ('come'), 'sit', 'leave it', 'wait' and 'stay', as well as spins, giving a leg/hoof, walking in a harness and on a leash, and other behaviors (Dubois, 2006). The animals readily adapt to the routines of modern human life. They can be house-trained, for example to use a litter box (Komlatsky and Velichko, 2010). Pigs are strongly food-motivated, so positive reinforcement with food produces the best training results (Gieling et al., 2011). Pigs tend to be active mainly in the morning and evening—times when people traditionally spend time with animals, before and after work—and to rest for long periods at night (they sleep about 8 hours per day) (Komlatsky and Velichko, 2010; Netzley et al., 2021). Domestication has left its mark on the activity of *Sus scrofa domestica*. In companion pigs, humans are an important factor shaping activity patterns (Venegas et al., 2025).

Traits enabling the use of miniature pigs in therapy

An important aspect of the traits predisposing *Sus scrofa domestica* for use in therapy is that pigs can respond to the emotions of conspecifics within a group (Reimert et al., 2014). In addition, they are highly social and gregarious animals (Gerencsér et al., 2019; Netzley and Pelled, 2023). The tendency of miniature pigs to initiate interactions with humans, especially under conditions with a limited number of environmental stimuli, is also important (Villain et al., 2020). These animals display traits desirable in therapy animals, such as actively seeking human attention and willingness to interact with people (Nimer and Lundahl, 2007). It has been suggested that they show greater tolerance toward strangers than dogs (Gábor et al., 2024), which may also predispose them to therapeutic work. Results reported by Lucas et al. (2024) indicate that early, systematic and positive interactions with humans can reduce pigs' fear of people. This effect persists even after the period of direct contact has ended. When faced with novel environmental stimuli, pigs show increased overall resilience to stress and improved adaptive abilities (Lucas et al., 2024). Miniature pigs exhibit relatively stable personality traits such as sociability, boldness, activity and exploratory tendency, which determine how they respond to

human presence and behavior. Assessment of these traits using standardized behavioral tests, including the open-field test, novel-object test and human-approach test, enables deeper analysis of the animal–social environment relationship and pigs’ cognitive abilities. This is crucial for welfare, including psychological, emotional and cognitive needs (Duncan and Petherick, 1991; Gieling et al., 2011), as well as for the quality of the human–animal relationship (O’Malley et al., 2019). To induce a change in emotional state, Marcet-Rius et al. (2020) provided miniature pigs with toys and then performed a ‘stranger’ test. The experimental animals were less fearful and more willing to interact with an unfamiliar person, indicating a more positive emotional state. According to the authors, opportunities to engage in object play and spontaneous social play may improve human–animal relationships. Unfortunately, available tests are imperfect. New technologies are therefore gradually being introduced into behavioral assessment, including touchscreens (Ao et al., 2022), accelerometers, RFID systems, computer analysis of recordings (Netzley and Pelled, 2023), and automatic behavior-recognition models (Deutch et al., 2026). Pigs are motivated to engage in social and manipulative play with objects such as balls and sticks (Horback, 2014). Experimental studies have demonstrated pigs’ ability to discriminate between auditory stimuli of different emotional valence. In response to positively characterized music (e.g. Bach), affiliative behaviors such as tail wagging and vocalizations were observed, whereas exposure to a military march was associated with negative reactions (Reimert et al., 2014). The cognitive abilities and social competencies of pigs remain insufficiently understood (Gerencsér et al., 2019).

Miniature pigs live in social groups with complex structures and display a rich behavioral repertoire. They express diverse emotional states such as curiosity, fear, anger, affiliative needs, caring behavior and playfulness. Attachment and interest may be expressed through tactile and visual contact (Rekiel et al., 2023). Pigs’ responses to humans in neutral situations, without a food context, may resemble behaviors observed in dogs. Pigs’ social behavior toward humans is modulated by food motivation. Eye contact with a human face occurs mainly in individuals with experience of being fed by that person (Gerencsér et al., 2019). Maintaining prolonged eye contact is difficult for pigs because of anatomical limitations associated with raising and holding the head in an unnatural position. Miniature pigs show prolonged behaviors directed toward the human body and a strong response to food stimuli (Gerencsér et al., 2019). In novel and potentially stressful situations, they tend to seek proximity to their caregiver (Gerencsér et al., 2019; Pérez Fraga et al., 2020; Pérez Fraga et al., 2021). Long-term, intensive socialization of young miniature pigs promotes behaviors similar to those observed in puppies (Pérez Fraga et al., 2020). Pigs readily interact with people and respond positively to stroking around the head, which helps reduce social distance and stress levels (Pérez Fraga et al., 2020). Pigs require regular walks and gradual habituation to their surroundings (Hager and Rekiel, 2015). Some miniature-pig caregivers report that communication with them is relatively easy (Goldie and Roe, 2025). *Sus scrofa domestica* is characterized by high intelligence, ease of learning, sociability and considerable social sensitivity. Properly trained individuals can be safe in contact with children and older people (Amalraj et al., 2018).

Training should use methods based on positive reinforcement, rewarding correct responses. Punishment in response to undesirable behavior may intensify aggressive reactions (Beyga and Rekiel, 2003). Pigs can acquire numerous commands and behaviors over their lifetime, but training effectiveness depends on consistency, unambiguous signals and an appropriate human approach. Eye contact during learning may promote habituation and strengthen the human–animal relationship (Koba and Tanida, 2001). According to Cronney et al. (2003), both vision and smell play important roles in learning and memory. A lasting bond is built under conditions of consistent but emotionally varied interaction by the caregiver. Pigs show preferences for certain forms of physical contact, such as scratching the belly or behind the ears

(Hager and Rekiel, 2015). During teaching, it is important to avoid commands that sound similar, use a firm tone of voice, combine food rewards (e.g. vegetables, fruit) with verbal reinforcement, and set clear behavioral boundaries (Dubois, 2006). Pigs can distinguish familiar from unfamiliar people on the basis of sensory cues (Tanida and Nagano, 1998; Koba and Tanida, 2001). Nawroth et al. (2013) showed that pigs more often chose a person facing them and maintaining eye contact than a person turned away, suggesting an ability to recognize human attentional states. Impulsive individuals were less effective at interpreting these signals. According to Gábor et al. (2024), pigs show similar behavior toward strangers and owners, and attachment to particular people may be an individual trait.

Miniature pigs in therapy support

Since ancient times, animals have been valued and used to improve human health. In the ninth century, animals were used in the treatment of people with disabilities (Serpell, 2000). At the end of the eighteenth century, rabbits and chickens were used in therapy for patients with mental illness (Salotto, 2001). In the second half of the nineteenth century, farm animals and horses were incorporated into therapy for people suffering from epilepsy (Bustad, 1980). However, research into the effects of animals on human health and well-being did not begin until the late 1970s (Morrison, 2007). Despite its long tradition, animal-assisted therapy has not been widely incorporated into mainstream healthcare.

Contemporary therapies and therapeutic programs involving animals are directed at different patient groups and cover a broad spectrum of conditions—developmental disorders, dementia, multiple sclerosis, post-traumatic stress disorder (PTSD), stroke, spinal cord injuries, schizophrenia, anxiety and depression (Charry-Sánchez et al., 2018; Çakici and Kök, 2020). Animal-Assisted Therapy (AAT) complements traditional medicine and uses trained animals—most commonly dogs, cats, horses, dolphins, fish and birds, but also pigs, goats, cattle, sheep, llamas and donkeys (Gardiánová and Hejrová, 2015; Çakici and Kök, 2020; Szewczyk et al., 2023). The characteristics of miniature pigs described above, including learning ability and intelligence, make it possible to introduce them into animal-assisted therapy. AAT is aimed at improving physical and mental health, character development, and social, cognitive and motor skills. Safety measures, hygiene practices and adult supervision are important in AAT programs, as are issues of cost, reimbursement and certification (Morrison, 2007; Szewczyk et al., 2023).

Use of the FaceRead technique to select animal species and breeds for personalized animal-assisted therapy (AAT) showed that animal species is an important factor influencing the intensity and valence of emotions (Lukšaitė et al., 2022). Images of dogs, cats, horses, sheep and pigs of different breeds (Vietnamese pot-bellied and New Zealand Kunekune pigs) were used. It was important to determine the conditions under which AAT may be most helpful. The animal species, the environment in which therapy is conducted and its duration were found to influence outcomes. According to the authors, the results may serve as a personalized strategy to improve animal-assisted therapy and help people choose a pet. Selecting the species and breed individually for each person is crucial to achieving the most effective AAT outcomes, and a personalized strategy may help prevent unnecessary patient stress before choosing AAT (Askew et al., 2014). Animals participating in therapy must be examined for health and temperament (Barba, 1995). Over the past decade, the presence of animals in institutional care facilities has increased. This has led to the development of concepts of animal-assisted interventions (AAI) (Hassink et al., 2017). This strategy includes AAT as well as Animal-Assisted Activities (AAA). Interaction with animals can create a sense of safety and make it easier for people to express emotions. Animals can also be used on therapeutic/care farms (Farming for Health) (Hassink and Van Dijk, 2006; Hassink et al., 2017).

Within animal-assisted interventions (AAI), the effects of introducing mini-pigs into nursing homes were analyzed (Mano and Ogawa, 2019). The study was conducted in intensive-care and day-care units. Its aim was to determine the animals' effect on the quality of life of older people, including patients with dementia. Relaxation levels were measured before and after activities involving mini-pigs using a visual analogue scale (VAS). VAS is a method used to assess a subjective variable, trait or attitude that takes continuous values and cannot be precisely measured with available instruments; it is used in medicine and psychology. After the activities, results collected by caregivers were analyzed. Patients' relaxation levels improved. They showed greater liveliness, expressiveness and willingness to participate in subsequent therapeutic sessions.

AAT, including therapy involving miniature pigs, is successfully used in treating impaired social competence in patients with acquired brain injury—neurological disorders such as stroke or aphasia (Gocheva et al., 2018; Hediger et al., 2019). It is also an element in teaching empathy and gentleness (Nimer and Lundahl, 2007). Because of their wide availability, ease of training and common image as human companions, dogs (*Canis familiaris*) are used most frequently in this type of therapy (Nimer and Lundahl, 2007). Jennings et al. (2021) observed a positive effect even from a short visit by a dog and handler to children in pediatric intensive care, hematology and oncology wards. Children receiving AAI, of which AAT is one form, showed lower cortisol levels and better mood. Farm animals are also introduced into this type of therapy—in addition to horses used in hippotherapy, these include sheep, cattle and pigs (Berget et al., 2008; Rosteijs et al., 2022; Compitus and Bierbower, 2024). In the case of pigs, miniature pigs are used mainly because of their small size, which makes it possible to conduct therapy inside buildings such as hospitals and senior-care homes. Their use as therapy animals has been popularized in the United States, where they are also used as Emotional Support Animals (ESA) (Klocek et al., 2019). According to Włodarczyk (2019), however, the use of miniature pigs as ESAs is controversial.

Miniature pigs may have a calming effect on children on the autism spectrum and may help them verbalize (De Poloni and Leacer, 2019; Kraft, 2024). Beneficial effects in patients on the autism spectrum, including increased social behavior, behavioral regulation and a sense of normality, have been observed in AAT using farm animals (Dolecheck et al., 2024), horses (Lanning et al., 2014; Anderson and Meints, 2016), dolphins (Fiksdal, 2012), guinea pigs (Kršková et al., 2010; Grandgeorge et al., 2019), cats and dogs (Grandgeorge et al., 2020).

Animals, including miniature pigs, visit schools, nursing homes, hospitals, hospices and mental-health centers (Mano and Ogawa, 2019; Hediger et al., 2019). At airports, miniature pigs are used in interventions for fear of flying (Klocek et al., 2019; Włodarczyk, 2019). Owners' observations indicate that the presence of miniature pigs during walks often evokes positive emotional reactions in passers-by, such as smiles and joy. Miniature pigs may alleviate symptoms of anxiety and fear in people, panic attacks and symptoms of depression, and may be helpful in PTSD (Charry-Sánchez et al., 2018). However, the ability to detect drops in blood glucose and recognize impending epileptic seizures in humans—reported by miniature-pig owners and described in materials from organizations dealing with these animals—has not been scientifically confirmed.

In a study of the effects of AAT on patients with acquired brain injuries, Hediger et al. (2019) used various animals. Horses, donkeys, sheep, goats, miniature pigs, cats, chickens, rabbits and guinea pigs participated in the project. All animals were housed at a therapy-animal center and had experience working with patients after brain injury. The effect of therapy on social competence was assessed using inpatient neurorehabilitation together with patients' parallel participation in AAT sessions. Patients' social behaviors were systematically coded from video recordings of the therapy sessions. Mood, treatment motivation and satisfaction were

measured during each session. In the presence of an animal, patients showed increases in positive emotions, verbal and non-verbal communication, mood, treatment motivation and satisfaction. The authors concluded that including animals may improve therapeutic outcomes in the socio-emotional functioning of patients with acquired brain injury. This may indicate the potential of miniature pigs as therapy animals.

Novelty can evoke more intense emotions in people (Skavronskaya et al., 2020) and positively influence the transfer of information into long-term memory (Schomaker et al., 2014; Skavronskaya et al., 2020; Lima et al., 2022). Exposure to a novel stimulus may also enhance learning by activating the dopaminergic system, in which D1 dopamine receptors in the hippocampus play a major role (Lima et al., 2022). In a study by Lukšaitė et al. (2022) involving 50 people of different ages and socioeconomic status, the image of a miniature pig elicited the greatest intensity of positive emotions and a relatively lower level of negative emotions compared with the other animal species used in the experiment. It may be assumed that, for some people familiar with conventional AAI, even occasional use of a miniature pig could increase therapy effectiveness because of the element of surprise and the breaking of routine. This area requires more research focused on the positive reactions that miniature pigs evoke in people and on the use of these animals in therapy.

Limitations

Husbandry conditions

Under current legislation, miniature pigs in Poland and other European Union countries are classified as farm animals (Regulation (EU) 2016/1012 of the European Parliament and of the Council (2016), OJ EU L 2016.171.66; Act, Journal of Laws 2021.36). The same regulations apply to them as to other farm animals, particularly in epidemiological matters (Journal of Laws 2023.1075, as amended). They are also subject to mandatory registration with the Agency for Restructuring and Modernisation of Agriculture (Journal of Laws 2023.1815, as amended). It is recommended that they be kept at least 500 meters from commercial pig farms (Amalraj, 2018). Rooms intended for pigs should be maintained at a high level of hygiene and cleanliness; the use of insecticides is recommended to reduce insects that may act as vectors of pathogens responsible for infectious diseases such as African swine fever (ASF) and porcine reproductive and respiratory syndrome (PRRS) (Amalraj, 2018).

Pigs are herd animals and should not be kept alone. In an online survey of miniature-pig owners, Tynes et al. (2007) found that singly housed pigs more often showed human-directed aggression. Of 126 animals reported as being kept alone, 75% had episodes of aggression. Aggressive episodes were also observed in 49% of pigs kept with one or more other pigs.

Miniature pigs are often acquired spontaneously, on impulse, prompted by the animal's attractive appearance (flat pink snout, rounded cheeks). In practice, these animals often reach a much greater body weight than sellers declare, resulting in their surrender to shelters (Tynes et al., 2007). Owners often lack knowledge of pig-specific behavior and their high environmental requirements, particularly regarding housing conditions and opportunities to perform their natural behavioral repertoire (Tynes, 2015). Caregivers who keep pigs as companion animals may also experience stigmatization. They encounter negative social reactions and opinions that pigs are dirty and lazy and that keeping them in the home is 'inappropriate' (Goldie and Roe, 2025). This probably stems from the fact that pigs are commonly classified as farm animals kept for slaughter products. Keeping miniature pigs as pets blurs the boundary between farm animals and companion animals. Farm animals are generally not perceived as participants in relationships based on closeness and emotional bonds (Goldie and Roe, 2025). Another important limitation is the low level of awareness and knowledge concerning the specific requirements of miniature-pig husbandry.

Health and behavioral aspects

A lack of physical and intellectual stimulation, isolation and boredom in miniature pigs may lead to aggressive and/or destructive behavior (Tynes, 2001; Amalraj et al., 2018). Therefore, miniature pigs kept as pets or therapy animals should be castrated or spayed (Tynes, 2001; Hager and Rekiel, 2015; Amalraj, 2018). This helps avoid undesirable behaviors such as sexual behavior or urine marking and partly prevents aggression. Aggression is undesirable and disqualifying in animals used in therapy. In miniature pigs, lack of proper socialization, habituation to varied stimuli and systematic training may result in aggressive behavior, especially when they come into contact with strangers or enter a new, unfamiliar environment. Interspecific aggression may also occur (Amalraj, 2018). When selecting animals of different species for therapy—for example, a miniature pig and a dog—attention should be paid to their size. They should be similar in size. It is also important to choose a non-aggressive dog breed.

Veterinary procedures are highly stressful for miniature pigs (Sipos et al., 2007). During procedures, animals show increased body temperature, faster breathing and elevated heart rate. Catching and restraining the animal leads to intensified vocalization and aggression (Amalraj, 2018). Pigs often suffer from gastrointestinal disorders, indigestion, poisoning and gastric overfilling (Sipos et al., 2007). They are predisposed to overweight (Hager and Rekiel, 2015). When selecting a miniature pig, coat and skin pigmentation should be considered. Individuals with white skin, especially Göttingen miniature or Hanford pigs, are most vulnerable to harmful solar radiation and sunburn (Sipos et al., 2007). The problem is less pronounced in spotted breeds such as the Juliana or Vietnamese pot-bellied pig and is absent in black-coated breeds such as the Kunekune (Amalraj, 2018).

Summary

Miniature pigs representing the species *Sus scrofa domestica* are increasingly perceived as companion animals rather than solely as laboratory models or farm animals. Keeping miniature pigs requires appropriate environmental conditions and opportunities to perform species-specific and social behaviors, explore and root, as well as continuous cognitive stimulation to prevent frustration and stereotypies. Miniature pigs show a high level of intelligence and developed socio-cognitive abilities; they learn through observation, remember patterns of action and form lasting bonds with their caregivers. Their behavioral plasticity and trainability favor their use in the increasingly popular field of animal-assisted therapy. When appropriate welfare is ensured, they can be valuable but demanding therapy animals. Given their social potential, more research is needed on their therapeutic predispositions and abilities and on the development of training methods for animal-assisted work.

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