

A Theoretical Model of Heterospecific Group Study

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Abstract: New theoretical and methodological prerequisites for the study of human-animal relationships are proposed. The prerequisites are as follows: an ontological paradigm in psychology, a systemic approach, social interactionism, the social construction of reality theory by T. Berger и P. Lukhman and various types of interactions (subject-object and subject-subject interactions between humans and pets). Heterospecific group ontology from its formation to schismogenesis can be determined based on these prerequisites. The study of 1,000 cases proves that the model is a good theoretical instrument for use by behavioural practitioners in their work with small pets (i.e., the model will help them with differential diagnostics of the “disordered links” in heterospecific groups, such as “human-pet”), as well as by advisors and counsellors who might use human-pet interaction as a good diagnostic instrument and indicator of a therapeutic process’ success rate.

Key words: heterospecific group, interaction types, mental phenomena, heterospecific trust, attachment, communication, rules

1. Introduction

Having consulted pet owners on problems with their pets over the last 8 years, the researcher noticed that these problems are often caused by disorders in the interactions between humans and pets and misperceptions of the animals by the humans. In fact, if an animal is the cause of a problem, practitioners shall deal with using Clinical Behavioural Medicine by small animal practitioners. However, if the owner is responsible for the problem, this falls within the competence of psychotherapy. There are some cases in which animals clearly demonstrate abnormal behaviour, but this behaviour is secondary and caused by the owner's failure to build communication with the pet, judging its behaviour from the human perspective. The researcher presents an instrument to assess the differential diagnostics of the “disordered links”, which are (1) the animal is the cause of the problem or (2) the human is responsible for the problem, in the form of theoretical model.

1.1 Materials and Methods

A total of 1,179 pet owners (807 dog owners and 372 cat owners) who sought advice on their pets’ abnormal behaviour and their pets participated in the current study.

The methods that are most relevant to research with heterospecific groups and the correction of infringements in these groups were as follows:

- The supervisory method allows observation of nonverbal signals between a person and an animal during the course of an interaction. The owners’ ability to understand and consider the animals’ needs are taken into

consideration. The adviser observes the owners' nonverbal behaviour during the course of a conversation and the behaviour of the animals in an office and during the course of "acquaintance" with the adviser. This offers the opportunity to gather preliminary empirical data regarding interactions between the animal and its owner.

- The method of conversation is directed toward revealing stories regarding the heterospecific groups and the problems in these groups. During the conversation, it is important to determine that the researcher has understood the client correctly because it is easy to misinterpret the client's words. It is important to summarize the understanding of the client's comments and solicit his affirmation that you have interpreted his words correctly. Upon termination of this stage, the researcher should have 2–3 hypotheses regarding the problems that have arisen in the given group "human-pet".

- The method of constructing a well-founded theory (A. L. Strauss, 1984) allows us in each case to classify the deviation from the interspecific phenomenon within a particular interspecies group.
- The functional test method is applied when, during a study, the adviser must confirm or deny a hypothesis in "field" conditions (i.e., out of the office). Certain aspects of participants' nonverbal behaviour in heterospecific groups and their interactions outside of the office environment offer the researcher additional information, which may confirm or deny the hypothesis regarding the "source" of the problem as being either the person or the animal.
- Finally, a psychological intervention with the purpose of restoring stability in a group is an experimental method given that the researcher's external influence on the group leads to changes. Therefore, this intervention provides conclusions to be made regarding stability and the types of interactions.

2. Theoretical and Methodological Prerequisites for the Development of A Theoretical Model of Heterospecific Interaction

2.1 Basic Notions Required for the Development of A Theoretical Model of Heterospecific Interaction between Humans and Pets

Given that humans and pets cohabitate and engage in joint life activities, we should analyse their interactions in the context of small groups.

Social interactionism theory equates interactions between group members with their effects on one another and explains the origin and development of communication and interpersonal relationships through the process of cross effects. From this perspective, small groups are a system of cross effects in which the actors interact with one another. These interactions include cognitive, communicative and emotional processes that affect the actors and organization by them of their own behavior (H. Blumer, 1969; T. Shibutani, 1961). The actors' actions depend on individual (and, according to our approach, biological) structures and goals, and the interaction with other social subjects is used by individuals to achieve their own goals.

The generally accepted definition of a small group is two or more individuals who are connected to each another through social relationships. Yet a small group (or dyad) consisting of human - human is not identical to a human-animal group. Therefore, before we formulate a definition of a heterospecific group, we should define what a heterospecific interaction actor is.

The ontological understanding of an actor by V. A. Barabanshchikov (2005) and V. I. Panov (2004), who proposed that the performance and evolution of actors are based on their interactions with the environment for the purpose of organizing and regulating their life activities, and the interpretation of actors by N. I. Chuprikova

(2006), according to which an actor is a carrier and source of activity who is comprised of a complex system that interacts with the external world and has a certain mental organization, including cognitive, need-motivation, affective, communicative and integrative substructures, are the most relevant to the definition of a heterospecific interaction actor. Thus, a heterospecific interaction actor is an individual who is characterized by the following: (1) engages in self-activity and activities in the environment and with other actors; (2) has the ability to experience external and internal effects and changes of state; and (3) has the ability to communicate.

The ontological paradigm principles, in which both individual and the environment are considered a single system that generates some psychic reality, can be used as theoretical and methodological prerequisites for the study of heterospecific interaction. Therefore, we study the *dyad «human – pet» as a self-developing system in the form of a heterospecific group*.

Having combined different approaches, a heterospecific group is a person and an animal that are united by the joint ability to live with each other and occupy joint territory, have psychological contact with each other, mutual emotional relationships and specific rules of behaviour in relation to each other.

Thus, heterospecific interaction may be described as a method of a heterospecific group members' life activities organisation, which consists of mutual effects on one another to achieve each member's goals.

Finally, it is important to define the structure of a heterospecific group. A heterospecific group consists of a human and a pet, whose interaction is determined by a definite type that affects the pattern of function distribution (i.e., group roles) between the group members, as well as the structure of the emotional bonds (i.e., one- and two-way phenomena regarding trust and attachment).

2.2 Various Types of Interactions as Prerequisites for the Study of the Formation of «Human – Pet» Heterospecific Groups

There are three general types of interactions, which are subject-subject, subject-object and object-object interactions. We will consider the possibility of applying these types of interactions to the interactions between humans and pets, as follows

(1) Object-object interaction — both humans and pets are environmental objects with regard to each other, and they do not demonstrate goal-directed behaviour towards one another. There is no emotional contact during this type of interaction, and a group is not formed.

(2) Subject-object interaction consists of the following two subtypes:

(a) Subject-object interaction of the 1st type — a human acts upon an animal to induce a certain state of mind or a specific behaviour. This interaction in the context of relationships between humans and pets is traditional for classical animal psychology and behaviourism. In this type of interaction, animals may develop an attachment to humans, as the humans fulfil a certain function, e.g., the satisfaction of their need for food. In other words, being an object for the human, the animal perceives the human as a subject. For the animal, it is a subject-subject type of interaction. A one-way emotional contact from the animal towards the human is formed. In this subtype of interaction, a stable heterospecific group is formed as long as each actor satisfies the needs of the other.

(b) Subject-object interaction of the 2nd type — a human exhibits an activity towards an animal, e.g., an attempt to “make friends” with the neighbour's cat or dog, while the animal perceives this human as an environmental object. For the human, it is a subject-subject type of interaction. A one-way emotional contact from the human towards the animal is formed. No group is formed, as the animal has no need for it.

(3) Subject-subject interaction consists of the following two subtypes:

(a) Subject-subject interaction of the 1st type — an animal is perceived of by the owner as another person (when the animal “is humanized” by the owner, and the owner expects it to carry out the functions of a human child, friend, etc.). In this case, the human satisfies the pet’s needs for food, warmth, safety and group acceptance. Examples of such interaction could be observed when someone acquires a pet because of a personal or environmental deficiency. In turn, the pet satisfies the human’s need for the deficiency elimination. In this case, we observe a two-way emotional contact and the formation of a stable group.

(b) Subject-subject interaction of the 2nd type — an animal is perceived by the owner as a living being of another species that has needs, emotions, individual and specific characteristics and so forth. Then, a change in the mental state of one actor results in a change in the state of the whole system. This idea is not new within social psychology, as from this perspective everything we believe to be valuable and worth comprehending is constructed through language during the course of relationships with other people. When studying heterospecific groups, it is evident that the members use their own “language” and make their own rules for the interactions, which can be interpreted as mutual development of the actors.

The **necessary condition** for the creation of a heterospecific group is the *presence of need in both parties for such an interaction*. Occurrence of this need in animals is caused by humans who have created environments for the domestic animals that are distinct from the habitat of their wild relatives. This artificial environment forces the animals to seek contact with the humans to survive.

The same need in humans is more differentiated and may fall into the field of satisfaction of a requirement for unification with nature or in a personal or environmental deficit.

2.3 Analysis of Psychological Interactions in Heterospecific Groups in the Context of the System Principle

It is important to appreciate that the actors’ foundations within the system are built on more than the biology of the species involved, i.e., each actor is an individual whose personal development has been influenced by his or her broader cultural and social settings. Each actor within a heterospecific group contributes to the construction of a common environment, in which the actors mutually develop through the interaction process (V. I. Panov, 2004). From this perspective, a heterospecific group develops a common “language” (N. Luhmann, 2004) with its own rules for interacting. This is a product of the system and should be distinguished from the process, which includes the dynamic, temporal characteristics of the interactions that form part of the system. However, the product and the process interact, such that the inherent characteristics of the system and their prevailing manifestations shape the on-going interaction. The interaction process then shapes the characteristics of the actors involved. Yet, the product cannot be understood in terms of a static output given that it is always in a dynamic state, similar to the way that the speed of a car cannot be understood from a single sample of the static physical properties of the car at a specific point in time.

Thus, the function of any interaction can only be understood in the context of the function for both actors, rather than focusing on only one of the actors. In this context, each biological species is functionally equipped to use its own methods of interacting, but there must be some overlap between these methods for meaningful interactions to occur. The experience of this overlap will lead to modifications in the methods for interacting in the future. As a result, the two species gradually acquire a set of heterospecific interactive elements in the form of transformed conspecific structures, which are adapted to interspecies relationships. This set of structures that is assimilated by each actor will by definition not simply be a characteristic of one species. As the set becomes a

condition for adequate interactions, it opens up opportunities for new stages of development that were not previously attainable (Y. A. Ponomarev, 1983).

Let's illustrate this point by using heterospecific communication as an example.

According to Niklas Luhmann's theory of social systems (N. Luhmann, 2004), there is a structural connection between language and the surrounding world, which implies that having a language excludes a large amount of information. In conversational speech, all noises with the exception of several sounds are ruled out. Insignificant variations make communication impossible. Communication among animals occurs in a similar fashion. Communication occurs only when somebody understands the message being sent. People may misunderstand the message to some extent, but they have to understand it enough to continue the communication. Understanding is the basic condition of communication. The messenger knows beforehand whether he will be understood. Communication includes informative, meaningful contents in the form of images or structures that are perceived as meanings. The communication system offers standardized and repetitive sounds or gestures that can be used across different contexts. The system can only function under these conditions.

Irritants exist inside our system or heterospecific group just like they do inside the structures of a living organism that are responsible for selection. These irritants are processed by the actors or system components according to actors' specific (biological) possibilities. The resultant information is used during life activities, which includes communication. Thus, by applying specific capabilities and being willing to enter into communication, each component of the system learns to identify the others' communication cues and simultaneously teaches the others to recognize the sent communication signals. System-specific "language" is formed during the process of collective learning for the system components (it is clear, that this "language" varies depending on the species, the personal characteristics of the actors and the cultural, historical and social conditions that determine humans' perception of the animals).

"Language", as generated within a heterospecific group, starts to control the actors' behaviour, which contributes to the group's development as a system and adds to the personality structure of each actor.

3. Psychological Reality of Heterospecific Relationships

3.1 Psychological Phenomena within Heterospecific Relationships

A. Strauss's grounded theory approach was used in this study.

The following mental phenomena that are inherent in highly evolved animals have been described in the literature prior to the beginning of our study: attachment (J. Bowlby, 1999; H. Harlow, 1966; R. May, 1989), hierarchy and its attendant group behaviour (R. Hinde, 1991; M. B. H. Schiebel, 1990; R. Seyfarth, D. Cheney, T. Bergman, 2005), etc., natural animal communication (C. N. Slobodchikov, 2002; A. Vilan, J. Schwartz, C. Abry, J. Vanclaiz, 2011), etc. and animals' ability to comprehend communication cues from other species (R. S. Fouts, S. T. Mills, 2002; J. H. Herman, D. Richards, J. Wolz, 1984; S. Savage-Rumbaugh, S. Shanker, T. J. Taylor, 2001), etc. It is obvious that these mental phenomena enable animals to establish psychological contact with humans.

We selected these phenomena as our initial categories with the intention of developing them and potentially some other categories on the basis of accurate classification of the owners' complaints about the behavioural problems of their pets.

Each category has its own **properties**, which are qualities and characteristics that describe the category.

For example, we are going to investigate a complaint about a pet cat's lack of attachment to its owner. Let us

suppose we see an animal that does not want to leave its carrier and does not attempt to get familiarised with the new space (i.e., the advisor's office). A vet does not detect the presence of a physical illness during a pre-examination. We note that the animal is passive and frightened, i.e., we can preliminarily describe this behaviour as an anxiety disorder, which shows the lack of the pet's trust in the owner. Then, we ask the following question: what happens when the cat is in its own familiar setting? We notice that it often hides when the owner is at home and always hides when there are visitors. The anxiety disorder hypothesis solidifies. Thus, we've given the complaint a name — an anxiety disorder.

We looked at each category and identified the phenomenon class that it belonged to, including whether it was similar or different from the previous one. For example, why does an anxiety disorder occur? We need to determine its cause (e.g., a traumatic experience during communication with humans (e.g., owner, family members and strangers?) or a lack of communication with humans during early stages). It is also possible that this behaviour has some genetic predisposition, i.e., we need to identify the cause of the pet's behaviour, which the owner calls a deficit in attachment with the animal. The displayed behaviour has its own characteristics and qualities, including the localization (where it manifests itself), intensity, etc. of the anxious behaviour. The intensity may vary from high to low depending on the situation, which is similar to anxiety manifestations.

Analysis of the interview is very important, as it directs us to the issues that we should focus on during future interviews or observations. For example, a line-by-line analysis of the interview with the owners of the cat that demonstrated a deficit in attachment could have led us to the conclusion that a lack of early-stage communication was the cause of the animal's behavior, as the cat was an adolescent when it was rescued off of the street. We also focused on the circumstances of the cat's life immediately after its arrival in the family. It becomes apparent that when the cat hides from the owner, the owner feels irritated, pity and sorry regarding having a pet with problems. What does the owner do when the cat hides? What actions does the cat take or not take in response?

During the next stage, we compared phenomenologically similar cases. For example, in one family, the owners get annoyed when their cat hides, whereas in a different family, they sympathise with the pet. In a third family, depending on their mood, they may try to get the cat out of its hiding spot to pet and play with it, whereas on another day they simply ignore it. In a fourth family, some of the family members discipline the cat for snapping and scratching while trying to get it out of its hiding spot, while other members defend and sympathise with the cat. How do the owners' different behaviours affect the pets' disorder dynamics? How do the pets with different personalities and life histories respond to the similar reactions of the owners to their anxious behaviours?

During the second stage of the work, we attempted to establish links between the categories. A large number of different categories were identified during initial coding. Some of them pertain to certain phenomena, e.g., evidence of attachment in the animal and owner's behaviors or the owner's dominance over the pet. Other categories signify effective strategies that are utilized to control the phenomenon, such as owners who try to avoid situations that cause their pets' anxiety, shout at their pets (e.g., the behaviour does not meet the owners' expectations of a normal animal and diminishes their trust in the pet) or administer sedating medication or tranquillisers to their pets to mitigate the anxiety. Finally, some categories pertain to the effects of an action associated with a particular phenomenon, such as an animal feeling more anxious in anticipation of punishment from the owner or, due to a medication, the animal's anxiety level decreases and it falls asleep.

We also considered the links between the categories, which include the causal and intermediate conditions, as well as the context.

Casual conditions are the events or incidents that lead to the occurrence or development of the phenomenon.

For example, animals' failure to behave may be caused by an organic disorder of the central nervous system (i.e., brain tumour, subdural haemorrhage, ischemic deficit, etc.) or by a situation that is stressful for the animal.

Then, we described the abnormal behaviour that caused disorders in trust or attachment, or dominance structure, or interspecific communication on the part of the owner or the pet and the owner's specific complaints about this abnormal behaviour. In other words, we identified characteristics of abnormal behaviour (i.e., the frequency, time and place in which it occurs). It was also necessary to determine the situations in which this undesirable behaviour occurred (i.e., the context), what the owner felt when it happened, when the undesirable behaviour was over, how long it took for the owner's feelings to pass or did he start to feel stronger about a deviant behaviour (e.g., spraying), given that if it occurred almost every day, this might lead to disappointment in the animal and affect the owner's trust and attachment. We also determined the actions that the owner took in response to the animal and whether they were similar in terms of quality and intensity.

At the same time, we kept in mind the existence of intermediate conditions, which are comprised of time, space, culture, the owners' economic status, their personality traits, etc. We also took into account that, when an animal's deviant behaviour resulted in heterospecific group mental phenomena disorders, there were specific actions taken by the owners and aspects of their interactions with the animals that were intended to cope, manage and respond to the deviant behaviour.

These actions have specific characteristics as they are processive, i.e., progressive in their nature. They are purpose-oriented and performed in response to a deviant behaviour or to manage a phenomenon. There are always intermediate conditions that either support or restrict actions-interactions. These conditions will be discussed. There are clues in the data that point to strategies regarding actions and interactions. These clues are action-oriented verbs or participles, which provide a view of someone's response to a phenomenon. For example, when an owner complains about his dog's aggression at mealtimes, the words might be as follows: "I try not to walk past him while he's eating, because he growls so meanly that I get frightened that he will bite me. It is best to wait until he finishes his meal, then he will be approachable again". Aggression at mealtime is a case of abnormal behaviour that restricts an owner's free movement around the house (i.e., context). The owner **tries not to be** near the dog, as he **is afraid and prefers to wait until** the dog finishes the meal (i.e., a strategic action in response to an abnormal behaviour). The animal is perceived by the owner as dangerous, which suggests a trust phenomenon disorder. Moreover, the disorder is evident on both sides, as the animal prefers to warn the owner to stay away during mealtimes.

This work has resulted in a hypothesis regarding mental phenomena (e.g., trust, attachment, heterospecific rules and communication and dominance structure) and the causes of these disorders in heterospecific groups.

The owner's trust in the pet is the mental formation of a person, which is expressed in the person's relation to the animal depending on the perception of the animals' characteristics, as follows: its reliability, i.e., the degree to which it meets the owner's expectations, its predictability, and how safe it is. The main factor that supports balance in a heterospecific group is the psychological phenomenon of trust, which is evident in every type of heterospecific interaction.

Typically, a person's love (i.e., attachment) for an animal (i.e., a subject-subject interaction of the 1st type) is based on a symbiotic union in which each party cannot be without the other (i.e., the animal understanding its vulnerability without the person, and the person understanding the personal or environmental deficit that the animal is compensating for). Yet, another form of human love for a pet is possible, which includes the elements of care, knowledge regarding the animal, respect for its needs, and belief in its abilities. This love acts regarding both

the human and the animal's lives and supports each actor's development (a subject-subject interaction of the 2nd type) (A. V. Nikolskaya, 2012).

A sufficient condition for an interspecific group to exist is the ability of its members to develop and adopt the norms of the interaction. The norms of the interaction in each heterospecific group can differ (for example, the owner can allow the animal to sleep in his bed or not, or the animal can allow the owner to touch it while it is sleeping or not). The primary point is that these norms of behaviour are mutually observed.

There is a certain formal sequence of actions that are performed by the partners, in which, in reply to any action, the participant in the interaction expects a reciprocal action from the partner during the process of heterospecific communication. The choice of actions is determined by the situational context, the relationship history and the established rules and norms for the interaction.

For such communications to arise, the animal should (1) have a need for this communication and (2) exist in an enriched environment in which the reasonable use of communication suggests that some benefit will be achieved.

Hence, a difficult and differentiated communicative system between the participants in the interaction promotes greater mutual development. If the person, as the subject of the heterospecific interaction, is attuned to the subjective relations with the animal, which involves seeing simply the animal rather than an idealised image or substitute social partner, then the communicative repertoire of the participants will be more varied.

The dynamics for creating a functioning heterospecific group include the following: members of a heterospecific group must need the interaction (the first stage); the person starts to develop the interaction with the animal depending on his perception of it as an object, as a subject-substitute for personal relations, or as an independent live subject (the second stage). Depending on the type of interaction, the mental phenomena that influence the process of interaction arise in the heterospecific group (the third stage).

Heterospecific interaction phenomena disorders may have different causes, characteristics, occur in different contexts and have different intermediate conditions. Owners' strategies for phenomena management and interactions with the animals depend on their personalities. The types of interaction in a heterospecific group will also vary. Thus, the effects vary as well, ranging from heterospecific group state deterioration to its schismogenesis until the heterospecific interaction is normalized and transformed into a subject-subject interaction of the 2nd type, which is basically non-directive animal-assisted therapy for the owners and their family members.

To create a sense of attachment in an animal, a human must care for it. However, care that does not provide the animal with the possibility of maturing does not allow the animal to develop a mature, reciprocal attachment to the human. To achieve this mature, reciprocal relationship, the person should make the animal's habitat as rich as possible. The animal must learn as much as it can and must be able to cope with the situations it faces. For example, a human's mature love for an animal promotes the animal's development.

3.2 Basis for the Theoretical Model of Psychological Interactions in A Heterospecific Group of «Human–Pet»

A basic framework for the theoretical model is as follows (see Table 1).

These types of interactions may be considered as determinants, given that both processes and products of the interaction depend on the way that humans start to develop their interactions in a heterospecific group (methodologically assumed as a system).

Table 1 Basis for the Theoretical Model of Heterospecific Interactions

Type of interaction	Heterospecific group
Object - object	No group is formed, and there is no need for heterospecific interactions on both sides.
Subject-object, 1st type (subject-object-subject субъект-объект – субъектное) – The animal is perceived by the human as an object. The human is perceived by the animal as a subject.	A heterospecific group with the psychological phenomena of trust and a dominance structure is formed and remains stable as long as the animal-object has a value for the human-subject.
Subject-object, 2nd type – The human is perceived by the animal as an object. The animal is perceived by the human as a subject.	No group is formed, given that the animal does not need it.
Subject – subject, 1st type	A heterospecific group is formed and is stable provided that both actors satisfy each other's deficiency needs. All psychological phenomena are presented, but heterospecific rules and communication are barely differentiated
Subject – subject, 2nd type	A stable heterospecific group is formed. All psychological phenomena are highly differentiated.

4. Empirical and Phenomenological Substantiations of the Human-Pet Heterospecific Interaction Model

4.1 Trust as a Group-Forming Phenomenon

Consultancy experience demonstrates that almost all owners who sought advice on their pets' abnormal behaviour had troubles with trust in their pets, either in the form of a doubt in the pets' safety, behaviour predictability or in disappointment that the pet did not meet their initial expectations (e.g., "This animal is not the same as I had before", "Everyone's pets behave in this way, but mine does not" and "I've read about this breed, that it..., but my pet..."). Immediately after making the decision to get a pet, a future owner places trust in his soon-to-be pet in advance. This trust disorder affects the owner's attachment to the animal. The animal becomes anxious, as it can sense the trust issues. The animal's anxiety manifests itself in its behaviour, and the problem escalates. It may be that the animal a priori did not meet the owner's expectations. For example, the owner acquires a Yorkshire terrier because it is in fashion, it can be taken in for trimming, one can buy it fancy clothes and take it to nightclubs. However, the dog does not like pet trimming and tries to escape, growls during attempts to dress it in a new garment, but is happy to wear an old, out-of-fashion suit, and starts to howl and struggle to leave the nightclub. This behavior results in the owner's disappointment. The owner wonders: "what do I do with this dog that does not fit in the arrangement?" The dog was acquired as a toy or a fashion accessory, which suggests the existence of a subject-object type of interaction with no attempts to understand what the dog likes or what it is capable of doing. The animal was acquired for a specific purpose, but does not it does not satisfy that purpose. The owner then develops disorders regarding trust and attachment with the pet. Poor performance by the animal (whether it is viewed as a toy in a subject-object type interaction or as a social partner in the 1st type subject-subject interaction) is perceived by the owner as the animal's failure to adopt the rules of the interaction. The malfunction in the communication system occurs as well. System components fail to establish clear to both species and perceivable communication codes. In a subject-object interaction, this happens because the human basically does not understand how to communicate with the object. He or she follows a user manual, which involves "feed, water, jab, and when detecting a threatening grin or wet bed, seek the advice of a trouble-shooter". In a subject-subject interaction of the 2nd type, this failure is due to the "hominization of the animal", which involves attributing human motives, emotions, desires, etc. to the animal.

There are some cases of disorders in animals (e.g., anxiety or stereotypy) when the owner's trust deteriorates only with regard to the animal's compliance with the owner's expectations. When acquiring a pet, the owner did not expect that the cat or dog would hide at every sudden noise, break free and run away in the street at the sight of a particular individual (often such reaction suggests traumatic memories in the animals), or run around in circles for hours and clean itself. However, apart from the anxiety or stereotypy "fits", none of the psychological phenomena regarding the heterospecific interaction are affected.

Apparently, trust is a group-forming phenomenon, and, when it is disturbed, it causes heterospecific group instability.

4.2 Obtained Quantitative Data

Figure 1 presents the various proportions for the disorders in heterospecific groups.

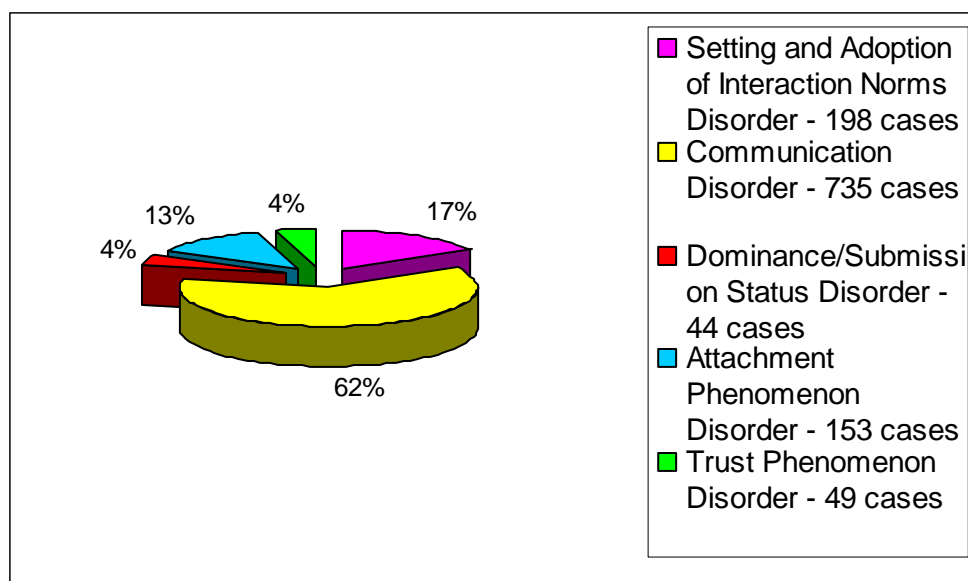


Figure 1 General Histogram of Disorders

The communication problem is the most common in the heterospecific groups, which suggests that owners either try to manipulate their pets as objects or communicate with their pets in the same way that they would communicate with another human (usually, a child). The resulting mutual miscommunication leads to dissatisfaction with the animal, assumptions that the animal acts "out of spite", does not love the owner enough, acts out in revenge and does not respect the owner. As a response to these perceptions of the animal's behaviour, the owner gets upset that he/she provided in his/her opinion everything for the pet's well-being, which includes expensive food, toys, clothes, vitamins, vet examinations, annual jabs, etc. Generally, the problem is that the human does not make any effort to understand what the animal tries to communicate through its behaviour, and the human forgets that this behaviour is demonstrated by a different species, which should be judged on the basis of its ethology.

The second most common phenomenon is the setting and adopting of behavioural norms in relation to one another. Owners often fail to explain to their pets what they want from them, which annoys the owners and unnerves the animals. In some cases, the owners do not set any norms, as they think that in the process of joint life activities the animal will understand everything. It often does not occur to the owners that there should be

established behavioural norms with regard to the animals. For example, if an animal does not like when someone strokes its chin, the owner should accept that as a personality trait of his or her pet and not insist on doing that action. Another common example is with regard to the animal's right to have a place where nobody can disturb it. Somehow, it does not occur to owners that they should provide such a place. Additionally, many owners think that they have the right to take food from their pets, yet many animals respond aggressively to that action. It's a different matter when owners train their pets to give food away. Owners should ask or offer something in the place of the food instead of forcing the food away from the pet (by the way, the trade should not necessarily be for another piece of food; rather, it could be for a sign of approval and affection).

Figure 2 presents a correlation of the problems that occur in the actors (both human and animal) from the heterospecific groups.

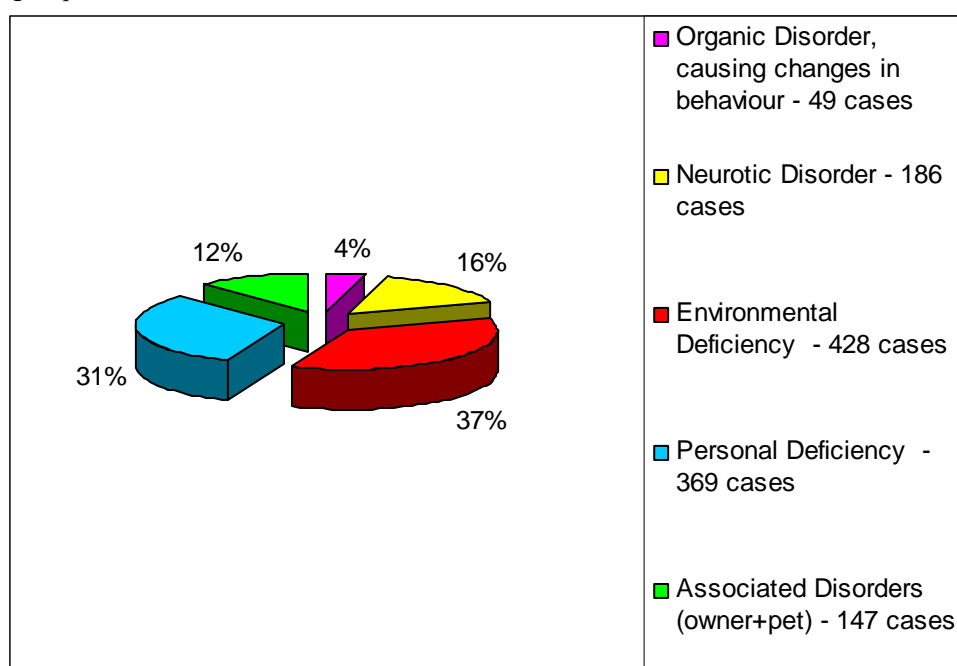


Figure 2 Proportion of Disorders in the Heterospecific Group Actors

As we can see, the greatest proportion of disorders regarding heterospecific interactions is caused by the owners' environmental deficiency, in that they acquire animals as substitutes for social partners or for practical purposes. When the animals do not meet their expectations, they perceive the animals' behavior as abnormal. For example, a couple wants to have a child, but for various reasons cannot, so, instead of a baby, they get a pet and overwhelm it with their care because they expect it to behave as a human baby would.

4.3 Phenomenological Validation of the Developed Theoretical Model

The following is a fragment of an interview that demonstrates the environmental deficiency of an owner (a female owner sought advice regarding problems with her 3-month-old Bordeaux dog):

- I can't help thinking that my dog is somehow dull. We've already been to see the doctors and had tests done, but the dog is still apathetic.
- And what do the doctors say?
- No diagnosis. They say that the dog is perfectly healthy, and that I'm just being picky, but it seems to me

that he is behind his age-mates in growing! He is lethargic all the time, gets tired quickly during walks, and does not play at home.

- How does the behaviour manifest itself? Is he sitting and doesn't want to move or does he get tired quickly?

- Yes, he gets tired very quickly. If it goes on like this, we'll have to cancel our lessons with the dog trainer. I signed up for a course when I bought him. I've been recommended the best dog trainer and, as it is very difficult to get into his group, I had to take care of that beforehand. So, we go out for a walk, the dog runs vigorously for 10 minutes and then starts to walk in the yard, sniffing at the grass, bushes, and earth. It is not normal, is it? He is a puppy. He's got to be running and playing all the time.

- All right, please describe your daily routine to us, for instance, how many times a day do you walk him.

- I've taken a holiday to stay at home and spend time with Tamerlan. It is so interesting to watch him grow up. We walk 5–6 times a day, for 1 or 1.5 hours each time. Then, we have to climb upstairs to the 4th floor, as there is no lift. This takes 20–30 minutes because he stops on each floor, lies down and refuses to move on. When he comes home, he runs around the flat for 10 minutes, then eats and goes to sleep.

- So, what bothers you?

- I do everything by the book. I feed him by the book. I grind dry dog food in a blender, mix it with lukewarm water, then add some tinned food, stir it and give it to him. However, he doesn't always eat it — sometimes he takes a sniff and leaves the bowl. In these cases, I get very upset and start to stuff the food down his throat, but he then belches it out. However, I feed him by the book, as in 5–6 times a day after the walks. He is just a puppy! He needs to grow up and gain strength to be strong, intelligent and big!

- I think you overfeed him.

- Well, I feel sorry for him. It seems to me that he is always hungry, you know, like how children are always hungry.

- But if a healthy pup refuses to eat, it means he is not hungry.

- Well, I don't know. I will try. And what do I do about him being so passive? Even at home when I take his toys, he plays just for 10 minutes and then goes to the far corner and doses off. I think he is ill. I'm very worried, indeed. When I start to stir him up, he plays a little and then drops down again.

- How much time does he have to sleep?

- A lot! I'm telling you that he sleeps all the time!

- As far as I can tell, your Tamerlan doesn't have much time left for good quality sleeping. You walk him 5–6 times a day, which is for a minimum of 5–6 hours, then you feed him, try to play with him, and stir him up when he is already tired and wants to sleep.

- By the way, we have another problem about his place. I bought him a nice warm soft bed, like a cradle, but he's never sat in it for even a moment. When I try to force him into it, he digs his heels in and he even bit me once.

- What in your opinion doesn't he like — the bed itself or the place where you put it?

- Could it be that he doesn't like the bed?

- Of course! It could be awkward to get into or the mattress may be too warm for him. The animal refuses to sleep in its bed, so where does it sleep in the end??

- At night, I let him sleep on my bed. However, the dog has to have its own place anyway, hasn't he? I allocated a special room for him with beautiful wallpaper that has cartoon pictures. His cradle is also there. There is a night-light in the shape of a turtle. It is so cosy, but he doesn't sleep there.

- You allocated a special room? By your description, it looks like a nursery. Have you prepared it especially

for the dog?

- No - no - no - no!!!! (Screams and cries), I lost my baby, a boy, to prenatal death during the 7th month!

Another instance of a disorder in the owners is personal deficiency. Generally, when acquiring a pet, people are trying to solve some inner problems, for example, “I’m not beautiful, but my pet will love me for my gentle soul, as it won’t feel embarrassed that I can’t lose weight”, or “They may say that I’m a wimp and a coward, but when I get a Rottweiler who can bite them all on my command, they will regret their words.”

The owner of a 1-year-old cat complained that his cat used to relieve itself in wardrobes and boxes, but only once in a while in its own litter-box. This behaviour started a long time ago, approximately 2–3 weeks after acquiring the cat (approximately 7 months ago), but gradually became more frequent. In this case, it was obvious that the cat felt anxious, which led to looking for enclosed areas to use the toilet, although, from the interview with the owner, the cause of the anxiety wasn’t clear.

During the interview, the cat was sitting in its carrier and made no attempts to get out. Its posture was tense. The owner was also tense and was sitting on the edge of the chair, which is the position of a person who is ready to leave at any moment.

The owner said that the cat had enough love and playtime and that he only softly grumbled at the cat for doing its toilet business in the wardrobe. In response to the question regarding what the other family members thought of this behaviour from the cat, the owner said that his mother (the man looked to be approximately 30-years-old) was unhappy about it and that she used to shout at the cat, nuzzle it into the puddles and lumps of poo, and complain that their previous cat had never done anything like that. This cat was acquired by the owner himself, but the mother did not mind, although she did not express any wish to have the cat. When the cat behaves well, she also pets it.

During the interview, the mother entered the room. The woman confidently installed herself in the room, saying that she was also interested in determining what was wrong with the cat, that was supposed to be trained to use its litter-box and had a multi-page breeding record. The man’s posture became tenser. He withdrew himself from the conversation and allowed his mother to do the talking.

Within two minutes after the woman’s arrival, the cat got out of the carrier and started to explore the room. This meant that the cat felt safe in her presence, but that her discontent caused anxiety and made the animal look for a safe place to relieve itself.

The diagnosis is of a subject-subject interaction of the 1st type. On the male owner’s side, there was an environmental deficiency (i.e., no social partner) and a personal deficiency, which was evident in his lack of self-confidence and dependence on his mother. On the female owner’s side, there was an explicit trust disorder, as she was promised a properly trained pedigree animal, but received a pet with problems instead. There was also an attachment deficiency, as she initially had not planned to acquire a pet, let alone a pet that sprays in the wardrobes. Problems with communication were present, as neither the son nor the mother noticed before their meeting with the advisor that the animal was feeling more secure in the woman’s presence, but started to become anxious when she dumped negative emotions on the cat.

The woman was asked to demonstrate to the cat that he was accepted, fondle him more often, and hassle him less for the inappropriate behaviour, considering that these actions were causing the animal’s fear of her.

In a month’s time, the owner called back and said that within a day after the meeting the cat had stopped relieving himself anywhere else but in the litter-box. The cat also became more vigorous and even cheeky. In response to the question about what he meant by cheeky, the man said that the cat wasn’t afraid of walking around

the flat, climbing to the highest places and watching what was going on. It dared to hop on the mother's lap to ask for attention and it preferred to sleep with the mother (and she did not mind).

5. Conclusions

The following principles were used as methodological prerequisites for the development of a theoretical model of the psychological interactions between humans and pets:

- The principle of systemacity (V. A. Barabanschikov, 2005; G. Bateson, 1972; R. Gifford, 2007; B. Keeny, 2009), in which, in certain circumstances, the interactions between humans and animals become systemic, and the psychological interaction in this heterospecific group consisting of a "human-pet" is treated as systemic, while the mental phenomena occurring during this interaction are considered to be a systemic characteristic of this group;
- The social and psychological foundations for small group study (J. Borg, 2008; M. Hogg, K. Williams, 2000; D. R. Forsyth, 2006) and the principle of social constructionism (P. L. Berger, T. Luckmann, 1966), given that a heterospecific group is being studied, in which humans build relationships on the basis of their species-specific, social and cultural sets.

The following determinants or types of heterospecific interactions were distinguished: subject-object, and subject-subject of the 1st and 2nd types. The type of interaction that is chosen by the humans will affect the way that they build their interactions with the animals. Thus, the psychological phenomena occur during this interaction.

Empirical evidence for the developed theoretical model was obtained using various research methods. During the first stage, through the use of two methods, which were observation of fixed category characteristics and the structured interview method, we proposed various hypotheses regarding the potential disorders evident in heterospecific groups and on the probable causes for these disorders. This was assuming that, having identified the state of the mental phenomena that form the psychological reality of the heterospecific group as a poly-subject and having found the type that determines the interaction in the group, it would be possible to then assess the group's status.

During the next stage, we conducted unstructured interviews, in which some of our hypotheses were confirmed and others were disregarded. During this stage, we used a qualitative research method, known as A. Strauss's grounded theory approach, to categorise the phenomena that occurred in the heterospecific groups. During this diagnostic stage, we focused on analysing people's phrases, their nonverbal and paraverbal behaviour, and their recurrent phrases. In some phrases, each word had to be analysed to determine what an interviewee meant. Then, for further clarification, the advisor rephrase in another way by proceeding with the following: "Do I get it right that...?" This method enabled us to detect owners' personal and environmental problems, which were being projected onto their pets, leading to the interaction disorders.

Qualitative research with individual cases can be called an existence theorem, given that we isolated a phenomenon that basically occurs across the total population. Then, using subsequent structured interviews and observational data, we conducted a validation of the theoretical model, which was developed based on the qualitative research methods. We also determined the frequency of the psychological phenomena disorders' occurrence in heterospecific interactions.

By examining the various heterospecific interaction disorders in the heterospecific group consisting of "human-pet", we achieved an empirical confirmation of the deduced psychological phenomena, which are as

follows: trust, attachment, dominance/submission status, setting and adopting of behavioural norms in relation to one another, and patterns of communication. We demonstrated that, by considering these phenomena as heterospecific group state parameters that are conditioned by the type of interaction and the personalities and previous experiences of the actors, we are able to utilize the “input” data for heterospecific interaction optimisation. This optimisation is performed through the method of psychological intervention in the relationships between the actors. The type of intervention depends on the psychological parameter (phenomenon) that is most severely impaired and on which actor in the heterospecific group “human-pet” is the weakest link. In other words, which actor, either the human or the pet, has the problem. Finally, we encountered cases in which multiple disorders were evident, such that both actors had problems. The problems caused by the pets (such as organic disorders of the CNS that affect animal behaviour and are caused by early traumatic experiences with neurosis and character disorders), as evident from our studies, occur in 24% of cases. The problems caused by the owners occur in 76% of cases, which can be traced to their dissatisfaction with the pets, as in the pets do not meet their expectations, the owners have environmental or personal deficiencies, or the pets did not solve the problems that they were intended to solve. In each of the aforementioned cases, the heterospecific interaction disorder affected the integrity of the group and sometimes led to schismogenesis.

However, when diagnostics were conducted correctly, a psychological intervention aimed at recovering the disturbed psychological phenomena and explaining to the owners about either the problems with their pets or their own problems resulted in heterospecific interaction optimisation and group integrity retention. Based on this, we believe that the developed model of interspecific interactions between humans and pets provides a theoretical basis for the consultancy.

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