

The Possibility of Mutual Love: A Study on the Bidirectional Healing between Adolescents and Stray Animals

Zhiruo Zhou

*International Curriculum Center of RDFZ, Beijing, 100086, China
emily080521@outlook.com*

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Abstract: This study explores the mechanisms underlying the bidirectional healing between stray animals and adolescents. This study employs a mixed-methods approach, including literature review, observation, interviews, and netnography. Data are collected through online forum case studies, field visits to stray animal shelters, and interviews with adolescent volunteers, rescue workers, and adoptive families. Multichannel data are integrated for analysis. The findings reveal that interactions between adolescents and stray animals primarily manifest in two modes: individual adoption and institutional rescue, characterized by low cost, equality, and spontaneity. Adolescents alleviate depression and anxiety by caring for stray animals, achieving emotional healing while cultivating responsibility, compassion, and a life-respecting ethos. Stray animals, in turn, gain stable food supplies, medical care, and improved living conditions through adolescent care, transitioning from wariness to trust in humans and enhancing social adaptability, thus creating a mutually positive impact. The study's innovation lies in broadening the research perspective through online-offline integration and addressing the field's predominant focus on unidirectional effects by centering on bidirectional relationships.

1. Research background and problem statement

In recent years, the mental health issues of adolescents have increasingly attracted widespread social attention. Psychological studies indicate that adolescence is a critical period for emotional, cognitive, and social development, during which individuals are highly susceptible to environmental, familial, and societal pressures, leading to issues such as anxiety, depression, and autism [1]. Concurrently, the plight of stray animals has also become a growing concern. Statistics show a continuous rise in the global stray animal population, with many facing hunger, disease, and social exclusion [2]. Research suggests that human-animal interactions not only provide emotional comfort but also positively impact adolescent mental health while improving animals' quality of life and social adaptability [3]. Due to their vulnerable circumstances, stray animals often require special care and rescue, making them unique companions for emotional support. Correspondingly, adolescents frequently seek emotional connection with these animals, offering them care and affection while experiencing psychological healing and personal growth. Thus, the interaction between stray animals

and adolescents is not merely one-sided compassion but rather a bidirectional healing process. This raises the central question: How is such bidirectional healing possible?

Guided by this research question, an extensive literature review reveals that animal-assisted therapy has gained significant attention across various disciplines. Studies demonstrate that human-animal interactions can improve mental health, enhance social communication skills, and alleviate stress. Xu Linkang and Wang Cuiyan, in their study *The Application of Animal Assisted Therapy in Social Communication Behavior of Autistic Children*, highlight that animals can serve as “social bridges” to improve interactive abilities in autistic children [4]. Animals do not negatively judge children’s communication styles, thereby reducing social anxiety. Similarly, animal-assisted therapy shows positive effects in populations with depression. Li Shuang and Liao Xiang, in *The Research Progress on the Application of Animal-Assisted Therapy in Depressed Patients*, indicate that interaction with animals can decrease feelings of loneliness, enhance emotional stability, and increase happiness [5]. Beyond its effects on specific populations, human-animal interaction also yields physiological benefits. Beetz et al., in *Psychosocial and Psychophysiological Effects of Human-Animal Interactions*, investigate the role of oxytocin in animal-assisted therapy. Their findings reveal that when humans pet animals or establish emotional connections with them, oxytocin levels increase significantly. Since oxytocin is closely associated with trust, emotional bonding, and stress reduction, animal companionship not only improves psychological states but also physiologically reduces risks of anxiety and depression [3]. Furthermore, long-term pet ownership or animal interaction contributes to broader health improvements. Beck and Meyers, in *Health Enhancement and Companion Animal Ownership*, demonstrate that pet owners generally exhibit greater psychological resilience and more robust emotional support systems. In some cases, they also maintain more stable blood pressure and heart rate levels [6].

Beyond the impact of animals on humans, human care for animals also significantly influences animals’ behavioral and psychological states. Research indicates that when stray animals establish connections with humans, their psychological and behavioral conditions undergo transformation. Liu Binzhi and Wang Liyuan elucidate in *Animal Assisted Therapy: Social Work Models Based on Companionship* that human-animal interaction is bidirectional. When humans provide animals with affection and care, the animals gradually develop trust and adapt to new social environments [7]. For instance, stray animals often exhibit fear toward humans, particularly those with histories of abuse or abandonment. However, when they receive consistent companionship and positive reinforcement training in shelters or adoptive homes, their aggression and anxiety gradually diminish, making them more adaptable to human society. Moreover, animal-assisted therapy not only improves animals’ psychological well-being but also facilitates behavioral rehabilitation. Human touch, vocal cues, and training help animals acclimate to human settings, enhance their socialization skills, and increase their chances of adoption. This phenomenon is particularly evident among stray dogs and cats. The health status of animals also improves through human care. As Beck and Meyers note, the health of companion animals largely depends on the quality of care provided by their owners [6]. For example, when stray animals receive adequate nutrition, hygiene maintenance, and medical attention, they not only live longer but also exhibit better physical conditions.

Based on a comprehensive review of existing literature, the author concludes that current research in animal-assisted therapy has demonstrated significant strengths. This field has been extensively studied, with applications spanning diverse domains such as pediatric rehabilitation, disability recovery, and mental health treatment. Various intervention models have also been proposed. These contributions have established a theoretical foundation for studying bidirectional healing between stray animals and adolescents. Methodologically, the research maintains scientific rigor through systematic analysis of numerous primary studies, investigating both psychological and physiological impacts of human-animal interactions, thereby ensuring result reliability. The mechanism-focused

investigations are particularly profound, elucidating how physiological changes, such as increased oxytocin secretion and reduced cortisol levels during interactions, contribute to emotional regulation, thereby deepening understanding of intervention principles. However, existing studies present certain limitations requiring improvement. Notably, few studies specifically address bidirectional healing between stray animals and adolescents. Most research focuses exclusively on either animal-to-human effects or unilateral human care for animals, without delving into their reciprocal influences and mutual healing processes.

Based on the above considerations, to address the gaps in existing research, literature review, observation, interviews, and netnography are adopted in this study to investigate the bidirectional healing between stray animals and adolescents. The specific methodology is as follows: 1. Literature review: Domestic and international literature on adolescent mental health, animal-assisted therapy, and stray animal rescue are collected and analyzed to evaluate existing findings, identify strengths and limitations, provide theoretical support, and clarify research directions. 2. Observation method: The author visits animal rescue centers to observe interactions among animals, staff, and volunteers, compiling approximately 2,000 words of field notes documenting behavioral patterns and reciprocal responses to identify characteristics and patterns of bidirectional healing through longitudinal observation. 3. Interview method: Structured and semi-structured interviews are conducted with seven adolescent volunteers, two animal rescue workers, and one adoptive family. 4. Netnography: The author engages with online communities (Zhihu, Douban, Weibo) to observe discussions, analyze personal narratives, and examine users' experiences and perspectives to explore the mechanisms, influencing factors, and challenges of bidirectional healing. By integrating these methods, the study combines online and offline data sources to achieve a comprehensive understanding of this bidirectional healing process, ultimately contributing to the development of effective strategies for promoting adolescent mental health and improving stray animal welfare.

2. Bidirectional healing: interactive practices between adolescents and stray animals

2.1 Research field introduction

The author conducted fieldwork at Yugaogao Stray Cat and Dog Shelter, supplemented by observations of individual adoption cases and analysis of online forum data to comprehensively examine human-stray animal mutual healing (this study strictly adheres to research ethics, with all institutional and personal information undergoing technical anonymization). Located in Shunyi District, Beijing, this 700-square-meter shelter comprises two cat rooms and two courtyards. Daily operations are primarily managed by a woman in her forties who began rescuing stray animals out of compassion during her youth and has since made it her vocation. The shelter's funding comes from three sources: adoption fees from adoptive families; donations and charity sales through online platforms, netizens, and personal networks; and partial subsidies from the couple's personal income, collectively covering annual core expenses of approximately 200,000 RMB for vaccinations, pet food, and facility rental. Initially operating from their home, the shelter expanded progressively with increasing rescue numbers, relocating to larger premises in 2017 before moving to its current location in April 2023 due to environmental and management considerations. The facility currently houses 60 dogs and 75 cats, with rescue operations ongoing. The shelter maintains a "family-style" rescue model, extending its network through social media and volunteer collaborations. To ensure post-adoption welfare, the shelter implements stringent adoption protocols, primarily facilitating international adoptions with a focus on dogs. As the caretaker explains, dogs' greater social needs make them more trainable for household integration, thereby reducing abandonment risks after behavioral adaptation.

In addition to investigating the shelter, the study included observations and interviews with several individuals who adopted stray cats and dogs, documenting their psychological changes during the

adoption process. For instance, one participant shared how learning patience through establishing trust with a stray cat, while another mentioned making new neighborhood friends through dog-walking activities. The research also examined adoption narratives from online forums such as Zhihu's "Pet Adoption" topics and Weibo's "Stray Animal Rescue" discussions. Analysis revealed recurring themes including "animals alleviating anxiety", "pet ownership fostering responsibility", and "mutual growth between humans and animals". Numerous cases vividly described stray animals' transformation from fearfulness to dependence on owners, as well as the warmth and comfort caregivers gained through the process. These combined data sources--offline interviews, observations, and online forum content--provided comprehensive insights into the reciprocal healing relationship between stray animals and humans.

2.2 Key research findings

2.2.1 Patterns of bidirectional interaction

The stray cat and dog shelter exemplifies an institutional rescue model. Self-funded by a married couple, the shelter has rescued hundreds of animals and currently houses nearly two hundred. Monthly expenses exceed tens of thousands of yuan just for pet food, plus regular vaccinations, medical treatments, and hygiene maintenance. When asked why she persists despite the tremendous pressure, the caretaker responded, "The sense of accomplishment and happiness from successfully rescuing each animal is immeasurable. Seeing their gradual recovery brings me increasing joy that makes all efforts worthwhile." During field visits, the author observed affectionate, well-groomed animals showing no traces of their stray past. The caretaker demonstrates encyclopedic knowledge of each resident, recalling all names and backstories. Between visits, new rescues consistently arrive while previously ill animals are seen peacefully sleeping--a cat that required medication last time now curled contentedly in a corner. Adolescent volunteers play crucial roles in this ecosystem. They devote extracurricular time to cleaning and socializing with animals. One initially fearful rescue dog that hid from humans gradually became sociable through their persistent companionship and training, ultimately getting adopted abroad. The caretaker proudly shares videos of adopted animals thriving in new homes. Within this shelter, teen volunteers, caretakers and stray animals collectively form a nurturing community of mutual care.

Beyond institutional rescue, supplementary approaches like adoption and foster care exist. In personal adoption cases, adolescents and stray animals develop mutually supportive emotional bonds through companionship. The author interviewed high school classmate maintains three cats, including one rescued stray. Initially hypersensitive and reclusive, the kitten habitually hid in corners. The classmate, managing depression with residual anxiety during academic stress, demonstrated innate gentleness while feeding. Through daily caregiving, she cultivated self-worth via the kitten's dependence, while the animal progressed from fearful avoidance to affectionate behavior, often quietly resting beside study sessions. During emotional lows, the cat would initiate contact by rubbing against her arms before settling nearby. "Those moments gradually ease the oppressive mood," she reported. Cortisol levels significantly correlate with depressive episodes; VIAU et al. documented autistic children's morning cortisol levels rising 58% pre-service dog, decreasing to 10% post-introduction [5]. This case exemplifies profound bidirectional attachment formation.

2.2.2 Characteristics of bidirectional interaction

The bidirectional interaction demonstrates low-cost, high-return characteristics. For individual adolescent adopters, the initial costs cover only basic foods and simple supplies. As exemplified by the author's classmate who adopted a stray cat, the startup cost involved merely dozens of yuan for

cat food and a basic bed, with monthly maintenance limited to replenishing food litter and occasional toys, expenses well within adolescent budgets. “I spent less than 100 yuan monthly on Milk Tea [the stray cat], who accompanied me through the three most stressful months of college entrance exams,” reported Volunteer A. This economical interaction model yields substantial emotional returns. Whether measuring adolescents’ companionship and healing or animals’ survival security, the value transcends monetary quantification.

Meanwhile, the interaction also demonstrates equality. It transcends mere caretaker-recipient dynamics to establish emotional exchanges based on mutual equality and respect. The author’s classmate never forces behaviors on her cat. When the feline seeks solitude, she quietly respects its space while continuing her activities. The cat reciprocates affection in its own manner, such as greeting her at the door. At the shelter, staff and volunteers honor each animal’s individuality, adapting interaction styles accordingly. “This newly-rescued stray dislikes being held, so we crouch to speak with it instead, which prompts it to voluntarily rub against our knees,” explained Volunteer B. The animals similarly express trust through affectionate gestures like hand-licking or nuzzling against caretakers’ legs.

The interaction also exhibits spontaneity, emerging naturally from mutual emotional needs rather than obligation. Research led by Stephanie Clark corroborates this organic dynamic through monitoring 19 certified therapy dogs during patient sessions. The study found unchanged cortisol and oxytocin levels in dogs during interactions, alongside decreased heart rates and right ear temperatures, collectively indicating stress-free engagement and relaxed states. These physiological markers confirm that bidirectional interaction occurs voluntarily when both parties experience comfort [8].

2.2.3 Efficacy of bidirectional interaction

Numerous cases demonstrate the significant emotional healing effects of stray animal companionship for adolescents. A Zhihu user shared experiencing mild depression from 2017 to 2019 due to family issues, with suicidal ideation and loss of life meaning. After rescuing a dog named “Fatty”, his daily routines of feeding and walking created mutual dependence. “Someone actually needs me” motivated him to work and purchase dog food, gradually alleviating depression through purposeful caregiving. Another netizen documented her anxiety disorder recovery: during her 2020 crisis, adopting an adult Border Collie necessitated three-hour daily walks, enforcing sleep discipline and outdoor exposure. Through play, she rediscovered seasonal changes, sprouting grass, flowing rivers, restoring color to her bleak worldview. Though panic attacks persisted, their severity diminished significantly. During pandemic isolation, the Collie’s companionship proved vital to her eventual recovery through combined pharmacological and animal-assisted therapy.

Stray animals provide unique psychological support for adolescents, as exemplified by “Convenience Bag”, a cat abandoned in a plastic bag before being rescued. Now working at a Jinan psychiatric hospital, it specializes in assisting adolescents with school refusal and depressive symptoms. When confronting emotionally distressed children, “Convenience Bag” observes quietly without intrusion; during moments of melancholy, it initiates contact by curling beside them, offering silent comfort through physical warmth. Many teenagers have opened up about their struggles after interacting with this feline therapist.

The adoption and caregiving process cultivates adolescents’ responsibility and compassion. The author’s classmate developed structured routines through caring for her stray cat—mastering scheduled feeding, litter maintenance, and self-taught feline healthcare. This dedicated nurturing transformed her into a reliable caregiver. Teen volunteers at the shelter similarly gain profound appreciation for life’s fragility through animal care. “Volunteer C previously neglected his own room, but now diligently administers medication to dogs and maintains shelter cleanliness with remarkable attention,” noted the caretaker. Such animal-focused compassion evolves into broader responsibility,

with many volunteers promoting “adoption over purchase” and extending this conscientiousness to other life domains, demonstrating increased social awareness and empathy.

Rescue efforts significantly improve stray animals’ living conditions. At the shelter, animals receive consistent food supplies, regular vaccinations, and medical treatments. During one observation, the caretaker casually picked up medication while explaining, “This kitten was found barely alive in an abandoned building two days ago,” as she administered treatment to the listless feline on the sofa. Months later, the same kitten not only recovered but gained healthy weight, becoming energetic and playful. Previously diseased and emaciated strays gradually regain health and physical strength through dedicated care.

Adolescent companionship facilitates stray animals’ social readaptation. Rescued dogs transform from human-avoidant to sociable through volunteer training, ultimately achieving successful adoption. Therapy dogs demonstrate physiological evidence of trust-building during human interactions--showing no cortisol elevation and decreased heart rates--confirming their gradual adaptation to human social norms through equal engagement.

Bidirectional healing fosters life-respecting values and promotes human-nature harmony. The caretaker’s years of dedication have inspired numerous adolescents to join as volunteers. Through interactions with stray animals, these youths learn harmonious coexistence with other lifeforms. This cultivated awareness of life respect and animal welfare lays the foundation for constructing an ecologically balanced environment where humans and nature thrive together.

2.3 Research summary

The bidirectional healing between stray animals and adolescents emerges gradually through interactive contact. In daily practice, as adolescents provide food and shelter, the animals progressively familiarize themselves with their caregivers, initiating proximity and developing dependence. Concurrently, adolescents cultivate empathy and responsibility through caregiving. Their interactions evolve from basic provisioning to mutual companionship, manifesting therapeutic effects. Adolescents’ inherent need for purpose finds fulfillment in nurturing animals, while stray animals gain security from consistent care. This reciprocal satisfaction forms the foundation of bidirectional healing. The positive feedback loop intensifies as animals’ reduced fear of humans encourages adolescents’ increased caregiving engagement. This dynamic holds dual significance: adolescents experience stress reduction, emotional growth, and responsibility development, while animals obtain stable living conditions, improved health, and enhanced social adaptability. The bidirectional healing mechanism simultaneously alleviates stray animals’ survival challenges and promotes adolescents’ psychosocial development, embodying principles of harmonious coexistence.

3. Conclusions and discussion

3.1 Research findings

This study examines the bidirectional interaction between adolescents and stray animals through comprehensive methodologies including online case collection, literature review, in-person interviews, and field observations at animal shelters. The findings reveal two primary modes of interaction: individual adoption and institutional participation through rescue organizations. At the individual level, adolescents establish emotional bonds with animals through daily caregiving routines, while institutional participation fosters collective care networks through volunteer services. These interactions demonstrate three defining characteristics: low cost, equality, and spontaneity. It requires no substantial material investment, and naturally develops and deepens based on the emotional needs of both parties. The therapeutic outcomes are bidirectional: adolescents experience

emotional healing and develop responsibility, while animals gain improved living conditions and behavioral rehabilitation. This phenomenon embodies what we term “mutual love”: adolescents provide care and compassion, while animals reciprocate through companionship and trust-building behaviors. This interspecies connection derives its healing power from mutual need and response, creating a virtuous cycle of emotional exchange. Furthermore, these interactions promote life-respecting values and contribute to ecological harmony, demonstrating how human-animal relationships can foster broader societal benefits.

3.2 Further discussion

This study features innovations in both methodology and perspective through its hybrid online-offline approach, combining digital case collection with field investigations to enhance research breadth and depth. The bidirectional relational perspective examines both animals’ therapeutic effects on adolescents’ mental health and adolescents’ developmental outcomes through caregiving responsibilities and animal health interventions, thereby complementing existing literature. Several limitations should be acknowledged: the sample scope remains constrained, with online cases predominantly from specific platforms and field research limited to particular regions. Future studies could expand geographical and demographic diversity across shelters and adolescent populations to improve generalizability. Incorporating standardized assessment tools would yield more robust data for scientifically evaluating interaction outcomes.

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