

**THERAPEUTIC COMPLIANCE ON BEHALF OF A DEPENDENT THIRD PARTY: THE ROLES OF
PERCEIVED RISK, TRUST TOWARDS THE PHYSICIAN AND CLIENT-PATIENT ATTACHMENT**

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RESUME

Cette communication examine les facteurs d'observance de prescriptions thérapeutiques adressées par un médecin à son client pour le compte d'un patient dépendant. Une étude empirique menée dans un contexte vétérinaire met en évidence quatre facteurs d'observance. L'observance dépend en premier lieu du risque social et, en second lieu, selon le degré d'attachement au patient (faible ou fort), de la confiance à l'égard du médecin ou plutôt du risque physique perçu.

MOTS-CLES

Observance ; Confiance ; Risque ; Attachement.

ABSTRACT

This paper examines the factors of compliance to therapeutic prescriptions made by a physician to a client on behalf of a dependent patient. An empirical study in the veterinary medicine highlights four compliance factors. Compliance depends primarily on the perceived social risk, and, depending on the degree of attachment towards the patient (low vs. high), on confidence in the physician or perceived physical risk.

KEY-WORDS

Observance; Trust; Risk; Attachment.

INTRODUCTION

Less than two thirds of health prescriptions are respected (e.g. Wartman et al. 1983). In veterinary medicine, this rate can reach 50%, and even 21% in regard to therapeutic foods (American Animal Hospital Association 2003). Non-compliance refers to the individual's failure to follow various health prescriptions (Cleemput and Kesteloot 2002) like screening, consultation, treatment, prescription, and diet change. Due to the clinical, economic and managerial consequences of this behavior (Bowman, Heilman, and Setharaman 2004; Dellande, Gilly, and Graham 2004; Roth 1994; Wosinska 2005), an extensive literature has been interested in the phenomenon, within the framework of prevention campaigns against risky behavior, treatments for stabilizing chronic diseases, or curative treatments of diseases. However, patient compliance has recently been identified as a key marketing decision-area which still needs future research (Stremersch and Van Dyck 2009).

Numerous factors of non compliance have been identified. Research interest firstly concerns objective causes: pathology, prescription, profile of patients and their direct circle of acquaintances (for a review, see Gould 1987, 1988a, 1990; Keller and Lehmann 2008). Later studies have considered numerous perceptual factors in different kinds of health models (communication, social, cognitive, behavioral, marketing; for a review, Moorman and Matulich 1993). The "Health Belief Model" (Rosenstock 1966) explains compliance firstly through the perceived susceptibility to and severity of the threat and secondly through the perceived accessibility ("self-efficacy") to and efficiency ("efficacy") of the recommended solution. These factors were retained by models studying the influence of communications appealing to fear (for a review, Gallopel-Morvan 2006) like the "Protection Motivation Model" (Rogers 1975). They have also been validated by numerous empirical works. Finally, some studies recently considered the influence of the dyadic physician-patient relationship (Ding and Eliashberg 2008; Miaoulis, Gutman, and Snow 2009; Venkataraman and Stremersch 2007; Wartman et al. 1983).

Although very rich, these studies cannot be generalized to all contexts. First of all, most of them are concerned by the efficiency of preventive recommendations concerning long-term risk whose susceptibility may be perceived as weak. The mechanisms of influence related to therapeutic compliance (treatments for stabilizing chronic diseases, or curative treatments of diseases) could be different. Secondly, in these studies, prescriptions are often standardized through advertising. A personalized message passed on by word of mouth during a consultation with a physician may be more effective (Gould 1988b; Herr, Kardes, and Kim

1991). Finally, almost all studies are about the efficiency of messages concerning the patients themselves ignoring the frequent consultations on behalf of a third party (child, dependent adult, animal) where behavior may differ greatly (Chandran and Menon 2004; Keller and Lehmann 2008).

Thus, the current article extends previous research by examining how individuals comply with a therapeutic prescription given by a physician on behalf of a dependent patient. Specifically, it considers the role of four factors already studied or suggested in previous research, but never in this particular context. The first two ones are related to perceived risk: physical and social risk. The two others factors are related to the client's relationship in the physician-client-patient triad: trust towards the physician, and attachment towards the patient. A conceptual model is validated in veterinary medicine, using empirical data collected from 413 pet French owners.

THE ROLE OF PERCEIVED RISK: PHYSICAL AND SOCIAL RISK

Previous models explaining compliance demonstrated the importance of perceived risk by considering physical risk and social risk. Nevertheless, if the influence of both is relevant conceptually, it is still controversial. In addition, most of these studies measured the efficiency of advertising campaigns for health prevention and everything leads one to believe that it could be different for a therapeutic prescription given by a physician on behalf of a dependent patient.

The Influence of Physical Risk

Early studies trying to explain compliance were interested in the role of physical risk. Some demonstrated that compliance is a function of the perceived susceptibility and severity of the physical risk. Others hypothesized that when fear increases, due to risk of denial (fear control strategy), the influence becomes negative. Still others observed a positive influence since a solution is proposed to counter the risk. This solution should be perceived as efficient and self-efficient (for a review, Keller and Lehmann 2008).

However, most of these studies measured the efficiency of advertising campaigns for health prevention. What about in the present context? According to Construal Level Theory, it could be very different. This theory proposes that psychological distance, including temporal and social distance, or hypotheticality, influences individual's thoughts and behavior: people

mentally construe objects that are psychologically near in terms of low-level, detailed, and contextualized features, whereas at a distance they construe the same objects or events in terms of high-level, abstract, and stable characteristics (Trope, Liberman, and Wakslak 2007). For instance, Chandran and Menon (2004) has demonstrated that self-risk estimates about a health hazard are higher when the risk is announced in the near future. If a forecasted health hazard announced in a prevention campaign can be perceived as hypothetical and so, as a distant future event (Trope, Liberman, and Wakslak 2007), the perceived temporal distance of a full-blown disease is surely tiny, even nonexistent. Thus, the perceived risk could be higher in a therapeutic (vs. preventive) context. This risk could also be higher due to the personalized relationship with the physician since the social distance between the source of the message and the recipient is smaller than in an anonymous advertising campaign. However, when the risk increases, the probability of denial is higher and so, the influence might be negative. In the present context, two factors could noticeably reduce this probability. Firstly, when prescribed within the context of a personal relationship (low social distance), the solution may be perceived as more effective and accessible than the standardized solution proposed in an advertisement. Secondly, part of the denial strategy could be due to a self-positivity bias, that is to say a proneness to perceive oneself as less prone to negative events such as becoming ill, having an accident, and contracting AIDS or hepatitis C as compared to others (for a review, Chandran and Menon 2004). When the client is asked to act on behalf of a third party (vs. for himself/herself), this bias does not occur. Therefore, as compared to the contexts previously studied, the probability of denial might be lower and the effect of the perceived physical risk might be positive. At first glance, this hypothesis seems contradictory with the findings of Bowman et al. (2004) who observed a negative influence of physical risk on compliance with a therapeutic prescription. However, it must be said that in this study, the considered risk was deduced from the ailment the participants were treated and not reported by participants. Thus we propose:

H₁: Compliance with a therapeutic recommendation prescribed by a physician increases with the perception of physical risk.

The Influence of Social Risk

In addition to physical risk, the literature suggests taking into account social risk. This type of risk has been shown to influence the acceptance of adverts with preventive healthcare messages (for reviews, Gallopel-Morvan 2006; Keller and Lehmann 2008), even if the role of

this factor has been rarely examined (11.5% of the studies considered in the meta-analysis from Keller and Lehmann 2008). According to some authors, generating less fear (meaning less denial effect), a social risk would be more efficient than a physical one (for a review, Gallopel-Morvan 2006), which is confirmed by the meta-analysis from Keller and Lehmann (2008). However, most of these studies measured the efficiency of advertising campaigns for health prevention. We previously hypothesized that in a therapeutic consultation context on behalf of a dependent third party, the perceived physical risk would probably be higher, with no denial effect. Such a proposition could reopen the debate on the respective efficiency of physical versus social risk. However, we also hypothesized that, due to the social proximity with the source of the prescription, the perceived social risk is very high in the present context. Moreover, according to terror management theory (Greenberg et al. 1990), faced with a physical risk and the consequent "mortality salience", the individual adheres more strongly to the values of his social culture (Rosenblatt et al. 1989). In a manner of speaking, the perceived social risk would increase with the physical one. This is probably why the individual need of social approval is high during in time of sickness (Carter and Kulbok 2002). We thus suppose:

- H₂:** Compliance with a therapeutic recommendation prescribed by a physician increases with the perception of social risk.
- H₃:** Compliance with a therapeutic recommendation prescribed by a physician is more strongly influenced by social risk than by physical risk.

THE ROLE OF CLIENT TRUST TOWARDS THE PHYSICIAN: TRUST AS A QUASI-MODERATOR

According to Stremersch and Van Dyck (2009), "the field of compliance would benefit from extensive survey research across patient-physician relationships because compliance is intrinsically embedded in this relationship". In veterinary medicine, Todd, Pantenburg, and Crawford (2008) showed that dog owners with a strong relationship with their veterinarian were significantly more likely to always follow the recommendations (84%) of their veterinarian, compared with those with a weak relationship (48%). More specifically, they also demonstrated the perception of owners that veterinarians only sell them things their pet need influence the level of pet care. A main reason (30%) owners cited for not complying was that they felt the recommended treatment was not necessary (Todd et al. 2008). Therefore, compliance could be a matter of trust. If no study has really examined the influence of trust on health compliance, trust is implied in patients' speech (Berry and

Leighton 2004; Miaoulis et al. 2009; Roth 1994). In addition, “credibility of source” has often been shown to have a positive influence (Crisci and Kassinove 1973; Ross 1973), even if this influence is still controversial (for a review, Keller and Lehmann 2008; also see Wasserman and Kassinove 1976). Dellande et al. (2004) also demonstrated the positive role of homophily – which they suppose to be a cause of trust - on compliance.

Whether the physician is considered as a “salesman” working in a context of service provision or “professional opinion leader” (Gould 1988b), the client surely wonders if he can trust him or her. Is the doctor competent to do what he/she is supposed to do (competency)? Does he really want to do what he/she says he/she will do (honesty)? Is he/she really interested in a common interest of his/her client and him/herself (benevolence)?

It has been shown that interpersonal trust is positively related to purchase intention and loyalty (Kennedy, Ferrell, and LeClair 2001; Sirdeshmukh, Singh, and Sabol 2002) and commitment (Frisou 2000; Geyskens, Steenkamp, and Kumar 1999). It has been also suggested (but not confirmed) to positively influence acquiescence (meaning the degree to which a partner passively accepts another’s specific request) and cooperation (meaning participating in the relation and working together for mutual benefit) (Bendapudi and Berry 1997).

We thus suppose that trust towards the physician directly influences compliance, encouraging the client to co-operate:

H₄: Compliance with a therapeutic recommendation prescribed by a physician increases with the trust towards the physician.

However, trust could also moderate (actually reinforce) the influence of the perceived physical risk previously hypothesized by making more credible both the announced risk and the efficacy and self-efficacy of the solution. In such a case, the perceived physical risk might be higher, and the solution might be perceived as more efficient and accessible. Therefore, the probability of denial might be low and the effect of the perceived physical risk might be optimal. Thus:

H₅: The trust towards the physician moderates the positive influence of physical risk. This influence is stronger for individuals with a high-level of trust.

THE MODERATING CHARACTER OF THE CLIENT’S ATTACHMENT TOWARDS THE PATIENT

It seems that the client acts differently when he is not the patient but responsible for the health of a third party (child, dependent adult, animal). It was already explained that, in

such a case, there is no self-positivity bias, that is to say, by the tendency to consider that negative events are more likely to emerge for others than for oneself (Chandran and Menon 2004). The other reason which could explain this difference is suggested by the Construal Level Theory (Trope et al. 2007). It could be a matter of social distance with the event, which is higher when the client is not the patient than when he or she is, but could also vary according to the relationship between the client and the patient. The attachment towards the patient could moderate the social distance and thus, the individual's involvement. Therefore, we will hypothesize that the attachment towards the patient could moderate the influence of perceived physical risk and trust on compliance.

The Moderating Character of Attachment on the Influence of Perceived Risk

Some studies have shown that, when the client acts on behalf of a third party, then physical risk has a stronger influence on the intention of compliance (for a review, Keller and Lehmann 2008). This could be explained by the previously mentioned self-positivity bias. However, one can evaluate a risk as high, but be indifferent to it. Rosenstock (1966) and Gould (1988a) demonstrated that the adoption of healthy behavior depend on "Health Consciousness". When the client does not consult the physician for himself/herself, sensitivity to the physical risk incurred by the patient in his/her charge of surely depends on that client's attachment to him/her. To a certain extent, this is confirmed by Keller and Block (1996) who showed that strong fear (vs. weak) is efficient only in high-involvement situations. Moreover, in veterinary medicine, Todd et al. (2008) revealed that owners with the strongest bonds with their pets are more likely to follow veterinarian recommendations. Thus:

H₆: The positive influence of the perceived physical risk on therapeutic compliance is stronger among clients strongly attached to the patient

The Moderating Character of Attachment on the Influence of Trust

Attachment could also moderate the influence of trust on compliance. According to Petty, Cacioppo and Schumann (1983), when information is processed peripherally, weakly involved persons concentrate on the credibility of the source, whereas the others give more importance to the strength of the argument. If attachment towards the patient can be considered as a source of involvement, then we can conclude:

H₇: Trust towards the physician influences more strongly compliance among individuals weakly attached to the patient.

If this hypothesis was validated, it could also explain why the influence of source credibility towards the source of the recommendation on compliance is often positive (for a review, Keller and Lehmann 2008), but sometimes non significant (Wasserman and Kassino 1976), or weakly negative (Keller and Lehmann 2008).

EMPIRICAL STUDY IN THE VETERINARY MEDICINE

The objective is to measure the incidence of trust towards the physician as well as perceived physical and social risk on therapeutic compliance, and the moderating role of attachment to the patient when the client consults on behalf of a third party. The veterinary field was chosen in order to avoid difficulties related to the taboo character of human health, especially when the health of a child or a dependent adult is concerned.

Sample and data collection

413 French owners of dogs (55 %) or cats (45 %), undergoing (37 %) or having ended treatment less than 15 days previously (63 %), were administered a questionnaire. Only the persons present the day of prescription and administering the treatment were interviewed. In order to vary owners' profiles, members of the sample were encountered in diverse places: veterinarian's waiting room (11 %), pet cleaning facility (2 %), pet shop (10 %), park or public garden (12 %), hypermarket pet department (16 %), street (24 %) and neighborhood (18 %), in 36 French regional areas. The age and gender distribution (man - 42 % / woman - 58 %) corresponds to that of the veterinary clientele.

Measuring the constructs

Each construct of the model was measured with a multiple-item scale. For social risk, the items of the involvement symbolic dimension from Laurent and Kapferer (1985a) were used. Indeed, according to Laurent and Kapferer 1985b, risk can be physical or financial, but psychological as well if the choice is related to one's self-image. For instance, in his communication persuasiveness experiment, telling his students that their opinion would be made public, Zimbardo (1960) suggested two possible antecedents of involvement: making

one's intimate opinions overtly available to others, as a sign of the kind of person one is, and perceived risk, at least the perception of that the decision may lead to negative consequences. In the absence of an existing scale to measure the attachment towards a pet, we developed a scale based on items of Lacoeyuilhe (2000), and in-depth interviews conducted with owners of dogs and cats. A scale of trust (honesty, competency, benevolence and credibility dimensions) was adapted to the present context from the items of Frisou (2000) and Gurviez and Korchia (2002) scales. Finally, perceived physical risk and compliance scales were developed from the medical literature and from interviews conducted with veterinarians and the ones with the owners. It should be noted that compliance is often measured by intentions (for a review, Keller and Lehmann 2008). Although it is evident that intentions may predict later purchase behavior (Kalwani and Silk 1983), it is also true that, since therapeutic compliance consists of repeating a behavior over time, there may be a great gap between intention at the time of prescription and behavior at the end of treatment can be great. Thus, real behaviors are preferred to intentions. All the answers were registered on 5 point scales (appendix A presents original scale items).

The validity of the scales of attachment, social risk and trust was verified first by Principal Component Analysis with Promax rotation and then by Confirmatory Factor Analysis. The items with the lowest factor loadings were not kept (in appendix A, items in italic). Different from some previous studies, concerning trust, the items correlated on only one factor. Although such a result can be justified by the specific context of this work (perhaps in a medical context, perceived benevolence has a halo effect on perceived honesty and expertise), several previous studies were not able to distinguish the expected dimensions as well (Fletcher and Peters 1997; Geyskens and Steenkamp 1995; Kumar, Sheer and Steenkamp 1995; Larzelere and Huston 1980; Sirieix and Dubois 1999). Because of their formative nature (Fornell 1987), all items of the scales measuring physical risk and compliance were kept (Diamantopoulos 2008). Finally, the stability of scores was verified by a bootstrap analysis (100 sub-samples). The discriminant validity of the constructs, the absence of colinearity (variance inflation factor < 3.66) and heteroscedasticity (Durbin-Watson=1.83) were also verified (table 1).

Table 2 shows that the square root of the average extracted variance (diagonal of the table) is at least 0.7 and that it is superior to the correlation of each construct with the other constructs (below the diagonal), confirming the discriminant validity of the constructs. The absence of colinearity (variance inflation factor ≤ 3.65) and heteroscedasticity (Durbin-Watson = 1.83) was also verified.

Table 1
Constructs and Items

Constructs and items	Score	<i>t</i>	Reliability (ρ of Jöreskog)	Convergent Validity(ρ_{vc})
<i>Trust (reflexive construct)</i>			0.89	0.68
He is always friendly towards you and your pet	0.84	24.79		
He is an expert in the domain	0.75	15.27		
He is sincere towards you and your pet	0.86	30.07		
You trust the quality of his work	0.82	19.31		
<i>Social risk (reflexive construct)</i>			0.94	0.85
The way people take care of their pet says a little bit about who they are	0.94	100.1		
One can form an opinion on somebody based on the way he takes care of their pet	0.91	61.07		
The way people take care of their pets reflects on the type of person they are	0.91	61.18		
<i>Physical risk (formative construct)</i>				
Without treatment, this problem takes time to cure	0.80	6.60		
Without treatment, this problem may be fatal	0.35	2.11		
<i>Attachment (reflexive construct)</i>			0.89	0.66
You are attached to this pet	0.88	51.59		
Its company brings you happiness and pleasure	0.83	41.37		
You feel comfortable when your pet is close at	0.80	36.34		
If your pet dies, it would make you very upset	0.74	28.89		
<i>Compliance (formative construct)</i>				
Did you respect the daily dose?	0.61	4.20		
Did you respect the administration schedule?	0.34	2.67		
Did you respect the duration of treatment?	0.32	2.88		

Table 2
Discriminating Validity by Pairs of Constructs

	Trust	Compliance	Physical risk	Social risk
Trust	0.83			
Compliance	0.24	Non applicable		
Physical risk	0.22	0.31	Non applicable	
Social risk	0.29	0.35	0.27	Non applicable

Results

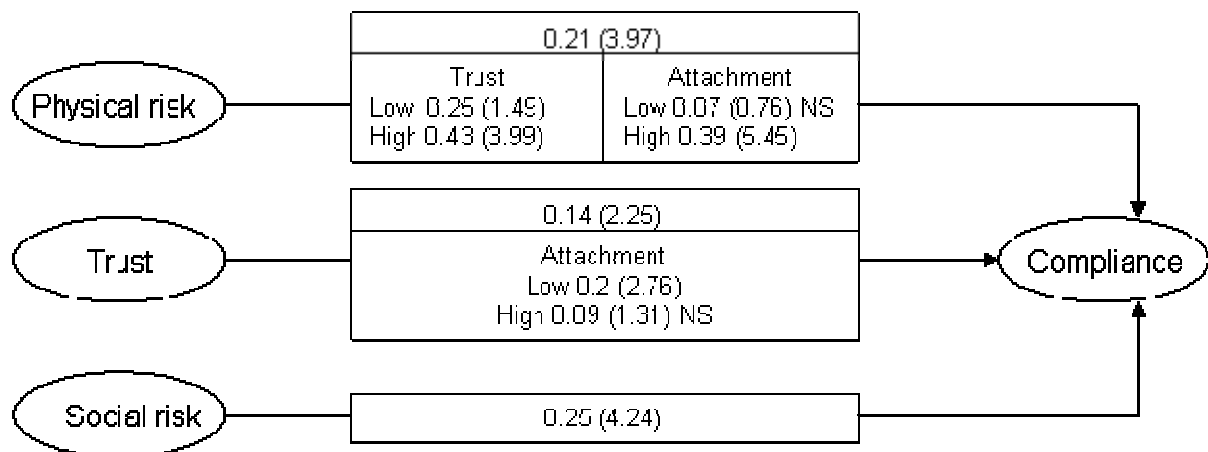
Hours are the least respected factor (64 % of non compliance), followed by frequency (42 %), and finally, duration and dosage (40 % each). The role of the factors of compliance is then studied by using PLS structural equations modeling (Chin, Marcolin and Newsted 2003). A bootstrap (100 sub-samples) allows testing the significant character of each coefficient. The model explains 18.2 % of the compliance (R^2) and, as shown in figure 1, the influence of trust and of both types of risks is significant (hypotheses 1, 2 and 4 are validated). This influence can be ranked as follows: social risk is the strongest factor of compliance (which validates hypothesis 5), followed by physical risk and trust, which is confirmed by the score f^2 of size effect (physical risk: 0,04; trust: 0,01; social risk: 0,06).

Hypothesis 3 was tested by distinguishing two groups of individuals on the basis of the answers to the items of trust ($M = 4.21$, $SD = 0.66$): those with low trust, corresponding to the lower third ($M \leq 3.75$, $N = 116$) and those with high trust, corresponding to the upper third ($M \geq 4.75$, $N = 135$). The model is then tested for each of the groups. Confirming hypothesis 3, the positive influence of perceived physical risk is stronger among individuals with high trust towards their physician (figure 1). To test hypotheses 6 and 7, two groups of individuals were distinguished on the basis of the answers to the items of attachment to the animal ($M = 4.20$, $SD = 0.8$): those with low attachment, corresponding to the lower third ($M \leq 4.00$, $N = 166$) and those with high attachment, corresponding to the upper third ($M \geq 4.75$, $N = 163$)¹. As shown in figure 1, physical risk influences only individuals who are highly attached to the animal (hypothesis 6 validated). For those whose attachment is low, the influence on compliance is not significant. These individuals are positively influenced by the trust they feel

¹ A possible criticism to this distinction is the relative high score of individuals of the low attachment groups. Indeed, this group can be seen as an average attachment. Anecdotal evidence seems to confirm this distinction: among those who go to a veterinary, a “low attachment” group are those who considers pets as pets, whereas the high attachment groups consists those for whom the pet is a full family member.

towards the physician. Finally, the influence of the trust appears as significant only among individuals weakly attached to their animal. Hypothesis 7 is thus validated.

Figure 1
Direct and Moderating Effects



(First figure = structural coefficient; in brackets = *t* statistics; NS = relation not significant at the 0.05 level).

CONCLUSION

The objective of this study was to extend previous models of health compliance research by examining how individuals comply with a therapeutic prescription given by a physician on behalf of a dependent patient. Specifically, it considers the role of physical and social risk (1), and two factors related to the client's relationship in the physician-client-patient triad: trust towards the physician (2), and attachment towards the patient (3). The review of literature in medicine, social psychology, services marketing and consumer behavior shows that, conceptually, the hypothesis of a distinct influence of these factors is justified. The role of physical and social risk had already been studied in previous research on compliance to preventive prescriptions, standardized through advertising, and concerning the audience itself (for a review, Gallopel-Morvan 2006; Keller and Lehmann 2008). According to Construal Level Theory (Trope, Liberman, and Wakslak 2007), this role could be different on compliance to therapeutic prescriptions, personalized and passed on by word of mouth during a consultation with a physician, on behalf of a dependent patient. The influence of trust towards the physician and attachment to the patient had been suggested in various studies, but never statistically tested.

An empirical study carried out in a French veterinary context allows the validation of the proposed model. Perceived social (vs. physical) risk is the strongest compliance factor. Moreover, the physician can fully play his role of “professional opinion leader” (Gould 1988b) only if the client trusts him. The respective influence of these three factors is however variable. It depends first on the attachment of the client towards the animal. When the owner is strongly attached, it is firstly the perceived physical risk which incites him/her to comply with the prescription; next comes social risk and finally trust towards the veterinarian. Otherwise, when the attachment is low, social risk is more efficient, followed by trust with physical risk having no significant influence. On the other hand, physical risk plays a stronger role when trust towards the physician is high. When trust is low, the proposed solution is doubtless perceived as less effective and/or less accessible, leading to strategies of fear control (by minimizing the perceived risk) rather than to those of risk control (by applying the solution).

This study extends previous research usually carried out in laboratory where students had to declare their intention to comply with a preventive prescription given through advertising. Nevertheless, several limits must be considered. The first lies in the declarative measure of compliance. Obviously, this is less invasive than methods allowing control of behavior in real time (e.g. with an electronic pill taker), and the referee does not feel observed during the period of care. However, it can be biased by possible forgetting and by phenomena of rationalization. The second limit to this study is related to the choice of the veterinary context. This allowed us to by-pass the difficulties of having the sample talk about the health problems of close friends or family and the results are interesting for veterinary medicine. However, can we suppose the mechanisms involved apply in the same way to human medicine? Due to the place that pet can have in a family, we do not think that compliance can differ because it is a pet instead of a person. However, some difference could occur due to the fact that, being unable to speak, a pet cannot participate actively to the consultation and the treatment...

If these results are still to be confirmed, they nevertheless allow some recommendations to be made to practitioners. The first concerns the content of the warnings which they give their clients: warnings should be given taking into account of both social and physical risk, depending on the attachment they can anticipate the client has towards the animal. When the client consults for himself/herself, the physician should probably consider his/her self-esteem level as a kind of “attachment”. The second concerns the “prescriber-prescribed for” relationship. The results presented here confirm the interest of the “therapeutic

alliance", defined as "establishing a relationship of trust between the prescriber and the prescribed for, with the aim of solving a particular problem" (Beck, 2006).

REFERENCES

- American Animal Hospital Association (2003), "The Path to High-Quality Care: Practical Tips for Improving Compliance", Lakewood, CO: American Animal Hospital Association, 3-8.
- Anderson, James.C. and James A. Narus (1990), "A Model of Distributor Firm and Manufacturer Firm Working Partnerships", *Journal of Marketing*, 54, 42-58.
- Beck A. (2006), « L'observance est un Enjeu pour l'Animal, le Client et le Praticien », *La semaine vétérinaire*, 1209, 32-33.
- Bendapudi, Neeli and Leonard Berry (1997), "Customers' Motivations for Maintaining Relationships with Service Providers", *Journal of Retailing*, 73 (1), 15-37.
- Berry, Leonard and Jonathan A. Leighton (2004), "Restoring Client Confidence", *Marketing Health Services*, 24 (1), 14-19.
- Bowman, Douglas, Carrie M. Heilman, and P.B. Seetharaman (2004), "Determinants of Product-Use Compliance Behaviour", *Journal of Marketing Research*, 41, 324-338.
- Carter, K.F., P.A. Kulbok (2002), "Motivation for health behaviors: a systematic review of the nursing literature", *Journal of Advanced Nursing*, 40 (3), 316-30.
- Chandran, Shugarita and Geeta Menon (2004), "When a Day Means More than a Year: Effects of Temporal Framing on Judgments of Health Risk", *Journal of Consumer Research*, 31 (September), 375-389.
- Chin, Wynne W., Barbara L. Marcolin, and Peter R. Newsted (2003), "A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation Study and an Electronic Mail Emotion/Adoption Study", *Information Systems Research*, 14 (2), 189-217.
- Cleemput, Irina and Katrien Kesteloot (2002), "Economic Implications of Non-Compliance in Health Care", *Lancet*, 359 (9324), 2129-2130
- Crisci, Richard and Howard Kassinove (1973), "Effect of Perceived Expertise, Strength of Advice, and Environmental Setting on Parental Compliance", *Journal of Social Psychology*, 89 (2), 245-250.
- Dellande Stephanie, Mary C. Gilly, and John L. Graham (2004), "Gaining Compliance and Losing Weight: the Role of the Service Provider in Health Care Services", *Journal of Marketing*, 68 (July), 78-91.
- Diamantopoulos, Adamantios (2008), "Formative Indicators: Introduction to the Special

- Issue”, *Journal of Business Research*, 61 (12), 1201-1202.
- Ding, Min and Jehoshua Eliashberg (2008), „A Dynamic Competitive Forecasting Model Incorporating Dyadic Decision Making”, *Marketing Science*, 54 (4), 820-834.
- Fletcher, Keith P. and Linda D. Peters (1997), “Trust and Direct Marketing Environments: a Consumer Perspective”, *Journal of Marketing Management*, 13, 6, 523-539.
- Fornell, Claes. (1987), “A Second Generation of Multivariate Analysis: Classification of Methods and Implications for Marketing Research”, in M. Houston (Ed.), *Review of Marketing*, American Marketing Association, Chicago, IL.
- Frisou, Jean (2000), « Confiance Interpersonnelle et Engagement: une Réorientation Béhavioriste », *Recherche et Applications en Marketing*, 15 (1).
- Gallopel-Morvan, Karine (2006), « The use of fear appeal in social marketing survey, limits and directions for future research », *Recherche et Applications en Marketing*, 21 (4).
- Geyskens, Inge, and Jan-Benedict M. Steenkamp (1995), « An Investigation into the Joint Effects of trust and Interdependence on the Relationship Commitment », 24th European Marketing Academy annual conference, Ecole supérieure des sciences économiques et commerciales, 351-371.
- Geyskens, Inge, Jan-Benedict M. Steenkamp, and Nrmalya Kumar (1999), “A Meta-Analysis of Satisfaction in Marketing Channels”, *Journal of Marketing Research*, 36 (2), 223-234.
- Gould, Stephen .J. (1987), “Consumer Behavior and Health Promotion: a Reply to Bocker’s “the Tyranny of Health Promotion””, *Public Health*, 15 (4), 357-364.
- Gould, Stephen .J. (1988a), “Consumer Attitudes towards Health and Health Care: a Differential Perspective”, *The Journal of Consumer Affairs*, 22 (1).
- Gould, Stephen .J. (1988b), “Physician Professional Opinion Leadership and Physician Advertising: A Consumer View”, *Journal of Health Care Marketing*, 8 (June), 47-57.
- Gould, Stephen .J. (1990), “Applying a Cultural Framework of Health and Healing in the Aids Context: the Study of Group of Treatment Shopping Consumers”, *Research in Consumer Behavior*, 4.
- Greenberg, Jeff, Pyszczunski Tom, Solomon Sheldon, Rosenblatt Abram, Veeder Mitchell, Kirland Shari, and Lyon Deborah (1990), Evidence for Terror Management Theory II: the Effects of Mortality Saliency on Reactions to Those Who Threaten or Bolster the Cultural Worldview”, *Journal of Personality and Social Psychology*, 58 (2), 308-318.
- Gurviez, Patricia and Korchia Michael (2002), « Proposition d’une Echelle de Mesure Multidimensionnelle de la Confiance dans la Marque », *Recherche et Applications en Marketing*, 17 (3).

- Herr, Paul M., Franck R. Kardes, and John Kim (1991), "Effects of Word-of-Mouth and Product Attribute Information on Persuasion: an Accessibility Diagnostic Perspective", *Journal of Consumer Research*, 17 (March), 454-462.
- Kalwani, Manohar U. and Alvin J. Silk (1983), "On the Reliability and Predictive Validity of Purchase Intention Measures", *Marketing Science*, 1 (4), 243-286.
- Keller, Punam A. and Lauren G. Block (1996), Increasing the Persuasiveness of Fear Appeals: the Effect of Arousal and Elaboration, *Journal of Consumer Research*, 22, 3, 448-459.
- Keller, Punam A. and Donald R. Lehmann (2008), "Designing Effective Health Communications: a Meta-Analysis", *Journal of Public Policy and Marketing*, 27 (2), 117-130.
- Kennedy, Mary S., Linda K. Ferrell, and Debbie T. LeClair (2001), "Consumers' Trust of Salesperson and Manufacturer: An Empirical Study", *Journal of Business Research*, 51 (1), 73-86.
- Kumar, Nirmalya, Lisa K. Scheer, and Jan-Benedict M. Steenkamp (1995), "The Effects of Supplier Fairness on Vulnerable Resellers", *Journal of Marketing Research*, 32 (1), 54-65.
- Lacoeuilhe, Jérôme (2000), "Proposition d'une Echelle d'Attachement à la Marque", *Revue Française de Marketing*, 15 (4), 61-77.
- Larzelere, Robert E. and T.L. Huston (1980), "The Dyadic Trust Scale: Towards Understanding Interpersonal Trust in Close Relationships", *Journal of Marriage and the Family*, 42 (3), 595-604.
- Laurent, Gilles and Jean-Noël Kapferer (1985a), « Measuring Consumer Involvement Profiles, *Journal of Marketing Research*, 22 (1), 41-53.
- Laurent, Gilles and Jean-Noël Kapferer (1985b), «Consumer's Involvement Profile: New Empirical Results, *Advances in Consumer Research*, 12 (1), 290-295.
- Menon, Geeta., Lauren G. Block, and Suresh Ramanathan (2002), "We're at as Much Risk As We Are Led to Believe: Effects of Message Cues on Judgments of Health Risk", *Journal of Consumer Research*, 28 (3), 533-549.
- Miaoulis, George, Jonathan Gutman, and Margaret Snow M.M. (2009), "Closing the Gap: the Patient-Physician Disconnect", *Health Marketing Quarterly*, 26, 56-58.
- Moorman, Christine and Erika Matulich (1993), A Model of Consumers' Preventive Health Behaviors: The Role of Health Motivation and Health Ability, *Journal of Consumer Research*, 20 (september), 208-228.

- Petty Richard E., John T. Cacioppo, and David Schumann (1993), "Central and Peripheral Routes to Advertising Effectiveness: the Moderating Role of Involvement", *Journal of Consumer Research*, 10 (2), 135-146.
- Ringle, C.M., S. Wende, and S. Will (2005), SmartPLS 2.0 (M3) Beta, Hamburg, <http://www.smartpls.de>.
- Rogers, Ronald W. (1975). "A Protection Motivation Theory of Fear Appeals and Attitude Change", *The Journal of Psychology*, 91, 93-114.
- Rosenblatt, Abram, Jeff Greenberg, Sheldon Solomon, Tom Pyszczynski, and Deborah Lyon (1989), "Evidence for Terror Management Theory: I. The Effects of Mortality Salience on Reactions to those Who Violate or Uphold Cultural Values", *Journal of Personality and Social Psychology*, 57 (4), 681-690.
- Rosenstock, Ivin M. (1966), "Why People Use Health Services", *Milbank Memorial Fund Quarterly*, 44, 94-124.
- Ross, Joel A (1973), "Influence of Expert and Peer upon Negro Mothers of Low Socioeconomic Status", *Journal of Social Psychology*, 89, 79-84.
- Roth Martin S. (1994), "Enhancing Consumer Involvement in Health Care: the Dynamics of Control, Empowerment, and Trust", *Journal of Public Policy and Marketing*, 13 (1), 115-132.
- Sirdeshmukh Deepak, Jagdip Singh, and Barry Sabol (2002), "Consumer Trust, Value and Loyalty in Relational Exchanges", *Journal of Marketing*, 61 (1), 3-21.
- Sirieix, Lucie and Pierre-Louis Dubois (1999), « Vers un Modèle Qualité-Satisfaction Intégrant la Confiance? », *Recherche et Applications en Marketing*, 14 (3), 1-22.
- Stremersch, Stefan and Walter Van Dyck (2009), "Marketing of the Life Sciences: a New Framework and Research Agenda for a Nascent Field", *Journal of Marketing*, 73 (July), 4-30.
- Todd, W.Lue, Debbie P. Pantenburg, and Philipp M. Crawford (2008), "Impact of the owner-pet and client-veterinarian bond on the care that pets receive", *JAVMA*, 232 (4), 531-540.
- Trope, Yaacov, Nira Liberman, and Cheryl Wakslak (2007), Construal Levels and Psychological Distance: Effects on Representation, Prediction, Evaluation, and Behavior, *Journal of Consumer Psychology*, 17 (2), 83-95.
- Venkataraman, Sriram and Stefan Stremersch (2007), "The Debate on Influencing Doctors' Decisions: Are Drug Characteristics the Missing Link?", *Management Science*, 53 (11), 1688-1701.

- Wartman, Steven A., Laura L. Morlock, Faye E. Malitz, and Elaine L. Palm (1983), "Patient Understanding and Satisfaction as Predictors of Compliance", *Medical Care*, 21, 886-891.
- Wasserman, Theodore and Howard Kassinove (1976), "Effects of Type of Recommendation, Attire, and Perceived Expertise on Parental Compliance", *The Journal of Social Psychology*, 99, 43-50.
- Wood, John A., James S. Boles, Wesley Johnston, and Danny Bellenger (2008), "Buyers' Trust of the Salesperson: an Item-Level Meta-Analysis", *Journal of Personal Selling and Sales Management*, 28 (3), 263-283.
- Wosinska Marta (2005), "Direct-to-Consumer Advertising and Drug Therapy Compliance", *Journal of Marketing Research*, 42, 323-332.

APPENDIX A – MEASURE SCALES²

Trust

Benevolence dimension (Frisou 2000)

- He is always friendly towards you and your pet
- *Your veterinarian take care of your interests and those of your pet*
- *He considers you as a friend*

Honesty dimension (Gurviez and Korchia 2002)

- He is sincere towards you and your pet
- *He is honest towards you and your pet*
- *He shows interest in you and your pet*

Competence dimension (Frisou 2000)

- He is an expert in the domain
- *He offers a guarantee of competence*
- *He masters the new techniques and new treatments*

Credibility dimension (Gurviez and Korchia 2002)

- You trust the quality of his work
- *He gives you security*
- *Go to this veterinarian is a guarantee*

Social risk

- The way people take care of their pet says a little bit about who they are
- One can form an opinion on somebody based on the way he takes care of their pet
- The way people take care of their pets reflects on the type of person they are

Physical risk

- Without treatment, this problem takes time to cure
- Without treatment, this problem may be fatal
- *Without treatment, this problem is painful for your pet*
- *Without treatment, this problem causes inconvenience for the owner*
- *Without treatment, this problem is disabling or bothersome to the animal*

Attachment

- You are attached to this pet
- Its company brings you happiness and pleasure

² The items in italic are those not kept after scale purification procedures through Principal Component Analysis and Confirmatory Factor Analysis

- You feel comfortable when your pet is close at
- If your pet dies, it would make you very upset
- *You have a great affection for your pet*
- *You have a certain passion for it*
- *You feel close to it*
- *It makes you happy*
- *You feel that you lack something when it is not there*
- *The fact that it disappears would bother you enormously*

Compliance

- Did you respect the daily dose?
- Did you respect the administration schedule?
- Did you respect the duration of treatment?
- *Did you respect the daily hours of treatment?*