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Exploring the Characteristics of YouTubers and Their Influence on Viewers' Purchase Intention: A Viewers' Pseudo-Social Interaction Perspective

Bo-Chiuan Su ¹ , Li-Wei Wu ^{2,*} and Ji-Ping Wu ²¹ School of Business, Putian University, Putian 351100, China² Department of International Business, Tunghai University, Taichung 407224, Taiwan

* Correspondence: lwwu@thu.edu.tw

Abstract: As the video content online becomes more and more diverse and rich, YouTube has become the most commonly used video platform by the public. When choosing a product brand, viewers give priority to products recommended by their favorite YouTubers. To our best knowledge, no studies in the research literature have explored the relationships between the degree of YouTubers' self-disclosure, similarity of viewers and YouTubers, YouTubers' attractiveness, and viewers' pseudo-social interaction with YouTubers and how these affect viewers' stickiness to YouTubers, viewers' brand attitudes toward products, and viewers' perceptions and purchase intentions of YouTuber-recommended brands and products. Viewers' stickiness to YouTubers, viewers' brand attitudes toward products, and viewers' pseudo-social interactions with YouTubers are mediating variables. A total of 435 valid questionnaires were collected. The results show that the degree of YouTubers' self-disclosure, similarity of viewers and YouTubers, and YouTubers' attractiveness have a significantly positive impact on viewers' pseudo-social interaction, and viewers' pseudo-social interaction will also have a significantly positive impact on viewers' brand attitude and stickiness to YouTubers. Moreover, viewers' brand attitude has a significantly positive impact on viewers' purchase intention. The results also show that the degree of self-disclosure, similarity, and attractiveness indirectly affect brand attitudes through pseudo-social interaction as an intermediary, and the pseudo-social interaction has an indirect effect on purchase intention through brand attitudes. Finally, based on the findings, this paper focuses on the YouTube market and proposes strategies that YouTubers can improve to increase viewers' stickiness, brand attitudes, and purchase intentions for brands and products recommended by YouTubers.

Keywords: YouTuber; self-disclosure; pseudo-social interaction; brand attitude; purchase intention

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1. Research Background

With the progress of today's online information world, people are increasingly eager to obtain the maximum amount of information in a short period of time. People are gradually no longer only receiving information from TV or newspapers but also learning new information by watching online videos, because people are now more in pursuit of speed and convenience, and they can watch the latest current affairs just by taking out their mobile phones and opening them. The habit of the public has also changed from only watching text and pictures to watching videos, such as YouTube, etc. Among them, YouTube has become the most popular video platform in the world. From 2017 to 2022, many programs that could only be broadcast on TV stations have gradually imported content and works into YouTube channels. Many veteran stars and actors have also started to appear in collaboration with YouTubers to promote their own shows or works, thereby increasing their influence and exposure, and some even switch careers to open their own channels on YouTube. The growth of YouTube videos has also changed from short films of just one or two minutes to long films of one to two hours or even longer, which can already

be compared to TV programs. This also brings the YouTube platform to a more exciting and diverse stage of maturity and also makes the public stick to it.

YouTube has so far garnered as many as 3 billion viewers, which means that more than one-third of the world's people are YouTube viewers. Audio and video has become a new trend; whether it is a short video or a nearly one-hour feature film, it has evolved into a new tool for companies to promote products, create brand images, and deepen audience impressions. Just like making a TV commercial, the title, cover, and opening of a YouTube video are all important factors to catch the audience's attention. The growth of the audience's retention rate and viewing volume of each channel are all factors to increase the exposure of the video. Especially when the interaction between YouTubers and viewers is higher, it can also effectively increase the audience's stickiness to their videos or products and has a very high probability of increasing the audience's willingness to buy.

With the maturity of online platforms and the evolution of self-media creators, many advertisements and creators have begun to create their own brands, which indirectly stimulate the viewers' purchase intention and decision-making [1–3]. Many viewers even have a high evaluation of some brands or products and have a good brand attitude toward products because they are highly recommended by the YouTubers they follow. Each YouTuber has their own characteristics, which will attract viewers from different fields. In this regard, it just corresponds to the viewers' attractiveness to YouTubers, namely appearance attractiveness, social attractiveness, and task attractiveness. Among them, social attractiveness reflects the degree of intimacy with the influencer; task attractiveness refers to whether the influencer responds to the viewer's requirements and provides professional knowledge or services. The higher the attractiveness of the YouTubers, the higher the viewers' pseudo-social interaction with YouTubers [4].

In recent years, the competition in the YouTube market has been very fierce, and there are more and more creators, because, compared to traditional TV artists, to whom viewers feel a sense of distance, personalized YouTubers who are willing to interact with viewers speak out the voices of the masses; thus, they will be more influential and more in line with our ordinary daily life. Studies have shown that YouTubers will reveal themselves on online platforms and videos, and YouTubers with a relatively high degree of disclosure in videos or social networking sites will deepen viewers' impression of them. They may also enhance the YouTuber's attractiveness and build a deeper relationship with the audience [4]. Viewers can also learn more about them from the content of YouTuber self-disclosure and can reduce their uncertainty about YouTubers. The types of YouTube videos have gradually diversified, and YouTubers who simply shoot daily vlogs or even funny videos may also attract attention. The intimacy and resonance of the viewers will form a positive pseudo-social interaction. In addition, viewers have higher and higher requirements and standards for YouTubers, and they have higher expectations for the interaction between them and YouTubers in videos. Studies have pointed out that the interaction between YouTubers and viewers may also affect the audience's psychological participation, making viewers feel entertained when watching YouTubers' videos [5]. People who have similar hobbies, talents, values, or tastes will have a positive impact on pseudo-social interaction. Today, YouTube creators are more and more competitive, so in order to enhance the relationship between viewers and YouTubers and stand out, the three most important characteristics are the degree of self-disclosure, similarity, and attractiveness of YouTubers.

The huge influence of YouTubers means strong user stickiness and the shaping of a buying atmosphere. YouTube viewers not only hope to gain a sensory experience in a YouTuber's videos, but viewers may also be motivated to buy the YouTuber's products. Thus, YouTubers are expected to influence viewers' willingness to purchase products featured in their videos. The content shared by YouTubers can easily change viewers' shopping intentions. Viewers now hope for YouTubers not only to watch videos but also to participate in more intimate interactions with YouTubers in videos, such as interviews, lottery draws, or voting, etc. These interactions may also increase viewers' stickiness to the YouTubers they follow. Therefore, many popular YouTubers are very important

partnerships, and many companies or brands may be invited to endorse their products. For these YouTubers, the business matching source is one of their biggest sources of income. For companies or brands, how to use the attractiveness and influence of these well-known YouTubers to increase the viewer's willingness to shop for the products they introduce is a very important issue. Likewise, obtaining more endorsement opportunities is critical to how YouTubers can continue to drive viewers back to their channels and increase their stickiness. The higher the interaction between YouTubers and viewers, the more viewers will have positive brand attitudes and evaluations of the brands promoted by YouTubers. If the YouTuber's interpersonal attractiveness is improved, whether it is appearance, social, or task attractiveness, it may increase the audience's interaction with YouTubers. Among the many types of YouTubers, some YouTubers will share their daily life, live chat with the viewers to increase communication, and ask the viewers to respond to their questions and answers, etc. This type of interaction allows both parties to create a positive bond and is known as pseudo-social interaction. Therefore, this paper focuses on the current YouTube market, combining various video categories and YouTuber characteristics, to explore the influence of self-disclosure, similarity, and attractiveness on YouTuber's pseudo-social interaction, as well as the relationship between YouTuber's pseudo-social interaction and stickiness and whether brand attitude can have a significantly positive impact on viewers' purchase intentions.

Based on the above background, this study aims to gain an in-depth understanding of the relationship between viewers' pseudo-social interaction and stickiness and purchase intention, as well as the impact of YouTubers' degree of self-disclosure, similarity of viewers and YouTubers, and the influence of YouTubers' attractiveness on viewers' pseudo-social interaction. To our best knowledge, no studies in the research literature have explored the relationships between the degree of YouTubers' self-disclosure, similarity of viewers and YouTubers, YouTubers' attractiveness, and viewers' pseudo-social interaction with YouTubers and how these affect viewers' stickiness to YouTubers, viewers' brand attitudes toward products, and viewers' perceptions and purchase intentions of YouTuber-recommended brands and products. Viewers' stickiness to YouTubers, viewers' brand attitudes toward products, and viewers' pseudo-social interactions with YouTubers are mediating variables. The research purposes are summarized as follows:

1. Explore whether YouTubers' degree of self-disclosure, similarity of viewers and YouTubers, and YouTuber's attractiveness have a significant impact on viewers' pseudo-social interaction.
2. Explore whether there is a significant effect between viewers' pseudo-social interaction and viewers' stickiness to YouTubers.
3. Explore whether there is a significant effect between viewers' pseudo-social interaction and viewers' brand attitude.
4. Explore whether viewers' pseudo-social interaction is related to subsequent viewers' purchase intentions.

2. Literature Review and Research Hypotheses

2.1. *The Relationship between the Degree of Self-Disclosure and Pseudo-Social Interaction*

The idea of self-disclosure was first put forward by Jourard and Lasakow [5], who explained that self-disclosure means that oneself voluntarily discloses one's own information or privacy to others and earnestly discusses with others one's deepest thoughts, experiences, and process of experiencing. Derlega, Metts, Petronio, and Margulis [6] define self-disclosure as an exchange between two persons, one of whom discloses some personal information to the other with a purpose. Self-disclosure usually includes verbal information including statements such as "I feel" or "I think", and the information also includes whether there is more private information, such as personal fears, religious beliefs held, etc. In addition to the critical impact of self-disclosure of everyday information in forming and maintaining a relationship with others, the use of information that an individual

possesses, such as one's own views, feelings, and experiences, interacts with others to build a connection.

Today, with the rapid development of online social platforms, more and more YouTubers publish their articles, pictures, or videos on the Internet. Self-disclosure through social networking sites not only enhances the relationship with the viewers but also shares their experiences so that both parties can get along like friends. Past research has shown that people who self-disclose tend to be more popular than those with lower levels of self-disclosure [7]. In YouTubers' videos, topics that include sharing experiences and information are also frequently watched by viewers. As for why people want to reveal themselves to others, Derlega et al. [8] pointed out that self-disclosure has the following five functions, namely, emotional expression, self-clarification, social validation, relationship development, and social control.

According to Liu and Cao [6], self-disclosure refers to sharing one's own information and interacting with others. Messages can be personal messages, feelings, interests, photos, experiences, etc. Taylor, et al. [7] pointed out that self-disclosure plays a key role in building close interpersonal relationships. Furthermore, Rime [9] argues that in the development of a relationship, self-disclosure can maintain and strengthen the intimacy of both parties. Studies have shown that the degree of self-disclosure of media personalities is positively correlated with pseudo-social interactions [10]. Therefore, when YouTubers share their lives and interests on their personal channels, as well as engage with YouTube viewers through comments and live broadcasts, it leads viewers to imagine that they get along and interact with the YouTubers as friends. In other words, YouTubers' self-disclosure may enhance viewers' perceptions of the YouTubers' pseudo-social interaction.

Research has pointed out that when radio hosts reveal personal stories on the show, radio listeners tend to have a good experience of pseudo-social interaction [10], which represents the celebrity's self-disclosure and promotes a more positive pseudo-social interaction between viewers and YouTubers. Research by Ko and Wu [11] also shows that when beauty YouTubers share expertise or information about cosmetics and beauty, such as their experience and know-how, or share certain aspects of their personal lives such as vlogs, this shortens the distance between YouTubers and their viewers, enabling them to build and maintain close relationships. When the viewers know the YouTuber's personal information, it can strengthen the viewer's pseudo-social interaction with the YouTuber, making the viewer feel closer to the YouTuber, like they are interacting face-to-face with each other and interacting like a friend. Therefore, this study proposes the following hypothesis:

Hypothesis 1 (H1): *YouTubers' degree of self-disclosure has a significantly positive effect on viewers' pseudo-social interaction with YouTubers.*

2.2. The Relationship between Similarity of Viewers and YouTubers and Viewers' Pseudo-Social Interaction

People tend to interact with people with whom they have a high degree of similarity and, through these interactions, confirm their beliefs [12]. Most studies have confirmed a positive relationship between similarities and pseudo-social interactions [8,13,14]. On social platforms, viewers can easily share the same interests with people who are similar to themselves, such as their taste in products or services, lifestyle, and shopping experience, etc., and are more likely to share similar shopping goals, interests, and styles. People come and go frequently, which in turn promotes their pseudo-social interaction [11]. Studies have shown that viewers' similarity to media people, especially in terms of appearance and attitude, has a positive effect on pseudo-social interactions. Research by Ko and Wu [11] also shows that viewers' perceptions of a YouTuber's similarity to themselves has a positive impact on their perception of pseudo-social interaction with that YouTuber. On the YouTube platform, viewers interested in beauty and cosmetics are more likely to watch beauty-related video channels. In this regard, viewers may perceive them as having a lot of similarities with YouTubers, developing close relationships with YouTubers akin to true friendships, and getting along like friends. Similarly, when each YouTuber's characteristics

or video positioning make viewers feel similar to the YouTuber, such as having the same personality and views on things, it makes viewers feel closer to the YouTuber. Therefore, this study proposes the following hypothesis:

Hypothesis 2 (H2): *The similarity of viewers and YouTubers has a significantly positive effect on viewers' pseudo-social interaction with YouTubers.*

2.3. The Relationship between YouTubers' Attractiveness and Pseudo-Social Interaction

Physical attractiveness is the attractiveness of the physical characteristics and appearance of media characters [15]. Joseph [16] proposed that physical attractiveness can change viewers' attitudes toward their appearance and style and is also a predictor of viewers' relationship-building motivation [17]. In addition, physical attractiveness causes viewers to transform the media persona's image into their ideal self-image [18] and increases the chance that the viewers will find a persona similar to the media persona on social media. Research by Kurtin et al. [19] shows that attractiveness can help viewers discover the physical attractiveness of TV stars. When the viewers find a cute and capable star, it will promote the viewers' attention to the character and the illusion of connection with the character.

Social attractiveness is the viewers' liking of an influencer or artist based on perceptions of similarity, likes, and compatibility. Social attractiveness reflects viewers' willingness to communicate and intimacy with media personalities [3]. Miller [20] showed that those who were perceived as outwardly attractive were also perceived as more socially attractive. Berger and Calabrese [15] also suggested that the reduced uncertainty provided by frequent interactions promotes liking or interpersonal attraction. In addition, social attractiveness is the result of the social skills of the media character, which motivates the viewers to increase communication with the media character by sharing ideas and interests, thereby generating enough likes to motivate the viewers to change their attitudes or thoughts [16].

Task attractiveness refers to an influencer's charisma on social media [17]. Likewise, Hellweg and Andersen [18] proposed that task attractiveness reflects whether someone can meet the needs of the viewers. In addition, task attractiveness also indicates whether the job is easier to complete when suggested by YouTubers on social media [19]. Entertainers or YouTubers can help viewers gain valuable and effective information for social and business-related tasks [10]. Therefore, task attractiveness is a key factor that indicates whether the viewers believe that the influencer on social media can accomplish a given task [20]. Viewers are more likely to find YouTubers or entertainers on social media attractive if they always receive valuable information that helps them [21].

According to Rubin and McHugh [4], social attractiveness is the most important factor in the development of pseudo-social interaction. Social attractiveness indicates that media personalities can befriend media viewers, and individuals with similar attitudes are also considered socially attractive [21], such as YouTubers having friendliness and enthusiasm toward the public. People with similar attitudes interact more frequently and are more easily accepted by others [22], so the frequency of interactions is likely to be positively correlated with social attractiveness. Physical attractiveness is related to the appearance of the media person, while task attractiveness is related to whether the media person can solve the problem of the media user. In the research of Reis et al. [23], the higher the physical attractiveness, the more positive the relationship with each other. Physical attractiveness also makes viewers appreciate the physical characteristics and facial appearance of media characters [24], thereby increasing viewers' positive emotions, which in turn builds pseudo-social interaction [25].

In addition, research by Ko and Wu [11] pointed out that when viewers perceive a beauty YouTuber's professionalism and ability to provide viewers solutions for their needs, it has a positive impact on viewers' pseudo-social interaction with that beauty YouTuber. In other words, if viewers found the beauty YouTuber's task more attractive, they would be more likely to feel a friendship-like relationship with the beauty YouTuber. It also means

that, as YouTubers continue to learn and improve the attractiveness of their tasks, it will improve their pseudo-social interactions with their viewers. Therefore, this study proposes the following hypothesis:

Hypothesis 3 (H3): *YouTuber's attractiveness has a significantly positive effect on viewers' pseudo-social interaction with YouTubers.*

2.4. The Relationship between Viewers' and YouTubers' Pseudo-Social Interaction and Stickiness

Pseudo-social interaction (PSI) was first proposed by Horton and Wohl [26], who used this concept to describe the relationship between performers and viewers. When the viewer is watching a TV show, it feels like they are interacting with the performers, as if the viewers and the performers are friends, giving the illusion of being face-to-face with the performers. Traditional PSI research has focused on the relationship between radio broadcasts and listeners [27]; however, more recent research has applied PSI to other areas such as blogging, infomercials, and online platforms such as YouTube, Twitter, Facebook, etc. [28], where viewers feel like they are the real friends of those YouTubers [29]. Consensus, offering companionship, and social attraction are the three main characteristics of PSI-building interpersonal friendships [30], which mainly occur among group members with similar backgrounds and interests [31].

As pseudo-social interaction develop, performers build their relationships through more frequent interactions with viewers [32]. In the online environment, Labrecque [28] argues that the development of PSI should not be limited to traditional media. The same argument can be extended to YouTubers: through their media exposure, viewers feel as if they "know" YouTubers, and in the repeated viewing or exposure to YouTubers, the sense of connection between each other can be strengthened. As this relationship grows, viewers will begin to view YouTubers as trusted sources of information and seek their advice [33]. Conversely, the development of PSI between viewers and media can be facilitated through design features and online environments, just as social media has become an indispensable tool for strengthening personal relationships between YouTubers and viewers [34]. Given that YouTube is now the world's most-used video search and sharing platform, it is appropriate to use the PSI lens to explore how viewers perceive their relationship with YouTubers.

Pseudo-social interaction has also been studied in different contexts, such as children with their favorite TV characters [23], listeners' responses to broadcasters on radio stations [35], shoppers and TV shopping channel hosts, human relationships, etc. [31]. In addition to explaining these processes by which individuals form attachments to individual TV stars, PSI theory can also be used to understand consumer behavior in online communities [36].

Cole and Letts [36] provide an overview of three relational development theories and provide some insights into the formation of pseudo-social interaction in online communities, illustrated below:

(1). Uncertainty Reduction Theory

This theory was first proposed by Berge and Calabrese [37], who explained that when people meet for the first time, the frequency of their interactions reduces uncertainty about each other, which in turn promotes more frequent interactions, leading to better relationships. As a relationship progresses over time, it increases certainty about each other and reduces uncertainty, increases the ability to want to continue developing relationship ideas, and predicts the behavior of others. However, the use of TV and social media also means that there should be more contact with YouTubers, thereby reducing uncertainty about YouTubers and thus promoting positive pseudo-social interaction among viewers.

(2). Personal Construction Theory

Personal construction theory was put forward by American psychologist Kelly [38], and it means that people unconsciously use different concepts and ideas to classify things.

On social platforms, viewers also learn how media roles feel through their subjective and interpersonal interactions [13].

(3). Social Exchange Theory

Social exchange theory was proposed by Homans [39], who explained the value of the process of PSI by linking cost and reward assessments of intimacy and relationship importance. Among them, the PSI of YouTubers has high return and low cost. Cole and Leets [36] also pointed out that pseudo-social interactions are easily formed between media viewers and TV stars or YouTubers.

Today, online social platforms such as YouTube, Facebook, and Instagram have become important and useful tools for YouTubers to strengthen their relationship with their viewers. The existence of these online platforms has changed the relationship between the YouTubers in front of the camera and the viewers. Viewers can interact with the YouTubers through live broadcasts or messages. YouTube integrates social networking features, including subscribing to and commenting on others' pseudo-social connections on YouTube user-generated content. Viewers can upload videos to their own channels and subscribe and comment on others' channels for social interaction between people. Tolson [40] pointed out that, as a social media site, YouTube gives Internet viewers the feeling of face-to-face communication with YouTubers. According to Horton and Wohl [26], viewers immersed in pseudo-social interaction express their loyalty through various activities, and their behavior may also be influenced by other viewers. For example, these viewers may purchase products recommended by others on online platforms.

Pseudo-social interaction through specific social media (i.e., Instagram, YouTube, etc.) affect user stickiness and purchase intention [41]. When viewers often pay attention to YouTubers, it is also a kind of sincere emotional investment, which in turn establishes a relationship between YouTubers and viewers [42–45]. Research by Ko and Wu [11] shows that pseudo-social interaction can increase viewers' stickiness to YouTubers. This means that by establishing and maintaining a friendship-like relationship between the viewer and the YouTuber, the viewer can in turn recommend and share the YouTuber's channel to their circle of friends and revisit their channel's videos. Likewise, viewers' perceptions of pseudo-social interactions with YouTubers, and the level of interaction between them, may also be one of the factors that leads viewers to continue browsing YouTubers' channels and increases their stickiness.

Stickiness is the ability of an online platform to attract and retain consumers [46], enabling them to purchase goods and services offered by the website or view more advertisements [47]. This ability is considered to be one of the keys to the ability to benefit. Many recent studies have focused on understanding the intention of Internet viewers to repeatedly browse a specific website. Lin [48] stated that stickiness is the user's unconscious and active repeated browsing of social networking sites. However, it is also in the best interest of commercial websites to retain website viewers for as long as possible, as the likelihood of making a sale increases as customers stay longer [49]. McCloskey [50] also pointed out that the more time people spend online, the more likely they are to buy things online. Therefore, the intention of web viewers to stay longer on specific sites is as important as their intention to revisit those specific sites. Many developers on the Internet put a lot of effort into creating websites to encourage Internet viewers to use the services they provide on a daily basis [51]. Due to repeated browsing and the more time spent on the site, customers will become more attached to the site, resulting in increased transaction volume [48]. To summarize, all definitions given by scholars involve two aspects: length of browsing time and customer retention. Roy, Lassar, and Butaney [52] defined the concept of stickiness, including the length of time a customer stays in a company's social network and the social network's ability to retain customers.

Yet despite all the efforts to create stickiness, what makes viewers stick around remains a mystery to B2C retailers. Therefore, it is necessary to better understand the antecedents and the impact of stickiness, especially from the customer's point of view, because this information can help online media and businesses to provide consumers with better services

and thus gain a competitive advantage [53]. With this purpose in mind, stickiness is defined as a user's willingness to revisit and stay on a website for an extended period of time. Of course, there are many factors that affect viewers' repurchase or revisit, such as shopping experience, website movement, whether the product quality meets expectations, whether there is a purchase demand, etc. To improve customer stickiness, the above factors must be taken into account.

Today's social software such as YouTube and Facebook also emphasize stickiness. Maciag and Al-Khatib [54] pointed out that when a product or service is highly sticky, viewers will be bound by the product and find it difficult to leave easily. For example, a YouTuber's fan engagement is reflected in viewers' desire to share videos or postings, as well as curiosity about the lives of these YouTubers. Stickiness is viewed by consumers as repeat browsing and using their preferred websites, as high loyalty is not affected by various conditions. Stickiness is also considered as one of the indicators of website loyalty [55].

Previous studies on viewers' stickiness to websites have mainly explored two aspects, one is the result of the transaction, and the other is the relationship with the user. Emphasize posting-purchase satisfaction from a transactional perspective [56], while the relationship perspective emphasizes the importance of relationships, such as commitment and trust. In the context of viewers or viewers in the media-to-customer (M2C) context, stickiness to YouTubers is an emerging phenomenon. This environment is created by individuals to promote their own products or to help others advertise products to their viewers through social media.

Many researchers define stickiness, but they all aim to replicate behaviors to specific media platforms [57]. In the context of pseudo-social interaction and YouTubers, stickiness can be described as viewers repeatedly browsing YouTubers' videos and spending more time than average viewers [58]. The connections created by pseudo-social interactions between viewers and YouTubers also generate stickiness, which is a result of emotional attachment and positively affects viewer motivation and behavior [59]. Therefore, viewers will be triggered to watch YouTubers' videos for extended periods of time due to increased pseudo-social interaction with the YouTubers to meet their needs for specific information or shared experiences. Therefore, this study proposes the following hypothesis:

Hypothesis 4 (H4): *Pseudo-social interaction between viewers and YouTubers has a significantly positive effect on viewers' stickiness to YouTubers.*

2.5. The Relationship between Viewers and YouTubers' Pseudo-Social Interaction and Viewers' Brand Attitude

According to Keller [60], brand attitude is one of the motives of customers taking purchasing action, and it is also the overall evaluation of the brand by customers. As a type of brand association, brand attitude should have a direct impact on brand image, including consumer perceptions of all associations [61,62]. The direct impact of brand attitude on brand image should carry over to the indirect impact on brand equity. Studies have shown that viewers' attitudes toward a particular brand influence the impression of the company the brand subsequently joins [63]. According to rational action theory, attitudes are composed of communications about brand attributes and strengths, and it is assumed that brand attitudes are influenced by brand awareness and brand image [64]. Positive and negative communication by viewers through social media and traditional advertising by companies can change customer attitudes toward a brand. Attracting customers through gamification activities in marketing activities such as advertising has also been found to be a useful tool to increase brand awareness, change consumers' brand attitudes, and ultimately influence consumers' purchase intentions [65]. Additionally, people in a positive mindset were shown to have more positive brand attitudes and a greater willingness to try advertised products than those in a negative mindset [66].

According to Fennell [66], all consumer behaviors are motivated, and there are four important characteristics of brand attitudes, which are described as follows:

- (1). The brand attitude depends on the current relevant motivation. Therefore, if buyers' motivations change, buyers' evaluations of brands will also change.
- (2). Brand attitude consists of perception and emotion. Cognitive or rational thoughts drive behavior, while emotional or emotional feelings motivate behavior.
- (3). The cognitive component consists of a set of specific interest beliefs, which is the sum of customers' perceptions, thoughts and impressions of the brand. As far as these are concerned, they are not attitudes, but reasons for brand attitudes.
- (4). Brand attitude is a relative construct. In almost any product category, people are looking for brands that satisfy underlying motivations relatively better than alternative brands. As long as there is a behavioral motivation, consumers will choose the brand from the products they know that best meets the consumer's motivation.

According to Lin et al. [67], pseudo-social interaction plays an important role in brand attitudes driven by social software YouTubers. When consumers have a pseudo-social interaction with their social media followers, it is possible to improve their brand attitudes toward products recommended by YouTubers. Zhang and Hung [68] stated that consumers' intimacy with YouTubers due to pseudo-social interaction will make consumers more inclined to adopt the brands or products they recommend because they will trust the words of YouTubers with intended social interactions, just as they trust the advice of friends, and take a positive brand attitude toward brands that are endorsed by YouTubers. When YouTubers show more real or everyday reactions when recommending or endorsing products, consumers will feel that YouTubers are like real people and feel like friends, thereby narrowing the gap between YouTubers and consumers and improving consumers' brand attitude.

Some studies have pointed out that when consumers establish pseudo-social interaction with YouTubers, they will have a positive attitude toward the celebrity endorsement of brands [69]. In a study by Lee and Watkins [69], it was described that when YouTubers are perceived as socially approachable, they have the illusion of being friends, and consumers may also have positive brand attitudes. Some studies have also shown that YouTubers who have pseudo-social interaction with their viewers are more likely to arouse consumers' closeness and resonance to the brand and help them form a positive brand attitude [70]. Therefore, based on the above literature, this study proposes the following hypothesis:

Hypothesis 5 (H5): *Viewers' pseudo-social interaction with YouTubers has a significantly positive impact on viewers' brand attitude.*

2.6. The Relationship between Viewers' Stickiness to YouTubers and Purchase Intention

Viewers' stickiness to YouTubers means watching videos longer and spending more time with them. Therefore, through the viewers' stickiness to YouTube viewers and satisfying the needs from the YouTube user's point of view, the environment can influence the purchase intention [71]. Ko and Wu [11] stated that YouTubers have the potential to attract a large number of viewers, and their subscribers have a high degree of stickiness to them, and through repeated viewing of their channels by viewers, they can increase their willingness to purchase products recommended by the YouTuber. Therefore, the higher the viewer's attachment to a YouTuber, the more able the YouTuber is to influence the viewer's purchase intention because, before buying a product, viewers may go to check the product's reputation and seek advice from YouTubers. The results of Lin et al. [67] pointed out that stickiness has a very critical effect on customers' purchase intentions. When a web user stays on a website longer, it means that he or she is sticking to the content of the website and has a positive impact on purchase intention. It shows that stickiness is an important key to promote transactions. When the industry can prolong the duration of each browsing session and the number of revisits of Internet viewers, it can increase consumers' willingness to purchase from the website. Another study pointed out that by increasing the number of times viewers browse the application and the time of each use, the increased stickiness will be regarded as one of the factors that increase the purchase intention of

the application [72]. Similarly, watching videos on a YouTuber's channel may trigger a viewer's desire to purchase the products or services recommended by YouTubers through subscribing to their videos and prolonging the continuous viewing time. Therefore, this study proposes the following hypothesis:

Hypothesis 6 (H6): *Viewers' Stickiness to YouTubers has a significantly positive impact on viewers' purchase intention.*

2.7. The Relationship between Viewers' Brand Attitude and Purchase Intention

According to Miniard et al. [73], purchase intention is an intervening psychological variable between attitude and actual behavior. Research has confirmed that if a consumer has a positive attitude toward a brand, it will significantly affect his purchase goals and willingness to pay a premium [74]. When satisfied customers have a positive brand attitude toward the company, they will spread positive word of mouth on online social platforms and influence other customers' willingness to buy the company's products. Therefore, when the brand attitude increases, it has a significant impact on consumers' purchase intentions [75]. The research of Lin, et al. [67] pointed out that consumers will have a better brand attitude toward products recommended by media characters, which will generate purchase intention. Wu and Lo [76] also indicated that factors such as brand awareness, core brand attitude, and consumer perception directly or indirectly affect consumers' willingness to purchase products. Lin [48] show that viewers have positive brand attitudes toward apps they find useful, and when brand attitudes increase, it also increases their willingness to purchase within apps. In addition, studies have also shown that, in social media, advertising of the nonalcoholic beverage industry and consumers' positive brand attitude toward the brand's SNS community postings are the biggest factors in determining purchase intentions, and in the apparel and Internet operator industries, it has an equal impact [77], so this study proposes the following hypothesis:

Hypothesis 7 (H7): *Viewers' brand attitude has a significantly positive impact on viewers' purchase intention.*

These research hypotheses can be summarized in the conceptual framework shown in the Figure 1:

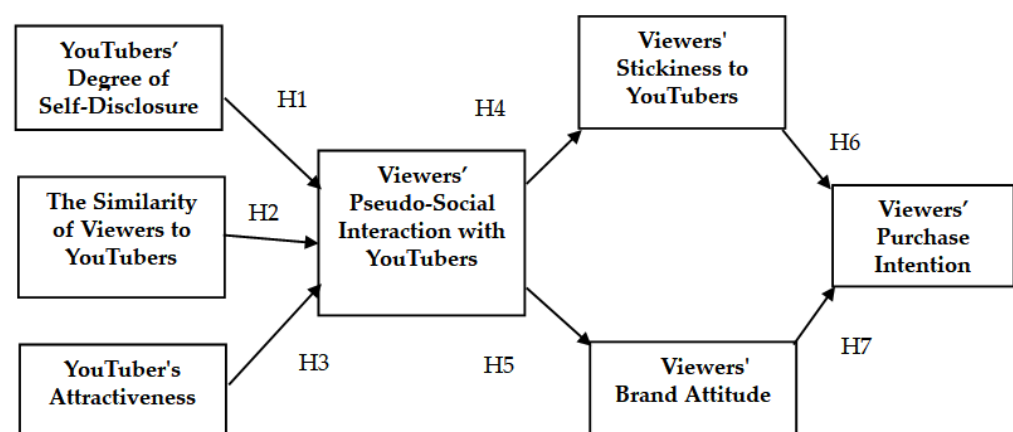


Figure 1. Conceptual Framework.

3. Research Methodology

3.1. Variable Operational Definition and Measurement

The operational definitions of self-disclosure, similarity, attractiveness, pseudo-social interaction, stickiness, brand attitude, and purchase intention are shown in Table 1.

Table 1. Operational Definition of Each Variable.

Research Variables	Operational Definition	References
YouTubers' Degree of Self-Disclosure	Refers to the extent to which a YouTuber voluntarily discloses information about himself/herself to viewers on a video or post.	[5,7,8]
Similarity of Viewers and YouTubers	Refers to the same traits or beliefs, etc., between the YouTuber and the viewer.	[21,78]
YouTuber's Attractiveness	Refers to the attractiveness of the YouTuber's appearance, the level of communication, and intimacy with the viewers and whether he or she can give viewers valuable and useful information.	[20,23]
Viewers' pseudo-social interaction	Refers to the viewers feeling connected with the YouTuber's personal relationship through the videos or posts by the YouTuber so that the viewers feel that they and the YouTuber are familiar friends.	[14,18,25–28]
Viewers' Stickiness to YouTubers	Viewers of YouTube come back to watch again and for longer.	[44,45,48,52]
Viewers' Brand Attitude	Tend to like or hate brands recommended by YouTubers.	[62,67]
Viewers' Purchase Intention	Viewers will be willing to buy YouTuber-recommended products.	[1,43,63]

3.2. Variable Operational Definition and Measurement

The research questionnaire designed in this study consists of three parts, namely, (1) the preface of the questionnaire, (2) the basic statistical data of the subjects, and (3) the measurement aspects of the research, including self-disclosure, similarity, attractiveness, pseudo-social interaction, stickiness, brand attitude, and purchase intention. The measurement scale of each question adopts the seven-point Likert scale to measure the degree of agreement of the respondents to the question. The options are strongly disagree, disagree, somewhat disagree, normal, somewhat agree, agree, very much agree, with 1 to 7 points given in order. The measure items of the research questionnaire are shown in Table 2, and the complete questionnaire is in Appendix A.

Table 2. Measure Items of Research Questionnaire.

Research Variables	Measure Items	References
YouTubers' Degree of Self-Disclosure	<ol style="list-style-type: none"> Information about this YouTuber is public. This YouTuber will not hide his relevant information (such as appearance, relationship, age, etc.). Get to know this YouTuber well through their videos. This YouTuber actively shares his life. 	[5,7,8]
Similarity of Viewers and YouTubers	<ol style="list-style-type: none"> This YouTuber has a similar idea to mine. This YouTuber matches my values. This YouTuber has similar preferences to me. This YouTuber has similar interests to me. 	[21,78]
YouTuber's Attractiveness	<ol style="list-style-type: none"> I think this YouTuber is very handsome or pretty. I think this YouTuber looks attractive. If there is a chance to meet, I think I can be friends with this YouTuber. I want to share mutual interests with this YouTuber. If this YouTuber was on someone else's channel, I would watch that video. When this YouTuber shows me what to think about a product, it helps me understand the product. 	[20,23]
Viewers' Pseudo-Social interaction	Refers to the viewers feeling connected with the YouTuber's personal relationship through the videos or posts by the YouTuber so that the viewers feel that they and the YouTuber are familiar friends.	[14,18,25–28]
Viewers' Pseudo-Social interaction	<ol style="list-style-type: none"> This YouTuber's videos show me what kind of person he is. This YouTuber makes me feel as comfortable as me and my friends. This YouTuber listens to viewers' voices and opinions. This YouTuber's channel has many opportunities for me to interact with him (such as: lottery draws, live broadcasts, meetups, etc.). 	[14,18,25–28]

Table 2. *Cont.*

Research Variables	Measure Items	References
Viewers' Stickiness to YouTubers	<ol style="list-style-type: none"> 1. I will stay on this YouTuber's channel longer than other YouTubers. 2. I will want to watch this YouTuber for longer. 	[44,45,48,52]
Viewers' Brand Attitude	<ol style="list-style-type: none"> 1. I have a good overall impression of this YouTuber's recommended brand products. 2. I have a good review of the products of this YouTuber's industry partner brand. 3. I love this YouTuber's brand of products. 4. I have a positive view of this YouTuber's industrial distribution brand products. 	[62,67,78]
Viewers' Purchase Intention	<ol style="list-style-type: none"> 1. I have a high probability of buying a product recommended by this YouTuber. 2. When there is a need to purchase, I will give priority to the information of this YouTuber. 3. In the future, I will most likely buy this YouTuber's product. 4. If given the chance, I plan to buy the product launched by this YouTuber. 	[1,43,63]

4. Empirical Results Analysis

In this study, questionnaires were distributed, the sample data were collected for analysis, and the hypotheses were verified. The results obtained from the questionnaire were sorted by Excel, and SPSS 24 and LISREL 10.3 were used as data analysis tools. Analysis of reliability and validity were performed as well.

4.1. Demographics

This research questionnaire was designed and distributed using the online questionnaire Surveycake website, and the distribution period was from 6 April 2022 to 12 April 2022. A total of 443 online questionnaires were recovered, of which 8 were incompletely answered, and the number of valid questionnaires after deduction was 435. Demographic variables in this study included gender, age, and education.

4.1.1. Gender

The majority of respondents in the valid sample size of this study were females, accounting for 63% of the total. The number of male respondents was accounting for 26% of the total number. In addition, 26 people did not want to disclose their gender, accounting for 6% of the total number.

4.1.2. Age

In this study, the age group of the respondents who were 15–24 years old was the largest group, with a total of 248 people, accounting for 57% of the total number. The

third-largest group was ≥ 45 years old, with a total of 57 people, accounting for 13% of the recovered samples. Among the samples, 35–44 years old were the smallest group, with 13 people in total, accounting for 3% of the samples.

4.1.3. Education

Among the education of the respondents in the valid sample, 35 respondents had a high school education, accounting for 8%; the respondents who were junior college students comprised the largest number of people, with a total of 252 respondents, accounting for 58%; and the number of respondents with master's and doctoral degrees was 144, accounting for 33% of the sample.

4.2. Analysis of Reliability and Validity

For any instrument to be considered useful, it must be both a reliable and a valid measure of each variable assessed. Reliability refers to the consistency with repeated trials and indicates the extent to which differences in measurement of data are attributable to random variability inherent in the testing method rather than to actual differences in each variable studied. Validity refers to how well the instrument truly assesses the characteristic it is intended to study. This is referred to as the instrument's accuracy or external consistency. In contrast to reliability, validity measures the nonrandom, systematic error inherent in an instrument. The correlation is often used as a way to measure reliability and validity.

4.2.1. Reliability Analysis

Reliability Analysis: Composite Reliability (CR)

Reliability refers to whether the measurement results are reliable and tests whether the regression results obtained by the constructs of multiple questions proposed in this study are consistent and stable. When the composite reliability (CR) value is larger, it means that the error of the test result is small, and when the result error is larger, the reliability will be smaller. Therefore, reliability can also be used to measure the degree to which the results are affected by errors. If the error is small, the same question items will be more consistent.

According to the research recommendations of Hatcher and Stepanski [79], the CR value should be above 0.7, while Fornell and Larcker [77] suggested that the CR value should be above 0.6 to indicate the reliability and consistency of the research questionnaire.

4.2.2. Cronbach's α

According to Nunnally [80] and Bagozzi et al. [81], Cronbach's α is used to measure reliability and internal consistency; that is, the degree of correlation between a group of items as a group and Cronbach's α is at least 0.7 or more. The results of Cronbach's α for this research questionnaire indicate a high degree of consistency, as shown in Table 3.

Table 3. Reliability and Validity Analysis Table of Individual Items.

Research Variables	Measurement Variable	Factor Loading	C corrected Item—Total Correlation	Cronbach's α	CR	AVE
YouTubers' Degree of Self-Disclosure	DIS1	0.71	0.676	0.841	0.841	0.571
	DIS2	0.73	0.682			
	DIS3	0.81	0.691			
	DIS4	0.77	0.660			
Similarity of Viewers and YouTubers	SIM1	0.73	0.702	0.883	0.885	0.660
	SIM2	0.75	0.718			
	SIM3	0.89	0.782			
	SIM4	0.87	0.752			

Table 3. Cont.

Research Variables	Measurement Variable	Factor Loading	C corrected Item—Total Correlation	Cronbach's α	CR	AVE
YouTuber's Attractiveness	ATT1	0.79	0.701	0.879	0.882	0.556
	ATT2	0.82	0.755			
	ATT3	0.71	0.674			
	ATT4	0.74	0.716			
	ATT5	0.74	0.672			
	ATT6	0.66	0.566			
Viewers' Pseudo-Social interaction	PSI1	0.75	0.645	0.904	0.861	0.556
	PSI2	0.83	0.735			
	PSI3	0.81	0.743			
	PSI4	0.61	0.556			
	PSI5	0.71	0.619			
Viewers' Stickiness to YouTubers	STI1	0.84	0.783	0.900	0.904	0.759
	STI2	0.89	0.829			
	STI3	0.88	0.799			
Viewers' Brand Attitude	ATD1	0.84	0.801	0.924	0.926	0.760
	ATD2	0.91	0.867			
	ATD3	0.89	0.834			
	ATD4	0.83	0.788			
Viewers' Purchase Intention	PUR1	0.88	0.836	0.940	0.940	0.796
	PUR2	0.87	0.825			
	PUR3	0.92	0.893			
	PUR4	0.89	0.844			

4.2.3. Validity Analysis

Average Variance Extracted (AVE)

The AVE value refers to the degree to which each question item can explain the average variation extraction. The higher the AVE value, the higher the correlation and consistency of the questions representing each construct and the higher the reliability and convergent validity. Fornell and Larcker [77] proposed that the AVE value should be greater than 0.5.2.

4.3. Discriminant Validity

In order to identify individual differences, the discriminant validity of individual and single research constructs is measured to detect whether there is duplication among research constructs. Therefore, this study focus on the comparison of the degree of correlation between different constructs. According to the research of Fornell and Larcker [77], it is proposed that the AVE value of each construct should be greater than the square value of the correlation coefficient between constructs. The results of this study using SPSS statistical software are shown in Tables 3 and 4. According to the research recommendations of Hair et al. [82], the Cronbach's α value of each item in this study is greater than 0.7, and the CR of each item is greater than 0.7. The values are higher than 0.7, and the AVE values are also higher than 0.5, which means that this study has high reliability. The discriminant validity of the variables in this study is shown in Table 4, indicating that the questionnaire in this study has good discriminant validity.

Table 4. Discriminant Validity.

	1	2	3	4	5	6	7
1. YouTubers' Degree of Self-Disclosure	0.756						
2. Similarity of Viewers and YouTubers	0.555 **	0.812					
3. YouTuber's Attractiveness	0.614 **	0.714 **	0.746				
4. Viewers' Pseudo-Social interaction	0.646 **	0.658 **	0.777 **	0.746			
5. Viewers' Stickiness to YouTubers	0.539 **	0.597 **	0.620 **	0.704 **	0.871		
6. Viewers' Brand Attitude	0.558 **	0.613 **	0.665 **	0.703 **	0.639 **	0.872	
7. Viewers' Purchase Intention	0.452 **	0.505 **	0.586 **	0.650 **	0.538 **	0.765 **	0.892

Note 1: The bold characters on the diagonal are the root of the AVE value of each facet, and the rest are the correlation coefficients. Note 2: ** $p < 0.01$.

4.4. Model Fit

In this study, the linear structural relationship model (SEM) was used to test the overall fitness of the model. Most of the fitness indicators must meet the judgment standards before the fitness of the model can be identified [82,83]. Bagozzi et al. [81] proposed that the sample size should be considered first and the Chi-square test and the degree of freedom numerical detection model fit. Most of the suggestions are that the lower the better. At the least, it needs to be lower than 5, and it is better not to exceed 3. Below 2 means that the model fit is quite good [83,84]. Browne and Cudeck's [83] point of view is that the goodness of fit index (GFI) and the adjusted coefficient of determination (adjusted goodness of fit index, AGFI) greater than 0.8 indicate a considerable degree of fitness. If the root-mean-square error of approximation (RMSEA) is less than 0.05, it indicates a high degree of fit, and if it is greater than 0.1, it is assumed that the model does not fit the data.

It can be seen from Table 5 that the Chi-square test of the model fit test result of this study is 1903.863, and the degree of freedom ratio (Chi-square/df) is 2.958. The GFI value is 0.765, and the AGFI value is 0.715. Both values are lower than the judgment standard of 0.8. Nevertheless, while working on SEM (structural equation modeling), even though the values for GFI and AGFI do not exceed 0.8 but are close to 0.8, they still meet the requirement suggested by Baumgartner and Homburg [84] and Doll, et al. [85]. In addition, because of both GFI and AGFI being very sensitive to sample size and having a certain degree of downward bias, they have been decreasingly trusted as fit indices, even to the point where researchers have recommended to disregard them [86–90]. The RMSEA value is 0.0985, which is less than the judgment standard of 0.1, indicating that the model has a high degree of fit. The NFI value of the relative adaptation index is 0.958, the CFI value is 0.966, the RFI value is 0.953, and the IFI value is 0.966; all are greater than the suggestion of 0.9. The PGFI value of the simple-effect index is 0.632, and the PNFI value is 0.962, both of which are greater than the criterion of 0.5. Summarizing the above discussion, the model fit indexes in this study have reached the standard, suggesting that the research test and the data have a good degree of fit and that the relationship between the questions and constructs in this research has a good explanation.

Table 5. Overall Model Fit.

Fit Index	Judgment Standard	Actual Value
Basic conditions		
Chi-square (df)		1903.863
Chi-square/df	<3	2.958
Absolute Fit Index		
GFI	>0.8	0.765
AGFI	>0.8	0.715
RMSEA	<0.1	0.0985
Relative Fit Index		
NFI	>0.9	0.958
CFI	>0.9	0.966
RFI	>0.9	0.953
IFI	>0.9	0.966
Simple Fit Indicator		
PGFI	>0.5	0.632
PNFI	>0.5	0.962

4.5. Mediation Effect Analysis

This study uses the module 6 of SPSS PROCESS developed by Hayes [90] to measure the mediation effect, and according to Hayes [90], the 95% confidence interval estimate and 5000 repeated sampling estimation method (Bootstrap) were used. The mediation effect of the established hypothesis was analyzed from the SEM results. In Table 6, it can be seen that the mediation effects of the three paths are all at a significant level, indicating that the degree of self-disclosure, similarity, and attractiveness indirectly affect brand attitudes through pseudo-social interaction as an intermediary, and the pseudo-social interaction has an indirect effect on purchase intention through brand attitudes.

Table 6. Mediation Effect.

Path								Effect	LLCI	ULCI
1	DIS	→	PSI	→	ATD	→	PUR	0.2357	0.1830	0.2915
2	SIM	→	PSI	→	ATD	→	PUR	0.2150	0.1634	0.2747
3	ATT	→	PSI	→	ATD	→	PUR	0.2158	0.1524	0.2915

4.6. Path Analysis

This study uses LISREL 10.3 software for hypothesis testing and analyzes the H1 to H7 hypotheses through a sample of 435 valid questionnaires. It was found that when the significant standard was set as $p < 0.05$ and t value > 1.96 , H6 (Adhesion → Purchase intention, $\beta = 0.8$, $t = 1.45$) does not hold, but the rest of the hypotheses are significant, as shown in Table 7; all the tested research hypotheses are summarized in the tested conceptual framework, as shown in the Figure 2.

Table 7. Results of Research Hypothesis Testing.

	Structured Path	Standardized Estimates	CR Values	Supported
H1	YouTubers’ Degree of Self-Disclosure → Viewers’ Pseudo-Social interaction	0.32	5.94	Supported
H2	Similarity of Viewers and YouTubers → Viewers’ Pseudo-Social interaction	0.13	2.28	Supported
H3	YouTuber’s Attractiveness → Pseudo-Social interaction	0.54	7.40	Supported
H4	Pseudo-Social interaction → Viewers’ Stickiness to YouTubers	0.81	14.69	Supported
H5	Viewers’ Pseudo-Social interaction → Brand Attitude	0.80	14.69	Supported
H6	Viewers’ Stickiness to YouTubers → Viewers’ Purchase Intention	0.07	1.45	Not Supported
H7	Viewers’ Brand Attitude → Viewers’ Purchase Intention	0.78	14.2	Supported

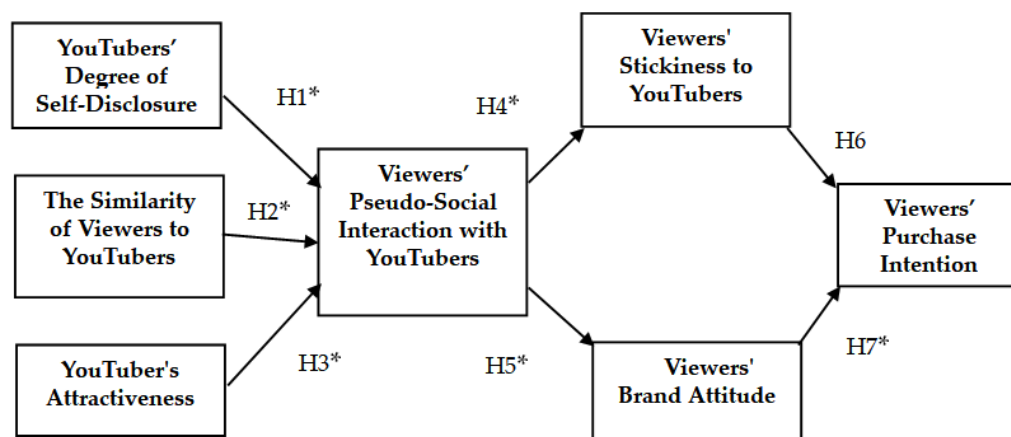


Figure 2. Tested Conceptual Framework. Note: * indicates the research hypothesis is supported.

5. Discussions and Implications

This section draws discussions from the research findings and describes managerial implications. First, the results of this study are shown, the differences between the results of this study and past research literature are compared, and the research conclusions are made by summarizing each impact. Then this study proposes the managerial implications of this study. Finally, the limitations of this study and suggestions for future research are provided.

5.1. Discussions

This exploratory study is among the first to provide a way to seek new insights into the relations between YouTuber and viewer behavior. The research makes a substantive contribution to the literature by confirming as well as disconfirming selected aspects related to the dynamics of YouTubers in social media marketing. As the current study tested the effects of the relationship between viewers’ pseudo-social interactions with YouTubers with

unique attributes on viewers' behavior, it makes a substantive contribution to the literature by offering new insights on how YouTubers could leverage their social media presence to be a successful marketing force.

5.1.1. The Effect of YouTubers' Degree of Self-Disclosure on Pseudo-Social Interaction

The results of this study show that when viewers watch YouTube, the degree of self-disclosure of YouTubers has a significantly positive effect on pseudo-social interaction, which is the same as the previous results of Auter [10]. Auter [10] stated in the study of pseudo-social interaction that the higher the degree of self-disclosure of the media characters, the higher the interaction between the media characters and the viewers watching the program, which will make the viewers imagine that they are friends with artists and stars. Combined with the results of this study, it can be seen that the more YouTubers who share their own messages or lives, the easier it is for viewers to feel that they are interacting with YouTubers and that they become friends with YouTubers.

5.1.2. The Effect of Similarity of Viewers and YouTubers on Pseudo-Social Interaction

Similarity of viewers and YouTubers has a significantly positive effect on the pseudo-social interaction when viewers watch YouTube, which is the same conclusion as that of Xiang et al. [12]. Xiang et al. [12] suggested when the similarity between people is higher, it means that people have similar interests, lifestyles, and tastes, making viewers more likely to exchange information with other people of similar interests and lifestyles. It can be seen from above that the higher the similarity between the viewers watching YouTube and the YouTubers, the higher the interaction between the viewers and the YouTuber, making the viewers feel that they are like friends with the YouTubers.

5.1.3. YouTuber's Attractiveness on Viewers' Pseudo-Social Interaction

YouTubers' attractiveness has a significantly positive effect on pseudo-social interaction when viewers watch YouTube, which is the same as what Rubin and McHugh concluded [4]. Rubin and McHugh [4] demonstrated that when performers have social, task, and physical attractiveness, they are able to interact with people more frequently, are more easily accepted by others, and form more intimate relationships. From the results of this study, it can be known that when viewers watch YouTube, if the YouTubers are attractive, it will increase the communication and intimacy between the YouTubers and the viewers, making the viewers feel closer to the YouTubers.

5.1.4. The Effect of Viewers' Pseudo-Social Interaction on Viewers' Stickiness to YouTubers

The results of this study show that when viewers watch YouTube, the pseudo-social interaction between viewers and YouTubers has a significantly positive effect on viewers' stickiness to YouTubers, which is the same conclusion as that of Li et al. [45]. Our results showed that the higher the pseudo-social interaction between viewers and YouTubers means the higher the viewers' stickiness to YouTubers, which is consistent with the results of the study by Vrontis et al. [91]. From the results of our study, it can be known that the higher the interaction and emotional connection between the viewers and the YouTubers, the higher the probability that the viewers will watch the YouTubers' videos for a longer period of time.

5.1.5. The Impact of Viewers' Pseudo-Social Interaction on Viewers' Brand Attitude

Pseudo-social interactions with YouTubers have a significantly positive impact on brand attitudes when viewers watch YouTube, which is consistent with the findings of Lee and Watkins [69]. Lee and Watkins [69] suggested that the higher the viewers' pseudo-social interaction with YouTubers, the higher brand attitudes consumers have toward luxury products used in YouTuber videos. This statement is consistent with the results of this study, which shows that the greater the emotional connection and trust between viewers

and YouTubers, the higher the ratings of brands and products recommended or used by YouTubers.

5.1.6. The Effect of Viewers' Stickiness to YouTubers on Viewers' Purchase Intention

The results of this study show that when viewers watch YouTube, viewers' stickiness to YouTubers has no significant effect on purchase intentions, which is inconsistent with research literature but could be the contribution of this study to YouTuber research literature. According to McCloskey [41], the longer consumers stay on a particular website, the higher the viewer's stickiness to the website, which in turn increases the viewer's purchase intention. However, research by Hu et al. [92] suggested that viewers' attachment to YouTubers is different from their attachment to websites. First, the user–websites relationship is an exchange relationship, focusing on rational evaluations of utility, cost, and benefit. In contrast, the viewers–YouTubers relationship is based on the viewer's self-investment in the external image of the YouTubers and emphasizes emotional and psychological reactions or responses. Therefore, the degree of stickiness may have different effects on the purchase intention.

Another possible reason why this study showed no significant effect is that the types of videos viewers watch on YouTube or the types of YouTubers watched do not necessarily have advertisements recommending viewers' products or brands, or the YouTubers do not run their own brands to sell, and not every video will have recommended products and industry-matching bridges. It may also be because some viewers do not like too many advertisements appearing in the video or they do not spend much time on YouTube's platform and they do not form a certain degree of adhesion to YouTube, thereby reducing viewers' interest in YouTubers and intentions to buy a recommended product or brand [93,94]. Therefore, if YouTubers want to increase viewers' willingness to purchase their recommended products, manage each video of the YouTube channel well, capture the viewers' attention, meet their required knowledge and content, and increase the number of views and exposure, the opportunity to increase the viewers' willingness to buy should be enhanced.

5.1.7. The Influence of Viewers' Brand Attitude on Viewers' Purchase Intention

The results of this study show that when viewers watch YouTube, brand attitude has a significant positive impact on purchase intention, which is the same as the conclusions of Schivinski and Dabrowski [95]. In the past research, the higher the evaluation and brand attitude of social media viewers in the brand community postings, the higher the purchase intention of the brand, which is consistent with the results of this research. Based on the results of this study, it can be known that the higher the evaluation and attitude of YouTube viewers toward YouTubers, the greater their willingness to purchase products or brands recommended by YouTubers.

5.1.8. Viewers' Stickiness to YouTubers, Viewers' Brand Attitudes toward Products, and Viewers' Pseudo-Social Interaction with YouTubers Are Mediating Variables

The results show that the degree of self-disclosure, similarity, and attractiveness indirectly affect brand attitudes through pseudo-social interaction as an intermediary, and the pseudo-social interaction has an indirect effect on purchase intention through brand attitudes. Although pseudo-social interaction between viewers and YouTubers, viewers' stickiness to YouTubers, and viewers' brand attitudes are pertinent to the gap between the degree of YouTubers' self-disclosure, similarity of viewers and YouTubers, YouTubers' attractiveness, and purchase intention, viewers' purchase intentions can be determined by the motivations behind them. This supports our argument that there may be a more complex mechanism involved; essentially, it might be rather challenging for firms to identify viewers' purchase intentions simply based on communication intensity and implementation engagement of YouTubers, triggering them to employ an additional mechanism to estimate the likelihood of a disparity between characteristics of YouTubers and implementation. On

the one hand, the degree of self-disclosure, similarity, and attractiveness lead to different levels of pseudo-social interaction between viewers and YouTubers and thus different viewers' stickiness to YouTubers and viewers' brand attitudes, separately; on the other hand, pseudo-social interaction between viewers and YouTubers may respectively kindle more concern about the viewers' stickiness to YouTubers efforts, which should not blindly increase or decrease YouTubers' communication and implementation.

5.2. Theoretical Implications

To our best knowledge, no studies in the research literature have explored the relationships between the degree of YouTubers' self-disclosure, similarity of viewers and YouTubers, YouTubers' attractiveness, and viewers' pseudo-social interaction with YouTubers and how these affect viewers' stickiness to YouTubers, viewers' brand attitudes toward products, and viewers' perceptions and purchase intentions of YouTuber-recommended brands and products. Viewers' stickiness to YouTubers, viewers' brand attitudes toward products, and viewers' pseudo-social interactions with YouTubers are mediating variables. The findings of this study largely complement the YouTuber research on pseudo-social interaction as an intermediary for the degree to which self-disclosure, similarity, and attractiveness indirectly affect viewers' brand attitudes and then affect viewers' purchase intentions. Likewise, the degree of self-disclosure, similarity, and attractiveness indirectly affect viewers' stickiness to YouTubers and then affect viewers' purchase intentions.

5.3. Managerial Implications

It can be seen from the research results that the degree of YouTubers' self-disclosure, similarity of viewers and YouTubers, and the YouTuber's attractiveness all have significant effects on viewers' pseudo-social interaction. Viewers' pseudo-social interaction also has a significant impact on viewers' stickiness to YouTubers and viewers' brand attitude. In addition, viewers' brand attitude also has a significant impact on viewers' purchase intention. The pseudo-social interaction between them will positively affect viewers' brand attitudes and purchase intentions. For example, YouTubers can put more Q&A in the video, provide the viewers with questions to let the viewers know more about themselves, and share more of their private life in the video. This will increase the YouTubers' degree of self-disclosure. In addition, live interaction, lottery, or meet-and-greet, etc., deepens the intimacy and connection with the viewers and the viewers' trust in YouTubers; this will also improve the pseudo-social interaction with the viewers and will also produce better YouTubers, increasing the higher viewers' brand attitudes and purchase intentions.

Today, the YouTuber culture of competition on the YouTube platform is becoming fiercer, and the replacement rate is also very high. Therefore, it is necessary to pay more attention to improving YouTubers' attractiveness and stickiness. The ability to deepen the interaction with the viewers and hit their viewing needs can often gain more viewer stickiness and more positive brand attitude, which is also true in the results of this study. YouTubers must have good interaction and provide accurate content that viewers want to watch, which will help to gain higher views and increase viewers' positive brand attitudes.

The results of this research show that since YouTubers' videos can attract viewers to watch and meet the needs and knowledge content, thus enhancing viewers' brand attitudes and purchase intentions when watching the YouTuber's videos. If a YouTuber can provide viewers with higher levels of interactivity and allow viewers to more naturally integrate the part of the industry product distribution into the video when watching the video, it will improve the viewers' acceptance of industry distribution, and the viewers will have the opportunity to purchase YouTubers' recommendations for the future products and brands. Recommending them to others will also prolong the viewing of the YouTuber's videos and leave a good impression and evaluation, which has a positive impact on purchase intention.

Finally, these findings can help managers to identify the characteristics of YouTubers and viewers' motivations for their purchase intentions and to speculate on their impacts on subsequent YouTuber communication and implementation. This study may help managers

to become more aware of the factual disparity between what YouTubers say and what they do, which will be identified sooner or later.

6. Research Limitations and Future Research

The research limitations and future recommendations of this study can be summarized as follows:

1. In the questionnaire of this research, many responses were received saying that the type of YouTubers they watched did not recommend any products, nor did they purchase YouTubers' products.
2. Some of the viewers who watch YouTube are not motivated by shopping or looking for product information. If they follow YouTubers who share specific product categories, they may have a stronger purchasing motive. For example, if viewers follow beauty YouTubers, viewers may want to learn the purchase information of cosmetics, or viewers want to know which cosmetics are recommended by YouTubers, which then affects the viewers' purchase intentions.
3. More direct purchase methods can be provided on YouTube; for example, Instagram has recently added a small box or a direct purchase page to give consumers a more convenient website page, which may increase the viewers' willingness to purchase.

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Appendix A

Questionnaire.

Exploring the Characteristics of YouTubers and Their Influence on Viewers' Purchase Intention: A Viewers' Pseudo-Social Interaction Perspective

YouTube's market competition now surpasses traditional media and influences viewers' purchase intentions; we wanted to understand people's preferences for watching YouTube videos and their consumption habits. **Please fill in the answers according to the YouTuber you are most concerned about, and be sure to answer each question to ensure the integrity of the questionnaire. Answers to this questionnaire are anonymous, and the results are for academic research purposes only, and personal information will be kept strictly confidential, so please feel free to answer.**

All the best,

Department of International Business, Tunghai University, Taiwan, China

Supervisor: Prof. Dr. Li-Wei Wu

Graduate Student: Ji-Ping Wu

Part 1: Your personal information (please click the corresponding box and we emphasize again that your personal information will be kept strictly confidential).

1. gender
 Male Female
2. age
 Under 18 18~25 years old 26~30 years old 31~35 years old 36~40 years old
 41 years old and above
3. education level
 Junior high school (including) or below High school (vocational) University (special) Graduate or above
4. Average monthly income (NTD)
 RMB 9,999 or less RMB 10,000~19,999 RMB 20,000~29,999 RMB 30,000~39,999
 RMB 40,000~49,999 RMB 50,000~59,999 or more
5. Profession
 Students Technology Service industry Manufacturing Financial industry Military public education Mass communication Health care Retail industry Design industry Agriculture, fishery, animal husbandry, forestry and mining Housekeeper Unemployed Others
6. How much time do you watch YouTube every day?
 Less than 1 h 1~2 h 2~3 h More than 3 h
7. What type of YouTube do you follow most often ? (Three options need to be sorted)
 Beauty fashion type Gourmet cuisine type Parent-child entertainment type Tourism type Life entertainment type Game competition type Knowledge education type Pet cat and dog type
8. What qualities do you value most about a YouTuber? (Please choose one to three options)
 Beauty fashion type Gourmet cuisine type Parent-child entertainment type Tourism type Life entertainment type Game competition type Knowledge education type Pet cat and dog type
9. Will you like or comment on YouTube videos ?
 Never Seldom Normal Often Definitely
10. Have you ever purchased products recommended by YouTube or launched by them?
 Never bought Bought once Bought two to three times Bought four to six times Buy often

Part 2: Please choose the types of YouTubers who you usually follow, including those who have careers or promote products. To answer the following questions, please choose the number 1-7 that is closest to your opinion (1 = disagree completely; 7 = agree completely). The closer the number you choose to 7, the more you agree with the statement.

4.	I have a positive opinion on the products of the brand recommended by this YouTuber.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Purchase Intention		Strongly Disagree	Disagree	Slightly Disagree	Ordinary	Kind of Agree	Agree	Very Much Agree
1.	The odds are high that I will buy the product recommended by this YouTuber.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	When I need to buy, I will give priority to the information of this YouTuber.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	In the future, I will most likely buy products recommended by this YouTuber.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	If given the chance, I intend to purchase the product launched by this YouTuber.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This concludes the questionnaire. Thank you very much for your answer.

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