The Prediction of Sensitivity towards Uncanniness: an Applied Psychological Study on Novel Readers in the Light Of Anthropomorphism and Attitudes towards Thrownness

C G E Meullemans and J Abraham[*]

[1] Psychology Department, Bina Nusantara University, DKI Jakarta 11480, Indonesia

*juneman@binus.ac.id

Abstract. Uncanny elements are often found in the art works, especially in fiction literature. In particular, uncanniness emphasizes the sense of strangeness or weirdness that comes from something seemingly familiar within an unexpected context; e.g. talking animals contained in a story. People have different levels of sensitivity to the sense. Novels with the fantasy genre have been linked with uncanniness. The preference toward the uncanniness might be associated with magical thinking. Anthropomorphism, the attribution of human character in objects or animals, as a dimension of the thinking, is hypothesized to be able to predict sensitivity to uncanniness. The attitude toward thrownness could also allegedly predict the sensitivity. A positive attitude might function as an escape from, or the compensatory fulfilment of, existential emptiness. Participants of this study were 162 university students (67 males, 95 females, $M_{age} = 20.80$ years old; $SD_{age} = 1.733$ years) of the study program School of Design and Literature at Bina Nusantara University, Jakarta, Indonesia and the University of Indonesia, Depok, Indonesia, who were recruited through purposive sampling technique. The design of this study was correlational-predictive, and the data were obtained through the survey using psychological scales. Multiple linear regression analysis found that anthropomorphism has predictive power in the positive direction, while the attitude toward thrownness is not able to predict the sensitivity to uncanniness. This study has implication for art psychology and life science, about how to increase the enjoyment of readership regarding the factor raising appreciation toward a strange or fear perception experienced by a reader.

1. Introduction
The uncanny element is commonly found in arts, especially in fiction. In his essay on uncanny architecture, Vidler [1] stated that the image of a house, particularly a haunted house, could create uncanniness in stories with the fairy tale, horror, and gothic themes. Uncanniness element has a significant role in fiction [2].

Uncanniness is the strange feeling experiences associated with a wish and belief repressed unconsciously. Freud divided the uncanny feelings into two types, which are those occurring in daily lives and those emerging as an individual reads a literature, and there are individual differences in terms of sensitivity to it [3]. Miall and Kuiken [4] argued that the basic emotions of anger, fear, or sadness at least emerge as one reads literature. Sensitivity refers to "the capacity to detect and discriminate" [5]. Sensitivity is a psychological state that makes an individual show a certain emotion or affective response towards sensitivity-making stimulus [6]. Therefore, it can be concluded that sensitivity to uncanniness could emerge as one peruses a literature evoking the basic emotions of its readers.

Literature with the fantasy genre has some connections with uncanniness. This is in line with the Freud's statement, as cited in [7], stating that uncanniness in literature has two conditions in fiction. Firstly, the effects of uncanniness in the text depend on the nature of setting created by the text. Uncanniness will emerge if the consciousness is manipulated in such a way. The events told in the text must be true stories in real life experiences combined with external elements. Secondly, the emergence of uncanniness depends on the ambiguity. The author could make the readers in limbo regarding the living world, or even avoid any information that presents the realities of the living world [7].

The fantasy literature could make use of the reader's doubt as its own advantage [8]. The reader's doubt against realities makes the fantasy literature paint the realities experienced by the readers. However, realities in the fantasy literature and those in life are the two distinct worlds. Both have their own truth, and strengthen each other. The truths make the uncanny or unreal things apparent. The fantasy literature could establish the real world as it is in a different perspective.

Authors of fantasy genre use magic as the basis of their literary works [8]. Magic is the main element in the fantasy literature. Magic is the basis of the literature to integrate realities of the existing world into the fantasy works.

In relation to the readers, uncanny things are more easily believed by children. Children are more likely to have the idea that they live in a world where there is no clear distinctness between the fantasy and reality, where animals could talk and wishes could come true [9]. However, adults do not have a very much different idea from that of children concerning fantastic things. The sort of idea is referred to as a fantastic thinking or magical thinking. According to Willard and Norenzayan, as cited in [10], there are cognitive aspects that affect an individual's tendency to the belief in supernatural elements, or think magically; one of them is anthropomorphism. Anthropomorphism refers to all thoughts of attribution of human characteristics, behaviour, or shapes to nonhuman objects such as robots, electronic devices, and animals [11]. The humanized objects vary from gods, geometric shapes, a moving plant to computer animation [12]. Anthropomorphism infiltrates in many adults' lives. When risks and rewards are at the highest level, perceived signs are ambiguous, and men are faced with a powerful force, individuals would see the purpose and actions of men shrouded in the forms of animals and objects, and act it that way. Intuitively, the individuals tend to see faces in the clouds, men on the moon, and give the name of a person to life-threatening storms [13]. Based on the description above, the author hypothesized, **"Anthropomorphism can predict the sensitivity toward uncanniness in a positive way" (H1).**

The uncanny feeling might also be strongly related to thrownness. Heidegger, as cited in [14], defined thrownness as a determinant regulating an individual's freedom. In brief, the individual is 'thrown' into his self-existence. Individuals are imprisoned in and bound with inevitable things [15]. In his search towards the meaning of thrownness, an individual would find himself inept of becoming himself, but need to be himself. In his other publications, Withy [15] also added that human existence is very limited because they will die, and there are controlling boundaries in our part. Human cannot control the reality but should respond to it and carry it out. As a human, we cannot choose the time, the place, or the culture in which we were born. However, everything we do comes from those origins.

Every individual is presented with unique life situations, and every individual responds to it differently [16]. Bolt analysed the book of Sophie Calle [17], entitled "Take Care of Yourself", and told that the case of Calle who chose the conceptual art to please her father, and received the scholarship to study in Japan, is an example of her thrownness. Calle was then left by her boyfriend in Delhi, but able to use her experience as the basis of her conceptual works entitled "*Exquisite Pain*", which reflects her way to respond to her thrownness. Bolt [16] stated that even though thrownness is beyond an individual's control, it does not mean that the individual's life journey has been determined. Calle has shown a positive response towards thrownness. The factuality of Calle's life influenced the way she dealt with the world she was thrown. She took all possibilities and saw her personal experience as the potential for arts [16]. In being towards possibilities, an individual understands himself in the possibility of his being. Calle found a way to understand what had happened, what she should do, and how she handled it. When she asked her friend, she had some possibilities. In the real life, we as individuals are also presented with a similar exchange. Individuals ask others (friends, relatives, and spouse) to get

suggestions over their worries. Other people give encouraging and reminding words. Individuals often do not know how to put into practice other people's suggestions [16].

The individual is lost in his everydayness to compensate for his life's thrownness. In his inner uncanny feeling, the individual forces himself to respond to his thrownness and to assess his potential to become a being [18]. Reading could help individuals respond to their thrownness. All sorts of writing are the means of individuals' thoughts (Vygotsky, as cited in [13]). As the means of thinking, literature has some functions, especially in the human lives (Huck, Hepler, Hickman and Kiefer, as cited in [13]). Rosen and Wells, as cited in Burke [13], mentioned that literature allows human to organize all things in life into a more structured pattern so that life makes more sense. Individuals sometimes need to break away for a moment from problems in their lives (Rosenblatt, as cited in [13]). Reading could lessen the individual's burden in the world. Reading could also help individuals acquire ideas to deal with the current situation. Based on the description above, the author hypothesized, **"Positive attitude toward thrownness can predict the sensitivity toward uncanniness in a positive way" (H2).**

The purpose of the study is to investigate the roles of anthropomorphism and attitude towards thrownness in predicting the sensitivity towards uncanniness in the novel among students (see Figure 1).
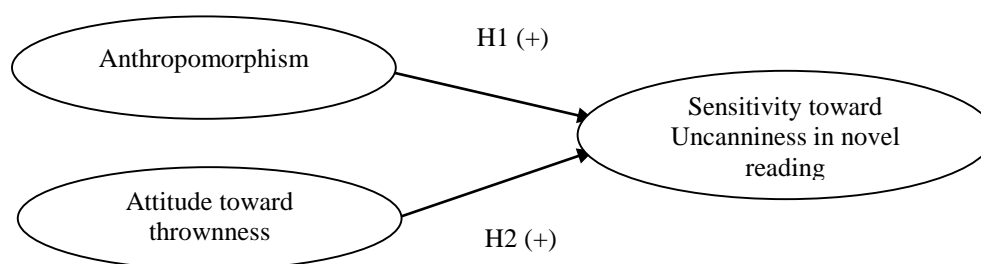

Figure 1. Hypothetical model (Note: (+) Positive prediction)

2. Methods

2.1. Design and Participants

The sampling technique in this study is non-probability, purposive sampling with the following criteria: (1) aged 18-25 years old; (2) students of School of Design (SOD) and English Literature (EL) at Bina Nusantara University and University of Indonesia. The study used the quantitative, predictive-correlational design with the data analysis technique of multiple linear regression analysis. The predictors are anthropomorphism and attitude towards thrownness, and the criterion variables is sensitivity towards uncanniness in the novel. The author has decided to take the sample of students because based on the preliminary survey results conducted by the author to some students of SOD and EL, the author found that the participants' main reasons for reading fiction novels are to kill the free time, to fancy reading novels of fiction genre, and to break away from the realities. Participants also mentioned that reading fiction novels could stimulate imagination, escape from the real life, and eliminate boredom. In relation to the uncanniness, 23 out of 36 participants of the pilot study stated that they were familiar with the uncanny element inherent in the fiction genre.

Emerging adulthood starts from 18 to 25 years old, and during that period, individuals are in their identity exploration period [19]. A study involving undergraduate students showed that reading fiction literature makes individuals feel strong emotions of the storyline and fiction characters in a way that it allows individuals to make a decision in real life [20]. This is the second reason why students were recruited as the participants of this present study.

2.2. Materials and Procedure

The data collection was conducted by distributing psychological scales in a questionnaire in Indonesian. The instrument used to measure perception towards uncanniness is the one adapted from the Sensitivity Towards Strangeness Questionnaire (STSQ) constructed by Esser-Noethlich [21] with the four main aspects of uncanniness presented by Rudd [22]. The questionnaire consists of 16 stories; each of which is followed by three questions. The sixteen stories are divided into four dimensions, which are (1) doubling, (2) dividing animate and inanimate objects, (3) "involuntary" repetition, and (4) fear of "deletion" (or death).

Two examples of the stories are as follows:

'Teddy Robinson and the walkie-talkie doll both kept their eyes fixed on the girls' row. "She looks so pretty, doesn't she?" said the doll. "I do admire her dress, don't you?" "Yes," said Teddy Robinson, looking at Deborah. "That pale blue suits her so well," said the doll.

"Thank you," said Teddy Robinson, "I'm glad you like it; but it isn't pale blue - it's white."

"Oh no, it's pale blue," said the doll. " I helped her mother to choose it myself." Teddy Robinson looked puzzled. "Are you talking about the little girl with the red hair-ribbon?" he asked. "No, off course not," said the doll. "Why should I be? I'm talking about Mary." "Whoever is Mary?" said Teddy Robinson. "The little girl we have all come to watch," said the doll. "My little girl. We've been talking about her all the time."' [23]

'There was nothing so very remarkable in that; nor did Alice think it so very much out of the way to hear the Rabbit say to itself, "Oh dear! Oh dear! I shall be too late!" (when she thought it over afterwards, it occurred to her that she ought to have wondered at this, but at the time it all seemed quite natural); but when the Rabbit actually took a watch out of its waistcoat-pocket, and looked at it, and the hurried on, Alice started to her feet, for it flashed across her mind that she had never before seen a rabbit with either a waistcoat-pocket or a watch to take out of it, and, burning with curiosity, she ran across the field after it, and was just in time to see it pop down a large rabbit-hole under the hedge.' [24]

The response options scaling used is the semantic differential scale with five available responses. Here are the questionnaire items: (1) How different do you perceive the situation you have experienced so far compared to the situation presented above? Each item invites a response along a continuum from "*Really Not Different*" (score of 1) to "*Really Different*" (score of 5); (2) How far do you feel engaged with the situation presented above? Responses range from "*Highly Disengaged*" (score of 1) to "*Highly Engaged*" (score of 5); and (3) How likely (have you ever had/are you having/will you have) the above situation in your life? Responses range from "*Very Unlikely*" (score of 1) to "*Very Likely*" (score of 5). Sensitivity toward uncanniness is a composite score of the answers of those three questions. There is no eliminated item. The Cronbach's Alpha index values for each questionnaire question is 0.79, 0.64, and 0.76 respectively. Therefore, it can be concluded that all of the questions on the measurement are reliable.

The instrument used to measure anthropomorphism is the Anthropomorphism Questionnaire (AQ) constructed by Neave, Jackson, Saxton, and Hönekopp [25] by using two dimensions, which are (1) childhood thoughts relating to toys, and (2) adult beliefs and behaviours. The questionnaire consists of 20 questionnaire statements by using a Likert scale, in which each statement invites a response along a continuum of six choices, from "*Strongly Disagree*" (score of 1) to "*Strongly Agree*" (score of 6). Here are the examples of items: (1) "When I was little, I sometimes said 'hello' and 'good night' to some of my favourite toys"; (2) "When I was little, the thought that my favourite toy was able to cope with my absence due to my death worried me"; and (3) "I sometimes imagined that if my toys were put in a dark place, they would feel lonely and unloved". On the anthropomorphism measurement, all of the 20 items have the Corrected Item-Total Correlations (CIT) value greater than 0.25, in which the CIT minimum value is 0.377, and the CIT maximum value is 0.782, so there is no eliminated item. The value of Cronbach's Alpha index is at 0.939 (greater than 0.600), so it can be said that the measurement is reliable.

The instrument used to measure the attitudes towards thrownness is the measurement constructed by the author by using the attitude theory of Bruvold, as cited in [26]. The questionnaire consists of 15

statement items by using a Likert scale with a continuum of six responses, from "*Strongly Disagree*" (score of 1) to "*Strongly Agree*" (score of 6). The items express both positive and negative attitudes. The positive attitudes include indicators as follows: (1) highlighting the advantages over situations perceived as having many disadvantages and unfairness; (2) making a commitment in an authentic life; and (3) having a critical and creative view towards life. The negative attitudes (*unfavourable items; reversely scored*) include indicators as follows: (1) taking the conformity without careful consideration; (2) always complying with what other people/parties expect from us; and (3) not asking anything about life. On the measurement, there are 11 eliminated items of which the CIT value is less than 0.25. For the remaining items, every item has the CIT value greater than 0.25, so there is no need for eliminated items. For the positive attitudes, the CIT minimum value is 0.590, and the CIT maximum value is 0.847. For the negative attitudes, the CIT minimum value is 0.355, and the CIT maximum value is 0.784. The value of Cronbach's Alpha index is at 0.920 for the positive attitudes, and 0.833 for the negative attitudes.

3. Results and discussion

Participants of this study were 162 university students (67 males, 95 females, $M_{age} = 20.80$ years old; $SD_{age} = 1.733$ years) of the study program School of Design and Literature at Bina Nusantara University, Jakarta, Indonesia and the University of Indonesia, Depok, Indonesia There were 85 (52.47%) participants came from the Department of Literature, and 77 (47.53%) came from the School of Design. A total of 112 (69.14%) participants love fiction novel genre, 48 (29.63%) like the non-fiction novel genre, and 2 (1.23%) did not answer. A total of 90 (55.56%) participants spent Rp 50,000-149,000 to buy novels, 31 (19.13%) spent Rp 150,000-299,000, 30 (18.52%) Rp 300,000 or more, and 11 (6.79%) did not answer. A total of 115 (70.99%) participants read up to two novels in a month, 38 (23.46%) three to five novels, and 9 (5.55%) read more than five novels.

Test the assumptions of linear regression showed that (1) the data is normally distributed, (2) multicollinearity between predictors does not occur; indicated by *Tolerance* values of 0.949 (*Tolerance* > 0.1), and *VIF* values 1.054 (*VIF* < 10), and (3) the data are free from heteroscedasticity.

Multiple linear regression analysis showed that the two predictors, anthropomorphism and attitude toward thrownness, able to predict sensitivity toward uncanniness, indicated by $F(2, 161) = 4.267$, $p = 0.016$ ($p < 0.05$), $R^2 = 5.1\%$.

Nevertheless, in details (see Figure 2), anthropomorphism can predict the sensitivity in a positive way ($\beta = 0.231$, $p = 0.004$, $p < 0.01$). Thus H1 was supported by empirical data. However, attitude toward thrownness cannot predict it ($\beta = -0.033$, $p = 0.677$, $p > 0.05$). Thus H2 was not supported by empirical data.

Anthropomorphism plays the role of predicting the sensitivity towards uncanniness in novels. Anthropomorphism is associated with the magical thinking (Willard and Norenzayan, as cited in [10]). Anthropomorphism refers to an individual's attribution behaviour in representing imaginary characters which are inhuman, not having human appearance, but having humanlike objects [12]. The behaviour allows individuals show emotions or affective responses towards feelings of strangeness, mystery, or horror. Anthropomorphism in everyday life is a form of human relatedness with the extension of his/her self [27], which could be completely different nature to him. Extension of the self that is an animal or inanimate objects yet seen the entity that has the dynamics of cognitive-affective-conative of humans. Meanwhile, sensitivity toward uncanniness in the novel is a form of human effort to accept, interact, and even enjoy the interaction with the fantasy of an animal or objects that look real "transformed" into the human situation. Two key that connects anthropomorphism and uncanniness is a paradoxical feeling of familiarity-oddness and awareness of context. Sensitivity toward uncanniness is a dialogical application of anthropomorphism in various narrative uncertain contexts that is uncommon, raising dissonance feeling, and demanding assimilation, adoption, or rejection, exclusion attitudes. People with a high-level anthropomorphism are easier in tolerating experience of emptying the reality form previously known to be loaded with unexpected appearances, metaphors, or symbolisms.

The attitudes towards thrownness do not show the power in predicting the sensitivity towards uncanniness in novels reading. Attitude is an assessment over correct responses towards individuals or problems and should express an individual's positive or negative responses towards abstract things, an object, or the current problems [26]. However, the thrownness itself is a "given" determinant, facticity,

that could not be changed by an individual but regulates an individual's freedom (Heidegger, as cited in [14]). The basic affective reaction to it is fear or anxiety; and not everyone is easily aware and welcome the life possibilities that lay before him as a consequence of thrownness [28]. Items in the measurement instrument allegedly not evocative enough true attitude towards thrownness. The arousal itself requires a number of conditions−which could potentially be moderating and/or mediating variables−such as comprehensive interpretation or understanding of the thrownness situation and openness to the world and the future [28]. Meanwhile, uncanniness could emerge in reading literature [29], but the sensitivity towards it only emerges as the emotion or temporary, fluctuating feeling of reading novels.

The second reason of the absence of the predictive power is that attitude towards thrownness, either positive or negative, is projected consciously only in the story of novels. For example, Lee [30] analyzed the novel entitled Coyote written by Allen Steele [31]. The main character in the novel is Gillis. Gillis was thrown into a situation where he himself could not change, became an astronaut, and lived in the outer space. His other companions died because of accidents when they were in biostasis. Meanwhile, he himself must spend another period of 198 years to get to planet Coyote. One excerpt from the story describes his attitudes in dealing with the situation:

'So he slept, and he jogged, and he ate, and he studied, and he played long and futile chess games, and otherwise did everything possible to pass the time as best as he could. Every now and then he caught himself murmuring to himself, carrying on conversations with only his own mind as companion; when that happened, he would consciously shut up. Yet no matter how far he managed to escape from himself, he always had to return to the silence of the ship's corridor, the emptiness of its compartments. He didn't know it then, but he was beginning to go insane.' [31], p. 111- 112

Thrownness is indeed experienced unconsciously (Binswanger, as cited in [32]), or in a pre-reflective way, as described by Frie [32], p. 42, "Experience that has not been reflected on, formulated, and articulated necessarily remains latent and pre-reflective. Such pre-reflective, unformulated experience might be descriptively termed unconscious." Meanwhile, the sensitivity to uncanniness refers to the condition that makes an individual show an emotion or affective response to foreignness, mystery, or horror. In other words, the sensitivity raises consciousness, psychological salience, and the reaction to the uncanniness [33], [34]. The realities showing that there is no compatibility in nature between thrownness (given, unconscious) and uncanny experience sensitivity (oscillatory, conscious) has made the lack of correlation between the two.

4. Conclusion and suggestion
The conclusion of the study is: (1) attitude towards thrownness does not play a role in predicting the sensitivity towards uncanniness in novels; (2) anthropomorphism plays a role in predicting the sensitivity towards uncanniness in novels.

Based on the results of the study, the practical suggestions to increase the reader's enjoyment towards novels are: (1) Novel readers should know the reason behind their trust in imaginary characters in the novel; (2) Novel readers should be aware of the factors that evoke strangeness or fear that can be felt unconsciously in reading novels; (3) Indonesian authors, especially those of fantasy novels, should emphasize elements related to uncanniness to make fantasy novels in Indonesia (which are known for its anthropomorphic myths) better enjoyed.

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