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The effect of self epistemic authority on compliance with expert recommendations

Abstract: *The study examines the interaction effect between source epistemic authority (EA) and self epistemic authority (SEA) on the intention to follow the source's recommendation. The results showed that high SEA subjects were more likely to follow the recommendation if its source had high EA and less likely if the source's EA was low. The results are discussed using the Lay Epistemology framework.*

Key words: *epistemic authority, recommendation, compliance, Lay Epistemology*

The concept of epistemic authority (EA) addresses the extent to which an individual is inclined to treat a source's information as incontrovertible evidence for her or his judgment (for a review see: Kruglanski, 2012). The conceptualization of EA constitutes an important segment in Kruglanski's Lay Epistemology Theory (1989) because it describes the process by which individuals arrive at their knowledge and attain certainty. In the first step of epistemic process, the content of knowledge is produced by the generation of a hypothesis regarding an object – decision, opinion, etc. This step is the “seizing” phase. After the hypothesis has been formed, a process of validation starts by comparing the hypothesis to available information and considering alternative explanations to the existing information. This stage ends when the individual stops the search for additional information and examination of alternative explanations. The theory refers to this stage as “freezing” of the epistemic process. If the epistemic freezing does not take place, the individual cannot achieve certainty in the validity of the hypothesis.

According to the Lay Epistemology framework, the EA is one of the factors which influences the “freezing” mechanism (Kruglanski, 1989). Because the influence of high EA sources is so strong, the individual may discontinue their epistemic search and instead accept the

pronouncement of a high EA, whose statements are simply perceived as beyond reasonable doubt. The high EA may be so powerful that it can override other information and exert a determinative influence on individuals' opinions and corresponding behaviors (Kruglanski, 2012).

A major unique aspect of EA is that it assumes that both the self and external sources may be assigned different degrees of EA in different domains and that this factor determines how individuals process information, make decisions and undertake actions. Ascribing the EA to self (self epistemic authority – SEA) may have important consequences regarding the epistemic process: the greater individuals' SEA in a domain, the more they are certain about their hypotheses in this domain (Kruglanski et al., 2005). It was also found that the greater the individuals' SEA in a domain, the less external information they indicated they would seek (Kruglanski et al., 2005). Therefore, it is possible that the individuals with high SEA “freeze” the epistemic process by avoiding information coming from other sources. Consequently, individuals with high SEA will not only express less need for advice from others but will also be less responsive to suggestions from external epistemic authorities.

The role of EA (ascribing to others as well as self) in achieving certainty should be considered by the health and medicine domains. Perceiving physicians as high EA may

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reduce patients' uncertainty (Madar & Bar-Tal, 2009) and increase the belief in the physician's ability to help them. This factor in turn may increase the willingness to follow the physician's recommendations without considering any other alternatives (Bar-Tal, Stasiuk & Maksymiuk, 2013). Therefore, in the present study, it is hypothesized that the level of physician's EA has a strong impact on patients' willingness to fulfill the physician's recommendation. Whereas physician characteristics and recommendations are obvious factors that are expected to influence patients' compliance behavior, recent developments in the conceptualization of the reciprocal roles of physicians and patients also stress the characteristics of the patient (Laine & Davidoff, 1996; Krupat, Bell, Kravitz, Thom, & Azari, 2001). One of these characteristic may be the patient's self epistemic authority in the health domain.

Currently, patients may ascribe the EA in health not only to physicians but to themselves as well, which may be a consequence of the growing availability of medical information sources, mainly on the internet. Available internet-based resources take various forms, including informational websites, online journals and textbooks and social media. People are able to obtain substantial amounts of information in almost all the health areas that they are interested in. Consequently, they may also develop a feeling of expertise in the health domain (Jhaveri, Schrier & Mattana, 2013). However, a higher SEA may cause people to overlook the information provided by other EA, such as medical doctors. Therefore, we hypothesize that patient SEA may moderate the effect of physician's EA on their willingness to fulfill the physician's recommendations.

Method

Participants

One hundred and seventeen participants (71 women and 46 men), aged 20–61 years, participated in the study. The mean age was 33.98 years (SD = 11.51). The participants were recruited by interviewers on the streets in two towns and in two academic institutions.

Measures

The scenario

Each questionnaire included a scenario that illustrated a visit to a physician who informs the patient about the possibility of a flu vaccine and recommends taking the flu vaccination. The recommendation was accompanied by a brief, medically sound justification (e.g. "The physician strongly recommends that you be inoculated as you are in a risk group because you are exposed to people who may infect you and it is almost flu season").

Physician's epistemic authority scale

To assess the EA attributed to the physician in the scenario, participants were asked six questions (e.g. "To what extent do you think that her/his recommendation is based on well verified knowledge?" "To what extent do you feel that the physician is a credible source of information?") adapted from Raviv, Bar-Tal, Raviv, Biran, & Sela (2003). Each question was answered on a six-point scale. The Cronbach's alpha reliability score was .84.

Self epistemic authority scale

To assess the extent to which participants perceived themselves as experts in health, we used a questionnaire developed and validated by Raviv, Bar-Tal, Raviv, Biran, & Sela (2003). It consisted of statements, each of which was answered on a six-point scale (e.g. "I have much knowledge in health issues", "My arguments in health related issues are based on verified knowledge"). The Cronbach's alpha reliability score was .89.

Decision regarding inoculation

After reading each scenario, participants were asked to decide if they would be inoculated. They answered on a scale from 0 ("I'm absolutely sure I will not be inoculated") to 100 ("I'm absolutely sure I will be inoculated").

Procedure

We chose influenza inoculation as the context for the study because the flu has become a widely discussed public health problem in the past several years. The data were collected in late autumn, and thus, the decision to inoculate or not was a real (not hypothetical) problem for many people. This realistic and salient context increased the study's ecological validity. After describing the study to participants and informing them that the study was anonymous, their verbal consent was obtained. Participation was voluntary. People who agreed to participate in the study met the interviewer at home or in a convenient setting and completed the paper-and-pencil questionnaire individually. After completion, the participants were debriefed.

Results

Table 1 presents the descriptive statistics of the study variables.

To test the study hypothesis, we performed a regression analysis in three steps. In the first step, age and participant's gender (man = 0, women = 1) were

Table 1. Descriptive statistics of the study variables

	Mean	SD	Minimum	Maximum
Participant's decision	44.97	30.30	0.00	100.00
Physician's EA	3.72	0.93	1.00	6.00
Participant's SEA	3.47	0.62	1.67	5.22

entered as covariates, in the second step the two independent variables were introduced: physician's EA and participant's SEA. Finally, in the third step the interaction term between physician's EA and participant's SEA was added. The results of the regression analysis are presented in Table 2. The table shows that none of the covariate variables achieved significance. In the second step only the physician's EA accounted for a significant amount of variance in the intention to be vaccinated. Finally, the table shows that the interaction term accounted for a significant proportion of the variance in the behavioral intention.

To determine the source of the interaction, the floodlight approach was used (Spiller, Fitzsimons, Lynch & McClelland, 2013; Disatnik & Steinhart, 2015). All simple slopes of the participant decision on physician's EA were calculated for each level of participant's SEA. Table 3 shows that regression coefficients of the dependent variable on physician's EA increases linearly from the lower level of participant's SEA to the highest. Also, the Table 3 shows that only from the level of 2.73 on the participant's SEA the regression coefficients are significant. Finally, the Table 3 shows (based on the values of low and high confidence intervals) that from about the mid-scale of participant's SEA (3.44) the slope of the dependent variable on physician's EA differs from the regression coefficients in the lowest and highest level of participant level of SEA. These findings reveal that the effect of physician's EA on the patient decision is maximized at the highest level of participant's SEA.

Discussion

The present study examined the effect of physician's EA and patient SEA in health on the behavioral intention to fulfill the physician's recommendation to be inoculated against influenza. The most general finding of the present

research is the main effect of physician's EA on the patient's willingness to fulfill the recommendation. This result is consistent with Kruglanski's Lay Epistemic Theory (1989), which asserts that if people regard the source of information as high EA, they tend to act in accordance with its advice. It must be noted that in the present study, we did not manipulate the objective expertise of the physician. Therefore, this result demonstrates the possibility that the patient's *perception* of the physician as high EA is sufficient to explain their compliance with his/her advice without concern about the physician's objective level of expertise.

The results of the study also show that the effect of physician's EA on the patient's behavioral intention was moderated by the patient's self epistemic authority in the health domain. Low SEA participants' decision whether to accept the physician's recommendation was not related to the physician's EA. However, high SEA participants decision was positively related to physician's level of EA. These results are inconsistent with the Lay Epistemology assumptions asserting that if people regard themselves as having high SEA in a certain domain, they tend to rely more on their own opinions regarding this domain. Additionally, information provided by a low EA person is regarded as less valid (Kruglanski, 1989). Therefore, the more EA the participants ascribe to themselves in the health domain, the less they tend to be affected by physicians who they perceive as low EA. Thus, based on this theory, it would be expected that higher SEA would attenuate the effect of external EA rather than increase it.

However, the present results are not predicted by the Lay Epistemic Theory. Point at the possibility that the more people perceive themselves as having expertise in a given domain, the more they believe that it is reasonable to listen to other experts. Even if someone perceives him/herself as knowledgeable in health, he/she may believe that

Table 2. Regression analysis of participant's decision on physician's EA and participant's SEA

	B	SE	β	ΔR^2	t
Step 1				0.01	
age	0.17	0.25	0.06		0.66
gender	3.36	5.91	0.05		0.57
intercept	37.32	10.23			3.65**
Step 2				0.24	
Participant's SEA	-5.87	4.13	-0.12		1.42
Physician's EA	16.12	2.70	0.50		5.97**
Intercept	-0.48	17.75			0.03
Step 3				0.06	
interaction	12.39	3.97	1.77		3.12**
Intercept	158.48	53.68			2.95**

* $p < 0.05$; ** $p < 0.01$.

the professional health care providers know more in this domain, making it logical to follow their recommendation. Currently, patients may form the belief that they have substantial health and medicine knowledge (high SEA) because of their open access to information in these domains. Physicians express worries that patients often come with medical information they have obtained from “Dr. Google”, upon which they base very clear opinions about medical treatments and their own diagnoses (Jhaveri, Schrier & Mattana, 2013). However, according to our results (which are opposite the expectations based on Lay Epistemology), these worries may be invalid because our results show that if the patient has higher SEA, the physician’s recommendation may be considered and adopted. This behavior occurs if the physician is perceived as having high epistemic authority in his/her domain.

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Table 3. Simple slopes of participant’s decision on physician’s EA according to participant’s SEA

Level of participant’s SEA	B of participant’s decision on physician’s EA	SE	t	LLCI	ULCI
1.67	-5.69	7.45	0.76	-20.45	9.08
1.84	-3.48	6.79	0.51	-16.95	9.98
2.02	-1.28	6.15	0.21	-13.46	10.90
2.20	0.92	5.52	0.17	-10.01	11.86
2.38	3.12	4.91	0.64	-6.60	12.85
2.56	5.33	4.32	1.23	-3.24	13.90
2.73	7.51	3.79	1.98*	0.00	15.02
2.73	7.53	3.78	1.99*	0.03	15.03
2.91	9.73	3.31	2.94**	3.16	16.29
3.09	11.93	2.92	4.08**	6.17	17.73
3.27	14.14	2.68	5.28**	8.83	19.44
3.44	16.34	2.60	6.28**	11.18	21.50
3.62	18.50	2.71	6.83**	13.16	23.92
3.80	20.74	2.99	6.93**	14.81	26.68
3.98	22.95	3.40	6.75**	16.21	29.68
4.16	25.15	3.89	6.47**	17.44	32.86
4.33	27.35	4.44	6.16**	18.55	36.15
4.51	29.55	5.03	5.88**	19.59	39.52
4.69	31.76	5.64	5.63**	20.57	42.94
4.87	33.96	6.28	5.41**	21.52	46.40
5.04	36.16	6.92	5.22**	22.44	49.89
5.22	38.36	7.58	5.06**	23.34	53.39

* $p < 0.05$; ** $p < 0.01$.

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