

MINOR TRUTH OF GIRL MATH ON MENTAL ACCOUNTING PERSPECTIVE

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ABSTRACT

The "Girl Math" trend has become widespread and viral, seemingly supporting the idea that women tend to be impulsive when shopping. This research discusses the phenomenon in the context of mental accounting. This research aims to construct a conceptual model of girl math from the mental accounting perspective. This research uses the interpretivism paradigm to explore the meaning of the reality being studied through the triangulation of interview methods, observation, and information analysis through social media, the internet, and other relevant articles. This study found that almost all-girl math trends encourage impulsive buying behavior. They have a logic and mental accounting that differ from the general rational standards. Girl math has its own rationalization. The mindset of girls math occurs due to internal and external factors. Internal factors include emotions, the availability of economic resources, and self-control. External factors include community roles, product attraction, and media framing. Girl math could become another truth, but it is merely the truth of a minority.

Keywords: Mental accounting; Impulsive buying behavior; Girl math; Decision making; Self control

ABSTRAK

Tren "Girl Math" menjadi marak dan viral dimana tren ini seolah mendukung anggapan bahwa perempuan cenderung impulsif dalam berbelanja. Penelitian ini membahas fenomena tersebut dalam konteks mental accounting. Penelitian ini bertujuan untuk mengkonstruksi sebuah model konseptual girl math dalam perspektif mental accounting. Penelitian ini menggunakan paradigma interpretivisme untuk menggali makna dari realita yang diteliti melalui triangulasi metode wawancara, observasi, dan analisis informasi melalui media sosial, internet serta artikel lain yang relevan. Penelitian ini menemukan hampir seluruh tren girl math mendorong terjadinya impulsive buying behavior. Mereka memiliki logika dan mental accounting yang berbeda dengan standar rasional umum. Girl math memiliki rasionalisasinya sendiri. Mindset girl math terjadi akibat faktor internal dan eksternal. Faktor internal meliputi emosi, kesediaan sumber daya ekonomi, dan pengendalian diri. Sedangkan faktor eksternal terdiri atas peran komunitas, atraksi produk, dan framing media. Girl math bisa saja menjadi kebenaran yang lain, namun kebenaran sebatas kebenaran minoritas.

Kata Kunci : Mental accounting; Perilaku belanja impulsif; Girl math; Pengambilan keputusan; Pengendalian diri.

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INTRODUCTION

The survey results (Populix, 2023) involving 1,086 Indonesian participants (both men and women) revealed that 19-21 percent of participants shop according to their planned shopping list, while 51-52 percent of participants sometimes make purchases outside their planned shopping. Purchases made spontaneously outside of what was planned are considered impulsive buying, so Indonesian society tends to engage in impulsive buying. Next, it is explained that several reasons strongly driving impulsive buying include the opportunity to own a product that has long been desired but can only be purchased now, as a form of self-reward, an agreement with the seller, and promotional campaigns (such as discounts from platforms, free shipping, cashback, vouchers, and free deals from purchasing items).

The difference between men and women in shopping to meet their needs often comes under scrutiny. Women are considered more impulsive when shopping compared to men. It is because women often get caught up in shopping for what they want rather than need. It aligns with Vinish et al. (2020), who concluded that women prefer shopping emotionally and impulsively, especially for clothing products. The presence of appropriate employee interventions and store interior design can enhance such reactions. Sometimes, people spend money on things they do not need but want (Akram et al., 2017). In mid-2023, a trend called "Girl Math" on the social media platform TikTok spread and became a focal point in society. Girl math is a trend used to justify the shopping habits of women who often make large purchases or unnecessary purchases (Hardiantoro & Firdaus, 2023). Girl math is a way of thinking or rationalization used to justify spending, usually presented humorously and satirically. (Murray, 2023) mentions that girl math is a satire for those who like to splurge money, like a woman who buys a bag worth \$300 and uses it every day for a year, making her feel the bag is free because the cost is considered only \$1 per day. There are several things included in the girl math trend, and one example is when someone pays with cash or through an e-wallet, it is considered free because the ATM account balance is not deducted.

The girl math trend went viral on social media, specifically TikTok, and received much attention. Various videos with the hashtag #girlmath have been viewed 232 million times (Murray, 2023). One example is the video uploaded by @jazzybaby99 in her TikTok post on August 10, 2023, about the girl math trend, which has been viewed 3.9 million times, received 598.8 thousand likes, and garnered 3,833 comments. Many of the 3,833 comments said they relate to the girl math trend described by @jazzybaby99. One of them, @pradhitasp, commented that what @jazzybaby99 explained was true, and she just realized it.

Girl math has become a trend and needs to be responded to wisely by the younger generation. Such a new phenomenon has not been extensively researched scientifically, especially in accounting, thus presenting a good opportunity for this study to fill that gap. It is an essential research study that discusses and explains the Girl Math trend phenomenon from the mental accounting perspective. It will be an important finding for the new generation and serve as a reflective reference for decision-making in the context of financial literacy.

METHOD

This research uses the interpretive paradigm (Neuman, 2013) to achieve the crystallization of meaning and find answers to the research questions. The researcher uses a combination of data acquisition methods to reduce bias. Data was collected by



watching live shopping activities on TikTok, focusing on women using three different accounts. These accounts have different follower counts and sales values. The accounts are @vexxxxxxl, @shxxxxxo, and @maxxxxxxxxxxt. (See the table for more details on accounts.) The justification for this selection aims to observe variations in buyer behavior. The activities observed include the owner's interaction content with viewers or buyers, especially on the live comment feature.

The three accounts have over ten thousand followers and are actively doing live streams for product sales (Table 1). In detail, @vexxxxxxl is a forwarding service (jastip) for hobby items or toys, mostly sourced from stores like Pop Mart, Mini Sou, and Daiso. In addition to having 8,435 followers, the selection of this account coincided with the viral Labubu doll case. The second account is @shxxxxxo, which has 52,791 followers and a GMV of 22.89 million rupiah. This account primarily serves as a personal shopper for hobby items and snacks from Asian countries such as Japan, Singapore, Hong Kong, and Thailand. The third account is @maxxxxxxxxxxt, which has the largest following of 518,073 with a GMV of 2.39 billion rupiah. This account offers fancy accessory products for women. The three accounts offer lifestyle fulfillment products rather than necessities.

Table 1. Observed Accounts

Account Name	Followers	Live Streaming GMV
@vexxxxxxl	8435	N/A
@shxxxxxo	52791	22.89 million
@maxxxxxxxxxxt	518073	2,9 billion

To minimize bias, interviews were conducted with five adult female informants aged over 17 with their income as a form of triangulation from the observation. The justification for selecting these informants also considers their intensity in following live shopping through the TikTok platform, which is deemed frequent, especially for purchasing products outside of basic living needs (see Informant Table below). It is to delve deeper into the motives and mental processes behind the decisions in transactions made by most women. The first informants are L and A, 24 and 26 years old, respectively, and work as private employees. Next is R, who is 34 years old and is a civil servant. We also interviewed A, who is 28 years old and works as a private employee while running an online product sales business. The fifth is N, a pharmacist who is 28 years old (Table 2).

Table 2. Informant

Name	Age (yrs)	Job
Ms. L	24	Employee
Ms. R	34	Public employee
Ms. T	26	Employee
Ms. A	28	Employee & Seller
Ms. N	28	Pharmacist

RESULT AND DISCUSSION

The Birth of the Girl Math Phenomenon

Girl Math was popularized by ZM's Fletch, Vaughan & Hayley, a radio show from New Zealand that discusses various women's habits regarding expensive shopping. They refer to this new phenomenon as "Girl Math" (Herald, 2023). In one of the segments, they interacted with a caller who justified spending \$5,600 on travel, accommodation, and tickets for the Taylor Swift Eras Tour in Sydney. With a girl math

mindset, the caller felt that the expenditure was a free purchase. She feels she has saved money because she only needed to buy a round-trip ticket to attend four consecutive shows instead of the eight tickets that would have been required. The caller also felt that they had successfully saved on accommodation. In addition, the caller can also tell their children and grandchildren that they attended Taylor Swift's live concert at the iconic and priceless Eras Tour (Hagy, 2023). For those who are not die-hard Taylor Swift fans, they might think that this is illogical.

Since then, the girl math trend has spread and gone viral on various social media platforms, especially TikTok. In its development, many accounts have created videos about the girl math trend according to their concepts and versions and uploaded them on TikTok. Until now, posts with the hashtag #girlmath have reached 196.3K with various creations and perspectives on the content, as seen in Figure 1.

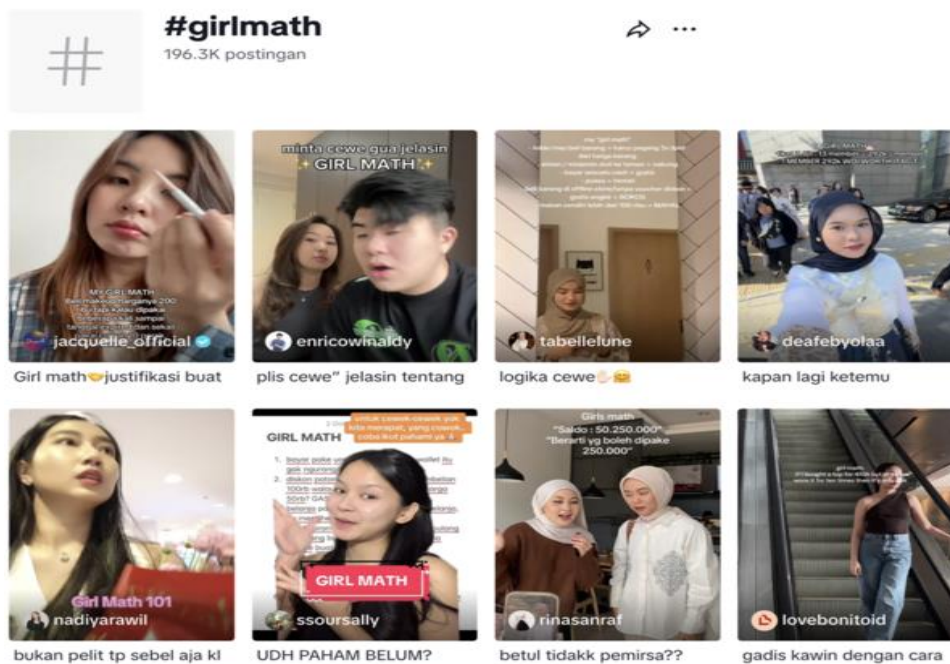


Figure 1. TikTok Screenshot

The longer the posts about the girl's math trend go on, the more interesting they become. One of the equally interesting posts is from the TikTok account @mjcpartners on September 20, 2023, which has been viewed 5.8 million times, received 811.1 thousand likes, and 4,022 comments, attempting to explain the girl math trend to male accountants and eliciting a variety of reactions. One is about the girl's math mindset that buying with cash is equivalent to getting it for free, with some agreeing and others disagreeing. It becomes interesting because even male accountants have differing opinions about the described girl math trend.

The girl math trend is illogical and playful content created by the account owner, but the immense exposure and viral nature have made girl math not just a joke but a new reality. The numerous comments expressing that they relate to several descriptions of the girl math trend in each post indicate that people are familiar with the rationalization of girl math and have even experienced it. The previous perception that women are not intelligent and wise enough to manage finances has also led to increased articles discussing the girl math trend. In the 1970s, women were prohibited from having credit cards, bank accounts, or obtaining loans (Ehsaei, 2023). This stigma

has spread and become a stereotype that women are not intelligent and wise enough in financial management. However, this perception does not align with Vinish et al. (2020), who found that educated modern Indian women also react impulsively when shopping for fashion products. Thus, girls' math is not considered educational status because it is more emotional in nature.

Girl math has changed the narrative and eliminated the shame associated with extravagant spending (Saran, 2023). Carver (2023) mentions that most characteristics of girl math can be identified as heuristic actions that describe mental shortcuts used to solve problems and make decisions. Girl math reflects human limitations in making decisions, which are not always optimal. However, financial expert Kelly Ann Winget provided a different perspective in an interview with Business Insider, stating that the girl math trend can empower women in financial decision-making. When women use girl math logic that does not disrupt their financial well-being, it is good. It shows responsibility towards their financial condition because women choose and consider various options before making spending decisions (Imran, 2023).

Rationalization of Transactions: Girl Math Paradigm

@jazzybaby99 explains the girl math trend that has a unique mindset, such as, if you buy something using cash, it means it is free because it does not deduct from your bank account balance; if you cancel a nail art appointment worth 500,000 rupiahs, it means you have an extra 500,000 rupiah to spend on something else; you would not think twice about eating at an expensive restaurant, but you would think hard about choosing the cheapest fare between Gojek/Grab/Indrive/Maxim; making unnecessary purchases to get free shipping; and if you shop using GoPay/OVO/ShopeePay/Dana, it means you are not spending real money because the real money is in your bank account. Interestingly, from the comments on @jazzybaby99's post, many accounts found it relatable and even endorsed the girl math trend presented. From various video uploads on social media (such as TikTok, Instagram, etc.) and articles on the internet about the girl math trend in Indonesia, several girl math mindsets that have developed in Indonesia and are often considered truths can be summarized.

Shopping with cash or an e-wallet is the same as shopping for free. This trend is almost always the first persuasion mentioned in various videos discussing girl math. The results of the Populix survey (2023) indicate that transactions using e-wallets account for 48% and cash on delivery for 20%, with both payment methods having a higher percentage than bank transfer payments, which only account for 16%. This trend of Girl Math has become a common rationalization. It is acknowledged by niai (@urloffie) and nanadonggg (@imyournanaaaaa), who commented on a TikTok post by @jazzybaby99, "Haha, it is true, it feels more like spending money from an account than cash" and "Most relatable, it is not a problem to spend money in spay gpay dana rather than money from m-banking." This is in line with the findings of Thaler & Shefrin (1981), which reveal that people can perceive money from a retirement account as not the same as money from a checking account in terms of their consumption activities. Therefore, they quickly spend it.

Second, if shopping comes with discounts or cashback, it means profit or making money. The presence of discounts and cashback makes people even more tempted to shop. Populix (2023) also revealed that one of the motivations for people to shop is the presence of discounts, which are 19%, and cashback of 25%. Many often feel that getting a discount or cashback while shopping is equivalent to making a profit. It is also acknowledged by informants Ms.L, Ms.T, and Ms.R, who feel happy when they receive discounts because the price of the items they want to buy becomes cheaper, and

they feel they are gaining an advantage. With the presence of discounts, products can be obtained at prices lower than expected, which can encourage someone to make a purchase (Yi & Jai, 2020; Beurer-Zuellig & Seiler, 2017; Zhao & Wan, 2017; Ngo et al., 2024).

Third, the rationalization for buying items more is to get free shipping or reduce transaction costs. Survey results show that 23% of people make transactions because they are attracted to the free shipping program. For him, this is an advantage, regardless of the importance of the item purchased. Many people feel that it is more expensive to pay for shipping than to add the cost of buying additional items, even if they are unnecessary. It was acknowledged by @arindika89, who commented, "That's totally me; I'd rather buy something unnecessary than pay for shipping."

Fourth, buying a liked item that can only be purchased now. This rationalization is heavily influenced by scarcity, such as those offered by overseas item-forwarding services at rare events. It is often found during the observation of live TikTok. For example, during a TikTok live session by @shxxxxxo offering Hong Kong shopping services, many people spontaneously bought items because they felt they were desirable and could only be purchased at that moment or were rare. One is the account @mhxxxxxz, who quickly bought a gold Pandora bracelet and Disney charms for approximately 10 million rupiah. Park et al. (2022) found that scarcity is a significant moderator in strengthening the relationship between consumer attitudes toward luxury products and their willingness to pay. Fifth, spending money or buying things as a form of Self Reward. This mindset has become increasingly common lately. Those who feel they have worked hard use the excuse of self-reward to justify their purchases. This was acknowledged by Ms. R, who allocated a budget for traveling.

Girl Math on Mental Accounting Perspective

Thaler (1999) mentioned that humans divide their financial resources into accounts or specific categories that exist in their minds. In this case, mental accounting is the process that occurs in the mind where individuals record, summarize, analyze, and evaluate financial transactions or events to track financial activities and control expenditures. Informant Ms.L thinks and divides her finances into operational expense accounts and savings. Informant Ms.R divides her financial categories into savings, operational expenses, assistance for parents, and a leisure category that includes pocket money, buying clothes, skincare, and traveling. It is done as a plan, especially after receiving their salary from their workplace or even based on predictions of how long they will work and the expected increase in take-home pay over the next few years. They do not keep formal records. It is a mental process or is only done in the mind.

In this study, the mental process of financial planning is called mental budgeting. The mental budgeting process is expected to help manage finances well, enabling precise decision-making and reducing the risk of poor financial management. However, the reality is not entirely like that. Impulsive buying, closely related to the girl's math mindset, still occurs. Impulsive buying behavior is an action someone takes based on a sudden urge to purchase goods or services without prior intention or plan and without considering goals, aspirations, or long-term thinking (Baumeister, 2022). Goel et al. (2022) also stated that impulsive buying behavior is the urge of an individual to make sudden, attractive, hedonistic purchases without carefully considering all the available information and alternative options. Many experts argue that a lack of foresight and careful consideration contribute to impulsive buying, which is motivated by internal and environmental stimuli (Chung et al., 2017; Vonkeman et



al., 2017). The increasing breadth of online channels and the enhanced accessibility of products and services, thanks to advancements in information technology (Leong et al., 2018), encourage consumers to engage in impulsive buying.

The five informants admitted to having undergone a mental budgeting process related to financial planning. However, they are still often tempted to make expenditures beyond what has been planned, even for things that are neither urgent nor important. They quickly fall into the trap of girl math. It aligns with the notion that the urge to make impulsive purchases can be characterized by sudden and unintentional buying, unplanned, hedonistically triggered, non-reflective and quick, and/or triggered by environmental stimuli (Abdelsalam et al., 2020; Goel et al., 2022). Ms.T and Ms.R realize that they often engage in impulsive buying. However, they are still able to keep their spending within their budget. Ms. N is often tempted when faced with shopping discounts.

Meanwhile, Ms. A is tempted to buy items because the products appeal to her. Recently, she often buys sports pants to keep up with the latest fashion trends, even though she already has many sports pants. From the triangulation process, it can be concluded that the mental budgeting process is easily distracted by the belief in girl math, leading to an apparent occurrence of unfavorable variance or over budget.

Girl math is often associated with impulsive buying behavior. The girl math trend is used to justify shopping in large quantities or purchasing unnecessary items. Girl math refers to the way of thinking or rationalization used to justify spending, usually presented in a creative, humorous, and satirical manner. In contrast, impulsive buying behavior leans more towards a person's action of making purchases without planning, triggered by emotional impulses, often without considering the long-term financial impact. Both are related to economic or financial decisions.

Girl math tends to make someone make decisions based on what they want, not what they need. A live TikTok observation by @shxxxxxo found a phenomenon of impulsive buying triggered by curiosity. Transactions are conducted using a mystery bag scheme. The buyer will purchase items randomly, like picking a cat in a sack. The buyer feels a unique sensation when trying to guess whether the chosen item meets their expectations because the product is presented in a mystery bag. One of the buyer accounts, @sxxxxxs, has made 12 purchases and still has not received the item they wanted. He continued the second round to make random transactions until he got what he wanted.

Tversky and Kahneman (1981) proposed that not everyone reasons when making decisions. It is supported by Amalia & Firmadhani (2022), who argue that there are conditions where a person does not reason when making decisions, namely when they feel that the decision to be made is closely related to their interests, leading them to make decisions according to their desires, which is referred to as the self-fulfilling prophecy effect as done by Ms. T, who continued to make purchases during the sale even though she already had stock. The existence of discounts, which should be a form of saving, but if done excessively due to the fear of not getting similar discounts in the future, it will become wasteful.

Various economic benefits are obtained, especially those manifested through price pressures such as discounts, which significantly impact consumer excitement and enthusiasm and encourage impulsive buying behavior (Gupta & Gentry, 2018). Chen & You (2018) found that economically beneficial promotions, which can reduce the amount of money consumers need to spend, generate significant pleasure. The feeling of having successfully saved money can stimulate a tendency for impulsive buying because sudden and unexpected price changes enhance the stimulus and pleasure.

Several studies have found that special time-limited offers, discounts, buy-one-get-one promotions, and coupons significantly influence consumers' impulse buying tendencies (Akram et al., 2018; Marketing, 2020).

Another example can be found in a TikTok live by @shxxxxxo when offering Hong Kong shopping services. Many people made excessive purchases because they felt the items offered were desirable (Sanrio and Disney characters) and could only be bought then. Even the top spender on Jasa Titip at that time reached 42.7 million. Consumers feel that Sanrio and Disney-licensed products, which are only available in official stores, are not easily obtainable in Indonesia, making them rare. The scarcity effect can encourage consumers to buy impulsively (Chung et al., 2017). Several studies have found that product scarcity can increase excitement, encourage purchasing behavior, trigger consumer interest, and prompt quick acquisition actions (Guo et al., 2017; Lamis et al., 2022; Ngo et al., 2024).

Girl math makes someone rationalize their shopping habits so that they seem rational. No matter how good the mental budgeting process is, it will revert to the girl's math pattern when not balanced with good self-control. Yim (2017) stated that individuals with greater self-control are more likely to evaluate the goods or services they purchase based on long-term benefits and the value of a product rather than buying under emotional influence. One of the efforts in self-control is to conduct a cost-benefit analysis and understand what is needed compared to what is desired. It is in line with (Fenton - O'Creavy et al., 2018; Baumeister, 2022 Efendi et al., 2019) , who state that individuals with poor self-control are more likely to be attracted to the temporary satisfaction and pleasure of impulsive buying behavior and tend to base their actions on this. On the other hand, individuals with strong self-control are more likely to consider and measure the consequences of their purchasing behavior from a long-term perspective.

Factors Forming the Rationalization of Girl Math in Decision-Making

From various analyses of field findings, the girl's math mindset can be influenced by internal and external factors. Internal factors include aspects of emotion, economic wealth, and self-control. Emotions are the most challenging aspect to control. It appears and disappears just like that. Emotions are the biggest trigger for impulsive behavior, including in the purchasing process. Kahneman (2013) stated that emotions play a significant role in System 1, the fast, automatic, and intuitive thinking system. Decisions made by System 1 are often influenced by emotional reactions that can lead to less rational decisions. Although System 2 is a slower, more analytical, and rational thinking process, strong emotions can affect its ability to make rational decisions. The attitude of the informants and the observed accounts, who tend to consume what they desire rather than what they need, is an example of decision-making influenced by emotional factors rather than logical thinking. For example, live transactions with surprise box gacha packaging and mystery bags make potential buyers curious and keep them intrigued until they get what they want.

The second element of the internal factor is financial capability or economic well-being. Informant Ms. L admitted that she decided to buy a new gold bracelet shortly after losing her bracelet. Ms. L is accustomed to wearing a bracelet, so buying a new gold bracelet to replace the lost one is necessary. Ms. L's financial capability further makes her feel that buying a new gold bracelet is not a significant burden. Returning to the case of the account @sxxxxxs, who initially made purchases from @shxxxxxo using the mystery bag system 12 times and, in the next phase, made 12 more purchases



from the next set. He feels that his desires have not yet been fulfilled and continues to strive to get what he wants. The cost of @sxxxxxs for that purchase reached up to 4.8 million rupiah. From several findings, it can be seen that the financial capability or economic welfare one possesses encourages a person to rationalize their purchases.

The third element is about self-control. Self-control refers to an individual's ability to regulate thoughts, emotions, and behaviors in the face of unwanted impulses and temptations (Kuhn, 2013). Self-control becomes important to help individuals avoid and mitigate losses caused by emotionally driven purchases. Self-control allows individuals to maintain diligence, where they will forgo immediate gains in exchange for long-term benefits (Yim, 2017). Zhang et al. (2024) also found that self-control plays a role in determining impulsive buying behavior. It is the final filter of the decision on economic actions. Kahneman (2013) mentions that the fast and slow thinking model determines a person's attitude or self-control. Self-control is triggered by slow thinking. Weighing all aspects of feasibility between needs and wants priority scale, and the urgency of executing an economic transaction. The prolonged duration of slow thinking is what poses a significant challenge in the realm of live shopping. Live shopping puts someone under pressure due to time constraints, opportunities, and competition. Such conditions force someone to make quick decisions, even in an emotionally unstable state.

These three elements will co-occur and will influence each other. For example, suppose someone is emotionally carried away and desires to buy an item but is hindered by economic welfare. In that case, they will likely stop at that TikTok and lament it. On the other hand, in a state of good self-control, no matter how much money one has, it will be used rationally according to needs and the scale of life priorities.

Besides internal factors, the rationalization process of girl math is also driven by external factors triggered by things outside oneself, such as social influence, media framing, and the appeal or attraction of the product. Social influence is a significant triggering factor for the activation of girl math. The author found this while observing the live sales on TikTok @vexxxxxl, which offers a beauty product consignment service in Bangkok. Because one of the buyers commented that the lipstick with the GC brand is good and trending in Bangkok, it triggered other users to also purchase the product, even in relatively large quantities. It aligns with the thinking of Ali and Amir (2024) about herd behavior, which is a form of imitation of the behavior of most people. Xu et al. (2024) also found that impulsive behavior is also a result of someone imitating the behavior of others, which is in line with social learning theory. Lee et al. (2015) revealed that the actions of "liking" and "commenting" on social media serve as a source of knowledge for many consumers or even become a justification.

In online communities, one can quickly identify popular information through "likes," "comments," and "shares," which lead to herd behavior (Chang et al., 2015; Mattke et al., 2020). When the information that has been shared spreads widely and becomes a trend, it encourages someone to follow that trend (Ridders, 2002). When the sales ranking of a product increases, there is usually a significant increase in subsequent sales (W. Wang et al., 2019). Trends become the discovery of the factors behind herd behavior. When many people do something (including purchasing certain items), there is a tendency for people with similar personas to do it as well. Social movements or communities can inspire someone's girl math mindset to buy impulsively. Without thinking more rationally, under the pressure of live shopping, someone becomes convinced by the information provided by known and unknown

individuals. In other words, the influence of the community becomes quite dominant in the activation of girl math.

Second, the appeal or attraction of the product itself is a driving force behind the rationalization of girl math. Taste factors and the product's attractiveness in appearance, features, or gimmicks are important considerations in girl math. No matter how good and viral a product is, if it does not align with someone's persona or preferences, then an impulsive transaction will not occur. Attraction will emerge when the product's value aligns with the value someone expects. From several findings in the field, the author observes that the attraction or appeal of a product can lead someone to engage in impulsive buying and rationalize their purchase. It can be seen in Ms. A, who bought sports pants because of their preferred design even though she already owned several pairs of sports pants. Moreover, Ms. A admits that she is often tempted to make purchases because the products offered are attractive.

The author found the same thing when observing live online sales on TikTok at @vexxxxxxl, which offered items for sale using a surprise box *gatcha* system. Initially, people tend to be less interested in purchasing because the surprise box *gatcha* system prevents them from knowing the actual appearance of the item sold, especially for new products that the audience has never seen or recognized. However, when potential buyers have seen the items for sale, usually because the host has one of those products and shows it or because one of the buyers has done a detailed reveal of the purchased surprise box, many potential buyers make a purchase even in a scramble because they are attracted to the product they find cute. However, some decide to purchase the surprise box just by looking at the lineup pictures on each box out of curiosity. The mysterious allure stimulates a person's interest and urges them to make a purchase, directly and indirectly, influenced by curiosity. Moreover, when a message of uniqueness is conveyed, it arouses consumer curiosity, increasing the urge to make impulsive purchases (Das et al., 2023). The novelty of the product, surprise, and curiosity influence impulsive buying behavior (X. Gong et al., 2024). Moreover, if the item being sold is currently trending, like Labubu from Pop Mart, many people are willing to pay a high price to be able to buy Labubu.

The third element of external factors is media framing. In the process of collecting empirical data, it was found that the quality of content, such as the demeanor of the host or content creator, persuasion techniques, and cinematography, also shape audience perception. From the observation of the TikTok live streams of @shxxxxxo and @maxxxxxxxxxxt, it was found that the hosts' natural, organic, and entertaining demeanor during the live streams attracted many people to watch their live sessions. The organic, funny, and genuine concept boosts the audience's confidence in assessing the credibility of the seller's account. For example, host @shxxxxxo, who once asked his viewers why so many people still stayed up late watching his TikTok live, responded that it was because the host was funny in responding to viewers' comments. Similarly, host @maxxxxxxxxxxt also asked his viewers the same question, and many viewers responded that they liked him because he was straightforward.

The audience became engrossed, as evidenced by the lack of a significant difference in the number of viewers from the beginning until the Live ended. Both hosts from the online shop were interactive and responded to comments from viewers and buyers naturally and entertainingly. It increases the viewers' confidence to make a purchase. One of the unique findings from this study is that the audience is not entirely influenced by the live shopping broadcast time. For example, the TikTok live account



@shxxxxxo operates after 10 PM but still attracts thousands of viewers. It may happen due to the host and audience's parasocial interaction.

In their research, Aw & Labrecque (2020) and Y. Chen et al. (2019) found that parasocial interaction positively creates emotional attachment with social actors/hosts. Parasocial interaction is a digital interaction between the audience and the social actor/host, conceptualized by a reciprocal feeling based on awareness, attention, and mutual adjustment. Parasocial interaction can foster affective trust. W. Gong and Li (2017) stated that parasocial interaction can shape viewers' attitudes toward products and services and can even contribute to the enjoyment felt in the shopping experience (Xiang et al., 2016). Parasocial interaction has been found to encourage impulsive buying. The interactive nature of live streaming/live shopping can facilitate a two-way dialogue where the audience is no longer a passive actor but a co-producer in media consumption (Lo et al., 2022). It can happen when the host acknowledges the audience's presence by engaging in dialogue during the live streaming/shopping session (Lim et al., 2020).

From the observations, the two-way interaction between the host and the audience can make live streaming/live shopping enjoyable and keep the audience engaged, as seen in the live streaming/live shopping. TikTok on @maxxxxxxxxxxt and @shxxxxxo. Feng et al. (2024) found that the urge to make impulsive purchases can increase if live streaming/live shopping is engaging, enthusiastic, creative, and inspiring, leading consumers to experience positive emotions. Dynamic and interactive live streaming/live shopping can evoke strong emotional responses such as excitement and desire, increasing an individual's urge to purchase impulsively.

From the mental accounting perspective, girl math can be an interesting theoretical study. Mental accounting is a cognitive process that involves thinking, where individuals record, summarize, analyze, and evaluate financial transactions or events to manage and control their spending in their minds (Thaler, 1999). Kahneman and Tversky (1984) proposed that mental accounting is a psychological account formed by individuals in evaluating costs and benefits, which are then assessed using the principles of prospect theory. Mental accounting seems to be the ideal academic formula for how humans make rational decisions in their minds. Rospitadewi and Efferin (2017) mention that the components of mental accounting include the framing effect, self-control, specific accounts, decision-making, self-reporting, and the hedonic treadmill. These components are said to have the potential to create mental accounting biases. It is in line with the empirical findings on the girl math phenomenon in this study, which have been categorized into internal and external factors in the previous discussion. From the presentation of the research findings and the discussion conducted, it can be concluded that a conceptual model of girl math is as follows (see Figure 2).

Girl math might seem like a common phenomenon that is irrational. However, those who make decisions in line with girl math feel that they are being rational. They analyze the purchase transactions they make. Making purchases, especially for desired items, to enhance pleasure and work enthusiasm often becomes the reason. They feel a sense of pleasure and renewed energy from their purchases. Some experts argue that impulsive buying can be viewed from cognitive and emotional aspects, indicating that impulsive buying is a transaction conducted by consumers experiencing high positive emotions, such as excitement and happiness (Verplanken & Herabadi, 2001; Coley & Burgess, 2003). Some experts argue that consumers tend to buy impulsively when they experience positive emotional reactions, such as excitement and happiness (Bellini et al., 2017; Chen & You, 2018; Shen & Khalifa, 2012; Xiang et al., 2016). Emotional states

(positive affect) increase the likelihood of purchases, encouraging someone to make an impulsive purchase.

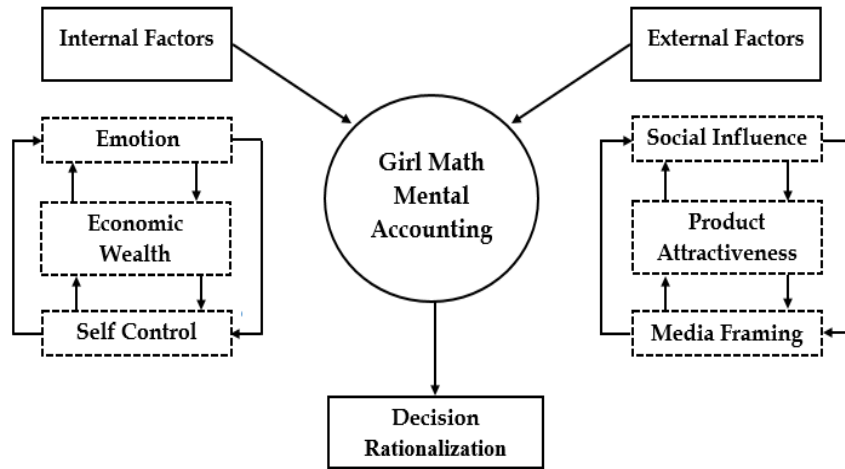


Figure 2. Interactive Elements of Girl Math

Girl math promises a sense of happiness in life. Getting the desired item is truly enjoyable. @mxxxxxxxxxxxxt feels that the expenses made are the result of hard work, so they should enjoy the results and be able to treat themselves. @mxxxxxxxxxxxxt stated in his live session, "You have to self-reward; what is the point of working hard if it is not to enjoy yourself too..." He also added in another live session that as long as one is still young, healthy, and able to move, one must work diligently and save money. So it can be seen that after working hard, @mxxxxxxxxxxxxt gives herself a self-reward by spending on what she desires, and this can make her feel motivated again when working because she can enjoy the results of her hard work. The rationalization that has been known so far clashes with the girl's math mindset. There is no absolute truth because both are based on individual perceptions and beliefs that may not be the same. However, the truth of girl math only applies to a minority.

Reflective Notes on the Hedonic Treadmill and the Loss of Consciousness

Ms. T considers discounts as profits that should make things even more economical. She explained, "In my opinion, the girl math trend regarding discounts affects my spending." So what should have been more economical became more extravagant. Because when I have my version of girl math, I rationalize things I should not do. For example, if I have much stock, but because of the discount, I still buy it. Because of my principle, I would instead buy it to get the item at a cheaper price. Implicitly, there is an awareness that what he did was wasteful, but he tries to rationalize his actions. Ms. R and Ms. T also admitted that they often succumbed to temptation and made purchases even though they exceeded the budget for that month. However, this was considered insignificant because it was still within their financial capability. They have the rationalization that buying something they like and can only purchase at that moment is a form of self-reward. For the practitioners, girl math is something logical and valid. A truth that applies only to the girl math community or a minor truth.

The manifestation of girl math behavior is like an unending circle. From the perspective of rational theory, it is clear that impulsive buying is not a logical action because emotional factors influence it. The perpetrators realize that they are caught in

wastefulness or purchasing items that are not truly needed. At the next moment, they will likely get caught up in the rationalization of girl math again. The pattern that keeps repeating is called the Hedonic Treadmill. Awareness will appear and disappear again on TikTok, a zero-awareness platform. Impulsive buying has also been shown to be associated with debt behavior and compulsive buying, which can lead to shopping addiction (J. Wang & Xiao, 2009).

Uncontrolled and repeated impulsive buying can become a problem known as compulsive buying. Compulsive buying involves the repeated and excessive purchase of consumer goods, which can cause psychological stress and seriously impact a person's life, such as adverse reactions from family and friends, debt, and feelings of guilt (Christenson et al., 1994). To avoid uncontrolled and detrimental impulsive buying, one must have good self-control. Individuals with greater self-control are more likely to evaluate the goods or services they purchase based on long-term benefits and the value of a product rather than buying under emotional influence (Yim, 2017). Individuals with poor self-control are more likely to be attracted to temporary satisfaction and pleasure from impulsive purchases (Fenton - O'Creavy et al., 2018). On the other hand, individuals with strong self-control are more likely to consider and measure the consequences of their purchasing behavior from a long-term perspective (Baumeister, 2022; Efendi et al., 2019). They have a stronger tendency to be able to resist impulsive purchase decisions (Kuhn, 2013).

CONCLUSION

Proses mental accounting dengan mindset girl math dipicu oleh faktor internal dan eksternal. Internal factors include emotional state, economic well-being, and self-control. Emotional factors play a significant role in driving impulsive buying behavior. These three elements will support each other and play a role in decision-making. Meanwhile, external factors consist of social/community pressure, product attraction, and media framing. The six elements ultimately trigger each other simultaneously and impact a person's mental accounting, manifesting in decision rationalization. Such impulsive efforts, when they become a pleasure, will eventually turn into a habit. Another interesting finding is that those affiliated with this girl's math mindset sometimes feel that their impulsive decisions are logical and correct, with reasons such as scarcity, opportunity, self-reward, for the sake of loved ones, etc. On the other hand, they also feel that their actions are irrational and a waste, even though later on, they get trapped and do it again as a short-term pleasure in the form of a hedonic treadmill.

This research is still limited to the effort of discovering the elements or variables that form the girl's math mindset and has not yet tested the strengths and weaknesses of the influence and interaction among these variables. It is due to the limited literature addressing this phenomenon, especially in a scientific context. In addition, this research is still limited to the behavior of young women. One of the informants mentioned that such a phenomenon could also occur among men, which would present an opportunity for future research, considering that this study has not yet covered that subject. Expanding the informants' horizons in the future will undoubtedly provide a more holistic picture of the Girl Math phenomenon, which may evolve into Boy Math or Zennial Math.

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