

PET OWNERSHIP IN CHILDHOOD AND SOCIO-EMOTIONAL CHARACTERISTICS, WORK VALUES AND PROFESSIONAL CHOICES IN EARLY ADULTHOOD¹

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ABSTRACT

The main goal of this study, partly retrospective in character, was to explore if and how pet ownership in childhood is related to several indicators of socio-emotional development, as well as work values and professional choices in early adulthood. The sample consisted of 356 students (200 females, 156 males) from different colleges of the University of Zagreb, representing helping (n=200) and non-helping (n=156) professions. The mean age of the students was 21 years. Seventy-four percent of the participants had had a pet during childhood, mostly dogs. Participants who had owned a pet during childhood reported quite a strong attachment to it. In addition, pets were rated lower than family members and friends, but higher than television, relatives and neighbors in terms of the social support derived from them during childhood. Discriminant analysis was performed in order to examine whether young adults – those who had owned a pet during childhood and those who hadn't – differed in emotional and motivational characteristics, and whether there was a correlation with their chosen subject of study. Pet ownership in childhood was a grouping variable, while measures of current socio-emotional functioning (empathy, prosocial behavior, social anxiety and loneliness), value orientations (self-actualisation, individualistic, social, utilitarian and adventurous) and chosen subject of study (helping or non-helping profession) were predictors. A significant discriminant function was obtained. Correlations between discriminating variables and discriminant function showed that young adults who had had a pet during childhood were more empathetic, more prone to choose helping professions, and more oriented towards social values than those who did not have a pet during childhood. © 2001 International Society for Anthrozoology

Key words: pet ownership, children, social support, socio-emotional characteristics, work values, vocational choice, young adults

INTRODUCTION

From the developmental perspective much research has focused on the preadolescence and early adolescence periods, which has revealed the impact of the child-pet relationship on the cognitive and socio-emotional development of children. Previous research has clearly shown a positive correlation between certain aspects of child socio-emotional development and pet ownership. It has also been revealed that children view their pets as special friends, as well as a source of fun, exercise, psychological security and protection (e.g. Juhasz 1985; Kidd and Kidd 1985; Davis 1987; Stevens

1990; Melson 1991; McNicholas and Collis 1998; Robin and ten Bonsel 1998; Triebenbacher 1998). Having a pet in childhood is positively correlated with feelings of importance, social competence and self-esteem. Bryant (1985, 1990) found that the pet-child relationship is characterized by four factors which are quite similar to the factors that characterize friendship: mutuality, enduring affection, self-enhancing affection and exclusivity. It has also been shown that adolescent pet owners have a higher level of self-esteem, autonomy and better self-concept (e.g. Covert et al. 1985; Davis 1987; Van Houtte and Jarvis 1995) than non-owners.

Our own recent research has shown that having an attachment to pets is more important as a moderating variable for the socio-emotional functioning of children than pet ownership alone. Pet owners who were

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highly attached to their pets had significantly higher results on empathy and prosocial orientation scales than the groups of non-pet owners or pet owners who were not highly attached to their pets (Vizek-Vidović, Vlahović-Štetić and Bratko 1999).

During adolescence two major changes in attachment take place: the development of reciprocal relationships in which each partner serves as an attachment figure for the other, and the replacement of parents with someone outside the family as a principal attachment figure (Colin 1996). It seems that these changes also affect the strengths of the child-pet bond, which weakens or is at least less apparent during middle adolescence (Kidd and Kidd 1985). For emotionally healthy adolescents striving for autonomy and breaking away from families, this means breaking away from the family pet as well (Cusack 1988). The question remains whether the positive experience and emotional support associated with childhood attachment to pets might be related to the emotional and motivational characteristics of young adults (college students).

While our previous study examined the relationship between pet ownership and some aspects of socio-emotional development during middle childhood to early adolescence (Vizek-Vidović, Vlahović-Štetić and Bratko 1999), in the present study, partly retrospective in character, we have tried to explore if and how early attachment to pets relates to the socio-emotional development during the transition from adolescence to early adulthood. Since the end of adolescence for the majority of young people coincides with important vocational decisions, we also decided to explore the possibility of a link between pet ownership in childhood with empathy, prosocial behavior, social anxiety and loneliness in early adulthood and a possible link with life values and professional goals. Vocational development studies have shown the strong impact of both social and psychological factors upon vocational choice. Super's self-concept theory (1967, 1990), Holland's (1973, 1985) congruence theory and Korman's (1976) consistency theory postulate that people seek to translate their self-concepts into occupational choices. A person's self-concept is built around beliefs about competences in different personal domains (Bandura 1997; Dweck 2000) but also depends upon the expectations about the attainment of valued goals in different life roles (Super and Šverko 1995). In a study on the role of values in vocational decision making (Šverko et al. 1987), it

was shown that students in the helping professions express more altruistic attitudes and values than students in other non-helping professions. The specific relationship between an early socialization experience and vocational choice has been reported in a retrospective study on childhood abuse. Here a higher proportion of individuals feeling a lack of adequate emotional support from their families in childhood was found among students preparing for the helping professions (Pečnik 2001). These findings warranted a closer investigation of a possible relationship between child-pet bonding and vocational decisions in early adulthood.

METHODS

The research design is a comparative one, with childhood pet ownership as the main grouping variable, while socio-emotional variables (empathy, social anxiety, prosocial behavior, loneliness), occupational choice (helping and non-helping professions) and work values (orientation toward self-actualisation, individualistic orientation, social orientation, utilitarian orientation and adventurous orientation) had the status of criteria.

It should be noted that although we had measured pet attachment in childhood, due to the relatively poor sensitivity of that single-item measure, pet ownership was used as a predictor variable in the main analysis rather than pet attachment. For this reason a comparison was made between two groups of participants (those with and those without a pet during childhood), and not between three groups as in our prior study (pet owners highly attached to their pets, pet owners not highly attached to their pets and non-pet owners, Vizek-Vidović, Vlahović-Štetić and Bratko 1999).

Participants

The overall sample consisted of six target student groups from different colleges at Zagreb University. Students were approached in their regular classes and given a choice to participate in the study – all chose to participate. Since participants in this study belonged to the "normal" student population, there was no reason to believe that the sample was skewed toward pet owners or pet non-owners. After preparing and sorting the data, the initial sample size ($n=445$) was somewhat reduced because of non-valid and missing data in different inventories², so that the final size of the sample was 356 (242 females, 114 males). There were 200 students (56.2%) from the

colleges for helping professions (44 students of psychology, 86 of social work and 70 of special education) and 156 students (43.8%) from colleges for non-helping professions (11 students of interior design, 65 of textile engineering and 80 of computer engineering).

Instruments

An analysis of the instruments used confirmed their satisfactory psychometric properties as well as their eligibility for the parametric statistical procedures. The instruments employed and their reliabilities are presented below:

(a) *Prosocial Behavior Scale* (Raboteg-Šarić 1993). This consists of 15 items that assess prosocial behavior in everyday situations (e.g. "I helped an older person to carry his/her things," "I helped a friend to look for something he/she lost, although I was in a hurry to go home," "I tried to protect someone when others were teasing him/her"). Participants were asked to respond using a 4-point Likert scale (1=rarely, 4=always). Since the behaviors described in the items require at least some sacrifice, it can also be said that the scale measures altruistic behavior. The range of scores on this scale is 15 to 60, and a higher score means more prosocial or altruistic behavior. The internal reliability coefficient (Cronbach alpha) of the scale is 0.84.

(b) *Empathy Scale* (Raboteg-Šarić 1993). This consists of 20 items (e.g. "I become sad, when I see helpless old people," "I become very angry when somebody is treating another being badly," "When a friend of mine is worried, I feel worried too"). Participants were asked to respond using a 4-point Likert scale (1=rarely, 4=always). Most of the items are similar to the ones from the Mehrabian and Epstein scale (1972), and the Davis scale (1983). The range of scores on this scale is 20 to 80; a higher score means more empathy. The internal reliability coefficient (Cronbach alpha) of the scale is 0.84.

(c) *Loneliness Scale* (Vizek-Vidović, Vlahović-Štetić and Bratko 1999). This is composed of 16 items (e.g. "I feel lonely," "I have a feeling that my peers do not understand me," "I do not have friends") requiring responses on a 4-point Likert scale (1=completely untrue for me, 4=completely true for me). The range of scores on this scale is 20 to 80; a higher score means more loneliness. The internal reliability coefficient (Cronbach alpha) of the scale is 0.82.

(d) *Social Anxiety Scale* (Vizek-Vidović, Vlahović-Štetić and Bratko 1999). This is composed of 10 items that assess the social anxiety

of students (e.g. "I am worried about what others think of me," "I am afraid that others will not like me," "I feel embarrassed when I am among strangers"). Participants were asked to answer on a 4-point Likert scale (1=rarely, 4=always). The range of scores on this scale is 10 to 40; a higher score means higher social anxiety. The internal reliability coefficient (Cronbach alpha) of the scale is 0.83.

(e) *V - Questionnaire* (Šverko et al. 1987). This assesses life values and is composed of 100 items that assess 20 different values that cluster around five factors (Šverko 1987): orientation toward self-actualisation (e.g. "It is important for me ... that I can use all my knowledge and skills; ...that in my job I can use my possibilities and aptitudes"), individualistic orientation (e.g. "...that I can live according to my ideas; ... that I can dress and behave as I wish"), social orientation (e.g. "...that I work in a group, and not alone; ...that I am in constant contact with other people"), utilitarian orientation (e.g. "...that I get praise for my accomplishments; ...that I am highly appreciated for doing my job"), and adventurous orientation (e.g. "...that I do some courageous things; ...that I feel a certain danger or risk in my job"). Participants were asked to respond using a 4-point Likert scale (1=mostly unimportant, 4=very important). The range of scores on each factor is 5 to 20; a higher score means more importance ascribed to the particular life value. The internal reliability coefficients (Cronbach alphas) are in the range from 0.62 to 0.84, with a median of 0.74.

(f) *Questionnaire on personal data and sources of social support in childhood*. This was constructed for the purpose of the present study, and had been previously tested in a pilot study. It is composed of 12 items including age, gender, study group, structure of the family during childhood, socio-economic status, sources of social support in childhood, and pet ownership and pet attachment in childhood. Pet attachment was measured using a global one-item measure formulated as follows: "If on a scale from 1 to 10 you would rate your best childhood friend as 10, and the person you did not like at all as 1, how would you rate your childhood pet?" In the pilot study it was found that this global measure correlated highly (0.92) with The Pet-attachment Scale (Vizek-Vidović, Vlahović-Štetić and Bratko 1999), so it seemed appropriate to use this one-item measure. However, as the later analysis showed its poor sensitivity in all the sub-samples, we decided to use pet ownership in childhood as our predictor variable. For measuring social support in child-

hood, participants were presented with a list of nine sources of social support (mother, father, siblings, friends, books, television, pets, relatives and neighbors) and they had to indicate how much relief each of those sources offered them in difficult times during childhood (on a 4-point Likert scale: 1=no relief, 4=complete relief).

Procedure

In a pilot study the psychometric properties of the instruments were examined, and the necessary adaptations were made (e.g. exclusion of some items due to the low item-total correlations, rewriting some items for better clarity etc.). The final set of instruments was administered to the students at the various colleges under the supervision of trained psychologists. The administration of instruments was done in small groups (up to 20 students) and took about 60 minutes.

RESULTS

Descriptive statistics

There were 356 participants: 68% women and 32% men. Participants included students from the first to the fourth year of study at the faculties for helping and non-helping professions. Their ages ranged from 18 to 28 years, with a mean age of 21 years. Male students were more dominate in non-helping professions (85.1%) than in the helping professions (14.9%, $\chi^2=116.01$, $p<0.0001$).

In our sample, 262 students (73.6%) had a pet during childhood, while 184 (51.7%) currently owned a pet. Forty-five percent of the participants had a pet both in childhood and currently, while 19.9% did not have a pet either in childhood or currently. Twenty-eight percent of participants had a pet in childhood, but not currently, while only 6% did not have a pet in childhood, but did have one currently. There was a sex difference in pet ownership. More female than male participants had pets during childhood (79.8% vs. 60.5%, $\chi^2=14.74$, $p<0.0001$) and currently (55.4% vs. 43.9%, $\chi^2=4.11$, $p<0.05$).

In the group of owners who had both childhood and current pets, dogs were the most frequent pets (among students who owned a pet in childhood, 26% had a dog, and among students who owned a pet currently, 40.2% had a dog), followed by cats (9.2% in childhood and 15.8% currently) and birds (9.2% in childhood and 9.8% currently). Other kinds of animals were relatively rare. A significant number of pet owners had more than one animal in their childhood (48.9%).

Table 1. Assessments of the mean level of support participants received during childhood from different sources.

Source of support	<i>M</i>	<i>SD</i>
Mother	3.47	.78
Friend	3.15	.74
Father	3.03	.85
Siblings	3.01	.88
Pets	2.78	.91
Books	2.66	.84
TV	2.45	.90
Relatives	2.39	.83
Neighbors	2.02	.82

Participants who owned a pet during childhood assessed their attachment to a pet on a scale from 1 to 10. The mean attachment score was 7.2 ($SD=2.6$). Female students were more attached to their pets in childhood than male students (Females: $M=7.5$, $SD=2.5$; males: $M=6.3$, $SD=2.6$, $t=3.48$, $df=260$, $p<0.001$). Students from the helping and non-helping professions did not differ in their attachment toward pets during childhood. There was a relatively low standard deviation in all the sub-samples, and therefore we decided to use pet ownership in childhood, rather than pet attachment, as the main predictor variable in further analyses.

On a scale from 1 to 4, students assessed the level of support provided by different sources in childhood. The means and standard deviations for the students' assessments are presented in Table 1 (total number of students differs for each source of support, because not every source of support was available to every student). As can be seen from the table, the mean rating for pets was 2.8 ($SD=0.9$). In order to compare the level of support provided by pets with the level of support provided by other sources, a series of paired-sample *t*-tests were computed. The results show that pets were assessed higher than neighbors ($t=6.96$, $df=141$, $p<0.0001$), television ($t=5.35$, $df=186$, $p<0.0001$), and relatives ($t=2.85$, $df=161$, $p<0.01$), but lower than siblings ($t=3.45$, $df=180$, $p<0.001$), fathers ($t=3.23$, $df=209$, $p<0.001$), friends ($t=5.86$, $df=223$, $p<0.0001$) and mothers ($t=10.08$, $df=223$, $p<0.0001$). The difference between pets and books was not significant ($t=1.01$, $df=175$, ns).

Table 2. Means and standard deviations for measures of current socio-emotional functioning and value orientations for participants who did and did not have a pet during childhood.

	No pet in childhood (<i>n</i> =94)		Pet in childhood (<i>n</i> =262)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Empathy	54.0	7.7	58.4	7.9
Social anxiety	20.9	5.3	20.5	4.5
Prosocial behavior	39.7	6.1	40.9	5.9
Loneliness	46.1	4.1	46.2	3.7
Orientation to self-actualization	17.2	1.8	17.4	1.9
Individualistic orientation	15.7	2.6	15.9	2.7
Social orientation	15.6	2.5	16.4	2.3
Utilitarian orientation	15.0	2.4	15.0	2.7
Adventurous orientation	12.0	2.7	12.4	3.1

Table 3. Intercorrelations among the discriminating variables used in the study (*n*=356).

	E	PB	SA	L	P	SACO	IO	SO	UO
E									
PB	.44***								
SA	.23***	.05							
L	.16**	.15**	.00						
P	.26***	.09	.08	.03					
SACO	.23***	.22***	.00	.09	.02				
IO	-.03	.00	-.01	.06	-.20***	.49***			
SO	.31***	.20***	-.05	.08	.14**	.54***	.22***		
UO	.03	.07	.08	.00	-.20***	.57***	.58***	.41***	
AO	.07	.21***	-.08	.16**	-.19***	.39***	.40***	.33***	.47***

E = Empathy, PB = Prosocial behavior, SA = Social anxiety, L = Loneliness, P = Professional choice (helping vs. non-helping), SACO = Orientation toward self-actualization, IO = Individualistic orientation, SO = Social orientation, UO = Utilitarian orientation, AO = Adventurous orientation;

*** *p*<0.001; ** *p*<0.01

Discriminant analysis

Discriminant analysis was performed on the data in order to examine whether participants – those who owned a pet during childhood and those who did not – differed on emotional and motivational characteristics as young adults, as well as in their choice of field of study (helping vs. non-helping profession). The grouping variable in the discriminant analysis was pet ownership during childhood (262 students owned a pet during childhood and 94 did not own a pet), while predictors were the measures of current socio-emotional function-

ing (empathy, prosocial behavior, social anxiety and loneliness), value orientations (self-actualization, individualistic, social, utilitarian and adventurous) and field of study. The means and standard deviations for measures of current socio-emotional functioning and value orientations for pet owners and non-pet owners during childhood are presented in Table 2, while intercorrelations among the predictor variables are presented in Table 3.

A significant discriminant function was obtained (Table 4) that correctly classifies 64% of all participants. The percentage of correct

Table 4. Statistics for obtained discrimination function.

Eigenvalue	Canonical Correlation	Wilke's Lambda	Chi-square	df	Sig.
0.091	0.289	0.917	30.42	10	0.001

Table 5. Standardized canonical discriminant function coefficients (b) and correlations between discriminating variables and standardized canonical discriminant functions.

	b	Correlation
Empathy	0.83	0.81
Profession	0.38	0.51
Social orientation	0.25	0.48
Loneliness	-0.11	0.07
Self-actualization	-0.17	0.22
Prosocial behavior	-0.15	0.28
Individualistic orientation	0.22	0.07
Adventurous orientation	0.22	0.21
Utilitarian orientation	-0.16	-0.003
Social anxiety	-0.29	-0.11

predictions for students who had a pet during childhood is 63.7% and for those who did not, 64.9%. The obtained discriminant function is described with three variables that have structure coefficients above 0.30 (Table 5). Young adults who had a pet during childhood were more empathetic and more prone to choosing a helping profession than those who did not have a pet during childhood. In addition, young adults who owned a pet in childhood were more oriented towards social values than those who did not have a pet during childhood. Group centroid (C) for the group with a pet is 0.18 and for the group without a pet, -0.50.

DISCUSSION

The aim of our study was to explore if and how early pet ownership is related to emotional and motivational characteristics during the transition from adolescence to early adulthood. The main goal was to examine socio-emotional variables, work values and the professional choices of two groups of subjects:

those who had and those who did not have a pet in childhood. We were interested to see which of the variables contributed the most to the differentiation between the two groups.

As already mentioned, although we had a measure of pet attachment in childhood, pet ownership, instead, was used as a predictor variable in the main analysis. Basically, differences between the participants on the measure of pet attachment were too small to justify differentiation between students who were, and those who were not, highly attached to their childhood pet. All participants who owned a pet in childhood reported that they had quite a strong attachment to their pets. The use of more precise measures of pet attachment is recommended for future studies.

In our total sample, 262 participants (73.6%) had pets in childhood, mostly dogs. Retrospectively, pets were an important source of social support in childhood. Although they were less important than parents, siblings and friends, they were more important than television, relatives and neighbors. Juhasz (1985) reported a similar finding for young adolescents. In his study, participants made a list of things that made them feel satisfied and good about themselves, and also ranked pets below parents and friends, but above other social contacts such as teachers.

Discriminant analysis was used in order to identify how the set of four socio-emotional variables (empathy, social anxiety, prosocial behavior, loneliness) together with professional choice (helping or non-helping profession) and the set of five value orientations (self-actualization, individualistic, social, utilitarian and adventurous), when used simultaneously, differentiated the two groups. The discriminant function obtained only explains 9% of the variance and rather poorly discriminates the two groups of students (Wilke's $\Lambda = 0.92$). The standardized coefficients say something about the relative contribution and importance of each variable in determining the discriminant score. The highest contributions were provided by empathy and choice of profession. The structure coefficients outline the relation between the predictor variables and the discriminant function. The variables of empathy, choice of profession and social ori-

entation correlated the highest with function.

Empathy is a variable that contributes the most to the differentiation of the two groups of participants. Children who had pets in childhood were more empathic in late adolescence. This is in accordance with some previous findings about differences in empathy during childhood. Childhood pet owners showed more empathy towards people and towards pets than non-owners. The care of pets can promote in children certain social values and skills, e.g. empathy and prosocial behavior (Bryant 1985; Poresky and Hendrix 1990). Our findings suggest that such differences persist also during late adolescence and young adulthood.

The next relevant variable that differentiates the two groups is professional choice. Participants who had pets in childhood most often chose a helping profession than those without pets. They were also more oriented towards social values. Values are sets of general beliefs, opinions and attitudes about what is preferable in life (Šverko and Vizek-Vidović 1995). Work values are those goals which people try to reach through their work and choice of profession. Early socialization experiences in the family lead to an internalization of values concerning work.

The results suggest, then, that pet ownership facilitates not only empathy but also the development of socially oriented values, e.g. social interaction and relationships, participation and altruism. However, other common factors such as parental childhood experiences, family values, and rearing styles

are probably also responsible for both facilitation and reinforcement of empathy and social orientation in children. These assumed relationships should be explored further, preferably using a longitudinal design.

Childhood experiences through socialization processes which influence socio-emotional development and the development of work values lead to a professional choice which enables the fulfilment of important values. In the helping professions, social orientation is an important and feasible value and, as we mentioned, students in helping professions express more altruistic attitudes and values than students in the non-helping professions (Šverko et al. 1987).

CONCLUSIONS

Overall, the data obtained in this research suggest that pet ownership in childhood may be an important experience, playing a major role in the socio-emotional development during adolescence and young adulthood, as well as in the development of values underlying professional choices. Considering the complexity of factors which influence human development, it can be assumed that pet ownership mediates in these processes. It would be interesting to see how long the effects mediated by pet ownership in childhood persist into adulthood. A longitudinal study would be best suited to examine the possible effects of these early experiences on the quality of life in adulthood, especially in the socio-emotional domain, i.e. the quality of human-human, as well as human-animal relations.

NOTES

1. This paper is based on research supported by a research grant from Master Foods Austria.

2. Some students omitted to circle a number on the scales provided. Since these omissions were randomly distributed throughout the questionnaires, it seems that this was not a systemic factor.

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