

THE EFFECT OF THE LEVEL OF MEDIA LITERACY AMONG THAI YOUTH ON THEIR ABILITY TO DETECT GREENWASHING

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Abstract: Thai youth seem to completely believe green marketing, even when not accompanied by actual efforts to protect the environment, a misleading practice known as greenwashing. This extends to an apparent inability to detect other types of misleading advertising. This study applied media literacy principles to explore the ability of Thai youth to detect false and deceptive advertising, especially greenwashing of products, and to explore connections between specific media literacy skills and ability to detect greenwashing. The study used an online survey with examples of false advertising, deceptive advertising, and greenwashing. Most of the 424 respondents were undergraduate level students. Sahaworakulsak (2018) developed 5 media literacy skills to investigate deceptive advertising in Thailand: Receiving, Understanding, Investigating, Evaluating, and Communication. Proficiency in these media literacy skills was evaluated and compared to the understanding of false and deceptive advertising and greenwashing. The overall mean score of media literacy was moderate at 3.45 out of 5, with the lowest score being Understanding at 2.75, likely influenced by inadequate critical thinking skills taught in high school. Only 21.7% of respondents were aware of greenwashing, out of which approximately a third were unable to then provide an accurate explanation. The most important skill for detecting greenwashing appeared to be the Investigating skill. The preliminary study included students who had taken a course explaining greenwashing, however, preliminary results are consistent with the overall results, suggesting that education about greenwashing had no influence on ability to detect greenwashing. Respondents also demonstrated difficulty distinguishing between completely false and simply deceptive advertising, as expected since Thai has only a single term to describe both types of advertising, and no commonly used term for greenwashing.

Keywords: Media Literacy, Greenwashing, False Advertisement, Deceptive Advertisement

Introduction

Consumption of media has been increasing around the world with the continued development of smart phones and the rise of social media. Social media penetration in Thailand is increasing and reached up to 91.0% for Facebook and 90.7% by the end of 2022 (Statista, 2023). While increased access to information undoubtedly has many significant benefits, this increase in media consumption also increases risk of misinformation (Xiao, Porismita, & Su, 2021) and mental distress (Poulain, et al., 2019). The increased media consumption has also allowed brands to wield considerably more influence through expanded exposure to advertising and other brand promotional activities.

As the climate crisis deepens, brands around the world are beginning to feel the need to adopt more environmentally friendly stances. While many companies are genuinely attempting to decrease their environmental impact and increase their sustainability, some companies are simply adopting the appearance of being green without making any meaningful changes. This takes the form of presenting their activities in as favourable a light as possible through various media channels, mostly in the form of deceptive advertisement and misleading claims. This practice is known as greenwashing (de Freitas Netto, Sobral, Ribeiro, & da Luz Soares, 2020). Advertising that is completely false can be simpler to detect, consisting of exaggerated or implausible claims. Deceptive advertising, however, is far more

subtle, using claims that are technically true but that include misleading wordings to influence perception in ways that are much harder to detect. Critical media consumption skills are therefore becoming increasingly important to avoid these deceptive influences.

This issue is especially urgent in Thailand, where the high school education system is still experiencing challenges despite attempted reforms (Fry & Bi, 2013; Scott & Guan, 2022). The primary and secondary systems are institutionally notorious for a continued emphasis on memorisation and acceptance of the opinions of the teacher instead of critical thinking skills that would be useful for higher education and real life (Buasuwan, 2018). Practical and active learning is present in some Thai schools, but the majority focus remains on traditional rote-learning methods (Fry & Bi, 2013). Thai students that question their teachers tend to be considered to be disrespectful, and are punished accordingly, especially in primary school, but in secondary school as well. This would make Thai students especially susceptible to deceptive advertising since they are used to accepting information unquestioningly and have little practical experience with critical thinking, including with media literacy.

False and Deceptive Advertising

Thai people do not have a specific term to directly describe deceptive advertising. The main term that was found was “Lok-Luang” (หลอกหลวง) which matched more closely with the meaning of false advertising. The vague and contextual nature of the Thai language seemed to be the main reason for this lack of specificity. There are several concepts in English that are expressed using words with different meanings or connotations but that are described by a single Thai word. For example, in Thai, “Kon Glaang” (คนกลาง) can refer to an intermediary, a middle child, a mediator or negotiator, someone physically between two other people, someone in the middle of an argument, or anyone involving themselves in matters between two other people. This is most likely the reason that when Thai people wanted to describe the concept of advertising that creates negative impacts by misleading the consumer, a single term that translates most closely as “False ads” was used to cover all possible meanings and types of misleading advertising. There are also still only a few historical cases or available information about deceptive advertising in Thailand, which might be another reason that no terms have been developed to differentiate deceptive advertising from advertising that is actually making false claims. Additionally, the general lack of critical thinking skills being taught to students and the educational culture of unquestioning acceptance increases their suggestibility and most likely also contributes to the fact that they do not tend to notice deceptive traits enough to understand that a separate term might be needed.

Interestingly, greenwashing, which can be considered to be included in the same general concept as deceptive advertising, has appeared more often in news and literature in Thailand than deceptive advertisement. Greenwashing already has a term in Thai which is “Fok Khiao” (ฟอกเขียว) (Songwut & Puchong, 2021; Vorathumdusdee, 2015). However, this term does not appear to be commonly used or well understood among Thai youth, which was confirmed by the preliminary study conducted in this research.

The work of Ben Heikali (2020) provides a clear example of potentially deceptive advertising: “Olive oil and Balsamic salad dressing.” From this statement, some consumers may understand that there is only olive oil in this salad dressing or that olive oil is at least the primary oil being used. However, this wording includes the possibility that the primary oil could be a cheaper and less healthy substitute. The name “Olive oil and Balsamic salad dressing” is still technically true in that case because the dressing would consist of a small amount of olive oil but it would be misleading the

consumers in their overall understanding of the product. Non-deceptive advertising would tend to avoid this type of ambiguity since they would be able to truthfully make more explicit claims.

Greenwashing

Greenwashing is a type of deceptive advertising that makes a product seem to be more environmentally friendly than it is. Greenwashing is used to deceptively target the market of ecofriendly consumers and to rehabilitate brand reputations. If consumers are deceived by greenwashing, they will make purchase decisions that are not actually environmentally friendly, contributing to the degradation of our planet.

There are 2 types of claims in greenwashing advertising (Schmuck, Matthes, & Naderer, 2018) which include:

1. False appeals: Claims that can be proven to be incorrect from evidence. These claims usually present as exaggerated statements or taglines.
2. Vague or ambiguous appeals: Claims that are too broad or poorly defined and are designed to create the wrong impression. It contains statements or messages such as the "all natural" phrase.

Greenwashing is usually considered to be a type of deceptive advertising, even in the case of false appeals. The linguistic and legal vagueness of terms such as "sustainability" allow companies to make exaggerated claims that cannot be easily verified or refuted. Greenwashed claims are also not practically verifiable by the customer since they mostly refer to sources of supply or manufacturing processes instead of practical or functional characteristics of the product. The only way to detect the inaccuracy of those claims is by using media literacy skills.

Media Literacy

Media literacy is the ability to understand the messages being communicated in the media and to correctly identify the purpose behind that messaging. These skills allow people to make informed and objective choices instead of being influenced or deceived by the agendas of the media creators. These skills can be applied to news media, entertainment media, social media, or all forms of advertising. High media literacy should correlate to a higher ability to distinguish between different types of misleading advertising and so also to a higher ability to detect greenwashing. Media literacy is comprised of a number of specific skills or processes.

According to the research of Sahaworakulsak (2018), and Eristi & Erdem, (2017), media literacy skills can be used as factors to help measure the behavior of Thai Youth that interact with advertising. Media literacy factors developed by Eristi & Erdem were adapted by Sahaworakulsak specifically to study potential awareness of deceptive advertising for dietary supplements in Chonburi, Thailand. Media literacy was used to determine awareness of media consumption and information processing capabilities and was separated into 5 specific skills:

1. Receiving media is translated from "ทักษะการรับสื่อ." This media literacy skill refers to noticing misleading advertising, not just overall consumption of media
2. Understanding media is translated from "ทักษะการเข้าใจสื่อ" and refers to the ability to distinguish between different types of misleading advertising and to identify the characteristics that make them potentially misleading.

3. Investigating is translated from “ทักษะการวิเคราะห์สื่อ” and focuses on how people interact with advertising, specifically if they are likely to accept it at face value or to become curious to research the advertisement.
4. Evaluating, translated from “ทักษะการประเมินค่าสื่อ,” is the skill that occurs after investigating and involves determining how much credibility to give the advertisement.
5. Communication, translated from “ทักษะการเผยแพร่สื่อ,” refers to the tendency to share findings and evaluations with others.

These media literacy skills were used in this research to determine if they had any influence on the ability of Thai youth to detect greenwashing.

Methods

The study results were collected using an online survey of 424 respondents. Participants were recruited using self-selection and snowball method. The initial survey link was posted on Instagram, Twitter, Line square, and Facebook using a lucky draw as an incentive to respond. It was also posted on an anonymous Instagram page and a linked Twitter account with a high number of followers run by one of the researchers. In both cases, respondents were asked to share the survey link to their friends or to any other people who might be interested.

A preliminary study of students at the International College of King Mongkut's University of Technology, North Bangkok was used to determine the general state of knowledge about false and deceptive advertising and greenwashing, and to test different wordings or methods of explaining these concepts. The Thai terms that were tested were False advertisement, or advertisement that is "Lok-Luang" (หลอกลวง), deceptive advertisement, or advertisement that is "Chong-Jai-Tham-Hai-Khao-Chai-Phit" (จงใจทำให้เข้าใจผิด), which is a term that the researchers specifically created for this study since a Thai term does not yet exist for that concept, and greenwashing, or “Fok-Khiao” (ฟอกเขียว) which is the term occasionally used in academia. The new Thai term that was used for deceptive advertising translates most closely as “Advertising that encourages people to misunderstand.” The preliminary study was conducted by phone with 20 fourth year university students, all of whom had taken an environmental course that included teaching about greenwashing. The new term for deceptive advertising proved fairly successful, with 11 out of 20 respondents being able to understand the concept from hearing this term. This wording was therefore used in the main questionnaire. However, when asked for examples of deceptive advertising, most of the responses from the 11 respondents who understood the term were examples that had been taught in one of the marketing classes in the program. This suggests that, regardless of the effectiveness of the new term, the ability to distinguish deceptive advertising from false advertising was increased by recent exposure to deceptive advertising examples in that class. Only 5 preliminary respondents were familiar with the Thai term for greenwashing, although only 3 were able to correctly explain it. This low result was in spite of the fact that all 20 students had been taught about this concept in English in their first year. However, since this is the accepted academic term for greenwashing, this is the term that was used in the final questionnaire. The low level of understanding and low ability to distinguish between the different types of misleading advertising among the preliminary sample also influenced the final design of the research to focus more on awareness and to provide explanations for each type of advertising within the questionnaire.

Results and Discussion

The level understanding of false and deceptive advertising was tested by asking the respondents about specific examples. The example used for false advertising was “Using certain toothpastes can grow more teeth” and the example for deceptive advertising was “Olive oil and balsamic salad dressing.” The toothpaste example had been first tested on the group of preliminary of students and was generally perceived as clearly false. The salad dressing example was from Ben Heikali, (2020) and included a brief explanation of how the wording does not specify that the dressing is completely made out of those ingredients and so could potentially be made with only small amounts of olive oil while being mostly made of cheaper substitutes. Even so, respondents were mostly neutral in their understanding of the deceptive olive oil example with an average rating on a 5-point scale of 3.35 for likelihood of being false advertising and 3.79 for likelihood of being deceptive advertising. By contrast, respondents in the man study felt that the false toothpaste example was very likely to be false advertising, but was also very likely to be deceptive advertising with ratings of 4.79 and 4.47 respectively. These results do suggest a very slight trend to be more likely to perceive the false example as false and the deceptive example as deceptive, but the dominant trend by far was to perceive the false toothpaste example as being strongly misleading in both ways and to perceive the deceptive example as much more neutral. The respondents were less likely overall to consider the deceptive advertising example to be any type of misleading advertising.

When administrating the questionnaire, the respondents were asked separately about the likelihood of each example being false or deceptive. A perfectly correct answer would be 5 (Extremely likely) for the correct type of misleading advertisement and 1 (Extremely unlikely) for the incorrect type. Respondents who answered identically, for example with a rating of 5 for likelihood of being false and of 5 for likelihood of being deceptive on the same example would be considered to not be able to distinguish between false and deceptive advertising. In such a way, a score of ability to distinguish advertising types was constructed by subtracting the ratings for each example and normalising to a 5-point scale. This results in a scale where a score of 5 corresponds to the perfect answer of 5 and 1, and a score of 1 would represent rating an example as the same likelihood of being both false and deceptive. While it is possible for this scale to result in scores lower than 1, out of 424 respondents, only 17 scored 0 (4.0 %) and 7 scored negative (1.65 %) for the false example. For the deceptive example, 45 respondents scored 0 (10.6 %) and 8 scored negative (1.89 %) out of 424. The average scores are shown in Table 1.

The total score of the ability to distinguish between false and deceptive advertising was 1.31 for the false example and 1.45 for the deceptive example, where a score of 1 represents not distinguishing between the two types in any way whatsoever. This strongly suggests that Thai youth are unable to distinguish the subtle differences between truly false and simply deceptive advertising. These results remained consistent across the age groups included in the sample and are also consistent with results from the preliminary sample.

Table 1: Ability to distinguish between false and deceptive advertising

Question	Correct answer	Average answer	Ability to Distinguish
How likely is the Toothpaste example to be false advertising?	5	4.79	1.31

How likely is the Toothpaste example to be deceptive advertising?	1	4.47	
How likely is the Olive oil and Balsamic dressing example to be false advertising?	1	3.35	
			1.45
How likely is the Olive oil and Balsamic dressing example to be deceptive advertising?	5	3.79	

The understanding of the difference between false and deceptive advertising was also studied using a list of characteristics as shown in Table 2. The characteristics were presented in a random order and respondents had to select only the characteristics that they felt represented deceptive advertisement. The results of this selection are shown in Figure 1.

Table 2: Characteristics of false and deceptive advertising (Translated from Thai)

Deceptive ads	1	Suggesting the price may be cheaper than it is
	2	Omitting information about the origin or lack of quality
	3	Bait-and-Switch tactics
	4	Missing Conditions
	5	Exaggerating potential benefits of certain features
False ads	6	Claiming benefits that they do not actually have
	7	Exaggerated and unsupported claims
	8	Hiding information
	9	Fake guarantee or labels

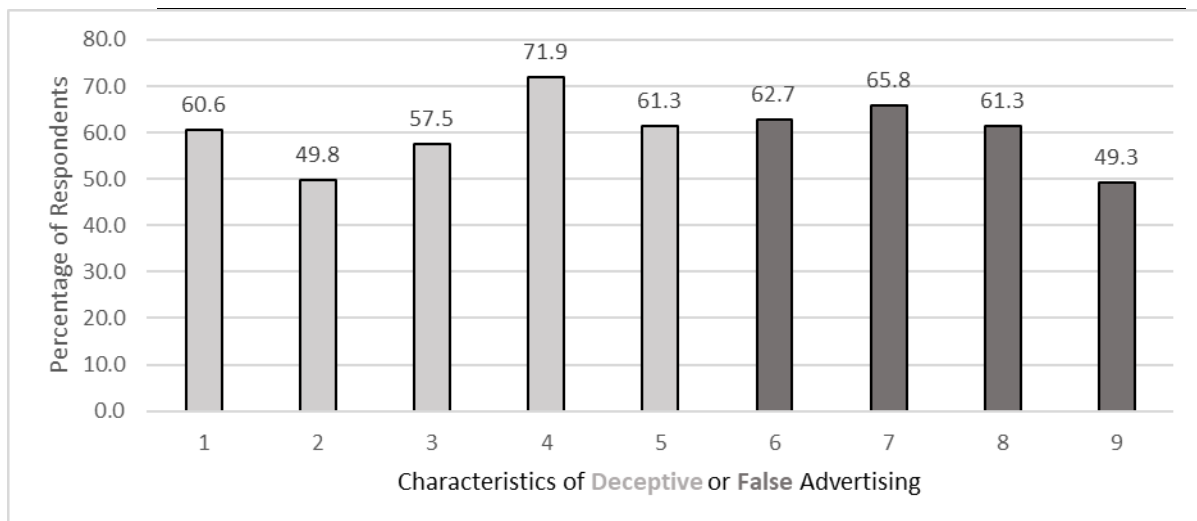


Figure 1: Frequency of selection of characteristics associated with deceptive advertising

Respondents were most likely to think that Characteristic 4: Missing conditions, was an example of deceptive advertising, which is a correct selection, however, respondents were approximately equally

likely to select characteristics of false advertising as they were those of deceptive advertising. In fact, false characteristics were selected on average in 59.8 % of cases while deceptive characteristics were selected in 60.2 % of cases. The two characteristics that were selected the least often were Characteristic 2: Omitting information about the origin or lack of quality, with 49.8% of respondents, and Characteristic 9: Fake guarantee or labels, with 49.3% of respondents. Both of these characteristics were apparently considered to be most likely to represent false instead of deceptive advertising even though characteristic 2 should actually be considered as deceptive advertising. Characteristic 7: Exaggerated and unsupported claims, which is a characteristic of false advertising was also likely to be considered deceptive. However, this is likely influenced by the similarity of the Thai wording of the characteristic to the wording of the new Thai definition of deceptive advertising used in this research.

The overall confusion between false and deceptive characteristics was also likely influenced by the binary perception of advertising as either lying or not lying. This binary is caused by the fact that the only term for any form of misleading advertising in Thai most closely translates as false advertising causing Thai people to categorise misleading advertising as either false or not. Characteristic 2 contains wording about omitting information that affects the quality, which is possibly perceived as lying, and so would therefore be considered part of false advertising under this perception. Characteristic 7 contains wording about exaggeration, suggesting that the truth has been told but has simply been embellished, which would not qualify as false advertising under this perception. These results are very consistent with respondents who have difficulty identifying subtle shades of deception due to a lack of terms in the Thai language to express misleading advertisement as anything but completely true or completely false.

The total number of incorrect selections of characteristics of deceptive advertising was subtracted from the total number of correct selections to generate a characteristic selection score on a scale of 5 to -4, where 5 represents selecting only the 5 deceptive characteristics, and -4 represents selecting only the 4 false characteristics. The distribution of response scores is shown in Figure 2.

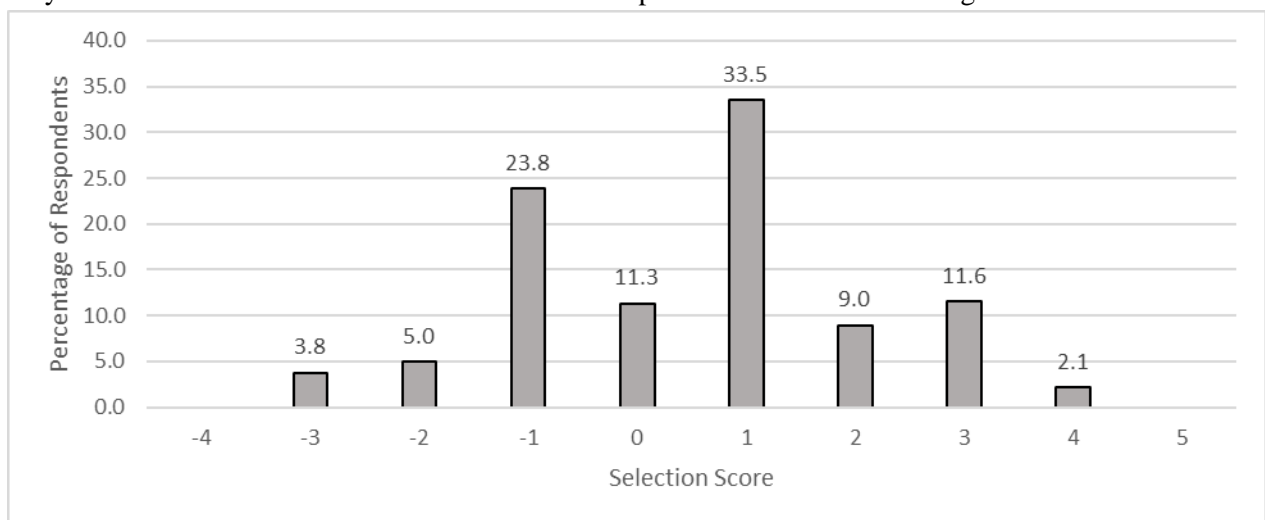


Figure 2: Selection score of characteristics of deceptive advertising

As can be seen from Figure 2, more than two thirds of respondents scored between -1 and 1 (68.6%). These scores represent respondents who included some characteristics of both false and deceptive advertising in their selection. These score therefore also strongly suggest an overall inability to distinguish between both types of advertising. It can be safely concluded that there is significant

confusion about the characteristics of false and deceptive advertising, most likely strongly influenced by the lack of options that exist in the Thai language to discuss these concepts.

Greenwashing

This inability to detect the more subtle forms of deceptive advertising is also reflected in the greenwashing results. The awareness greenwashing was measured by asking respondents if they had ever heard of that term, and then asking those who said they knew about it to provide a brief explanation. Only 14.62 % of respondents were aware of the term and were then able to provide an accurate explanation as seen in Figure 3. These are the only respondent that can be considered to have been aware of greenwashing before the survey.

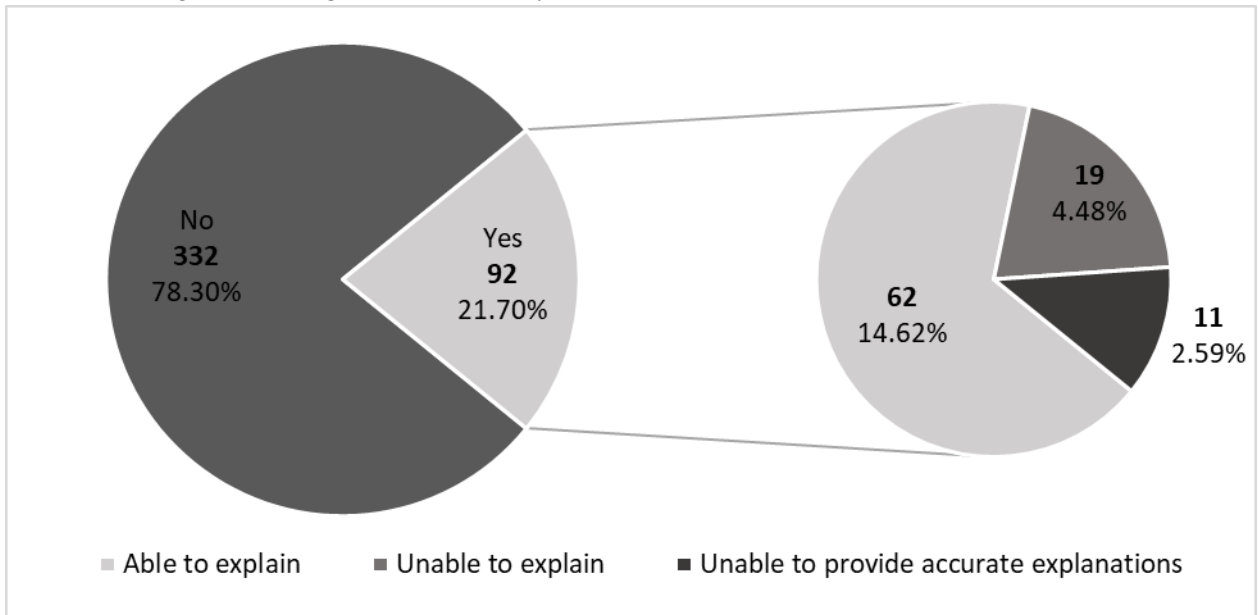


Figure 3: Awareness of greenwashing and ability to provide an accurate explanation thereof

A brief explanation of greenwashing was then provided to all respondents. They were asked how similar they considered greenwashing to be to false advertising and how similar to deceptive advertising based on the provided greenwashing explanation and the previous explanation of deceptive advertising. A score was calculated by subtracting the likelihood that greenwashing was deceptive from the likelihood that it was false and normalising to a 5-point scale, as seen in Table 3. Only 59 respondents (13.9%) scored 3 or higher, meaning that they rated greenwashing as being at least 2 points more similar to deceptive advertising than it was to false advertising. Respondents were most likely to rate greenwashing as being equally similar to false and to deceptive advertising with 196 respondents (42.6%) having a score of 1 representing identical similarity ratings. This shows that even with an explanation of the concept, respondents were unable to correctly understand that greenwashing uses more subtle forms of deception than simple outright falsehoods. The results of the preliminary study are consistent with these results, even though all members of the preliminary study had previously taken a course that explained greenwashing.

Table 3: Score of comparison of likelihood of greenwashing being deceptive and being false advertising

Score	Number	Percentage
5	6	1.4

4	10	2.4
3	43	10.1
2	102	24.1
1	196	46.2
0	54	12.7
-1	11	2.6
-2	2	0.5
-3	0	0.0
-4	0	0.0

Media Literacy

Media literacy skills were then evaluated to determine if they had any effect on ability to detect greenwashing. The score for Understanding included the perceptions of the different types of advertising. The other 4 skills were evaluated using a series of question based on factors from the research of Sahaworakulsak (2018). The overall scores are shown in Table 4. Investigating is the skill where most respondents were proficient and Understanding was where they were least proficient. Results were approximately consistent across age groups.

Table 4: Proficiency in each media literacy skill

Media Literacy Skill	Average Scores out of 5	Scores as percentages
Receiving skill	3.62	72.40
Understanding skill	2.75	55.00
Investigating skill	3.85	77.00
Evaluating skill	3.32	66.40
Communicating skill	3.73	74.60
Overall Average score	3.45	69.08

The low scores in Understanding were certainly influenced by the same factors that caused respondents to have difficulty distinguishing between false and deceptive advertising. The second lowest skill was Evaluating which can also be influenced by ability to detect different forms of deception. These results are therefore consistent with the previous results about ability to detect false and deceptive advertising. However, even the highest rating skill of Investigating was only at 3.85 and the average media literacy score was 3.45, showing that respondents only have slightly more than moderate media literacy skills. The effects of language at creating confusion about the different types of deception should not have influenced some of the other media literacy skills. This suggests that there is a larger lack of media literacy skills beyond simply the inability to detect subtle forms of deception. This lack is perhaps indicative of an overall lack of emphasis on critical thinking skills during Thai primary and secondary education.

Table 5: The ability associate greenwashing with deceptive advertising by media literacy skill proficiency

5 Skills of Media Literacy	Proficiency level	Respondents in each level	Respondents who associate greenwashing with deceptive ads	Proportion of respondents who associate greenwashing with deceptive ads
Receiving	High (4 - 5)	196	22	11.22
	Moderate (3)	181	28	15.47
	Low (1 - 2)	47	9	19.15
Understanding	High (4 - 5)	58	6	10.34
	Moderate (3)	180	36	20.00
	Low (1 - 2)	186	17	9.14
Investigating	High (4 - 5)	242	38	15.70
	Moderate (3)	156	18	11.54
	Low (1 - 2)	26	3	11.54
Evaluating	High (4 - 5)	61	7	11.48
	Moderate (3)	258	32	12.40
	Low (1 - 2)	105	20	19.05
Communicating	High (4 - 5)	199	20	10.05
	Moderate (3)	164	22	13.41
	Low (1 - 2)	61	17	27.87
TOTAL		424	59	

The ability to associate greenwashing with deceptive advertising was broken down by level of proficiency in each media skill. The sample size of respondents that understood greenwashing well enough to consider it more likely to be deceptive advertising than false advertising was fairly low at only 59 respondents, therefore the results are only suggestive and require further investigation. However, the Investigating skill is the only skill where the results suggest a trend of increased ability to detect greenwashing with increased Investigating skills. The sample group also demonstrated the highest overall ability to detect greenwashing when they had a high level of this media literacy skill. This suggests that the Investigating skill is the most important for detecting greenwashing. Fortunately, this is also the media literacy skill in which respondents were generally most proficient. These results make sense when the low overall scores Evaluating and Understanding are also considered. If respondents have difficulty in Understanding what they are seeing or in Evaluating the advertising they encounter, the most likely method of detecting greenwashing becomes finding sources that explicitly explain the problem during the Investigating process.

Conclusions

Respondents consistently showed an inability to distinguish between types of misleading advertising. They were able to correctly identify characteristics of deceptive advertising as problematic although they tended to associate those characteristics with completely false advertising. Knowledge of the

existence of deceptive advertising and greenwashing did not seem to be sufficient to allow respondents to detect it, as shown both by the main and preliminary results. Preliminary respondents had all taken a course on the environment that included teaching about greenwashing but were still equally unable identify these concepts. The main cause of this problem appears to be the binary nature of Thai terminology around types misleading advertising. Since Thai people are linguistically only able to describe misleading advertising as false or not false, they tend to also conceptually view misleading advertising as binary and so are confused by the more subtle misleading characteristics of deceptive advertising and greenwashing.

The relatively low media literacy scores confirm this result, suggesting that Thai youth have limited ability to critical process their media consumption. The highest rated media literacy skill was Investigating, which is also the skill that seems to correlate best to increased ability to detect greenwashing. However, low levels of Understanding and only moderate levels of Evaluating suggest that respondents are unable to detect greenwashing from identifying and assessing problematic characteristics but are instead finding exposés or fact checks that clearly explain the deceptive nature of the specific advertising they are encountering. This is consistent with the acknowledged deficiencies in the Thai education system, specifically a lack of focus on critical thinking skills and a continued reliance on rote learning. Respondents are able to Investigate and will accept information that is presented to them, but are less able to critically identify characteristics or evaluate their significance. This further suggests that students can perhaps develop the ability to detect greenwashing by seeing enough practical examples to begin to be able to detect these characteristics, such as problematic phrasing or deception by omission.

Recommendations

The most efficient method of increasing media literacy skills and ability to detect greenwashing would therefore seem to be fact checking websites that educate the general public about specific examples of misleading advertising. The high Investigating skills would make it more likely for people to search for and find these sources. These websites would also help increase Understanding and Evaluating skills since students who read the information on these sites would also learn to detect the characteristics of misleading advertising and to evaluate specific advertisements using those characteristics, also increasing their ability to detect greenwashing. The increased media literacy will also equip students with increased critical thinking skills that they are not likely to have been provided in high school. Increased critical thinking will not only increase the performance of the students in most of their university level classes, but will serve them well in their personal and professional lives. Universities can also actively provide advertisement checking services that identify and explain which characteristics of misleading advertising exist in each specific instance.

These strategies would also help address the issue of the lack of distinction between false and deceptive advertising in the Thai language. As people increasing encounter these forms of misleading advertisement, it can be reasonably expected that a term will naturally be developed to explain these more subtle concepts and characteristics.

Further study is required about the media literacy skills that most influence ability to detect greenwashing. The results of this study show an almost complete lack the ability to detect greenwashing, which is the most likely explanation for the Investigation skill having the best suggestion of correlation with increased detection ability. However, this not expected to be the main mechanism of detection in a population where greenwashing is better understood. Study of

populations who are more aware of greenwashing through specialised education or knowledge, or of future Thai populations who have had more exposure to greenwashing is recommended to determine the true underlying mechanisms.

Declaration of Interest Statement

The authors declare that they have no conflict of interests

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