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**How does trolling behavior influence user's decision: The role of self-identity**

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## **Abstract**

Recently, the subject of negative online word-of-mouth has attracted great attention. Trolling behavior, a specific type of negative comment, is not restricted by the physical world's limitations. Trolling describes various behaviors, including caustic comedy, abusive speech, and gentle teasing. Most experts and organizations worry that these negative comments will tarnish and negatively affect their brands. Nevertheless, real-world events show that brand advocates, and customers with solid self-identity, oppose negative word-of-mouth. They affiliate with their brands and initiate a self-defensive mechanism against negative comments. As a result, negative online word-of-mouth may favorably affect consumers with a strong sense of self-identity.

Based on current findings in social identity theory, this study presents a conceptual framework for investigating the consumer's decision-making process. Under the threat of trolling behavior, the objective is to reveal the critical determinants of their purchasing intention. Furthermore, it is proposed that self-identity (fan identity specifically in this context) threat influence purchase intention at three levels: personal intent to purchase, public willingness to purchase, and brand cause. Two experiments were designed and performed to test the hypotheses. According to this study, self-identity and negative emotions are significantly linked with trolling activity (vs. positive condition). Trolling interacts with participants' self-identity affecting their purchasing behavior. These findings provide a framework for analyzing consumer decision-making and reconciling the literature's contradictions on the relationship between self-identity threat and consuming behavior by giving evidence on the significant impacts of self-identity and trolling behavior threat. The results further contribute to understanding how consumer perceptions of threats to their self-identity may influence their purchasing behavior by conceptualizing the mediating role of negative emotion and providing scientific evidence. Lastly, considering the growing popularity of social media consumption, this study also assists businesses in strengthening their market strategies.

**Keywords:** social identity theory; trolling behavior; identity threat; defense mechanism

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## Chapter 1: Introduction

*No man is an island entire of itself; every man is a piece of the continent, a part of the main.*

— John Donne

### 1.1 Research Background

The emergence and development of the World Wide Web have significantly influenced how people interact, communicate, and consume information. The line separating social consumption and entertainment is blurry with the increased use of social media platforms like Facebook, Twitter, and Instagram. Through User-generated content (UGC) and Market-generated content (MGC), online shopping offers the convenience of purchasing from any place, a range of possibilities worldwide, lower pricing, and the efficiency of only a few clicks. Moreover, it has shaped how brand, product, and service-related information is shared and communicated. Users acquire information effectively using visual content such as photographs or videos while interacting with other internet users via social media channels or third-party websites (Zhang et al., 2014).

In modern society, the goal of consumption has been enriched to include both meeting basic requirements and expressing individuality. Consumption extends far beyond the search for its functional values. It is commonly used to convey concepts, express status, and create and maintain identity. Consumer anxiety stems from a feeling of inadequacy and a threat to one's identity, which leads to a wide range of purchase behaviours due to recent, partially significant societal changes. Trolling behaviour, which refers to unpleasant but harmless online behaviours that can be either provocative, humorous or socially harmful and deviant, has grown to be a significant threat on the social internet. Statistics indicate that 37% of young people between 12 and 17 years old have experienced internet bullying or trolling. Also, 30% have experienced it more than once (Bharti et al., 2021). Instagram is the social media platform where the majority of young people report cyberbullying or trolling, with 42% of those surveyed reporting harassment on the platform (*11 Facts About Cyberbullying*, n.d.). Among those victims is a special category of celebrities who combine psychological and commercial effects. When a celebrity encounters a reputation problem due to trolling, the online community reacts strongly, despite their popularity. Under the threat of trolling, consumer behaviour differs based on their different social infinity, which eventually results in different purchase decisions. As a result, it is generally accepted that trolling has a variety

of negative consequences, ranging from mental discomfort to financial loss. Nonetheless, trolling can also favor a celebrity or a brand. In 2018, Ryan Reynolds used trolling to turn adversity into an opportunity for fun and connection with his friends. Also, in 2019, McDonald boosted their positive customer sentiments by responding promptly to comments about their food quality and nutritional value. These instances leave room for more research.

On the other hand, the positive impacts of trolling could be explained through the lens of Social Identity Theory (Tajfel & Turner, 2004). According to the seminal definition of self-identity, the self is constructed by traits, values, physical characteristics, and personal ambitions, as well as by individuals close to them and objects essential to their identity (James, 1890). In other words, when self-aspects are threatened, people must defend themselves as they would defend their physical or psychological properties. The behavior may also be the reason why fans of celebrities defend or protect them spontaneously when trolls attack them.

## **1.2 Research Question**

Many studies have evaluated the damaging impacts of negative word-of-mouth on brands from a business or marketing perspective. These studies have shown that consumers' future decision-making, perceptions of risk, and confirmation biases all impact how severely word-of-mouth affects brands (Goh et al., 2013). Trolling behaviour is typically regarded as more damaging, disruptive, and detrimental to online social communities since it is a specialized form of negative comment (Cruz et al., 2018). However, recent studies started investigating the potential benefits of trolling comments and discovered that these benefits might exist in some circumstances. Researchers have discovered that some trolling comments can boost debate and recognition of this brand (Allard et al., 2020), strengthen online communities, foster customer commitment and empathy, and ultimately improve sales and product usage (Ahluwalia et al., 2000). Therefore, considering the importance of a psychological reaction to the decision-making process could change the outcomes. For this reason, this research will answer the following question (RQ):

**How does self-identity impact negative emotions and willingness to purchase under the threat of trolling behaviour?**

Therefore, the possible results derived from two opposite perspectives are:



**Self-identity leads to more willingness to purchase under the threat of trolling behaviour.**

**Self-identity leads to less willingness to purchase under the threat of trolling behaviour.**

Based on the above, this paper investigates the consumer decision-making mechanism under trolling behavior using the celebrity entertainment industry as an empirical study, combining social psychology and consumer sociology. This study aims to answer the above research question by investigating the impact of self-identity on the user's willingness to purchase under the threat of trolling behavior and the mediation impact of negative emotion, using a  $2 \times 2$  experimental design administered via online questionnaires. To be noted, the self-identity measured in this article is fan identity in the context of entertainment and celebrity industry. This article is structured as follows: Chapter 1 introduces the research background, significance, and methodology used in the subsequent study.

Chapter 2 presents the key and detailed concepts studied in the previous research that identified the existing literature gaps.

Chapter 3 presents the theoretical model and hypothesis of self-identity threat on user purchase intention. The research model was established and discussed based on the literature review and summary in Chapter 2.

Chapter 4 presents the main study and data analysis—experimental methods used to analyze and justify the significance of models and hypotheses.

Finally, Chapter 5 is the conclusion that summarizes the whole study, including the findings along with the contributions, limitations, and future opportunities.

## Chapter 2: Literature Review

### 2.1 Introduction to literature review

User-generated content (UGC) refers to various online content, such as images, videos, and social media updates on platforms like Instagram. UGC enables people to share their desired content, including news, personal opinions, and online products (Krumm et al., 2008). Also, it permits easy and quick contact between geographically and temporally distant people and bridges the gap between celebrities and their fans. According to Grand View Research, UGC has grown recently. The UGC market is estimated to be worth \$3.58 billion by 2021. The compound annual growth rate (CAGR) is projected to be 26.6%. (*User Generated Content Platform Market Size Report, 2028, 2022*). Using Instagram as an example, Cristiano Ronaldo has 442 million followers and the highest-ever possible revenue, earning an average of \$2.3 million per post (2021, eMarketer).

The anonymity offered by the internet can encourage unethical online behavior, making UGC a haven for trolling. Therefore, it serves as a breeding ground for unpleasant online behavior, whether motivated by actual or perceived danger, such as trolling. As digital media develops, there is an increase in celebrity online trolling (Sun & Fichman, 2018). Trolling corresponds to the ease individuals can use social media to express themselves publicly. These online trolls hide behind their computers and spew ideas, but their disruptive remarks and intense animosity have real-world repercussions. Haters will hate, but not all will hate in the same way. Some internet trolls are relentless, targeting the glamorous lifestyles and vibrant faces of the wealthy and famous. For instance, Selena Gomez experienced problems with her mental and physical health due to trolling. Adele often received many unpleasant comments on Twitter, including threats of death, criticisms of her appearance, and jokes about postpartum depression.

A brief introduction to UGC-based trolling behavior will be given in this chapter. What's more, this chapter also addresses the basic concept of the Social Identity Theory put out by Tajfel and Turner through the trolling of celebrities. The mechanism by which users' online decision-making is influenced by their favorite celebrities is then explained based on this premise. It then examines trolling behavior and how users respond when they witness their favorite celebrity being harassed online. The review highlights areas where research is needed to understand online users' reactions and behaviors better.

## **2.2 The characteristics and impact of trolling behavior in UGC**

Online communities need user contributions through posts, comments, and sharing to succeed. Users now frequently review other users on social networking sites like Facebook, Twitter, Instagram, and similar platforms by posting comments, likes, and dislikes. These online communities promote user interaction and discourse, heightening the sense of familial connection, loyalty, and commitment. Due to their anonymity and the lack of regulations for internet UGC, some inappropriate behaviors can be detrimental to the community and other users despite the vast majority of users being generally kind and complying with the rules. The tendency of people to act more recklessly in their online contacts has worsened a surge in anti-social behaviors such as bullying, flaming, and harassment. Simple rumors and serious violations like verbal abuse and threats to the safety of others are examples of anti-social behavior (Cheng et al., 2015). From ordinary users to celebrities, research shows that these anti-social practices are pervasive and linked to adverse effects such as mental health issues (Doane et al., 2020).

A few studies have focused on how users perceive and act when they see these anti-social behaviors. However, many studies have looked into mechanisms to detect anti-social behavior, such as algorithmic ranking or community moderation, to discourage and hide undesirable content (Hsu et al., 2009).

### **2.2.1 Definition of trolling behavior**

A particular anti-social conduct known as a troll that developed from the concepts of fishing is one of the many anti-social behaviors. In slang, a troll makes mean, fake, off-topic, rambling, or irrelevant remarks in real life or online (in social media, websites, chat rooms, or online video games) to stir up emotions or distort their perceptions. These behaviors are frequently carried out for amusement or to achieve a particular objective, such as interfering with other users' online activity or purposefully upsetting or harming other users (Buckels et al., 2014).

The definition of trolling for scholars varied in different contexts of trolling behaviors, even though there have been an increasing number of empirical studies on the practice since the 20th century. In previous research, trolling has been examined from the perspectives of several diverse academic disciplines, including information systems (Graham, 2019), psychology (Craker & March 2016), cultural studies (Hardaker, 2010), and gender issues (Sanfilippo et al. Various definitions emerged from those studies, each with a specific focus and context. Scholars still disagree on how to define or operationalize it despite decades of research intended to develop typologies, shed light on the

intentions and motivations of trolls, and develop the framework to invest broader implications of this phenomenon. Therefore, given the wide range of theoretical frameworks, environments, and sample frames, comparing studies on trolling is highly challenging.

While there is a wide range of research on trolling behavior, most focus on deviant and harmful activities. According to the most generally accepted definitions, trolls participate in unpleasant but non-harmful online activities that can either be provocative (Hardaker, 2010), amusing (Phillips, 2011), or socially harmful and deviant (Sanfilippo et al., 2017). Hardaker analyzed the words of trolls under the four connected circumstances of aggression, deception, disruption, and success using a 172 million-word corpus from a public website. Hardaker defines trolling as an attempt to disrupt a specific community while maintaining a sense of sincerity or innocence. The troll may be humorous cunning, dishonest, hostile, unexpected, or impolite to provoke. (Ortiz, 2020; Phillips, 2011)

Studies on trolling behavior have varied focal points, including reasons (Bishop, 2012), perceptions or reactions (Sanfilippo et al., 2017), across multiple communities and platforms (Bishop, 2013), as well as distinct cultural and demographic backgrounds (Sanfilippo et al., 2017). Considering this data as a basis, Ortiz redefined the trolls as group behaviors (Ortiz, 2020). In Ortiz's view, social identity is combined with online trolling activities to create a collective kind of harassment that transcends individual action. This idea is backed by Fichman, who used Chinese social media as an empirical study and described trolls as a collective and socio-technical phenomenon with context-dependent characteristics shifting from one group to another. The foundation of this article's investigation into the relationship between social identity and trolling behavior was established by Graham, who introduced a new concept of boundary maintenance based on social group identity. Graham stated that trolling begins as a type of boundary maintenance that helps to separate online communities of self-identified insiders from those outsiders and to eject outsiders from their group.

The term "trolling behavior" in this thesis refers to annoying but non-harmful online behaviors that can be either provocative, hilarious, or socially harmful and deviant, which helps to distinguish online communities of self-identified insiders from those outsiders and to eject outsiders from their group. This thesis integrates the earlier and later approaches.

### **2.2.2 Development and the manifestation of trolling behaviour**

The emergence and increasing use of online communities coincide with the beginning of the academic practice of trolling behaviour in the late 1980s among users (Internet Slang, n.d.). Online users now frequently interact with one another via forums, chat, and email since the 1980s. Additionally, instances have been viewed as abnormal, hostile, and aggressive (Cruz et al., 2018). The original meaning of the English word "troll" dates back to 1610 and refers to an ugly dwarf or a colossal monster. Beginning to be used as a term for fishing in English, "trolling" involves dragging the lure slowly from a moving boat. In the late 1980s, the word "trolling" first surfaced on the internet. This early internet trolling was typically harmless because it consisted of individuals posing absurd questions to see if other users would believe them and take them seriously. Because new users were more likely to respond, this trolling frequently sought out new users (Cruz et al., 2018). With the growth and acceptance of online communities, the term "trolling" has taken on a meaning that is now familiar to us. It now refers to a variety of anti-social user behaviours and reactions.

Early scholars equated trolling to flaming, but with the widespread usage of new online media, any user-generated content that directly disparages another person is considered trolling. With the growth and widespread use of online social media, the phrases "troll" and "trolling" have also gained notoriety for being used to characterize a variety of anti-social behaviours and anti-social overlap with cyberbullying (Cheng et al., n.d.). Additionally, "trolling" has become an umbrella term for hostile online conduct (Hardaker, 2010). The distinctions and connections between trolling and other online anti-social behaviours, cyberbullying, and hacking must be fully understood by researchers (Cruz et al., 2018). According to Fichman (Sun & Fichman, 2018), trolling always occurs between anonymous users online to hurt another party and amuse others to attract attention (Schwartz, 2008). In contrast, cyberbullying occurs when a victim and a cyberbully share a pre-existing relationship.

Scholars also focus on "flaming," which refers to using obscene or violent language when posting insults online (Flaming Definition, n.d.). These two words are synonyms that have a lot in common. Due to the combination of these two terms, researchers coined the term "flame trolling" (Bishop, 2013). Flame trolling is posting offensive or inflammatory statements to online discussion forums. In conclusion, even though researchers have worked to establish and uphold a distinct line between trolling and other online anti-social activities, certain "gray zones" persist.

Understanding trolling's manifestation also depends on the context and background of the person in question. The characteristics of the surroundings in which trolling behaviour takes place determine how it is communicated and received. Some psychologists hypothesized that trolling is linked to unfavourable personality attributes, such as sadism, psychopathy, or Machiavellianism, defined by cunningness and deception in day-to-day interactions (Buckels et al., 2014). Sociologists say researchers always consider misogyny, bigotry, racial prejudice, or xenophobia while studying trolling behaviour. According to media expert Karla Mantilla (Mantilla, 2013), gender-trolling, or trolling based on gender identity, is "a relatively new kind of virulent, more threatening online phenomenon than the generic trolling described by Phillips (2011)." (Cruz et al., 2018). Trolls are increasingly linked to specific economic settings, such as online gaming groups, travel companies, or celebrity fan networks. Cook et al. (2019) examined online user trolling interactions using the well-known game "League of Legends" as an example.

Additionally, he asserted that victims, spectators, and perpetrators could quickly switch between their respective positions (Cook et al., 2019). This conclusion is in line with that of Sun and Fichman (2018), who looked at the sociocultural background in China and looked into the function of collective trolling in concentrating on celebrities in particular (Sun & Fichman, 2018). As they have implications for the management and governance of online communities, these varied phenomena that arise in many digital contexts are receiving more and more attention. As a result, the significance of trolling in business-consumer interactions has shifted, necessitating managers to pay more attention to this new type of material flow in communications and exercise greater vigilance while regulating and managing their online communities. Also, one of the primary points of the article.

### **2.2.3 Trolling behaviour toward celebrities**

Few studies have investigated trolling behaviour in fan groups, yet much online trolling happens toward celebrities. Celebrities are frequently subjected to trolls because of their unique personas and traits, and they frequently experience more significant harassment and harsher attacks than other online users. Trolling grows more severe when disgruntled admirers of celebrities pay armies of online mercenaries to target rival celebrities for alleged slights. Few researchers, nevertheless, expressly look into trolling practices in celebrity contests.

The most relevant one is from Sun & Fichman (2018), who studied the trolling behaviour on Sina Weibo, a popular social media platform in China. Using a mixed-methods approach, they examined thousands of posts and comments on the PG One case on Sina Weibo. Chinese rapper PG One has gained notoriety in recent years. Despite receiving a lot of sympathy from his followers, he was nevertheless attacked for his offensive and humiliating lyrics. Their research expanded on the earlier definition of trolling as an individual's behaviour to include organized group behaviour in which various stakeholders, including bystanders, victims, and trolls, participate. The roles of these different stakeholders also altered as the trolling events progressed, revolving between trolls, victims, and spectators, which is also consistent with the traits of fan clubs. In conclusion, the concept that trolling is a collection of collective behaviours rather than this literature supports an individual's solo action. Furthermore, trolling is a dynamic activity that can take on various forms. Based on that, the remainder of the article will examine fan group responses to and perceptions of trolling.

## **2.3 Social identity theory**

Humans are social creatures by nature. As John Donne said, "No man is an island entire of itself; every man is a piece of the continent, a part of the main." Our daily behaviors are influenced by different cultures, groups, and atmospheres, making it challenging to investigate user behaviors through an individual. Therefore, examining the impact of trolling behavior in a collective group of the online user base is essential. The following sections of the literature will address how online fans of the trolled celebrities perceive and react using the Social Identity Theory (SIT) established by Tajfel (Tajfel et al., 1979) in the 1970s and Turner in the 1980s (Turner & Oakes, 1986).

### **2.3.1 Definition and development of social identity theory**

Social Identity Theory, established by social psychologists Henei Tajfel and John Turner in the 1970s and 1980s, postulated the theory to explain intergroup behavior (Tajfel et al., 1979). According to Tajfel (1979), social identity is an "individual's knowledge that he belongs to certain social groups together with some emotional and value important to him for being one of the members of this group." which is the basis of the theory. Initially, social identity primarily focused on intergroup relationships. Tajfel defined one's self-concept in a group and how one will be considered and responded to within and outside the group. As a result, when people compare their

group to an outside group, they make sure that their group is exceptional, clearly distinguished, and perceived more favorably than the outsiders. (Tajfel et al., 1979).

After developing the initial definition of social identity, Tajfel and Turner proposed three mental stages in evaluating others as "in-group" or "out-group." Social categorization, identification, and comparison (Tajfel et al., 1979) occur in order. The first is self-categorization; people cognitively construct human groups as prototype connected qualities, such as views, behaviors, clothes, and so on, that convey overall similarities within groups and differences outside the groups (Turner & Oakes, 1986). For example, social categories like black, white, Australian, Christian, student, and bus driver distinguish the in-group from the outside group because of their benefits.

Secondly, social identity processes are associated with motivations, focusing on positive intergroup characteristics and self-enhancement (Tajfel & Turner, 2004). The most classic feature is that in-group members are motivated to protect or encourage the belief that "we" are better than "them." Pursuing a positive social identity may define the fundamental human motives for self-enhancement and -esteem protection (Sedikides & Strube, 1997). Many sub-theories develop from this, the first of which is the *self-esteem hypothesis* (Hogg & Abrams, 1988). This hypothesis claims that group-based self-esteem is more strongly related to social identity processes and phenomena than individual-level self-esteem. Second, he suggested that when one feels uncertain about the outside world, one will want to eliminate uncertainty about perceptions, attitudes, feelings, and behaviors in line with the *Uncertainty-identity hypothesis* (McKimmie et al., 2009). The third one is *optimal distinctiveness* (Leonardelli et al., 2010), which is closely related to uncertainty reduction than self-enhancement. Leonardelli defined it as an attempt to balance two conflicting motivations for inclusion satisfied by group membership and distinctiveness (fulfilled by individuality).

The last phase involves social comparison. It is common practice to engage in group comparisons following the identification and classification of oneself as a member of a particular group. According to Goethals (1986), a group must perform favorably to uphold self-esteem. Understanding prejudice is of utmost importance as it leads to two groups developing a sense of rivalry and competing to maintain their self-esteem. Therefore, conflict and hostility between groups competing for resources result in competition for self-esteem to win identities.

Moreover, Social Identity Theory has several empirical implications in our social and economic life, which can forecast and assess behavior in numerous situations and groups. The study



conducted by Zeugner-Roth et al. (2015) examined the impact of consumer ethnocentrism, national identity, and cosmopolitanism on evaluations of products and their tendency to purchase domestic and foreign products. Verlegh (2007) suggests that countries view their homeland as their main in-group, while foreign countries are perceived as out-groups. The application of Social Identity Theory is prevalent in explaining the conduct of fans in sports, politics, or entertainment. Individuals highly value the preservation of self-identity as a member of a particular social group, leading them to prioritize it over their financial interests, as per the findings of Morewedge et al. (2018). Drawing upon the examples of political partisans and sports enthusiasts (members of the Republican and Democratic parties or followers of Major League Baseball and the National Collegiate Athletic Association): Morewedge discovered that individuals exhibit an unwillingness to wager on the possible decline of their respective party or team due to the diagnostic expense that such a bet would impose on their sense of identification. For example, a significant proportion of NCAA basketball and hockey enthusiasts, precisely over 45%, opted to forego a legitimate complimentary chance to earn \$5 if their favored team suffered defeat in their forthcoming match. The results above establish a basis for exploring a distinct social identity: fan identity.

### **2.3.2 Fandom as a kind of social identity – Fan Identity**

Tajfel and Turner suggest that individuals incorporate social memberships into their self-concepts when identifying as members of particular groups (Tajfel & Turner, 2004). Individuals may tend toward in-group favoritism to maintain a favorable social identity and preserve their self-worth. They exhibit a preference for and prioritize the interests of their group while simultaneously displaying hostility towards out-groups, despite the lack of any inherent necessity to do so. Social Identity Theory may clarify the conduct and psyche of individuals who identify as fans. These individuals establish a common identity through self-categorization as a follower of a particular celebrity, leading to a feeling of inclusion and acknowledgement. This internalization of fan identity as a component of self-identity is consistent with the definition of a fan, which characterizes such individuals as passionate, zealous, and dedicated enthusiasts of a particular interest (Reysen & Branscombe, 2010).

Recently, there has been a growing academic interest in fan identity, leading to specialized terminology such as "fandom" and "fanship" to describe this phenomenon. The concept of "fandom" pertains to a person's psychological connections with other enthusiasts who share the

same interest in a particular subject (Reysen & Branscombe, 2010). In contrast, "fanship" refers to an individual's psychological commitment to their interest as a fan (Schroy et al., 2016). Many studies have dedicated the examination of fandom within alternative contexts. Reysen and Branscombe compared individuals who identify as sports fans and those who do not. The study showed a positive correlation between fanship and fandom, indicating that these are distinct constructs. According to Reysen and Branscombe's (2010) research, individuals who share a common interest in sports perceive themselves and others who share this interest as part of the same group, thereby sharing a significant group identity. The emergence of digital media has sparked the interest of scholars in the realm of media fandom. Groenen and Hettinger (2016) conducted an empirical study utilizing Harry Potter and Twilight as subjects. The study revealed that highly identified fans engaged more in the fan task than weakly identified participants. The findings indicate that media fandoms exhibit comparable characteristics to other social collectives. Members manifest a heightened awareness of group classification and the psychological benefits and drawbacks associated with their involvement in the particular media fandom they have chosen. Obst, Zinkiewicz, and Smith (2002) discovered that science fiction enthusiasts rated their fan community more favorably in terms of belongingness, emotions, connection, identification, shared values, influence, and overall sense of community when compared to their neighbourhood as the referent.

Furthermore, celebrities are a well-known subject for academic study. Laffan investigated the benefits and fandom among K-Pop (Korean pop culture) followers. Increased pleasure, self-esteem, and social connectivity were substantially predicted by K-Pop fandom (Laffan, 2021).

According to Reysen and Branscombe (2010), fandom is a dynamic experience that depends on the fan's interests. The presence of fan culture in society and group identification, in general, have been linked to fandom (Reysen et al., 2013). For instance, K-Pop fans regularly interact in online communities and groups (Kim et al., 2017), broadening the context to include other nations' celebrity cultures.

The study of fan identity has gained attention among scholars, emphasizing the development of methodologies to evaluate fandom and fanship. Reysen and Branscombe (2010) developed the Fanship Scale to assess the identification level of fan interest. The study used various measures to assess the degree of connectivity (both emotional and psychological)—the time spent in fan-related activities, the cost, and perceptions of in-group versus out-group membership. The

development of a Fanship Scale was intended to assess an individual's degree of psychological identification and behavioral involvement with their fan interest. The achievement was attained by evaluating the level of emotional connection, affiliation with fellow fans, and devotion to resources in money and time. Ultimately, a one-dimensional scale of 11 items was created using sports and non-sports enthusiast's data. The scale demonstrated a coefficient alpha of .87. (Reysen and Branscombe, 2010). Vinney and Bartsch created a multidimensional assessment of in-group identification based on an empirical study of famous media fans (Vinney et al., 20190321). Vinney's fan identity scale has been used to classify narrative enthusiasts, such as film or television fans, based on their enthusiasm, social conduct, and meaningful engagement with media narratives. The questionnaire consisting of 9 items led to identifying three distinct factors that include personal and social dimensions of fan identity. Reysen and Vinney (2010) discovered that individuals with varying interests, such as sports or media fans, showed a similar trend. This finding supports the notion that past research on sports or media fans can be generalized to include fans with other interests (Reysen & Branscombe, 2010).

## **2.4 The mechanism of trolling behavior on user's intention to their favorite celebrity**

According to Tajfel and Turner, a fundamental proposition in Social Identity Theory is that group members are motivated to protect and enhance the positivity of their group to protect and enhance their self-identity and -esteem. This section focuses on the defense mechanism of fan identity when a perceived threat is encountered, which is trolling behaviour in this specific context. The section begins by explaining the perceived threat of fan identity using the Self-esteem hypothesis and reactance theory. Based on these theories, a reformulated framework of defense mechanism focuses on fan identity when coming across trolling behavior and explains how this framework can be broadened to consider other identity management strategies.

### **2.4.1 Negative emotion**

One of the core assumptions of Social Identity Theory is the sense of group identity that categorizes individuals as members of a specific group. The notion of derivation enables them to maintain a positive self-image. Being part of a highly rated collective and positively distinct from out-groups creates a positive feeling about themselves. According to Jonas et al. (2014), endangered identity motives may cause negative emotions and an avoidance-oriented mindset. Identity can be

threatened through uncertainty about essential aspects of oneself, having a fragile perception, or struggling with a feeling of lacking control.

#### **2.4.2 Defense mechanisms**

There is a general fear that most people will be more devoted to their goals, values, social interactions, identities, ideologies, and worldviews in response to various "threats." These threats include uncertainty about mortality, loss of control, perceptual surprise, and goal conflicts. Why can these threats that seem uncorrelated to one another trigger such a wide range of opposite reactions? Scholars have focused on these phenomena to examine the correlation between threat and defense mechanisms. Two prevalent reactions have been observed: a threat can induce a negative emotional state characterized by nervous uncertainty (McGregor et al., 2010).

Furthermore, it is widely acknowledged that individuals employ defensive responses that either directly confront an imminent danger or indirectly furnish resources unaffected by the threat to mitigate adverse emotional states (Jonas et al., 2014). This article also adopts this theoretical framework to explain how individuals manage experiences undermining their fundamental social identity motives. According to Leonardelli et al. (2010), when individuals are confronted with threats to various aspects of their self, they experience a state of heightened uncertainty and discomfort, which prompts them to employ defensive and reactive strategies to alleviate this state.

Specific psychological literature focuses on the concepts of threat and defense. However, these concepts are often fragmented and lacking in cohesion. Various threats, including mortality, uncertainty, unpredictability, and meaninglessness, have been the subject of scientific study. Each research team has developed a different theoretical framework for the observed responses. Before Jonas proposed a more comprehensive framework, the Anxiety-to-Approach Model of Threat and Defense (Jonas et al., 2014) was the prevailing model.

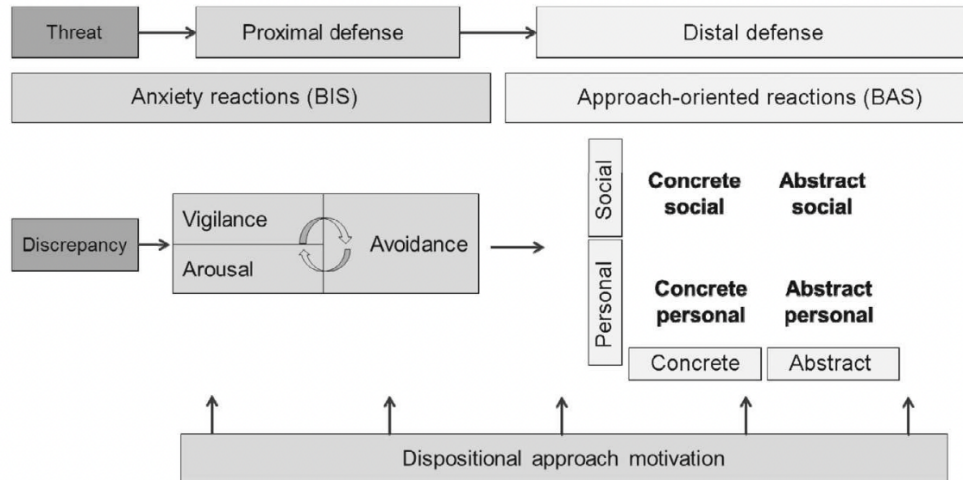


Figure 1: A general process model of threat and defence

Figure 1 systematically illustrates the anxiety-to-approach model of threat and defense. Perceived threat draws attention to an inconsistency that may be perceptual, epistemological, or motivational and causes anxiety. Two crucial stages are the proximal defense responsible for dealing with anxiety-related thoughts at the conscious level, using active suppression or cognitive distortions to avoid and refuse to think about such issues, mediated by the Behavioral Inhibition System (BIS). In contrast, the distal defense controls the highly approachable conscious and unconscious thoughts, supported and strengthened by their social identity and esteem in a group, which is mediated by the Behavioral Approach System (BAS) (Pyszczynski et al., 1999:201).

## 2.5 How does trolling influence the user's willingness to purchase

Consumption has numerous implications in modern economic society, not just satisfying an individual's basic wants and self-expression. The act of consumption extends beyond the mere acquisition of practical benefits. It serves as a mechanism for exhibiting social status, conveying ideas, forging social identity, and preserving personal equilibrium and coherence. A growing trend of consumer anxiety can be attributed, in part, to significant societal changes in recent times. This phenomenon is characterized by individuals experiencing a perceived lack of self-worth and a perceived threat to their self-identity. This section extends the social identity theory to the consumption domain by integrating prior research on consumer psychology trends and decision-making processes in response to identity threats.

### **2.5.1 Perceived threat and consumer behavior**

The act of consumption is a behavioural manifestation that originates from a need for a particular "commodity." However, as the production-oriented society transitions into a consumption-oriented one, the act of consumption no longer solely caters to the basic materialistic needs of individuals. Instead, it also serves as a symbolic representation of fulfilling such requirements. Consumption is no longer transforming use value into exchange value. It eventually becomes the consumption of symbols and relies on them to create more material based on symbols (Dodd, 2003). Consumption has become a language representing a person's social stage, living standard, and academic level, allowing them to recreate their social identity. When shopping, we define ourselves through consumption symbols (Forgas & George, 2001). This statistic shows the importance of consumption in constructing and expressing identity. Consumption supplies significant materials for creating and managing identity and serves as indicators and symbols for communicating the identity. Thus, consumption is a social action of employing material resources in an orderly manner within the context of identity (consumer behaviour) and a sign system that represents and communicates identity (consumer culture).

Humans perceive and judge social entities (Berger et al., 2021) and gain recognition by comparing or sharing items. In a consumer-based society, consumption is a form of "communication" (Baudrillard, 1998). According to Belk et al. (1982), the communication process involves a reciprocal exchange between individuals, wherein they act as both the source of their own identity and the interpreter of the messages conveyed by others. The communication is facilitated through consumer symbols, which serve as a coding mechanism for self-presentation and interpretation of others. In addition, Bolton & Reed (2004) stated that consumers are persistent in the decisions made of recognition and reluctant to change them.

However, when consumers' self-identity is attacked, they compensate by consuming indirectly or deliberately to prove success under threat. Interestingly, consumers tend to be aggressive or intentionally exaggerate the value of these "marked" products in such consumption (Han and Yoon, 2015). This phenomenon could be explained from the perspective of the reactance mechanism. Many studies have explored consumer reactions to threats against their social identity or brand loyalty (Fitzsimons & Lehmann, 2004). Reactance can increase loyalty to in-group brands, derogating competing brands and resisting change.

At the same time, scholars hold the opposite view - the self-identity threat has a disincentive effect on consumption. Consumers develop a "tendency to avoid" products and deliberately distance themselves from them. Branscombe & Wann (1994) reported that consumers adopt avoidance strategies to avoid association with disadvantaged groups to maintain a positive self.

In conclusion, academia has different views and attitudes on the relationship between self-identity threat and consumer behavior. The relationship is currently the subject of different academic opinions and attitudes.

### **2.5.2 Self-identity and consumer behavior**

In psychology, the empirical research covers several areas: the measurement of self-identity, the difference in the self-identity under different cultures and genders, and the influence of self-identity on motion, cognition, and motivation. Whereas related to consumer behaviour and communication, more research focus on the impact of consumer's self-identity construct.

Escalas and Bettman (2005) proposed that consumers purchase brands partly to construct their self-concepts, thus forming self-brand connections. They report that brand images consistent with an in-group enhance self-brand connections for all consumers. In contrast, brands with images consistent with an out-group had a substantial adverse effect on independent versus interdependent consumers. On this basis, Swaminathan et al. (2001) introduced a self-brand connection as a mediator and investigated the impacts of negative information on consumers with different levels of self-brand connection. The relationship between consumer and brand was categorized at individual and group levels separately. The individual level focuses on self-constancy, for example, the self-connect connection.

On the other hand, the group level emphasizes the consistency of collective behaviour, including the connection to the country of origin, which has been the subject of an investigation by numerous scholars. Based on the findings of the study, it can be inferred that in cases where the level of self-identity associated with a particular brand is low, exposure to unfavourable information regarding said brand can have a detrimental effect on the consumer's inclination to purchase. Zeugner-Roth et al. (2015) found that individuals with a strong self-identity connection are less likely to be affected by external factors and maintain a consistent attitude.

In conclusion, studies show that the influence of self-identity as a primary or moderating variable on consumer psychology and behaviour has recently received increasing attention from marketing

scholars. Since 2005, the impact of self-identity on consumer brand evaluation and attitudes has gained popularity in marketing research. However, due to the intricate and diverse nature of self-identity mechanisms and contexts, there is a need for further investigation. While researchers have explored the moderating effect of brand commitment, a dimension of brand attitude strength, on self-identity (Agrawal et al., 2005), there remains a need to elucidate how consumers navigate the decision-making process in various brand types and scenarios.

## **2.6 Summary of literature review**

Although there is research in the related fields, no empirical research has been done about trolling behavior on social media. The mechanism of the consumer's decision-making process needs to be strengthened. Evident from the review of the existing literature on trolling behavior, self-identity theory, perceived threat, defense mechanism, and willingness to purchase. A study on trolling behavior is required to fill the literature's vacuum and improve the self-identity theory's theoretical application.

Scholars have discovered links between the threat to self-identity and consumption patterns and that this threat affects consumer behavior. However, there is still no agreement on the direction and magnitude of this impact—whether it is positive or negative. Suggesting there may be additional moderating factors between self-identity theory and trolling behavior that need to be explored. This study will examine the new variables and connections between trolling behavior and self-identity based on the existing research theories and models. It will also consider the unique circumstances of celebrities to examine the border conditions of trolling under the danger of consumer self-identity. In the meantime, to explain the transmission mechanism from self-identity threat and defense behavior, we introduce social identity theory to explain the mechanism of consumers' willingness to purchase under the situation of self-identity threat.



## **Chapter 3 Research Framework**

### **3.1 Self-Identity and Negative Emotion**

When Self-identity is threatened, negative emotions and an avoidance-oriented mindset are invoked ((Jonas et al., 2014)). Researchers have investigated the uncertainty of an individual's important aspects. Holding a fragile view of yourself and your social connections or struggling with a feeling out of control can pose negative emotions and threats. Similarly, negative emotions emerge when one cannot maintain self-relevance in a situation congruent with standard identity (identity incongruence) (Stets, 2005). The result is a positive emotion when self-relevant matches the meanings held in the identity standard. Corresponding to this idea is the identity control theory, which tests the directionality of the discrepancy and the emotions that emerge (Burke, 2004). Moreover, affect control theory states that emotion dynamics signal identity in particular situations (Heise & Lerner, 2006). In more depth, one will experience negative emotions when an incident undermines their sense of self by evoking bad emotions that are different from their core identity-related feelings.

Researchers have focused much on how users react to negative and uncertain situations (Scheepers & Ellemers, 2005). Multiple studies have revealed that people often try to protect themselves by avoiding the message, which makes them feel bad (White et al., 2013). However, people sometimes exhibit an association reaction, whereby they behave in a way that symbolically strengthens their connection to the challenged aspect of their identity (Ellemers et al., 2002). Individual identity and group social identity are the two components of a person's identity, according to the social identity theory. Group members are motivated to maintain and restore the positive distinction of their ingroup. Therefore, intergroup comparisons easily result in unfavorable outcomes that threaten or undermine the positive reputation. Group members participate in activities that alter these comparisons and maintain or re-establish a positive view of their group (Tajfel et al., 1979; Martiny et al., 2012).

Nevertheless, prior research also suggests that people tend to expand their ties with an ingroup when faced with a danger to their social identity (Voci, 2006). Strongly ingroup-identifying individuals will display more ingroup bias and experience more unpleasant feelings (Campbell et al., 2003). Also, highlight intragroup diversity, perceive the ingroup as cohesive, feel devoted to the ingroup, and display a diminished desire to leave the group (Martiny et al., 2012).

### **3.2 Moderation effect of trolling behavior**

Trolling refers to a spectrum of anti-social behaviors, which may culminate in adverse reactions from other users. This article focuses on the phenomenon of trolling in the context of social media. Specifically, the focus is on malicious comments that target either a celebrity or a brand to gain greater popularity and public attention. According to Yang and Mai (2010), users tend to show more acceptance towards comments that express strong opinions, regardless of their polarity and veracity. Hence, trolling is classified as a threat to social media users compared to other statements that are either affirmative, impartial or moderately pessimistic. The act of trolling or damaging reputation may result in negative user experiences, the use of aggressive language, and intensified emotional responses. These outcomes have a higher probability of inciting confrontation. According to Chen (2018), engaging in trolling behavior on social media by targeting an individual can elicit negative emotions due to the perceived threat to their self-identity. This mechanism has the potential to be applied to broader content areas. Numerous studies have investigated the phenomenon of individuals defending their close associates in the face of danger, as these associates are perceived to be part of the person's extended self, as suggested by Lisjak et al. (2012). The "close others" concept can potentially encompass non-tangible entities such as a preferred celebrity or brand. Research has demonstrated that individuals who possess strong self-identity connections are inclined to perceive the failure of a celebrity or brand as a personal failure. The phenomenon of reputation failure has been observed to have a detrimental impact on the self-identity of users, thereby posing a threat to their sense of self (Baumeister, 1996). The personalized nature of self-identity content leads to various levels of perceived self-threat in response to negative word-of-mouth, which is unique to each customer. Thus, the level of harness individual consumers feel in response to negative word-of-mouth differs. For that reason, our first hypothesis was formulated.

*H1: Self-identity and negative emotion are positively associated in the presence of trolling behavior.*

### **3.3 Willingness to purchase as a measure of defense responding**

Defensive responses are attempts to cope with negative outcomes. Many studies have identified how to react to threatening information about themselves. Self-threat involves an experience of a discrepancy between desired and current feelings. According to the anxiety-to-approach model (Jonas et al., 2014), there are two stages in response to identity threats. The first stage describes the immediate responses after perceiving a threat to identity motives. Simultaneously, the threat will trigger anxiety and uncertainty, which the Behavioral Inhibition System (BIS) detects.

Individuals tend to engage in behaviors that activate the Behavioral Activation System (BAS) to alleviate the unpleasantness associated with negative emotions. This state of activity is often considered aversive, and defence actions are classified as compensation, resistance, or breaking. In situations where self-identity is threatened, there is a tendency to seek means of "restoring" (Tesser, 1988) the negative state as a way of preserving a positive self-identity (Dunning, 2007). According to Ferraro et al. (2005), one form of distal defense involves the provision of concrete incentives such as food, enjoyable stimuli, or the demonstration of personal proficiency. Consumption is regarded as an effective mechanism for individuals to establish connections with others in the face of challenges to their self-identity, owing to the functions of "symboling" and "communicative."

Moreover, it is a proficient mechanism for external entities and individuals to articulate their identities and dispositions. Through consumption, individuals can exhibit their social status, establish their identity, and shield themselves from the apprehension and unease triggered by the perceived danger. Several studies have provided support for this assertion. For instance, Gao's research revealed that users are more inclined toward products associated with wisdom when their intelligence is questioned. According to Leigh and Gabel (1992), individuals tend to engage in irrational consumption patterns due to uncertainty and confusion regarding their social identity. Furthermore, Mead et al. (2011) observed that individuals consume excessively due to social pressures. Nonetheless, significant literature presents an opposing perspective, arguing that when users perceive a threat to their external identity, they prefer to maintain a certain detachment from products that feature "status symbols." This behavior is thought to result from a desire to preserve their "self-sense of security," consistent with the resistance actions observed in the distal defense of the Behavioral Activation System (BAS). Thus, it is postulated that a correlation exists between

self-identity and a tendency to make purchases, which is influenced by adverse emotions acting as a mediator.

*H2: Negative emotions is positively associated with the willingness to purchase*

*H3: Self-identity will positively associate with the willingness to purchase in the presence of trolling behavior (vs. positive condition).*

According to the anxiety-to-approach model, defence reactions to identity threats can be categorized into different stages. According to Figure 2, path A describes the immediate responses after perceiving a threat to identity. On a neural level, the threat is detected by BIS, which triggers an aroused state of anxious uncertainty. Users with high self-identity will increase their public willingness to purchase as a way of response and to escape from aversive feelings. As a result, the willingness to purchase was classified into three distinct categories: private willingness to purchase, public willingness to purchase, and brand cause.

Therefore:

*H3a: Self-identity will positively associate with the private willingness to purchase in the presence of trolling behavior (vs. positive condition).*

Given that this state of increased BIS activity is highly aversive and short-term, people are motivated to escape from negative feelings and get into a more pleasant state that is hallmarked by the long-term activity of the BAS. Path B shows that people may affirm their group identity because this serves their need for epistemic equilibrium, belonging, and control, helping them re-establish self-identity. Eventually, individuals who exhibit a strong identification with a celebrity are likely to experience a decline in their interest in said celebrity or associated brand. Furthermore, a decrease in their inclination to make purchases to restore their self-identity. This phenomenon is consistent with the notion that persistent negative information can harm the reputation of the celebrity or brand in question.

Therefore:

H3b: *Self-identity will positively associate with the public willingness to purchase in the presence of trolling behavior (vs. positive condition).*

H3c: *Self-identity will positively associate with the brand cause in the presence of trolling behavior (vs. positive condition).*

Figure 3 depicts the research model as a summary of the relationships proposed above.

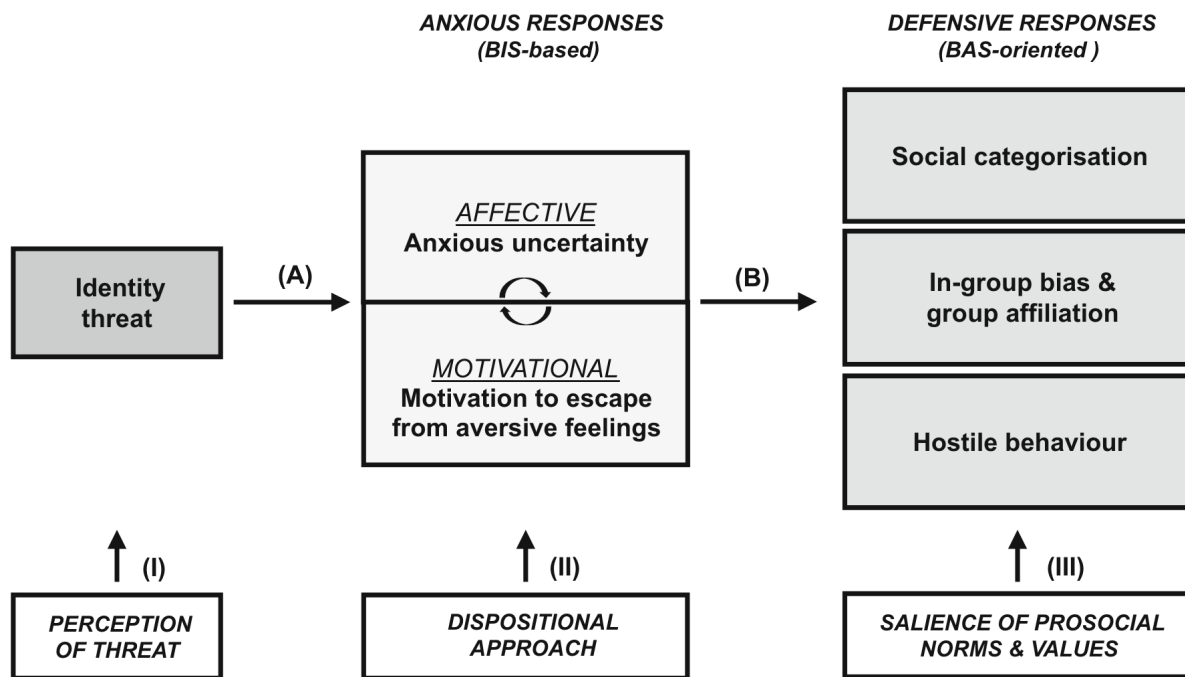


Figure 2: The anxiety-to-approach model to defences following identity threat

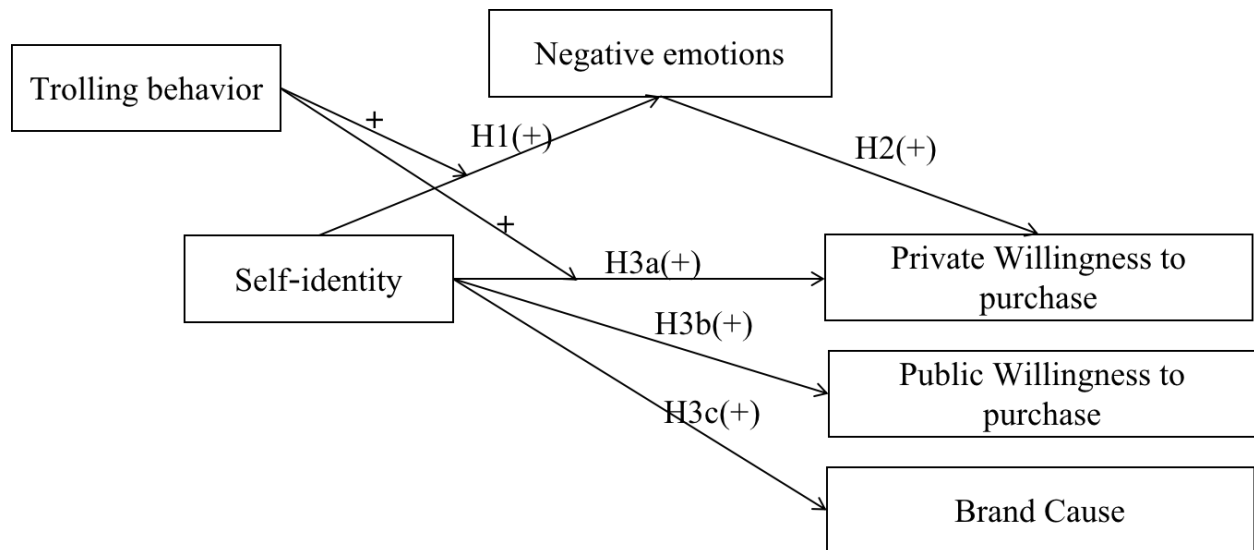


Figure 3: Hypotehsised relationship between focal vairables

## **Chapter 4 Empirical studies**

### **4.1 Overview of the Research**

The following section outlines the two-stage approach implemented in this investigation. The purpose of Studies 1a and 1b was to investigate the response patterns of users towards trolling behavior while exploring the potential moderating influence of self-identity. The initial stage involves conducting a pre-test to assess the efficacy of the predictor's manipulation. Subsequently, the present study examined the effects above through various comment manipulations within the realm of the user's preferred celebrities, as implemented in the main examination. In Study 1b, the researchers focused on a specific context, namely the music industry, to examine the mechanism's applicability in cases where a consumer's preferred brand is subjected to trolling and investigate deeper consumer behaviors.

All studies measured the user self-identity attached to their favorite celebrity, and the two scenarios were manipulated. Participants would read comments either as positive or trolling. Finally, participants reported the extent of their perceived threat after seeing those comments and their willingness to purchase. It was hypothesized that individuals with a strong sense of self-identity would perceive a greater threat and demonstrate a greater inclination to purchase products associated with their identity in the context of trolling as opposed to positive conditions. On the contrary, individuals from low self-identity groups exhibit a reduced inclination towards purchasing, witnessing instances of celebrity trolling.

### **4.2 Study 1a: Trolling to user's favorite celebrity**

To examine our hypotheses, we implemented a between-subjects experiment with a 2x2 design in Study 1a. The experiment involved two conditions: Trolling and Non-trolling, as well as two levels of self-identity: High and Low. The investigation was administered online using Qualtrics and distributed through the Sona Systems platform. The study investigated the impact of manipulation on participants by exposing them to information that had either trolling comments that posed a threat or did not attack their celebrity, thereby not compromising their social identity. The questionnaire was administered to participants who were recruited to receive credit. Moreover, the present investigation got approval from the Research Ethics Board (REB).

#### **4.2.1 Methodology**

##### **Participants.**

A total of 241 university students were recruited. After excluding the unfinished cases or uncompleted responses, 168 results remained (123 female,  $M_{age} = 21.43$ ,  $SD = 1.42$ ). See Table 1 for a breakdown of the demographic variables.



Table 1:Demographic information of participants.

		Conditon			
		Negative n =82		Positive n=86	
		Mean/Count	SD/Percentage	Mean	Standard Deviation
					P value
Age		21.19	1.33	21.70	1.4
Gender	Male	23	27%	22	27%
	Female	63	73%	60	73%
Ethnicity					0.525
	Caucasian	55	64.0%	41	50.0%
	African-American	1	1.2%	2	2.4%
	Latino or Hispanic	6	7.0%	8	9.8%
	Asian	1	1.2%	4	4.9%
	Native American	4	4.7%	4	4.9%
	Two or More	1	1.2%	2	2.4%
	Other/Unknown	14	16.3%	19	23.2%
	Prefer not to say	4	4.7%	2	2.4%
Yearly household income (after taxes)					0.962
	Higher than 93,000 CAD	32	37%	29	35%
	Between 70,500 and 93,000 CAD	12	14%	8	10%
	Between 55,250 and 70,500 CAD	3	3%	4	5%
	Between 49,200 and 55,250 CAD	2	2%	3	4%
	Between 32,000 and 49,200 CAD	2	2%	2	2%
	Between 18,400 and 32,000 CAD	2	2%	3	4%
	Lower than 18,400 CAD	3	3%	5	6%
	Prefer not to say	30	35%	28	34%

## Procedure.

Participants completed the online questionnaire through Qualtrics. First, participants were asked to list their favorite musician and type of celebrity (singers, actors, sports, influencers, etc.) in the space provided. Participants were asked to explain why they admired this celebrity for reducing bias, which influenced how they saw themselves. Using a one-factor, 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), Vinney's Fan Identity Scale (Vinney et al., 2019) was used to gauge how much the participants liked the celebrity in question. After completing the scales, participants were shown a series of posts with comments received by this celebrity on social media. The study employed random assignment to allocate participants into trolling and positive conditions. After examining the posts, the participants were asked to evaluate their perceived threat level towards the posts using a five-point scale developed by Campbell (Campbell et al., 1996). The scale included "I have negative feelings towards these posts."

Finally, participants were asked to complete their willingness to purchase based on this celebrity by using the scale from Zeithaml (Zeithaml et al., 1996), such as "I would buy brands endorsed by this celebrity" and "I would engage in causes defended by this celebrity." The questionnaire presented participants with one attention check question: "Please select the CORRECT statement from the list below." In the end, participants were given credit and thanked. Table 4.2 presents the results of Cronbach's Alpha. The results indicate that the Self-Identify Scale (0.916) and Perceived Threat Scale (0.797) was reliable. The lower alpha for willingness to purchase can be explained that for the users, buying products related to a celebrity is not as direct as buying a commodity, with private and public purchase behavior separately. Considering this, the alpha of 0.713 was sufficient to show acceptable reliability. See the full questionnaire in Appendix 1.

Table 2: Study constructs and measurement

Constructs	Item(s)	Scale	Source	Cronbach's $\alpha$
Self-Identity	Being fans towards this celebrity defines me.	5-point Likert scale "Strongly disagree" to "Strongly agree"	Adaptign from Vinney et al., 2019	0.916
Negative Emotions	have negative feelings towards these posts.	5-point Likert scale "Strongly disagree" to "Strongly agree"	Adaptign from Campbell et al., 1996	0.797

Willingness to Purchase	I would listen or buy music related to this celebrity.	5-point Likert scale “Strongly disagree” to “Strongly agree”	Adaptign from Zeithaml (Zeithaml et al., 1996)	0.713
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## 4.2.2 Results

### Manipulation Check

Before conducting hypothesis testing, the efficacy of the manipulation was assessed by verifying the successful manipulation of both the trolling and positive conditions. Subsequently, independent t-tests were performed to examine the statistical significance of disparities between the groups above. Table 3 illustrates this classification and results. Self-identity was measured before the manipulation, while perceived threat and willingness to buy were measured after the manipulation. No significant difference was observed between the mean scores of self-identity classified as trolling conditions and those classified as positive conditions,  $t(166) = 1.81$ ,  $p = .239$ . The study found a significantly higher negative emotion in trolling conditions ( $3.032 \pm 0.929$ ) as compared to the positive condition,  $t(166) = 7.74$ ,  $p < .001$ . In addition, the inclination to make purchases demonstrated by individuals categorized as trolling groups exhibited a significant lower willingness to purchase from those classified as the positive group,  $t(166) = 2.30$ ,  $p < .023$ . The data shows that interventions mitigating self-identity threats were effective.

Table 3: Self-Identity, negative emotions, and willing's to purchase in different conditions

Report conditon		Willingness to buy	Self - Identity	Negative Emotion
Negative	Mean	3.90	2.52	3.03
	N	86.00	86.00	86.00
	Std. Deviation	0.91	0.82	0.93
Positive	Mean	4.18	2.67	1.96
	N	82.00	82.00	82.00
	Std. Deviation	0.70	0.85	0.86
Total	Mean	4.04	2.60	2.51
	N	168.00	168.00	168.00
	Std. Deviation	0.83	0.83	1.04

## Hypothesis test

Table 4 presents the inter-correlations between self-identity, negative emotions, willingness to purchase and conditions (trolling vs positive). Research findings indicate a significant positive correlation between self-identity and negative emotions, and a willingness to engage in purchasing behavior. The table presents a positive correlation between self-identity, negative emotions, and a tendency to purchase, consistent with the self-identity theory.

Table 4: Inter-correlations between variables in the study

Correlations	Self - Identity	Negative Emotions	Willingness to Purchase
Self -Identity			
Negative Emotions	.204**		
Willingness to Purchase	.342**	-0.004	
Conditon	0.091	-.515**	.175*

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

The next phase measured the mediation impact of negative emotions and the moderator impact of trolling behavior towards the willingness to purchase from users with different self-identity. The PROCESS macro (Model 8) was used to compute several conditional indirect effects for different moderator values to highlight self-identity's direct and indirect impact on willingness to purchase through negative emotions. This model is referred to as moderated mediation because the indirect effect or mechanism pathway through which X (self-identify) exerts its effect on Y (willingness to purchase) via the mediator (negative emotions) is dependent on the value of a moderator (trolling behavior). Ninety-five percent bias-corrected and accelerated confidence intervals were calculated for the indirect effect, based on 5000 bootstraps resamples (Hayes, 2013).

### Effects of Self-Identity on Negative Emotions (H1)

The first regression analysis examined the correlation between self-identity and negative emotions experienced by users while considering the potential moderating influence of trolling behaviors on these relationships. Table 5 presents the estimated regression coefficients, corresponding standard errors, and the p values,  $R^2$ , and model summary information. The model summary for the

"negative emotion" outcome variable showed an R-squared value of 0.51,  $F(3,57) = 20.10$   $p < .0001$ .

Under the positive condition, identify was not a significant predictor for negative emotion ( $p = 0.542$ ). In contrast, under the trolling condition, self-identity significantly impacted the negative emotions ( $p < 0.001$ ). Thus, the results supported H1: *Self-identity and negative emotion are positively associated in the presence of trolling behavior.*

Table 5: Moderated Regression model: effects of self-identity on negative emotions

Model Summary						
	R	R-sq	MSE	F	df1	df2
	0.72	0.51	0.64	20.10	3.00	57.00
Model						
	B	se	t	p	LLCI	ULCI
constant	2.06	0.49	4.23	0.000	1.09	3.04
Identity	0.47	0.17	2.74	0.008	0.13	0.81
conditon	-0.51	0.65	-0.78	0.442	-1.81	0.80
Interation	-0.38	0.22	-1.73	0.089	-0.83	0.06
Identity *Condition						

Conditional effects of the focal predictor at different condition:

Conditon	B	se	t	p	LLCI	ULCI
Trolling	0.47	0.17	2.74	0.008	0.13	0.81
Positive	0.09	0.14	0.61	0.542	-0.20	0.37

### Effects of Self-identity and Negative Emotions on Willingness to Purchase (H2 to H3)

The PROCESS regression model 8 was used to examine the effect of self-identity and negative emotions toward the willingness to purchase (H2 and H3). Willingness to purchase was input as the dependent variable, self-identity was inputted as predictor, negative emotion was inputted as the mediator, condition were inputted as moderators. The model summary for the "willingness to purchase" outcome showed an R-squared value of 0.27,  $F(4,56) = 5.23$ ,  $p = .0012$ .

As shown in Table 6, the results show that "self-identity" is a significant positive predictor of "willingness to purchase" ( $p < .001$ ), and "negative emotion" is a significant negative predictor of "willingness to purchase" ( $p = .001$ ). Therefore, . H2: *Negative emotions is positively associated with the willingness to purchase* was not supported.

The interaction term (self-identity x condition) was also significant ( $p = 0.022$ ), suggesting that the relationship between "self-identity" and "willingness to purchase" was moderated by the treatment condition. Thus, H3: *Self-identity will positively associate with the willingness to purchase in the presence of trolling behavior (vs. positive condition)* was supported.

The potential mediating effect of negative emotion on the effect of Self-Identity on Willingness to Purchase was also examined.

Table 6: Regression model: effects of Self-Identity on Willingness to Purchase.

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	0.52	0.27	0.33	5.23	4.00	56.00	0.001
Model							
	B	se	t	p	LLCI	ULCI	
constant	4.38	0.40	10.95	0.000	3.58	5.18	
Identity	0.46	0.13	3.54	0.001	0.20	0.73	
Negative Emotion	-0.32	0.09	-3.42	0.001	-0.51	-0.13	
Conditon	0.76	0.47	1.62	0.110	-0.18	1.70	
Identity * Condition	-0.39	0.16	-2.36	0.022	-0.71	-0.06	

Conditional effects of the self-identiy on willingness to purchase at different condition:

conditon	B	se	t	p	LLCI	ULCI
Trolling	0.46	0.13	3.54	0.001	0.20	0.73
Positive	0.08	0.10	0.77	0.444	-0.12	0.28

### Direct and indirect effects of Self-Identity on Willingness to Purchase, mediated by negative emotion

We investigated how perceptions of negative emotions were moderated by trolling behavior to examine the conditional indirect effects of self-identity on willingness to buy. PROCESS Model 8, a flexible computational tool for observed variable mediation, was employed to test this (Hayes, 2013). According to Table 7, there was a significant direct effect of willingness to buy on self-identity through negative emotion when trolling behavior was present ( $B = 0.46$ ,  $CI95\% 0.20$  to  $0.73$ ). When considering negative emotion as a mediator, the indirect effect was not significant ( $B = -0.15$ ,  $CI95\% -0.13$  to  $0.05$ ). Therefore negative emotion was not a significant mediator of the effect of self-identity on willingness o purchase.

Table 7: Direct effect and indirect effect breakdown table

Conditional direct effects of self-identity on willingness to purchase						
conditon	B	se	t	p	LLCI	ULCI
Trolling	0.46	0.13	3.54	<0.001	0.20	0.73
Positive	0.08	0.10	0.77	0.444	-0.12	0.28
Conditional indirect effects of self-identity on Y:						
conditon	B	BootSE	BootLLCI	BootULCI		
Trolling	-0.15	0.08	-0.29	0.01		
Positive	-0.03	0.04	-0.13	0.05		

### 4.2.3 Discussion

The findings indicate that self-identity is crucial to having negative feelings and a willingness to purchase. In particular, users' negative feelings and tendency to buy will rise as their sense of self increases. Additionally, the significant interaction term (self-identity x condition) suggests that "condition" moderates the relationship between "Identity" and "willingness to purchase." In other words, the degree of "condition" determines the strength and direction of the relationship between "self-identity" and "willingness to buy." These findings also show that under the trolling condition, negative emotion significantly impacts willingness to buy, suggesting that, depending on the condition level, negative emotion partially mediates the link between self-identity and willingness

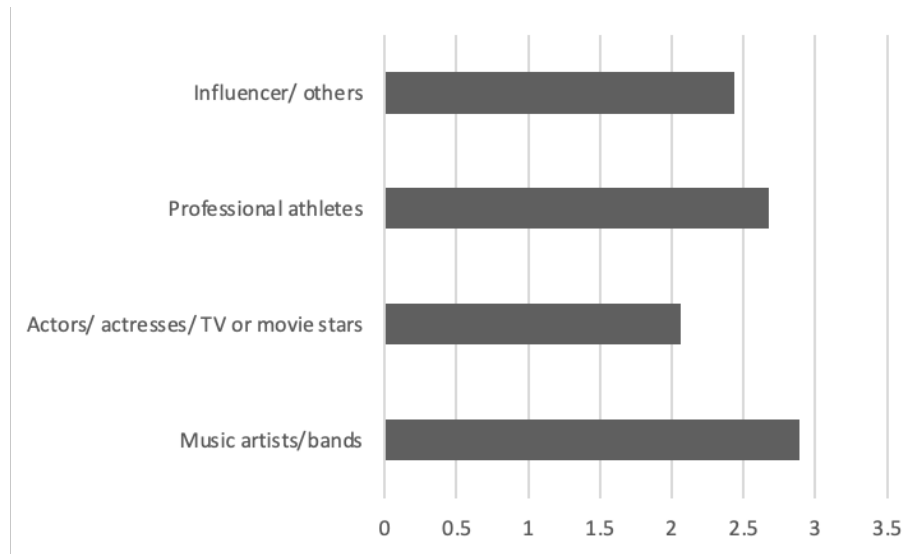
to buy (H3 supported). However, although there was a significant positive association between self-identity and negative emotion (H1 supported), the relationship between negative emotion and willingness to purchase was negative, in contrast to positive as originally hypothesized (H2 not supported).

These findings partially confirm our hypothesis that self-identity defends the celebrity's trolling attack by making it appear that the celebrity is defending themselves. After reading trolling posts, people with high self-identity (vs. low) implicitly experience more negative emotions and have stronger private buying intentions to support their favorite celebrity. These participants' defensive reactions to the celebrity trolling were similar to the mediators and patterns described in the literature when a person's personal or social identity is attacked. These results provide preliminary evidence that people perceive threats to themselves when they identify with a brand or celebrity. However, since the moderated mediation effect was not statistically significant, caution should be taken when interpreting the moderated mediation results. Additional research with larger sample sizes and various measurements must confirm and generalize these findings and explore potential implications in proper contexts.

The type of celebrities that the participants chose were divided into four categories (singers, bands, or musicians; actors or actresses; athletes; influencers or others); the regression was then run four times, considering the various effects of celebrity type. It was demonstrated that participants who chose music artists and brands demonstrated the greatest willingness to buy, in contrast to other types, see figure 5. According to previous research, Music is the best predictor of emotional intelligence among all forms of entertainment, and people are likely to use music to express their identities and personality traits (Chamorro-Premuzic et al., 2010, 2016). Therefore, when we further investigated the participants who chose music artists/bands as their favourite celebrities (Study 1b).



Figure 5: User's willingness to purchase by celebrity type



#### 4.3 Study 1b: Trolling to user's favorite musical celebrity and their buying behavior

Study 1b was similar to study 1a with two exceptions: first, we chose a specific entertainment area (music). Second we used a different method of willingness to purchase measurement, which was divided it into public buying behavior, brand-related actions, and private behavior. Study 1 examined the private buying behavior.

The visibility and relationship between products and consumers during the consumption process are also factors influencing consumer behavior (Toth, n.d.). Public buying behavior are identified as buying those seen by others when being used, while privately consumed intension are buying those not seen during the consumption process by anyone except the user and close related person and brand cause buying refer to the likelihood of a consumer to purchase a product or service because of their affinity or loyalty to a particular brand. Therefore, understanding these different types of buying intentions can help to predicate the influence of self-identity under the threat of trolling behavior more preciously.

##### 4.3.1 Methodology

###### Participants.

One hundred ten undergraduate students (36% males, 64% females) participated in the study in exchange for credits.

## **Procedure.**

The same procedures as in study 1a were followed, with only the first question changed from "Which living celebrity is your favorite? (singers, actors, athletes, influencers) to "Who is your favorite living music celebrity? (Musicians, DJs, bands, etc.) ". Afterward, participants needed to specify the genre of their preferred musical celebrity. After that, all steps were the same with study 1a. From asking about their self-identity, assigning participants to two groups, and asking about their feelings afterwards. Another change different from Study 1a was that participants were asked in detail about the construct of Willingness to Purchase, divided into three factors: Public buying behavior, Brand cause, and Private buying behavior. Please refer to Appendix 1 for detailed questions. In the end, participants reported their age, gender, and ethnic background.

## **4.3.2 Results**

### **Reliability and validation check.**

Reliability and validity assessments were first done to assess the data quality using SPSS 26.0 software. The analysis revealed that the sample data were adequate for further factor analysis because the KMO coefficient was 0.822, and Bartlett's Test was significant. The sample data were subjected to exploratory factor analysis, and three factors were identified by the principal component analysis, with a total explained variance of 69.76%. After Varimax rotation, all of the measures that belonged to the same variable had loadings more than 0.5, excluding the potential of cross-factor phenomena. These findings demonstrate the discriminant validity of the measurement scale. See Appendix 2 for more information on the results.

The reliability was then tested by measuring the Cronbach alpha values of the question items. The Cronbach alpha for public buying behavior, brand cause, and private buying behavior was 0.805, 0.809, and 0.824, respectively, suggesting the items had relatively high internal consistency.

### **Hypotheses testing**

#### **Effect of self-identity on Public willingness to purchase. (H3b)**

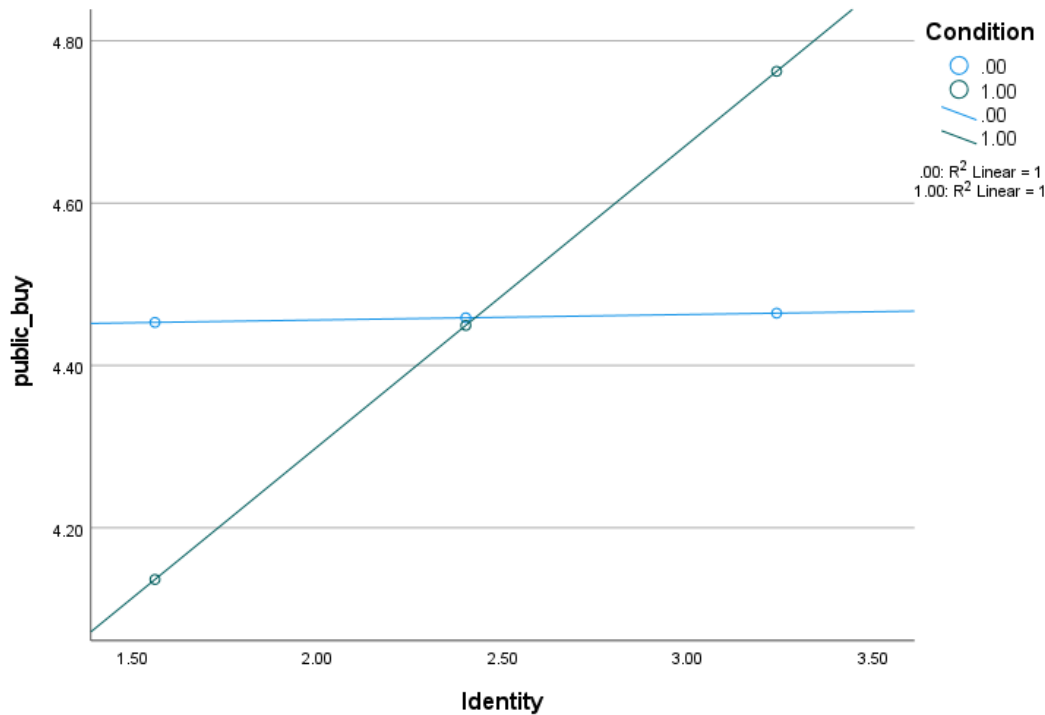
We used the PROCESS macro (Model 8) to rerun the regression analysis to test whether self-identity positively impacted the user's public willingness to purchase. Public buying behavior was inputted as the dependent variable, self-identity was inputted as the predictor, negative emotion was

inputted as mediator and the study condition (trolling vs positive) was inputted as the moderator. The first model, which negative emotion served as the outcome variable, self-identity served as the predictor and condition served as the mediator was significant  $F = 28.84$ ,  $p < .001$ ,  $R\text{-sq} = 0.44$ . Inconsistent with Study 1a, self-identity was not a significant predictor of the negative emotion ( $p = 0.55$ ). However, the interaction effect of self-identity and condition was also significant, with  $B = 0.37$ ,  $t = 2.16$ ,  $p = 0.03$ , such that under the trolling conditions, self-identity had a significant impact on user's public willingness to purchase ( $B = 0.39$ ,  $p = .0004$ ).

The public's willingness to purchase was the outcome of the second model, which was significant ( $F = 2.56$ ,  $p = 0.043$ ) and described 8.59% of the variance ( $R\text{-sq} = 0.09$ ) of the outcome variable. Self-identity was a significant predictor of public readiness to purchase, whereas negative emotion and public willingness to buy were not significantly associated ( $p = 0.976$ ). The interaction between self-identity and condition significantly predicted the public willingness to purchase ( $p = 0.032$ ), such that only in the trolling condition, self-identity was a significant predictor of public willingness of purchase,

Moreover, the analysis also examined self-identity's direct and indirect effects on public willingness to purchase, mediated by negative emotion. However, the indirect effect of self-identity on willingness to purchase was not significant. Therefore, H3c was not supported. For the overall SPSS results, please refer to Appendix 2.

Figure 6: Public willingness to purchase changes as a function of self-identity and condition.



\* Condition 0 = trolling 1=positive

### Brand cause

Besides the private and public willingness to cause, another variable related to the user's buying behavior is the brand cause. To test whether self-identity will positively impact the brand causes in trolling behavior (H3c), another PROCESS regression analysis was conducted.

Brand cause buying behavior was inputted as the dependent variable, self-identity was inputted as the predictor, negative emotion was inputted as mediator and the study condition (trolling vs positive) was inputted as the moderator.

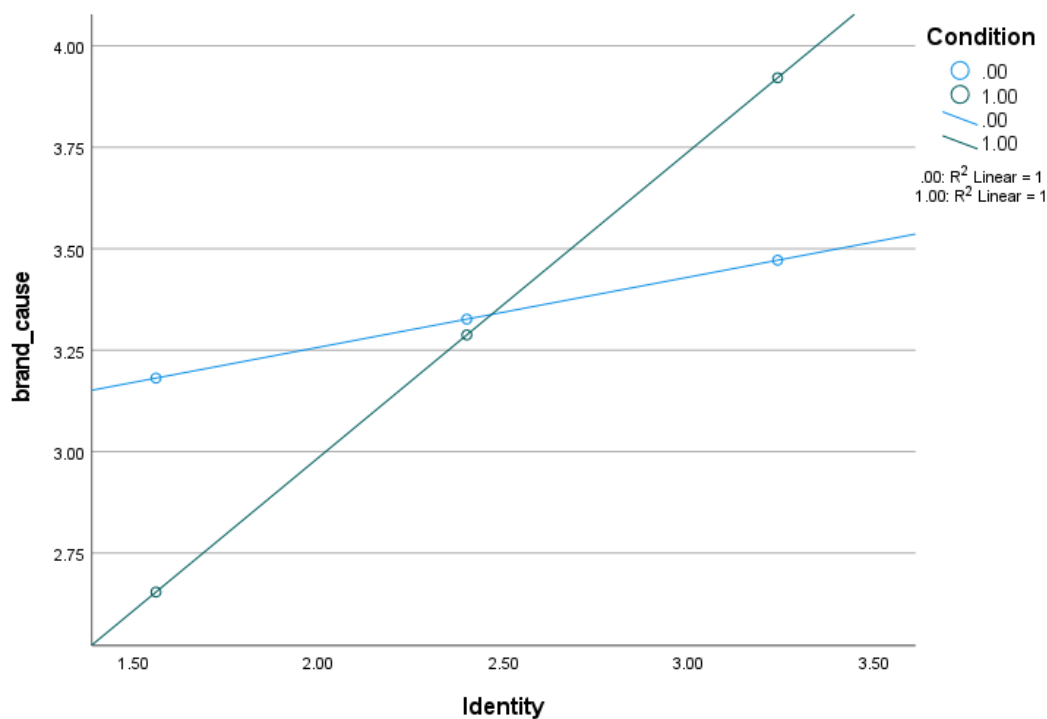
When negative emotion was used as the outcome variable in the first model, the model was significant ( $F = 28.83$ ,  $p < 0.0001$ ) and explained 44.02% of the variance ( $R\text{-sq} = 0.44$ ). Self-identity and negative emotion were significantly correlated ( $p = 0.0004$ ), although condition and negative emotion were not ( $p = 0.425$ ). The interaction between self-identity and condition was significantly predicting negative emotion ( $p = 0.033$ ).

For the second model, with brand cause as the outcome variable, the model was significant ( $F = 11.32$ ,  $p < 0.0001$ ) and accounted for 29.37% of the variance ( $R\text{-sq} = 0.29$ ). Self-identity and brand

cause had no significant relationship ( $p = 0.114$ ), and negative and brand cause had no significant relationship ( $p = 0.560$ ). Nonetheless, there was a significant difference in the brand cause between trolling and positive conditions, as indicated by the significant ( $p = .0011$ ) interaction between self-identity and condition.

Similar to the public willingness to purchase, the conditional direct effects of self-identity on brand cause were not significant at trolling conditions ( $p = 0.114$ ). Still, they were significant under positive conditions ( $p < 0.0001$ ). As shown in Figure 7, follow-up analyses indicated that high-self-identity users in trolling conditions show lower brand causes than positive conditions. On the contrary, those with low self-identity would show more willingness to brand cause under trolling compared with the positive condition, which contrasts with the hypothesis. Therefore, H3c is not supported.

Figure 7: Brand cause buying behavior change as a function of self-identity and condition



\* Condition 0 = trolling 1=positive

### 4.3.3 Discussion

In summary, study 1b supports the notion that unfavourable word of mouth would decrease consumers' willingness to purchase. However, when seen as a whole, studies 1a and 1b offered conflicting outcomes for our hypotheses. Study 1a demonstrates, using various independent variable measures, that users with high self-identity will experience more negative emotions and private willingness to purchase under trolling comments threat. In contrast, Study 1b demonstrates that users with high self-identity showed a lower public willingness to purchase and brand cause under trolling conditions compared to the positive condition.

This divergence results could be explained from two perspectives. First, participants in Study 1b, from a more general population, were not into musical celebrities compared with those in Study 1a. When comparing the self-identity in the two studies, the mean self-identity of users in Study 1a was 2.73, whereas Study 1b was only 2.30. Different levels of user interaction with the celebrity were caused by their diverse self-identities, which this study didn't examine and ultimately produced the opposite results. These results also gave us a hint that self-identity could be seen as a benchmark to determine whether users would lead to more or less consumer purchase intension. When user's self-identity is high, which means they are more involved with this celebrity or brand, they would show a increase willingness to purchase under threat following the social identity theory. However, when their self-identity attached with this celebrity is low, they would show a decrease willingness to purchase based on the traditional negative word-of-mouth theory.

Another result is that public willingness to purchase and cause are more closely tied to long-term impacts, which are more comparable to the distal defence, as opposed to personal readiness to purchase, which is an immediate and direct user reaction. Therefore, consumer willingness to pay and brand cause support may be more resilient to criticism, which is more consistent with the conventional notion of negative word-of-mouth. Each of these motives needs further examination, opening the path for our future research.

## **Chapter 5 Discussion and conclusion**

The goal of our study was to assess how users' sense of self-identity affected their willingness to make purchases in the face of potential trolling behavior. Precisely, self-identity was measured as a dependent variable from low to high. Negative emotion was taken as a moderator in two manipulated conditions: negative and positive. As an independent variable, the willingness to purchase was identified as the private willingness to purchase, public willingness to purchase, and brand cause.

This last chapter summarizes the theoretical foundation and method used to test these manipulations. Next, the research question and results are revisited. Lastly, the findings and contributions are outlined.

### **5.1 Summary of literature review**

Past studies analyzed how trolling affects user-generated content (UGC) and the link to users' willingness to purchase using social identity theory. This study investigates social identity's defence and reactance processes when faced with trolling conduct as a perceived threat to better understand the relationship between trolling behavior, social identity theory, and purchase intention. The threat to fan identity is explained using the Self-esteem Hypothesis and the Optimal Distinctiveness Theory, and a redesigned framework for defense mechanisms is provided. This framework incorporates the Anxiety-to-Approach Model of Threat and Defense, which helps better understand the user's decision-making process. The part emphasizes the importance of understanding how people cope with experiences challenging their core social identity motives. Particularly in the context of trolling behavior and fan identity and leading to two possible scenarios: self-identity will increase willingness to purchase under the threat of trolling behavior, and vice versa.

### **5.2 A two-phased approach experimental design**

A manipulation test was first carried out in the first step to arrive at the 2×2 between-subject experimental design. With four remarks shown to participants independently. The pre-test sought to confirm how participants perceived two situations: trolling and positive conditions. After confirming all two conditions, the main study sought to determine how users' self-identity impacts

emotions, perceptions, and purchase intention online under the threat of trolling behavior compared with the positive condition. In the second phase, online purchase intentions were measured precisely to three levels: private and public willingness to purchase and brand causes.

### **5.3 Main Findings**

The research question might be answered according to the findings from this study. The research hypotheses in this study could also be supported or refuted based on these results.

H1: Self-identity and negative emotion are positively associated in the presence of trolling behavior.

The results from study 1 and 2 both demonstrated that self-identity increases users' negative emotions when threatened with trolling behavior. Hypothesis 1 is therefore confirmed.

H2: Negative emotions is positively associated with the willingness to purchase

H2 was not supported in both study 1 & 2, as negative emotion was a negative predictor of willingness to purchase in study 1 (i.e., for private buying behavior) and not a significant predictor in study 2 (i.e., for public and brand cause buying behavior). Further, the hypothesised indirect effect of self-identity on willingness to purchase mediated by negative emotion was not significant across two studies.

H3a: Self-identity was positively associated with the private willingness to purchase in the presence of trolling behavior (vs. positive condition).

The significant outcome of study 1 shows that, in contrast to the positive condition, self-identity also positively influences private purchasing intentions when trolling behavior is present. Therefore, hypothesis 3a was supported.

H3b: Self-identity positively associated with the public willingness to purchase in the presence of trolling behavior (vs. positive condition).

The impact of self-identity on the public propensity to buy was greater in positive conditions than trolling conditions for this hypothesis, although the results were significant. Therefore, hypothesis 3c was not supported.



H3c: Self-identity positively associated with the brand cause in the presence of trolling behavior (vs. positive condition).

Although the results are significant for this hypothesis, the impact of self-identity on the brand cause was greater in favorable settings as opposed to trolling conditions. Therefore, hypothesis 3b was not supported.

Taken together, we found that people's self-identity would lead to more negative emotion when trolling is present, as suggested by the social identity theory. However, whether the negative emotion would translate to more willingness to purchase is not sure in different scenarios: when user's self-identity is high, which means they are more involved with this celebrity or brand, they would show a increase willingness to purchase under threat following the social identity theory. Besides, when coming to different types of willingness to purchase behaviors, it's shown that when their self-identity attached with this celebrity is low, they would show a decrease willingness to purchase based on the traditional negative word-of-mouth theory. Higher self-identity associated with the celeabrity could increase the purchasing behavior when trolling is presnt, only if the purchasing is due to private cause. However, when the purchasing is due to public or brand cause, higher self-identity associated with the celeabrity would only be associated with the purchasing behavior when trolling is absent.

## **5.4 Theoretical Contributions**

From a theoretical approach, this research makes three important contributions. First, this study analyzes the positive influence of bad word of mouth from the social identity theory perspective. It constructs the influence mechanism of trolling activity on the user's buying intention. Most of the earlier studies on negative internet word-of-mouth focus more on the antecedent elements that affect the brand's reputation and focus more on the negative impact. Moreover, earlier psychology studies suggest that trolling is related to various detrimental impacts on users (**Bishop, 2012**). However, trolling improves users' purchasing inclination. This study employs self-identity as an independent variable, trolling behavior, defense mechanisms as moderator and mediator factors, and purchase intention as the dependent variable to construct the model. Creating this research framework helps to understand the process of users' decision-making and feelings under poor

word-of-mouth. This study enriches the present research on trolling behavior on social media and gives a reference for scholars to analyze the beneficial impact from a customer perspective.

Secondly, this study builds upon the threat defense mechanism research using the anxiety-to-approach model (Jonas et al., 2014). Many studies have identified how people react to threatening information about themselves. Here, we take trolling comments on social media as a specific context to separately measure the multiple stages of defence, intergrade the various factors that might affect the defense strategy, and establish a general threat and defense model.

Lastly, this article links consumers' self-identity and defensive response to their purchasing tendency. Specifically, we discovered that the public and private willingness to buy products and support brands could increase to different degrees under favourable and unfavourable circumstances. According to these studies, self-identity and trolling behavior affect consumer and business behavior.

### **5.5 Managerial Implications**

From a governance perspective, one key aspect of trolling behavior is that it slightly enhances users with high self-propensity identities to purchase. In reality, the business should focus more on managing the negative comments rather than simply deleting them. Trolls and other unfairly critical remarks might occasionally attract more users' attention and support. Therefore, the company can play the psychological threat demand of users online in the marketing campaign. When consumers encounter the threat of self-identity, their performance needs (ability) and relationship with the brand are threatened, which requires the product to satisfy their threatened needs. In this environment, corporations might focus their marketing campaigns on emphasizing the meaning and symbolic value of the brand to achieve consistency and resonance with consumers' fundamental psychological demands. Hence sparking consumers' willingness to purchase. Identifying suitable marketing channels is required to fit the circumstances of self-identification threatening scenarios, giving customers sufficient signals to increase the purchase conversion rate.

### **5.6 Limitations and Future Research**

Besides the contributions, it is also noted that this work has several limitations. First, the divergent conclusion drawn from Study 1a and Study 1b: In the first study, participants with high self-

identities had a higher individual willingness to purchase in the threat of trolling behavior than the positive condition. The outcome aligns with the literature review on social identity theory and the anxiety-to-approach model. In Study 1b, the participants with higher self-identity showed a lower public willingness to purchase and brand causes in the trolling condition compared to the positive condition, which is suitable with traditional studies about negative word of mouth.

The reason could be the limitations in choosing the participants for the experiment. The participants we recruited are from universities in exchange for credits, leaving the pool biased and insufficient to control their self-identity level. Additionally, participants were located in North America. It is plausible that the results would differ greatly in other regions because of the different social media and Internet environments. Considering these points, further research could target participants passionately into music and celebrity instead of convenience sampling.

Secondly, the study used the experimental method to test the hypothesis in data collection. All the posts used in the experiments were created by authors, which are not identical to real online social media environments. Thus, having some inherent limitations in the manipulation of variables. The artificially designed experimental method allows for better control of extraneous factors. Nevertheless, in a real-world setting, consumer behavior that leads to decisions frequently has a combination of multiple causes. As a result, there are some issues with the study's external validity. Lastly, the celebrity and music industry was the focal group for the research. Our findings might not apply to other commercial areas like industry or brand due to the unique characteristics of fan identity. This study could be replicated and expanded in future studies to look at how customers make decisions in different settings.

Overall, the research provided here indicates that when trolling behavior is present, people defend their self-aspects like social ones. Nonetheless, this study has brought up several important topics that require further research. Specifically, what types of trolling behavior lead to this positive impact? What are the psychological mechanisms underlying the relationship between self-identity and buying intention? Finally, are there any conditions where the negative impact of trolling behavior may outweigh the positive impact, leading to a reduction in willingness to buy? Future studies must answer these questions to improve our knowledge of how trolling conduct affects customer behavior. Overall, this research advances our understanding of the variables driving consumer behavior and highlights the need for more investigation.

## **Appendix 1**

### **Questionnaire 1**

#### **Instruction accompanying an anonymous questionnaire**

The following pages contain an anonymous questionnaire, which we invite you to complete. This questionnaire was developed as part of a master thesis at HEC Montréal.

Since your first impressions best reflect your true opinions, we would ask that you please answer the questions included in this questionnaire without any hesitation. There is no time limit for completing the questionnaire, although we have estimated that it should take about 15 minutes.

The information collected will be kept anonymous and will remain strictly confidential. It will be used solely for the advancement of knowledge and the dissemination of the overall results in academic or professional forums.

The online data collection provider agrees to refrain from disclosing any personal information (or any other information concerning participants in this study) to any other users or to any third party, unless the respondent expressly agrees to such disclosure or unless such disclosure is required by law.

You are free to refuse to participate in this project and you may decide to stop answering the questions at any time. By completing this questionnaire, you will be considered as having given your consent to participate in our research project and to the potential use of data collected from this questionnaire in future research.

If you have any questions about this research, please contact the principal investigator, Baihe Yang, at the email address indicated here, [\[redacted\]](#).

HEC Montréal's Research Ethics Board has determined that the data collection related to this study meets the ethics standards for research involving humans. If you have any questions related to

ethics, please contact the REB secretariat at (514) 340-6051 or by email at cer@hec.ca. Thank you for your valuable cooperation!

### **Experiments start**

Welcome!

In this survey, you will be expected to answer several open-ended questions, and to some Likert-type questions. There are no right or wrong answers. We just want to hear your honest opinions whenever asked.

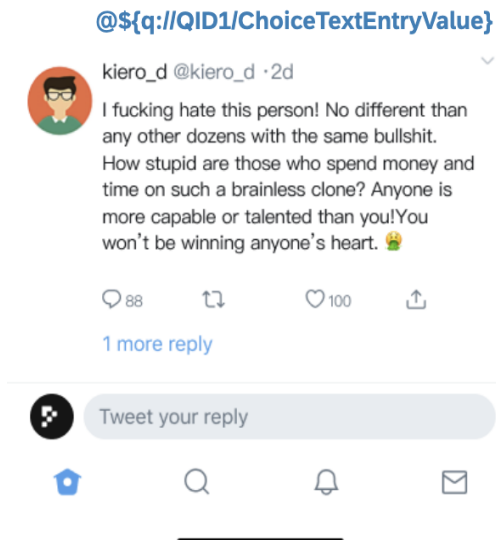
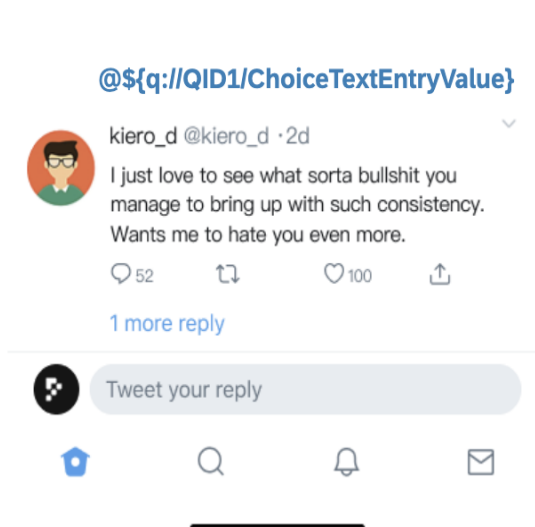
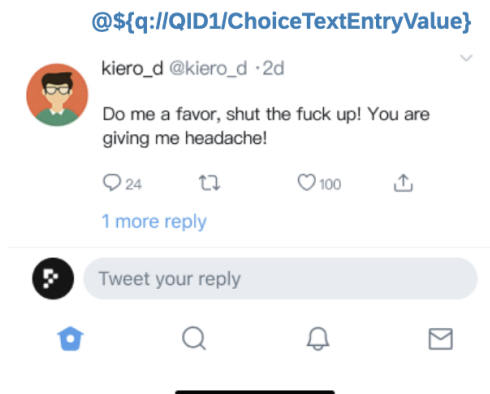
1. Who is your favorite living celebrity? (singers, actors, athletes, influencers, etc.)
2. Please specify the type of your favorite celebrity.
  - a. Singers, bands, or musicians
  - b. Actors or actresses
  - c. Athletes
  - d. Influencers or others
3. Next, we would like you to focus on your most favorite celebrity reported above. For each of the items below, please rate your level of agreement.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. Being fans towards this celebrity defines me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. My fan interest towards this celebrity plays part of my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I am emotionally connected with this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I am connected to others with the same fan interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. I spend a lot of time on the activities related to this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I feel a strong sense of ties with others of the same fan interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I describe myself by mentioning this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I devote a lot of energy to this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I am absorbed in my fan interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I spend a lot of time talking about this celebrity with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. My fan interest with this celebrity is the most enjoyable form of entertainment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. I want everyone to know that I am connected to my fan interest with this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. People think of this celebrity when they think of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I identity myself with this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. This celebrity helps me think about the things I value.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please imagine your favorite music celebrity posted on social media, and you saw the comments below.

Trolling condition:

Participants would be shown these photos randomly:



Negative conditions:

Participants would be shown these photos randomly.



4. After watching these posts, please rate your level of agreement for each of the items below.



	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. I have negative feelings towards these posts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. These posts make me anxious.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I would respond to these posts in the comment section.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. These posts make me feel disrespected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. How do you feel after watching the posts presented before?

6. What would you respond to the posts presented before?

**Attention check question**

7. Please select the CORRECT statement from the list below.

- The letter "R" comes BEFORE the letter "X" in the alphabet.
- The letter "R" comes AFTER the letter "X" in the alphabet.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. I have negative feelings towards these posts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. These posts make me anxious.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I would respond to these posts in the comment section.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. These posts make me feel disrespected.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. After viewing such examples of comments, please describe how often have you seen such comments targeting this music celebrity.

- Never
- Almost never

- c. Sometimes
  - d. Often
  - e. Almost always
9. How often do you respond to such comments?
- a. Never
  - b. Almost never
  - c. Sometimes
  - d. Often
  - e. Almost always
10. Please rate your level of agreement below:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. I would listen or buy music related to this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I would buy brands/ products/ service related to or endorsed by this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I would share his or her music with my friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Demographic Questions

1. How old are you?
  - a. Please write your age below:
  - b. Prefer not to say
2. What gender do you identify as?
  - a. Male
  - b. Female
  - c. Transgender
  - d. Other
  - e. Prefer not to say
3. Please specify your ethnicity.
  - a. Caucasian
  - b. African-American

- c. Latino or Hispanic
  - d. Asian
  - e. Native American
  - f. Native Hawaiian or Pacific Islander
  - g. Two or More
  - h. Other/Unknown
  - i. Prefer not to say
4. What is the yearly household income (after taxes) of your family?
- a. Higher than 93,000 CAD
  - b. Between 70,500 and 93,000 CAD
  - c. Between 55,250 and 70,500 CAD
  - d. Between 49,200 and 55,250 CAD
  - e. Between 32,000 and 49,200 CAD
  - f. Between 18,400 and 32,000 CAD
  - g. Lower than 18,400 CAD
  - h. Prefer not to say
5. Please specify your student ID.

### **Ending message**

That's the end of the survey. Thanks for your participation ! It will take a few days to be credited. Thanks for your patience.

### **Questionnaire 2**

All the same with the Question 1 except the following questions:

1. Who is your favorite living music celebrity? (singer, band, musician, DJ, etc.)
2. Please specify the music genre of your favorite music celebrity.
  - a. Blues
  - b. Country
  - c. Electronic
  - d. Hip hop
  - e. Jazz
  - f. Pop
  - g. R&B and soul

- h. Rock
- i. Others

3. Please rate your level of agreement below:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. I would listen to music related to this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I would buy the music related to this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I would stream music related to this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I would buy an album related to this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Please rate your level of agreement below:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. I would buy merchandising related to this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I would attend a concert where this celebrity is performing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I would share the music of this celebrity with friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Please rate your level of agreement below:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
1. I would buy brands endorsed by this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I would engage in causes defended by this celebrity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I would watch this celebrity being interviewed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I would join this celebrity's social media community.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Appendix 2

Table 1. Rotated Component Matrix

	Component		
	1	2	3
Pleases rate your level of agreement below: - 1. I would listen to music related to this celebrity.		0.259	0.849
Pleases rate your level of agreement below: - 2. I would buy the music related to this celebrity.	0.621	0.238	0.545
Pleases rate your level of agreement below: - 3. I would stream music related to this celebrity.	0.107	0.203	0.833
Pleases rate your level of agreement below: - 4. I would buy an album related to this celebrity.	0.567	0.154	0.558
Pleases rate your level of agreement below: - 2. I would attend a concert where this celebrity is performing.	0.103	0.726	0.338
Pleases rate your level of agreement below: - 3. I would share the music of this celebrity with friends.	0.136	0.782	0.354
Pleases rate your level of agreement below: - 1. I would buy merchandising related to this celebrity.	0.755	0.247	0.236
Pleases rate your level of agreement below: - 1. I would buy brands endorsed by this celebrity.	0.778	0.174	0.172
Pleases rate your level of agreement below: - 2. I would engage in causes defended by this celebrity.	0.819	0.234	
Pleases rate your level of agreement below: - 3. I would watch this celebrity being interviewed.	0.303	0.74	0.156
Pleases rate your level of agreement below: - 4. I would join this celebrity's social media community.	0.372	0.663	

Table 2. PROCESS regression results for Study 1a

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 beta \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)

Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 8

Y : Willingness to purchase

X : Identity

M : negative

W : conditon

Sample

Size: 61

\*\*\*\*\*

OUTCOME VARIABLE:

negative

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7170	.5140	.6353	20.0984	3.0000	57.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.0627	.4873	4.2332	.0001	1.0870	3.0385
Identity	.4711	.1717	2.7437	.0081	.1273	.8149
conditon	-.5056	.6523	-.7751	.4415	-1.8119	.8006
Int_1	-.3846	.2221	-1.7313	.0888	-.8294	.0602

Product terms key:

Int\_1 : Identity x conditon

Covariance matrix of regression parameter estimates:

	constant	Identity	conditon	Int_1
constant	.2374	-.0789	-.2374	.0789
Identity	-.0789	.0295	.0789	-.0295
conditon	-.2374	.0789	.4255	-.1371
Int_1	.0789	-.0295	-.1371	.0493

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0256	2.9975	1.0000	57.0000	.0888

-----

Focal predict: Identity (X)

Mod var: conditon (W)

Conditional effects of the focal predictor at values of the moderator(s):

conditon	Effect	se	t	p	LLCI	ULCI
.0000	.4711	.1717	2.7437	.0081	.1273	.8149
1.0000	.0865	.1409	.6138	.5418	-.1957	.3687

Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/

Identity conditon negative .

BEGIN DATA.

1.7947	.0000	2.9082
2.8667	.0000	3.4132
3.9333	.0000	3.9157
1.7947	1.0000	1.7123
2.8667	1.0000	1.8050

3.9333 1.0000 1.8973  
 END DATA.  
 GRAPH/SCATTERPLOT=  
 Identity WITH negative BY conditon .

\*\*\*\*\*

OUTCOME VARIABLE:

Q11\_1

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5217	.2721	.3260	5.2339	4.0000	56.0000	.0012

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.3804	.4002	10.9462	.0000	3.5788	5.1821
Identity	.4634	.1309	3.5411	.0008	.2013	.7256
negative	-.3245	.0949	-3.4204	.0012	-.5146	-.1345
conditon	.7619	.4697	1.6220	.1104	-.1791	1.7029
Int_1	-.3853	.1633	-2.3601	.0218	-.7124	-.0583

Product terms key:

Int\_1 : Identity x conditon

Covariance matrix of regression parameter estimates:

	constant	Identity	negative	conditon	Int_1
constant	.1601	-.0317	-.0186	-.1312	.0333
Identity	-.0317	.0171	-.0042	.0383	-.0168
negative	-.0186	-.0042	.0090	.0046	.0035
conditon	-.1312	.0383	.0046	.2207	-.0686
Int_1	.0333	-.0168	.0035	-.0686	.0267

Test(s) of X by M interaction:

F	df1	df2	p
9.8567	1.0000	55.0000	.0027

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p	
X*W	.0724	5.5702	1.0000	56.0000	.0218

-----

Focal predict: Identity (X)

Mod var: conditon (W)



Conditional effects of the focal predictor at values of the moderator(s):

conditon	Effect	se	t	p	LLCI	ULCI
.0000	.4634	.1309	3.5411	.0008	.2013	.7256
1.0000	.0781	.1013	.7710	.4439	-.1248	.2810

Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/

Identity conditon Q11\_1 .

BEGIN DATA.

```
1.7947 .0000 4.4314
2.8667 .0000 4.9281
3.9333 .0000 5.4224
1.7947 1.0000 4.5018
2.8667 1.0000 4.5855
3.9333 1.0000 4.6688
```

END DATA.

GRAPH/SCATTERPLOT=

Identity WITH Q11\_1 BY conditon .

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effects of X on Y

conditon	Effect	se	t	p	LLCI	ULCI
.0000	.4634	.1309	3.5411	.0008	.2013	.7256
1.0000	.0781	.1013	.7710	.4439	-.1248	.2810

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Identity -> negative -> Q11\_1

conditon	Effect	BootSE	BootLLCI	BootULCI
.0000	-.1529	.0773	-.2917	.0081
1.0000	-.0281	.0432	-.1304	.0495

Index of moderated mediation (difference between conditional indirect effects):

Index	BootSE	BootLLCI	BootULCI
-------	--------	----------	----------

conditon .1248 .0807 -.0350 .2768

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
-.0281	-.1529	.1248	.0807	-.0350	.2768

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

Table 3. PROCESS regression results for Study 1b

\*\*\*\*\*

Model : 8

Y : public\_b

X : Identity

M : Negative

W : Conditio

Sample

Size: 114

\*\*\*\*\*

OUTCOME VARIABLE:

Negative

Model Summary

R	R-sq	MSE	F	df1	df2	p
,6635	,4402	,4541	28,8375	3,0000	110,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,9984	,2696	7,4129	,0000	1,4641	2,5326
Identity	,3904	,1076	3,6288	,0004	,1772	,6037
Conditio	-,3081	,3846	-,8011	,4248	-1,0703	,4541
Int_1	-,3274	,1513	-2,1640	,0326	-,6273	-,0276

Product terms key:

Int\_1 : Identity x Conditio

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0238	4,6829	1,0000	110,0000	,0326

-----

Focal predict: Identity (X)

Mod var: Conditio (W)

Conditional effects of the focal predictor at values of the moderator(s):

Conditio	Effect	se	t	p	LLCI	ULCI
,0000	,3904	,1076	3,6288	,0004	,1772	,6037
1,0000	,0630	,1064	,5924	,5548	-,1478	,2738

Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/

Identity Conditio Negative .

BEGIN DATA.

1,5618	,0000	2,6082
2,4006	,0000	2,9357
3,2393	,0000	3,2631
1,5618	1,0000	1,7887
2,4006	1,0000	1,8415
3,2393	1,0000	1,8944

END DATA.

GRAPH/SCATTERPLOT=

Identity WITH Negative BY Conditio .

\*\*\*\*\*

OUTCOME VARIABLE:

public\_b

Model Summary

R	R-sq	MSE	F	df1	df2	p
,2930	,0859	,5457	2,5600	4,0000	109,0000	,0426

Model

	coeff	se	t	p	LLCI	ULCI
constant	4,4502	,3619	12,2977	,0000	3,7330	5,1674
Identity	,0068	,1248	,0542	,9568	-,2406	,2541
Negative	-,0032	,1045	-,0306	,9757	-,2103	,2040
Conditio	-,8892	,4228	-2,1029	,0378	-1,7272	-,0511
Int_1	,3665	,1694	2,1640	,0326	,0308	,7021

Product terms key:

Int\_1 : Identity x Conditio

Test(s) of X by M interaction:

F	df1	df2	p
2,2446	1,0000	108,0000	,1370

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p	
X*W	,0393	4,6828	1,0000	109,0000	,0326

-----

Focal predict: Identity (X)

Mod var: Conditio (W)

Conditional effects of the focal predictor at values of the moderator(s):

Conditio	Effect	se	t	p	LLCI	ULCI
,0000	,0068	,1248	,0542	,9568	-,2406	,2541
1,0000	,3732	,1168	3,1957	,0018	,1418	,6047

Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/

Identity Conditio public\_b .

BEGIN DATA.

1,5618	,0000	4,4531
2,4006	,0000	4,4588
3,2393	,0000	4,4645
1,5618	1,0000	4,1364
2,4006	1,0000	4,4494
3,2393	1,0000	4,7625

END DATA.

GRAPH/SCATTERPLOT=

Identity WITH public\_b BY Conditio .

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effects of X on Y

Conditio	Effect	se	t	p	LLCI	ULCI
,0000	,0068	,1248	,0542	,9568	-,2406	,2541
1,0000	,3732	,1168	3,1957	,0018	,1418	,6047

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Identity -> Negative -> public\_b

Conditio	Effect	BootSE	BootLLCI	BootULCI
,0000	-,0012	,0457	-,0891	,0994
1,0000	-,0002	,0144	-,0235	,0388

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
Conditio	,0010	,0421	-,0795	,0984

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
-,0002	-,0012	,0010	,0421	-,0795	,0984

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Model : 8

Y : brand\_ca

X : Identity

M : Negative

W : Conditio

Sample

Size: 114

\*\*\*\*\*

OUTCOME VARIABLE:

Negative

# Model Summary

R	R-sq	MSE	F	df1	df2	p
,6635	,4402	,4541	28,8375	3,0000	110,0000	,0000

# Model

	coeff	se	t	p	LLCI	ULCI
constant	1,9984	,2696	7,4129	,0000	1,4641	2,5326
Identity	,3904	,1076	3,6288	,0004	,1772	,6037
Conditio	-,3081	,3846	-,8011	,4248	-1,0703	,4541
Int_1	-,3274	,1513	-2,1640	,0326	-,6273	-,0276

# Product terms key:

Int\_1 : Identity x Conditio

# Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p	
X*W	,0238	4,6829	1,0000	110,0000	,0326

-----

Focal predict: Identity (X)

Mod var: Conditio (W)

# Conditional effects of the focal predictor at values of the moderator(s):

Conditio	Effect	se	t	p	LLCI	ULCI
,0000	,3904	,1076	3,6288	,0004	,1772	,6037
1,0000	,0630	,1064	,5924	,5548	-,1478	,2738

# Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

# DATA LIST FREE/

Identity Conditio Negative .

# BEGIN DATA.

```
1,5618 ,0000 2,6082
2,4006 ,0000 2,9357
3,2393 ,0000 3,2631
1,5618 1,0000 1,7887
2,4006 1,0000 1,8415
3,2393 1,0000 1,8944
```

# END DATA.

# GRAPH/SCATTERPLOT=

Identity WITH Negative BY Conditio .

\*\*\*\*\*

OUTCOME VARIABLE:

brand\_ca

Model Summary

R	R-sq	MSE	F	df1	df2	p
,5419	,2937	,5354	11,3292	4,0000	109,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,0317	,3584	8,4579	,0000	2,3212	3,7421
Identity	,1968	,1236	1,5917	,1143	-,0482	,4418
Negative	-,0605	,1035	-,5839	,5605	-,2656	,1447
Conditio	-1,4552	,4188	-3,4746	,0007	-2,2853	-,6251
Int_1	,5625	,1677	3,3531	,0011	,2300	,8949

Product terms key:

Int\_1 : Identity x Conditio

Test(s) of X by M interaction:

F	df1	df2	p
,0012	1,0000	108,0000	,9727

Test(s) of highest order unconditional interaction(s):

R2-chng	F	df1	df2	p	
X*W	,0729	11,2434	1,0000	109,0000	,0011

-----

Focal predict: Identity (X)

Mod var: Conditio (W)

Conditional effects of the focal predictor at values of the moderator(s):

Conditio	Effect	se	t	p	LLCI	ULCI
,0000	,1968	,1236	1,5917	,1143	-,0482	,4418
1,0000	,7592	,1157	6,5629	,0000	,5300	,9885

Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/

Identity Conditio brand\_ca .

BEGIN DATA.

1,5618	,0000	3,1943
2,4006	,0000	3,3594
3,2393	,0000	3,5244
1,5618	1,0000	2,6176
2,4006	1,0000	3,2544
3,2393	1,0000	3,8913

END DATA.

GRAPH/SCATTERPLOT=

Identity WITH brand\_ca BY Conditio .

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Conditional direct effects of X on Y

Conditio	Effect	se	t	p	LLCI	ULCI
,0000	,1968	,1236	1,5917	,1143	-,0482	,4418
1,0000	,7592	,1157	6,5629	,0000	,5300	,9885

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Identity -> Negative -> brand\_ca

Conditio	Effect	BootSE	BootLLCI	BootULCI
,0000	-,0236	,0409	-,1050	,0581
1,0000	-,0038	,0149	-,0309	,0334

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
Conditio	,0198	,0388	-,0453	,1113

Pairwise contrasts between conditional indirect effects (Effect1 minus Effect2)

Effect1	Effect2	Contrast	BootSE	BootLLCI	BootULCI
-,0038	-,0236	,0198	,0388	-,0453	,1113

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*



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