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DIFFERENCES IN KNOWLEDGE, ATTITUDE, AND PRACTICE OF THE COMMUNITY PARROTS IN TERNATE AND SOFIFI, NORTH MALUKU

PERBEDAAN PENGETAHUAN, SIKAP, DAN KESADARAN MASYARAKAT TERHADAP BURUNG PARUH BENGKOK DI TERNATE DAN SOFIFI, MALUKU UTARA

Annisa Ramadani[1,2]*, Tatang Mitra Setia[1,2], Fachruddin M. Mangunjaya[1], Benny A. Siregar[3], Fitriah Basalamah[1]

[1]*Universitas Nasional, Harsono RM 19 Street, 12550 South Jakarta*
[2]*Biological Bird Club "Ardea", Sawo Manila 61 Street, 12520 South Jakarta*
[3]*Burung Indonesia, Baranangsiang Indah Street,16144 Bogor*
**Corresponding author:* ramadani.annisa@gmail.com

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Abstract

The community's habit of owning wild animals is still ongoing until now. This has become one of the threats to the existence of wildlife in their natural habitat. Parrots, with their ability to imitate surrounding sounds, have become a popular pet choice. Therefore, the purpose of this study is to determine the influence of knowledge, attitudes, and practices about parrots on the profile of the community. The study differentiates between those who owner bird and those who do not. Data collection was conducted for two months in Ternate and Sofifi, North Maluku. The method used was purposive sampling, interviewing as many as 104 respondents who had been determined. The interview data was processed into multiple linear regression values and canonical correlations. The results of this research identified that the majority of those who owned parrots were aged between 42–57 (36%); female (52%); with high school graduates (46%); and engaged in various professions, such as housewives or entrepreneurs (71%). On the other hand, those who were non-owner parrots were dominated by individuals aged 10–25 (46%); male (65%); with undergraduate degrees (62%); and categorized as students (38%). The results of this study show that knowledge and attitudes have an influence on education, profession, and age of the community on the topic of curly-billed bird maintenance.

Keywords: Community; Interviewing; Parrots

Abstrak

Kebiasaan masyarakat memiliki satwa liar masih berlangsung hingga sekarang. Hal ini menjadi salah satu ancaman terhadap keberadaan satwa liar di habitat aslinya. Burung paruh bengkok memiliki kemampuan meniru suara di sekitarnya, dan menjadi satwa liar yang populer sebagai peliharaan. Oleh karena itu, tujuan penelitian ini adalah untuk mengetahui pengaruh pengetahuan, sikap, dan kesadaran tentang pemeliharaan burung paruh bengkok terhadap profil masyarakat. Studi ini membedakan, antara masyarakat yang memelihara burung dan yang tidak. Pengumpulan data dilakukan selama dua bulan di Kota Ternate dan Sofifi, Maluku Utara. Metode yang digunakan purposive sampling, mewawancarai sebanyak 104 responden yang telah ditentukan. Data wawancara tersebut diolah menggunakan software SPSS 22.0 untuk memperoleh nilai regresi linier berganda dan kolerasi kanonikal. Hasil penelitian, mengidentifikasi bahwa mayoritas dari mereka yang memiliki burung paruh bengkok berusia antara 42–57 (36%); berjenis kelamin perempuan (52%); tingkat pendidikan SMA (46%); dan memiliki profesi lainnya, seperti ibu rumah tangga atau pengusaha (71%). Di sisi lain, masyarakat yang tidak memelihara burung paruh bengkok, didominasi yang berusia 10–25 (46%); berjenis kelamin laki-laki (65%); tingkat pendidikan sarjana (62%); dan lebih ddidominasi oleh pelajar/mahasiswa (38%). Hasil penelitian ini menunjukkan bahwa pengetahuan dan sikap memiliki pengaruh dengan pendidikan, profesi, dan usia masyarakat terhadap topik pemeliharaan burung paruh bengkok.

***Kata Kunci**: Burung paruh bengkok, Masyarakat, Wawancara*

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INTRODUCTION

Along with the times, owning wildlife is still going on today. Well-known artists and influencers unknowingly promote the idea that wildlife can be petted or not. Various reasons make someone want to own wildlife, such as culture, likes, entertainment/content, home decorations, souvenirs for others, or resale. Wildlife maintenance is one of the threats of extinction for wildlife. In addition, the use of wildlife that is not by the principles of sustainability can lead to ecosystem imbalances (Ahmad et al., 2017; LIPI, 2020; Rohmah, 2022; Rosyadi et al., 2015; Safania, 2022).

Wildlife that live on land, water, and air. In addition, they have complex needs such as adequate shelter, adequate diet, freedom to perform normal behavior, social needs, and freedom from pain, injury, and disease, whether living freely in nature or being nurtured by humans. There are several wildlife that should not be owned, hunted, or traded. Usually, these wildlife are included in the protected category. However, the selling price is higher than that of pets in general, causing illegal hunting and trade of wildlife to continue (Leden, 1993; Madina, 2022; Riski, 2019; Undang-Undang Republik Indonesia, 1990).

Birds are a group of vertebrates that can live in various types of habitats. Currently, it is estimated that the number of birds in the world is around 11,188 species (The Handbook of the Birds of the World (HBW) and BirdLife International (HBW), 2022), and in Indonesia around 1,826 species (Junaid et al., 2023). Birds have become one of the most domesticated wild animals for quite a long time, because of their melodious chirping and the beauty of their dazzling feathers. Therefore, they are divided into two groups, namely songbirds and parrots (APPBSI, 2000).

Parrots are also commonly referred to as the order *Psittaciformes* which consists of three families, namely *Strigopidae*, *Cacatuidae*, and *Psittacidae*, and two of them can be found in Indonesia. Although it is a protected animal, the attractiveness of its fur beauty, unique behavior (imitating sounds), ease of taming, and ease to getting along with humans, make it widely used as a pet. Most of its species are classified as vulnerable according to the IUCN list and are included in protected status in CITES international trade. In addition, this bird is also difficult to breed because it has a nature that is not good at keeping and incubating its eggs. Every year, its population continues to be threatened with estimated tens of thousands of individuals leaving only thousands in North Maluku (Halmahera Island, Bacan Island, Morotai Island, and Obi Island) (Beehler et al., 1986; Burung Indonesia, 2020; Cottee-Jones et al., 2014; Gill & Donsker, 2018; Ismadi et al., 2022; ProFauna, 2007; Rahmad, 2020).

Bird owners in North Maluku are not like Javan people who have been a culture since the time of the kingdom. Javan people like to bird owners, especially men, as a symbol of perfection, stability, and social status. It is different from the people of North Maluku whose origin is still unknown, but over time, the parrots that are widely found in the Wallacea Region (Sulawesi, Maluku Islands, Nusa Tenggara Islands, and surrounding islands) become primadonna. Especially when it comes to the place of relatives, superiors, or work partners this bird is often used as a souvenir to strengthen relationships, because parrots are a typical bird of North Maluku, especially the chattering lory. This causes the existence of parrots in nature to be increasingly threatened. Even though North Maluku is one of the Important Bird Areas (IBA) and is included in the Endemic Birds Areas (EBA) location, meaning that this area is very important for bird life that can only live there (Birdlife International, 2004; Rosyadi et al., 2015).

Based on this background, this study aims to determine the differences in Knowledge, Attitude, and Practice (KAP) of owner and non-owner parrots in Ternate and Sofifi, North Maluku. The hypothesis proposed in this study is that there are differences in public accounting between owners and non-owners of parrots in Ternate and Sofifi, North Maluku.

MATERIALS AND METHODS

The study was conducted on May 14 until July 20, 2023, in two locations, namely Ternate and Sofifi, North Maluku (Figure 1). Ternate has an area of 101.68 km² which contains seven sub-districts, while the area of Sofifi is 376 km² which consists of one sub-district. The two cities were chosen because Ternate was previously the capital of North Maluku province and became a densely

populated and active area, while Sofifi is the current provincial capital and is adjacent to the area where there are still forests.

Data collection is carried out using interviews that have been made a list of questions, in the form of questionnaires in the form of google forms. The questionnaire refers to the Likert scale or tiered scale because it can measure a person's knowledge, attitude, and practice. There are two different codes in the questionnaire that will be given. Code A is the control respondents (owner), and code B is the intervention respondents (non-owner). Questionnaire answers were tabulated into four tables with scores of 1–4 (strongly disagree (STS), disagree (TS), agree (S), and strongly agree (SS)) (Allen & Seaman, 2007; Sugiyono, 2010).

The respondents in this study are parrot owners and non-owners with the same number, namely 104 people (43 respondents owner and 43 respondents non-owner) consisting of men and women with the profiles that have been created. Consists of men and women with similar criteria of educational background, profession, and age. The data will be the dependent variable in the study, while the independent variable is a statement of knowledge, attitude, and practice of a person. Data collection tools used by researchers are cellphone cameras, voice recording devices, stationery, and questionnaires. The questionnaire consists of 10 indicators of positive statements.

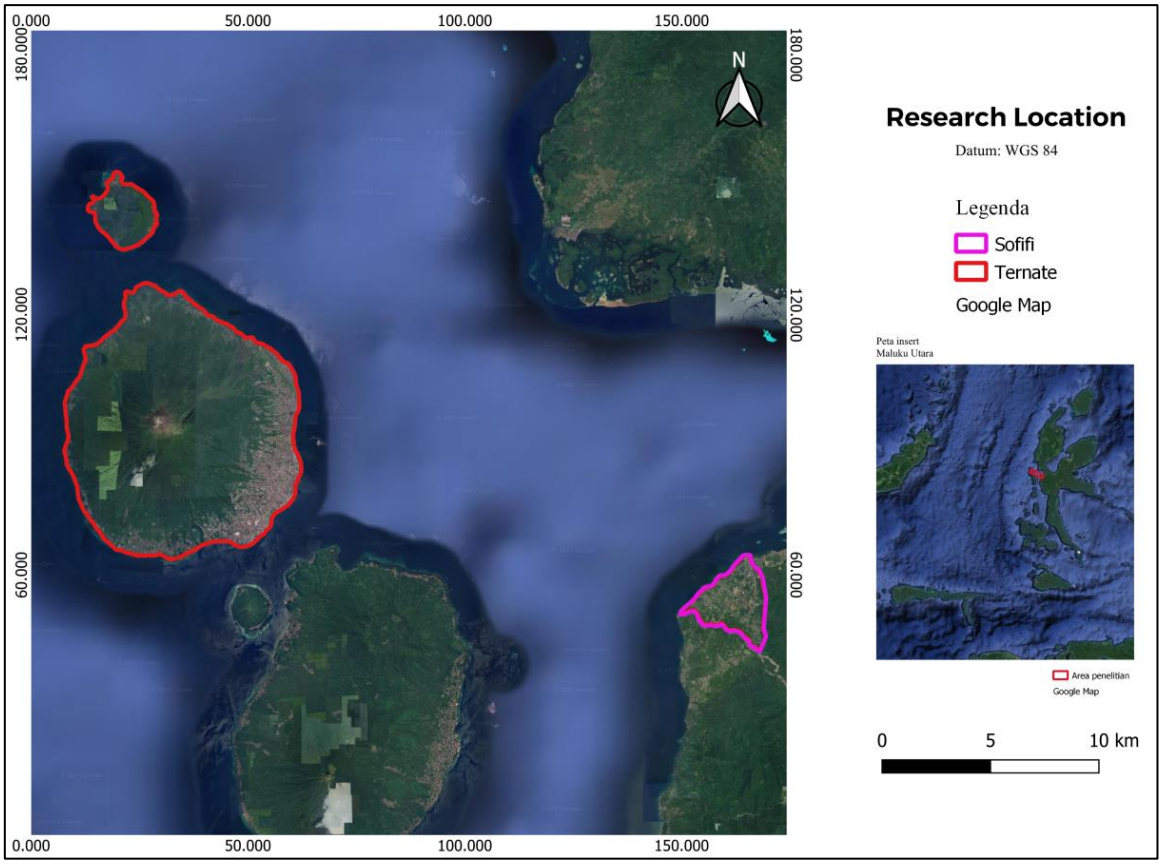

Figure 1. Map of community interview locations in North Maluku

Statistical Analysis

The data analysis techniques used, namely multiple linear regression and canonical correlation. The data to be analyzed amounted to 10 questions and transferred into Microsoft Excel in the form of numbers with magnitudes 1–4 for answers "strongly disagree" to "strongly agree". The data is categorized into three points, namely knowledge, attitude, and practice. The respondent's profile data will be the dependent variable in the study, while the independent variable is in the form of a person's KAP statement. Furthermore, it is converted and processed using SPSS 22.0 software.

The results of the analysis of the respondent's profile are displayed in the form of graphs, to show the dominant categories in each respondent's profile, both those who maintain and those who do not. Then, the results of the linear regression are displayed in the form of a table of coefficients, simultaneous f, and t-test, to see the significant values of each other. In canonical correlation, it is

also displayed in the form of a significant table, eigenvalue and functions, and variable modifiers, so that it can be seen which variables have a significant influence.

RESULTS

Respondents Profile

A total of 115 questionnaires were distributed, and 104 respondents met the criteria. The requirements of the respondents are domiciled in Ternate and Sofifi, and owner or non-owner parrots. Most owner parrots were predominantly aged between 42–57 (36%); female (52%); with high school graduates (46%); and engaged in various professions, such as housewives or entrepreneurs (71%). On the other hand, those who were non-owner parrots were dominated by individuals aged 10-25 (46%); male (65%); with undergraduate degrees (62%); and categorized as students (38%). The profile of all respondents can be seen in Figure 2.

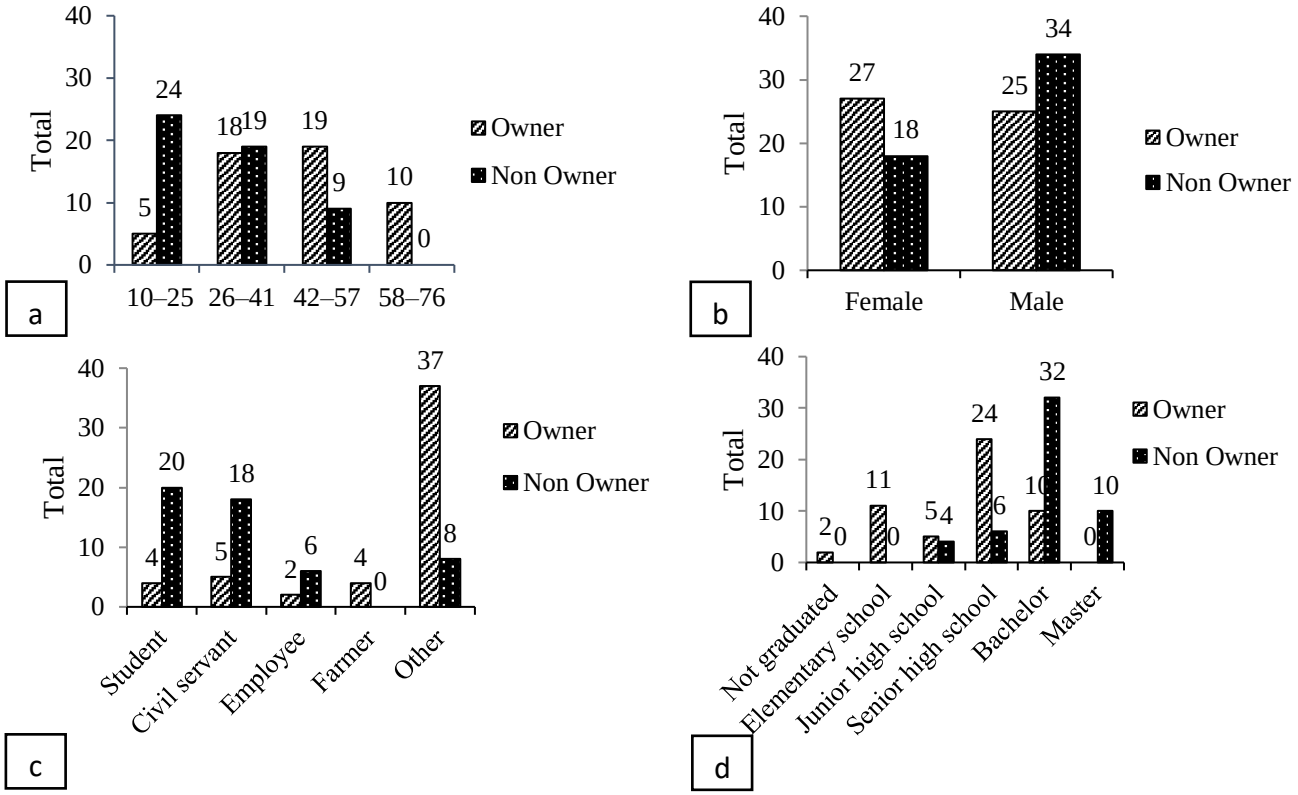

Figure 2. Diagram respondents profile, age (a), gender (b), profession (c), and education (d)

Multiple Linier Regression

The results of multiple regression analysis obtained the value of R^2 (coefficient of determination) presented in Table 1. The values in Table 1 mean that KAP affects ages by 12.8%; gender by 9.7%; profession by 25.8%; and education by 16.1% on owners, while non-owner public accountants have an influence of 15.8% on ages; 0.8% on gender; 7.3% in professions; and 3.6% in education. The rest of the value is influenced by other variables outside the study.

Table 1. Coefficient of determination

Model	Owner				Non-owner			
	A	G	P	E	A	G	P	E
R^2	0.128	0.097	0.258	0.161	0.158	0.008	0.073	0.036

Note: A= ages, G= gender, P= profession, E= education

Furthermore, the respondent's profile were tested simultaneously on the KAP, so that the resulting influence was the same as the results. The value that has a significant relationship is Sig. T <0.05. Therefore, the results of the simultaneous F test between the respondent's profile of the professional and education categories for owners, as well as the ages category for non-owners influence KAP and are shown in Table 2.

Table 2. The simultaneous F test

Model ANOVA	Owner				Non-owner			
	A	G	P	E	A	G	P	E
Regression	0.084	0.177	0.002	0.036	0.040	0.942	0.620	0.302

Note: A= ages, G= gender, P= profession, E= education

Finally, the data of independent and dependent variables were tested using the t-test. Based on Table 3, it can be seen that the owner has a significant relationship between knowledge and education; and attitude with profession and education, while non-owners only find attitudes related to ages. Values that have a significant relationship with criteria similar to simultaneous testing F, namely Sig. T <0.05. In addition, alpha values, and regression coefficients (Table 3) are also obtained to find multiple linear regression equations, such as $Y= \alpha + \beta_1X_1 + \beta_2X_2 + \beta_nX_n$.

Table 3. The t-test

Model	Owner				Non-owner	
	P		E		A	
	Unstandardized coefficients B	Sig.	Unstandardized coefficients B	Sig.	Unstandardized coefficients B	Sig.
Constant	1.352	0.301	4.019	0.001	60.456	0.000
K	-0.304	0.106	0.326	0.050	-4.552	0.092
At	0.701	0.005	-0.478	0.026	-3.973	0.012
Pra	0.506	0.212	-0.015	0.967	1.242	0.638

Note: A= ages, G= gender, P= profession, E= education; K= knowledge, At= attitude, Pra= practice

Canonical Correlation

During the canonical correlation analysis process, it is necessary to test the significance of the correlation seen in Table 4 using four procedures, namely those of Pillais, Hotellings, Wilks, and Roys. In the column Sig. of F owner and non-owner stated significance, because it has a value smaller than 0.05 and is already qualified for canonical analysis.

Table 4. Canonical correlation significance test results

Multivariate tests of significance	Owner	Non-owner
Pillais	0.002	0.000
Hotellings	0.002	0.000
Wilks	0.002	0.000
Roys	-	-

Note: F statistics are exact

The number of canonical functions formed for the four-dimensional factors of the respondents profile, and the three factors of the KAP dimension, so that the Eigenvalue and canonical function seen in Table 5 are obtained. The number of canonical functions can be seen from the "Root No.", where the first function (1) obtained a value of 0.63570 for owner, and 0.49381 for non-owner, greater than the correlation of the second and third functions. So the canonical correlation of the first function is more meaningful than the other functions and is continued with analysis for variable variables in Table 6.

Table 5. Results of Eigenvalue and canonical functions

Root no.	Owner			Non-owner		
	Eigenvalue	Cumulative Percentage	Canonical Correlation	Eigenvalue	Cumulative Percentage	Canonical Correlation
1	0,67818	90,21867	0,63570	0,32249	78,54871	0,49381
2	0,07095	99,65725	0,25739	0,06575	94,56359	0,24838
3	0,00258	100,00000	0,05069	0,02232	100,00000	0,14776

Canonical weight Table 6, the KAP variable has the closest correlation with the respondent's profile variable, namely attitude, both in owners and non-owners with values of 0.81840 and 0.90586 respectively. Canonical weight variabels respondents profile who have the closest correlation are

professions which are valued at 0.66008 (owner) and 0.66282 in education (non-owner). Canonical loading of KAP variables that correlate with results is the same as canonical weight, namely attitude to owners and non-owners. Canonical loading of respondent's profile variables that have the closest correlation with canonical functions are only found in owners, namely ages and professions with correlation values of 0.54461 and 0.78462 respectively.

Table 6. Canonical correlation for variable modifiers

Dimension		Owner		Non-owner	
		Canonical weight	Canonical loading	Canonical weight	Canonical loading
Independent or KAP	Knowledge	-0.53994	-0.41020	0.33100	0.33100
	Attitude	0.81840	0.83381	0.90586	0.90586
	Practice	0.21088	0.45584	0.15801	0.15801
Dependent or respondents profile	Ages	0.13136	0.54461	-1.07415	-0.77926
	Gender	0.15193	0.43730	-0.17620	-0.04322
	Profession	0.66008	0.78462	-0.08018	-0.33922
	Education	-0.56201	-0.61229	0.66282	0.19333

DISCUSSION

Although birds owned by the people of North Maluku are not a culture like the Javanese people. But until now, cases of parrot owners continue to increase. In research by Rosyadi et al. (2015), of the 800 respondents, 109 respondents were owning, while the researchers' findings reached 237 respondents (not all data was included in the writing). In addition, various community works involved parrot owners, both the upper class who have an income of around 2.7 million to 13.5 million and above (officials, entrepreneurs, and wholesalers), and the lower middle class who have an income of around 800 thousand to 2.6 million (civil servants of groups I-III, small traders, employees, laborers, drivers) have an influence, one of which is the economy (Supriyadi et al., 2008; World Bank, 2019).

Then, women as parrot owners are not a common thing in Indonesia. Most of the women who parrots owner are already wives, and the bird belongs to their husbands. So, when the husband is working, inevitably the wife also takes care of the even though it is just feeding, but most of them in the end are also happy to take care of it because they are friends/entertainment while the husband is working. The behavior of the parrots that cleverly imitates human voice, is one of the attractions that makes it widely kept by people. Most women who like to bird owners are happy with its attraction (Delfiah et al., 2024).

The usefulness of the coefficient of determination to determine the influence of the dependent variable. After looking at the coefficient of determination, the data were tested at simultaneous F to determine the effect between the independent and bound variables simultaneously (Janie, 2012). When Sig. F <0.05, then H_0 is rejected resulting in the acceptance of H_1, meaning that the independent variable simultaneously affects the dependent variable, while Sig. F >0.05, then H_0 is accepted which results in the rejection of H_1, meaning that all independent variables do not have a significant influence on the dependent variable (Ghozali, 2016). So, the category that deserves to be made a multiple linear regression model is the relationship between profession and education for owners, and the age category for non-owners influences KAP.

Based on the significant results in the t-test, only the owner's educational profile has a multiple linear regression equation, because there is a significant value with two independent variables, namely knowledge and attitude, so that the equation becomes $Y= 4{,}019 + 0{,}326X_1 - 0{,}478X_2$. The equation means a positive relationship between the profile of education and knowledge. This means that if education increases, knowledge tends to increase; meanwhile, the educational profile with a negative attitude is negative, so low education tends to make a person's attitude feel the most correct or higher because they feel that they have more knowledge than others.

Education about wildlife can increase understanding, concern, and public awareness about the importance of wildlife conservation (the Director General of Natural Resources and Ecosystem Conservation (KSDAE), 2019). Although studying it tends to be scientific, when participating in conservation activities, such as making observations to photographing wildlife as a means of

recreation, it becomes very interesting to enjoy (da Costa, 2015). This applies to the opposite, when the education obtained is inadequate can worsen a person's character/attitude. This bad attitude can hinder critical thinking to the point of feeling that the knowledge they have is better than others. However, if it is not accompanied by supervision and law enforcement, it will also worsen the situation, so people unconsciously participate in increasing the trade of parrots to meet economic needs (Akhmad, 2024; Misbahuddin et al., 2023). However, if it is not accompanied by supervision and law enforcement, it will also worsen the situation, so people unconsciously participate in increasing the trade of parrots to meet economic needs (Arini & Yuliantoro, 2016; Hamdani et al., 2022; Puspitasari, 2022).

According to JR et al. (2010), interpretations that can be made in canonical correlation analysis are canonical weight and canonical loadings. Canonical weight is interpreted in large numbers, so that the dependent or independent origin variable has a major contribution to its canonical variable; canonical loadings, on the other hand, measure data on dependent or independent variables valued at >0.5, to have a simple linear correlation with their set of canonical variables.

The results of canonical correlation in owners related to ages and professions, are in line with the results of the study Burmeister et al. (2020) dan Burmeister et al. (2022), that females of childbearing age and married tend to parrot owners more often because they are more diligent in caring for them, both welfare of life and getting more decent feed, and having emotional closeness tend to often invite their pets to play and tell stories. In contrast, non-owners tend to have a high level of education, which greatly affects their attitude on the matter of raising parrots. Generally, students majoring in biology or forestry, as well as conservation activists who often participate in activities to increase capacity regarding wildlife, especially the maintenance of protected birds tend to have negative perceptions, meaning they do not support or justify the maintenance of protected birds (Sakti, 2021).

CONCLUSION

The knowledge and attitude section has a relationship with respondent’s profile in the form of education, profession, and age for the survival of parrots in Ternate and Sofifi, North Maluku. Therefore, education efforts and conservation actions are needed and adjustments to respondent’s profile are needed, so that they are more targeted.

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REFERENCES

Ahmad, Z., Sinyo, Y., Ahmad, H., Tamalene, M. N., Papuangan, N., Abdullah, A., . . . Hasan, S. (2017). Keanekaragaman jenis burung di beberapa objek wisata Kota Ternate: Upaya mengetahui dan konservasi habitat burung endemik. *SAINTIFIK@*, *1*(1), 26-31. doi: 10.33387/sjk.v1i1.332.

Akhmad, H. (2024). 7 penyebab orang menjadi sombong. Retrieved from https://rri.co.id/.

Allen, I., & Seaman, C. (2007). Likert scales and data analyses. *Quality Progress*, *40*(7), 64-65.

APPBSI. (2000). *Perdagangan satwa burung dan penangkaran sebagai komoditas eksport*. Jakarta.

Arini, D. I. D., & Yuliantoro, I. (2016). The typology and motivation of owner community of nuri talaud as protected bird in Karakelang Island. *Jurnal Penelitian Sosial dan Ekonomi Kehutanan*, 13(1), 37-46. doi: 10.20886/jpsek.2016.13.1.37-46.

Beehler, B., Pratt, T., & Zimmerman, D. (1986). *Burung nugini*. New Jersey: Princeton University Press.

Birdlife International. (2004). *Important bird areas in Asia: Key sites for conservation*. Cambridge, UK: BirdLife International.

Burmeister, A.-K., Drasch, K., Rinder, M., Prechsl, S., Peschel, A., Korbel, R., & Saam, N. J. (2020). Development and application of the owner-bird relationship scale (obrs) to assess the relation of humans to their pet birds. *Frontiers in Veterinary Science*, *7*, 1055. doi: 10.3389/fvets.2020.575221.

Burmeister, A., Drasch, K., Rinder, M., Prechsl, S., Peschel, A., Korbel, R., & Saam, N. (2022). The owner-bird relationship: Relevance for pet bird welfare. *Animal Welfare*, *31*(1), 137-154. doi: 10.7120/09627286.31.1.012.

Burung Indonesia. (2020). Apa kabar burung-burung di Wallacea?. Retrieved from https://www.burung.org/.

Cottee-Jones, H. E. W., Mittermeier, J. C., Purba, E. C., Ashuri, N. M., & Hesdianti, E. (2014). An assessment of the parrot trade on Obi Island (Northern Moluccas, Indonesia) reveals heavy exploitation of the vulnerable chattering lory (*Lorius garrulus*). *Kukila*, *18*(1), 1-9.

da Costa, A. S. C. (2015). Birdwatcher profile in the Ria Formosa Natural Park (Master's thesis, Universidade do Algarve, Portugal). Retrieved from https://sapientia.ualg.pt/entities/publication/4af9d54c-698c-4a03-8473-198484034b09.

Delfiah, F., Harun, H. R., Zahara, S. A., Ningsih, S. A., Yanti, W., Nurhalisa, I. S., … Alir, R. F. (2024). Diversitas dan etno-ornitologi burung bernilai ekonomis sebagai bentuk kearifan lokal masyarakat di Pasar Hobi, Toddoppuli, Makassar. *Anoa: Journal of Animal Husbandry*, *3*(1), 17-32. doi: 10.24252/anoa.v3i1.44574.

Ghozali, I. (2016). *Aplikasi analisis multivariete dengan program IBM SPSS 23*. Semarang: Badan Penerbit Universitas Diponegoro.

Gill, F., & Donsker, D. (2018). IOC world bird list (v8. 1). Retrieved from https://www.worldbirdnames.org.

Handbook of the Birds of the World and BirdLife International (HBW). (2022). Handbook of the birds of the world and birdlife international digital checklist of the birds of the world. Version 7. (2023, April 10). Retrieved from https://www.datazone.birdlife.org.

Hamdani, A., Ahmad, Z., & Roini, C. (2022). Pengetahuan dan sikap masyarakat terhadap konservasi burung paruh bengkok di Kecamatan Kepulauan Joronga. *Jurnal Bioedukasi*, *5*(1), 64-72. doi: 10.33387/bioedu.v5i1.4403.

Ismadi, B. Y. D., Ramadhani, S., & Salisnanda, R. P. (2022). H. Taman konservasi dan edukasi burung paruh bengkok. *Katalog Buku Karya Dosen ITATS*, 89-93.

Konservasi Sumber Daya Alam dan Ekosistem (KSDAE). (2019). Edukasi satwa dilindungi bagi PAUD di SKW II. Retrieved from https://ksdae.menlhk.go.id/.

Janie, D. N. A. (2012). *Statistik deskriptif & regresi linier berganda dengan SPSS*. Semarang: Semarang University Press.

Junaid, A. R., Meisa, M., & Akhfadaturrahman, K. (2023). Infosheet status burung di Indonesia 2023. (2023, June 9). Retrieved from https://www.burung.org.

JR, J. F. H., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective*. Boston: Pearson Education.

Leden, M. (1993). *Tindak pidana penyelundupan: Masalah dan pemecahan*. Jakarta: Gramedia Pustaka Utama.

LIPI. (2020). Bagaimana publik mempersepsikan satwa liar di pandemi covid-19?. Retrieved from http://lipi.go.id/berita/.

Madina, K. (2022). Satwa liar bukan hewan peliharaan. Retrieved from https://greennetwork.id/.

Misbahuddin, M., Tihami, M. A., & Kulstum, U. (2023). Kesombongan sebagai penghambat perkembangan ilmu pengetahuan: Menurut pandangan Muhammad Nawawi dalam Maraqi Al-'Ubudiyah. *Journal on Education*, *6*(1), 10723-10737. doi: 10.31004/joe.v6i1.4856.

ProFauna. (2007). *Pirated parrots: ProFauna's investigation of the illegal parrot smuggling to the Philippines*. Malang: ProFauna.

Puspitasari, D. E. (2022). Maraknya perdagangan satwa langka di era pandemi covid-19 di Indonesia. *Pattimura Magister Law Review, 2*(1), 1-16. doi: 10.47268/pamali.v2i1.816.

Rahmad, R. (2020). Wallacea adalah sepenggal surga di bumi Indonesia. Retrieved from https://www.mongabay.co.id/.

Riski, P. (2019). Pentingnya penguatan hukum dalam perlindungan satwa liar di Indonesia. Retrieved from https://www.voaindonesia.com/.

Rohmah, S. (2022). Pemeliharaan satwa liar persfektif kesejahteraan hewan dan perundang-undangan. Retrieved from https://kumparan.com/.

Rosyadi, I., Tetuka, B., Embeua, E., Mukaram, E., Barakai, N., & Djorebe, R. (2015). Perilaku memelihara burung paruh bengkok di Maluku Utara. *Acta Veterinaria Indonesiana*, *3*(2), 51-57. doi: 10.29244/avi.3.2.51-57.

Safania, M. (2022). Pemeliharaan satwa liar: Makin betah atau makin sengsara?. Retrieved from https://kumparan.com/.

Sakti, D. P. (2021). Hubungan keikutsertaan dengan persepsi mahasiswa kelompok pengamat burung tentang pemeliharaan burung yang dilindungi (Undergraduate thesis, Jakarta State University, Indonesia). Retrieved from http://repository.unj.ac.id/18118/1/Cover%2Cabstrak%20dll.pdf

Sugiyono. (2010). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta.

Supriyadi, A., Soetarto, E., & Dharmawan, A. H. (2008). Analisis sosio-ekologi dan sosio-budaya burung berkicau di dua kota di Indonesia: Teladan dari Surabaya dan Yogyakarta. *Sodality: Jurnal Sosiologi Pedesaan*, *2*(1). doi: 10.22500/sodality.v2i1.5889.

Undang-Undang Republik Indonesia. (1990). Konservasi sumberdaya alam hayati dan ekosistemnya (5). Retrieved from https://www.dpr.go.id/.

World Bank. (2019). Aspiring Indonesia – expanding the middle class. Retrieved from https://www.worldbank.org/.