

## INTERACTIVE AR BOOKS AS MEDIA FOR EDUCATING CHILDREN ABOUT COLORISM IN JAKARTA

Vera Jenny Basiroen<sup>1</sup>  
Damba Permatasakti<sup>2</sup>  
Renalda Elnesia Paath<sup>3</sup>

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**Abstract:** *The obsession with skin whiteness as a symbol of beauty has long been rampant in the Asian continent, including Indonesia. During the colonial period in Indonesia, white women had become beauty icons, as shown in old magazines. Research and the media have shown that colorism remains largely ignored in the modern era. This study aims to find an effective way to educate the younger generation about the problem of colorism. The research target was limited to the city of Jakarta by observing and interviewing six to eight-year-old students at two local schools in the South. The methods used in this study were interviews with child psychology experts and focus group discussions with the target market. The results show that the stigma of colorism exists among children in big and modern cities like Jakarta. There is a need for education and triggering action on this issue. Using an interactive children's AR book can be an educational and emotional tool for understanding colorism. AR features deepen the story through animated illustrations and increase interaction with readers.*

**Keywords:** *colorism; educating; children; AR book; illustration*

### Introduction

It is a perceptible idea that physical appearance is critical in a competitive society. Humans have constantly been judged by their looks in every aspect of their lives. How people decide what is considered attractive remains a mystery as researchers continue to find explanations. A study discusses what is regarded

as ideal beauty, which can explain the formation of beauty standards. In his evolution analysis, Bovet said that men prefer women with good reproductive health and maturity features, such as a symmetrical face (Bovet, 2018), a healthy body mass index, or a low waist-to-hip ratio.

However, it is critical to notice that bodies are built differently, with various shapes, sizes, and colors worldwide. Im-

<sup>1</sup>Vera Jenny Basiroen is a lecturer at School of Computing and Creative Art, Bina Nusantara University, Jakarta.

e-mail : nonjane@binus.edu

<sup>2</sup>Damba Permatasakti is a lecturer at School of Computing and Creative Art, Bina Nusantara University, Jakarta.

e-mail: damba.permatasakti@binus.edu

<sup>3</sup>Renalda Elnesia Paath is a student at Graphic Design & New Media Program, Visual Communication Design Department, Bina Nusantara University, Jakarta.

e-mail: renalda.paath@binus.ac.id

mersing in standards of beauty that are unachievable to many can be stigmatizing to communities who are naturally born with features that do not match these standards. Colorism is the social construct in which an individual of a lighter skin color becomes more privileged than an individual of a darker skin tone (Chen & Francis-Tan, 2022). After an extensive history of color bias through the color depictions of social classes in ancient art and writings, European colonialism, and modern globalization, the association of darker skin tone with negative attributes and lighter skin tone with positive attributes continues to be strengthened until today in the Asian community, prominently.

When Dutch colonialism peaked in 1900 - 1942, white women became the ideal representation of ideal beauty (Saraswati, 2016). In Saraswati's article entitled *Seeing Beauty, Feeling Race in Transnational Indonesia*, there is ample evidence to suggest that skin color during this period was a sign of social status. Racial projects built by the Dutch attempted to equate skin color with race in which Caucasians were the only people who claimed to be "white" and "white," although there were other races with the same white complexion, such as Chinese. At the end of the eighteenth century (Saraswati, 2016), while a white face was considered a skin color of a higher status, Saraswati also encountered testimonies of Europeans stereotyping dark-skinned natives in the Dutch East Indies as "lazy," "stupid," and "immoral." Signs of white superiority can also be found in colonial magazines. Although most beauty advertisements are black and white, it seems clear that white people are the only ones represented as the ideal beauty image, along with text promoting skin-whitening products (Kaur et al., 2013). For example, an advertisement in the 1920s promoting Palmolive soap featuring a white man with a black woman waiting with the caption, "Beauty From The Trees," clearly visualized that white skin was the

desire of all women as seen in Figure 1.



Figure 1. Palmolive advertisement in 1920's  
(Source: etsy.com)

Although Caucasian women became icons of the ideal of beauty during the Dutch colonization, this was challenged when the Japanese arrived in March 1942. During the Japanese occupation, a new racial hierarchy was established in which Asians were superior to all races. Magazines founded during the Japanese occupation represented the Japanese and Indonesian as ideals of beauty. For example, *Djawa Baroe* celebrates the attractiveness of Indonesian and Japanese women. The women on the covers of these entertainment magazines are often described as "beautiful" and "well-behaved" (Waworuntu & Tjahjawulan, 2021).

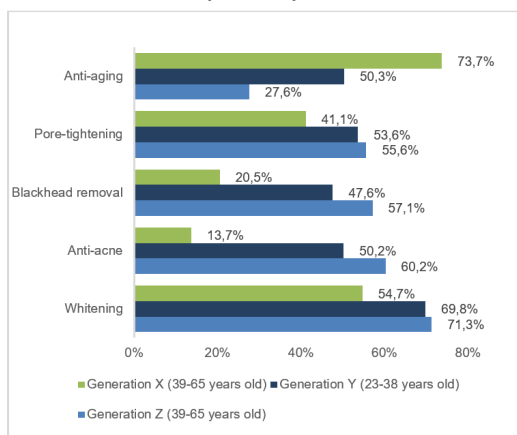


Figure 2 . Djawa Baroe magazines  
(Source: warungarsip.co)

These models wear traditional clothes, such as kimonos, and the kebaya models used mainly were white. For example, in the Lotos power advertisement published in Djawa Baroe magazine, a woman wearing a kebaya as seen in Figure 2 with white skin was photographed.

Colorism which correlates with beauty standards is usually more directed at women (Bettache, 2020). A survey conducted by ZAP Clinic, which aims to find out the perceptions and behaviors of Indonesian women regarding the beauty industry, shows that 73.1% of them define beauty as having white, clean, and glowing skin (Sukisman & Utami, 2021). The study also shows that women in Indonesia are usually insecure about their dark skin and will choose to undergo skin treatments such as vitamin C injections, laser treatments, skin-lightening face creams, or counterfeit medicines (Wolff, 2021) as can be seen in Table 1.

Table 1. Indonesian women's perception and behavior about beauty industry (Wolff, 2021)



Media dominated by white skin like this can shape the perception of young women that white skin is the only way to achieve beauty (Kaur et al., 2013). Most Asian cultures have a history of class-based hierarchies based on skin color (Bettache, 2020). Light-skinned individuals were considered to belong to a higher class because it

was assumed they did not need to work in the sun. For example, geisha in Japanese culture paint their faces white as a sign of nobility and femininity. This preference continues in today's modern world. Women still want skin with a smooth texture, skin like glass. The recent boom in 'white beauty' indicates that we have returned to our starting point—the Japanese adulation of whiteness (Bifue, 2013).

A study conducted on elementary school children in Laweyan, Surakarta, shows that bullying is usually aimed at children with dark skin (Herinjung & Karyani, 2015). Colorism occurs from childhood to adulthood in elementary school children, and based on Herinjung and Karyani's research, colorism can affect victims' mental health and self-esteem. A psychology study by Sigelman et al. (1986) has proven that preschool to elementary school-age children can recognize physical differences in other children, such as weight and disability. What is most relevant to this research is skin color (Sigelman et al., 1986).

The desire to achieve specific standards, such as having lighter skin, can be caused by exposure to skin-whitening advertisements aimed at adults during children's broadcasts and bullying from peers (Auliya Sani et al., 2019). A study conducted in Pedawang Village, Kudus, Central Java, investigated the impact of verbal bullying and said that children who were victims of verbal bullying had shame about their physical appearance and lost self-esteem (Putri et al., 2021). In children and adolescents, low self-esteem can lead to peer rejection [14] and can be associated with child psychopathologies such as depression, anxiety, and eating pathologies. In a comparative study conducted at an elementary school in Bandung, children who were bullied or became victims of bullying were seen from their academic achievements (Auliya Sani et al., 2019).

The consequences of colorism in society and children's social environment confirm that there is a need to promote a stigma-free community in Indonesia, starting with children, by educating them and empowering them through creative media (Ikhsanty, 2020). The media has to be a fun experience to appeal to the target market, children. Clever execution of design elements in a picture book can achieve this. One example is the use of illustrations. In a competitive market, well-produced covers and illustrations are used to stand out (Hladíková, 2014). At first, it's the part of the book that catches the reader's attention before the storyline becomes the main point of judgment. Illustrations visualize the words and expand the story, making the reader "feel" the terms. The authors allow illustrators to express their creativity and add more scenes. This strategy is used to avoid duplicating text in visuals. Illustrations often serve to complement the text provided by the authors. However, there are cases where contradictory visuals are successfully used to enhance the humor.

Another critical element that plays a role in the enjoyment and experience of books is the choice of color (Simpson et al., 2012). A study found that children could remember specific colors, such as yellow and green or blue and purple (Boyatzis & Varghese, 1994). In addition, color is also related to emotions in children. Light colors are mainly associated with positive emotions, whereas dark colors are primarily associated with negative emotions. Girls are more likely to like bright colors than boys (Boyatzis & Varghese, 1994). In addition, the placement of illustrative elements can affect the fun and storyline. The repeated use of space and scaling throughout a book can turn off the reader and weaken the urge to turn the page. Illustrations that use the entire landscape in creative and alternate ways can make the experience more interesting.

Studies have shown that AR can increase children's interest and enjoyment in reading. Several studies by Yilmaz, Kucuk, and Gokta (2017) found that using AR in picture books triggers happiness and pleasure in participants' reading activities (Yilmaz et al., 2017). AR has increased children's curiosity with AR board games as a learning medium (Stotz & Columbia, 2018). Innovations such as using AR in books can also positively affect children's reading experiences, which combine digital graphics and nature to create interactive experiences (Pan et al., 2021).

AR books, as a medium, are one solution, using several design theories that can assist the design process. The research scope focuses on colorism in the Indonesian people who live in Jakarta as representatives of various ethnic groups in Indonesia. The primary research was conducted on seven girls aged 6-8 years from two local schools in the South Jakarta area. The researchers observed and talked to students in two different schools to get information about the existence of colorism in their environment and to understand their reading preferences. Furthermore, primary research was conducted by interviewing an expert, a child psychologist, to create a foundation that explains the psychology behind colorism and style of language as well as the content of children's books. Secondary research is obtained through journals, articles, and non-commercial websites.

This research seeks to answer the following questions:

1. How do you make a compelling interactive AR book as a medium for educating children about colorism in Jakarta?
2. What kind of design concept can create illustrations and characters that tell stories and are educational so that they can attract children?



## **Methodology**

The research method in this research is qualitative, which can provide space for participants to elaborate on their opinions and perceptions using interviews with experts and focus group discussions with children. Interviews were conducted with psychologists to discuss colorism in children's social environment, which aims to get suggestions and solutions to the problem—the literature study was conducted to obtain additional information. Interview with child psychologist Desti Apyanggung was conducted in Jakarta, on November 5, 2021. Apyanggung said that apart from teenagers and adult women, skin color stigma also occurs in children's social environment. The leading cause of stigma is the environment. Based on the theory of Ecological Systems put forward by Bronfenbrenner says that all humans seem to be formed by the environment. One example is the verbal communication of parents to children, comments such as, "don't play outside later this afternoon. It will get darker!" can trigger a stigma against the color of a child's skin that embarrasses him.

Several factors causing the formation of stigma were information consumed by individuals through the media and advertisements. Second, the culture inherited from colonialism and various external cultures caused by globalization, such as K-pop culture, overly represents light-skinned celebrities. Child abuse can affect their mental health, school performance, and physical health. Bullying can lead to low self-esteem, cause someone to feel worthless, and alienate themselves from their social environment. A victim of bullying can be more sensitive, have unstable emotions, and become anxious and embarrassed.

Apyanggung said to stop discrimination and stigma, the role of parents is critical. Of note to parents, role-playing can be

an excellent activity for children to train their awareness of ethnic differences, encourage tolerance, and normalize different skin types.

On December 16, 2021, two Focus Group Discussions were held with first and second-year students at local schools in the South Jakarta area. The writer chooses the upper middle class because the students in that school have more ethnicity and race, so the authors can observe and talk with local students in two different schools. According to the agreement, the name of the school and the participants must be kept confidential to prevent risks to the school. The results of this FGD are summarized as follows:

- Several elements make reading more interesting for children, such as pictures, characters, interactivity in the book, and problem-solving.
- Most first graders prefer to read with their parents or family. On the other hand, older second graders like to read alone because they value privacy and quiet during reading time.
- All children have never heard of or know what AR books are, and they are curious about the AR features in books.
- All children know how to use a device such as a smartphone or a tablet. Even though two students out of seven do not have access to their devices.

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- When children were shown a series of five characters with gradations of skin tone (See Fig. 3), all children preferred the lightest skin tone (number one), followed by number two. They thought number five was too dark, and number four didn't like the color either. Interestingly, one of them describes the number five as looking old.

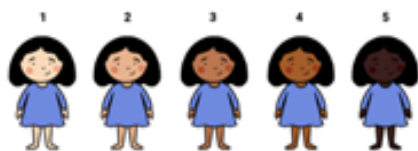


Figure 3. Character with five-skin tones  
(Source: Personal research documentation)

- When asked if they had ever witnessed bullying of colorism in their social environment, all said no.

- From interviews with seven elementary school students aged 6 to 8 years, the writer noted that one student was embarrassed by his dark skin color. This kid was constantly complaining about getting darker before he even started school. Another girl doesn't like her dark skin and wants fair skin. Likewise, other female

students want brighter skin, straighter hair, slimmer hands, cleaner nails, smaller and whiter teeth, and sharper noses.

## Result

The communication strategy for girls aged 6 to 8 years is divided into two approaches: rational and emotional. The rational approach is an approach that aims to communicate the message directly and make it easier for the reader to understand what is implied. Direct communication is used for important messages that must be understood. For example, the education section at the back of the book needs to be communicated rationally to educate children about the moral of the story.

An emotional approach is used throughout the book, engaging the reader through a moving story complemented by visual elements designed to stimulate certain feelings and establish a mood. For example, these visual elements include color selection, layout, illustration perspective, and character facial expressions. In terms of stories, often, the messages conveyed are emotional. For example, even though the reader may not have the same experience as the main character, communication is needed to trigger empathy and allow the reader to feel and understand what the character is feeling.

This book is designed to be a physical book that can be scanned and detected by an Augmented Reality app called Artivive to bring the illustrations to life. Writers write content and consult child psychologists to ensure appropriate language and content for young audiences. Book size is 21 x 21 cm.

Here's a synopsis of the book: Kalia is a dark-skinned girl who moves to the city for the first time with her family. Having dark skin at school, her first day wasn't what she expected when her classmates

made fun of her for being different. Her mother, a loving and supportive woman, taught her to love herself regardless of how others see her. Figure 4 shows the initial thumbnail sketches for the layout and illustrations, which served to create a structured and visual floor plan for the final design. Along the way, some settings and content have been removed and added. Therefore, multiple annotations are made throughout the sketch.

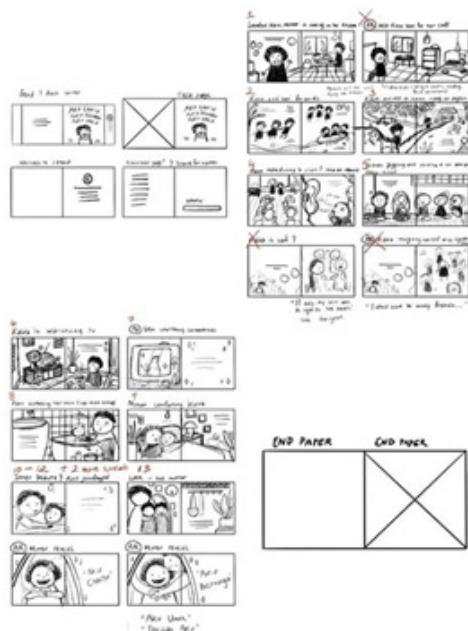


Figure 4. Initial thumbnail sketches  
(Source: Personal research documentation)

Figure 5 presents the final structure of the entire book. The characters' design would represent the Indonesian people's various skin colors. Nonetheless, since the book's topic is the discrimination of dark-skinned individuals, the main characters' design was based on dark-skinned ethnic groups in Indonesia. Based on the concept and storyline established, the sketches of characters were developed. Firstly, the illustration style was explored (See Fig. 6), and finally, one style was chosen. The

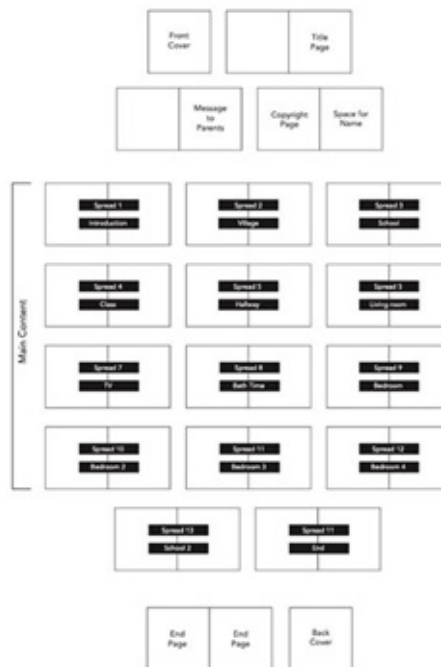


Figure 5. Structure of book  
(Source: Personal research documentation)

chosen style of illustration was picked because, compared to the other style, this style could be altered flexibly and create an assortment of expressive faces of the character (See Fig. 7).



Figure 6. Style Exploration  
(Source: Personal research documentation)



Figure 7. Facial Expression Sketches  
(Source: Personal research documentation)

Alternations were done by modifying the size of the pupils. This is a vital part of the execution of emotional communication. A few of the characters became the model for the exploration, such as the main character, the mother character, and a few supporting characters (See Fig. 8).



Figure 8. Character design  
(Source: Personal research documentation)

The illustration begins with identifying the main message(s) and narrative of the scene or spread. For example, in one spread, the scene portrayed follows the main Kalia, and her classmates verbally bully that. The parts to be portrayed include how some characters react differently to this situation through emotions. After establishing a concept, a sketch was done based on the messages to be portrayed using a collection of visual references (See Fig. 9). Firstly, the background of the scene was sketched using a perspective grid (See Fig. 10). Secondly, using the existing character design sketches, the characters were sketched. After refining the sketch, the scene can be colored based on the established mood board. It was also essential to remember that assets needed to be kept separate for the animation process and named clearly (See Fig. 11). Fig. 11 displays an example process from sketching to coloring.

There are several various types of animation applied in the scenes. This scene includes frame-by-frame, change in posi-



Figure 9. Visual References  
(Source: Personal research documentation)

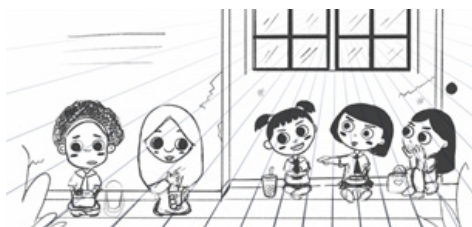


Figure 10. Perspective Grid  
(Source: Personal research documentation)



Figure 11. Base color application  
(Source: Personal research documentation)



Figure 12. Sketch to colored  
(Source: Personal research documentation)



tion, and rotation. Frame by frame, which required changes in forms, were sketched beforehand, with each frame sketched on top to ensure a smooth transition. For example, frame by frame was utilized as the character placed her lunch paper bag onto her head (See Fig. 13). Occasionally, severe and unrealistic distortions of the character were applied when necessary, which are appropriate considering the playful and childlike style. In particular, the arms of the character, which were initially proportioned with her tiny body, were stretched out above her head due to her large head. Separated into different assets, these sketches were colored (See Fig. 14). After Effects was used as a medium where all assets were combined with being animated. Sound effects and background music were applied.



Figure 13. Frame by frame sketches  
(Source: Personal research documentation)

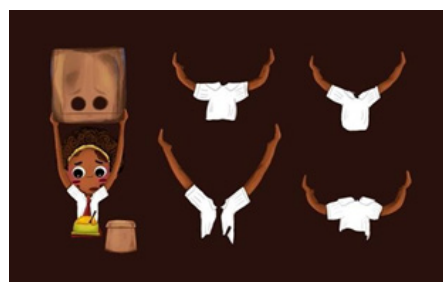


Figure 14. Separated assets  
(Source: Personal research documentation)



Figure 15. Font choices  
(Source: Personal research documentation)

The font chosen for the main text is Quicksand (See Figure 15). The absence of serifs and the perfect amount of kerning in their original form make them the legible choice. In contrast, the decorative font was chosen, Delius Swash Caps, which is used on the book's cover.



Figure 16. Color scheme extracts from Indonesian ethnic costumes and body paint  
(Source: Personal research documentation)

The bright and eye-catching colors in the color scheme are drawn from various ethnic Indonesians, such as Papuans, Balinese, Sumatrans, Acehnese and Dayaks, who have traditional clothing and brightly colored body paint (See Figure 16).



Figure 17. Augmented Reality development  
(Source: Personal research documentation)

Still, illustration photos with video files to be played can be uploaded side by side, and the Artivive application makes this feature automatic (See Fig. 17). As a result, when an illustration is scanned, a video can be played over it.

## Discussion

Emotional, empowering, entertaining, and educative are keywords to describe this book. The emotional aspects of this book can be seen in the stories, illustrations, and animations designed to create empathy for the character's feelings. The empowering part of the book is achieved through its story, which features black individuals as main characters, encourages internal self-love, and empowers young girls to take action in motion.

The entertaining aspect of this book is achieved through attractive and humorous illustrations, as well as AR features that provide an element of surprise. Finally, the educative part of this book is carried out in the story and educative sections about colorism. Apart from keywords, the target market for young Indonesian girls aged 6-8 years is also associated with design concepts, such as bright, feminine, and playful color schemes, typography,

and character designs.



Figure 18. Front and back cover  
(Source: Personal research documentation)

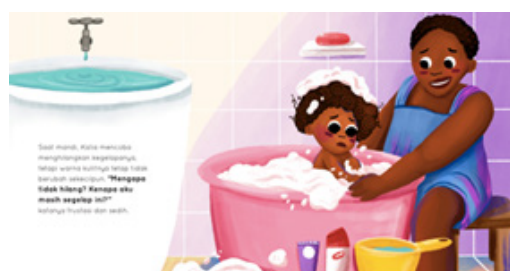


Figure 19. Spread Illustration Example  
(Source: Personal research documentation)

The step-by-step guide is on the back cover of the book. The first step for the user is to download a free application

called, Artivive from the app store. When the app is opened, the camera will be visible. After that, the user can hover over one of the pages labeled with the AR icon “SCAN PAGES” on the left side of each page or AR spread (See Fig. 20). The application will be able to detect illustrations on the page. The animation will play in the app’s camera, at the top of the page, or spread out (See Figure 21). Users can also record content. The AR feature can be viewed in both landscape and portrait orientations.



Figure 20. Artivive logo and AR logo  
(Source: Personal research documentation)

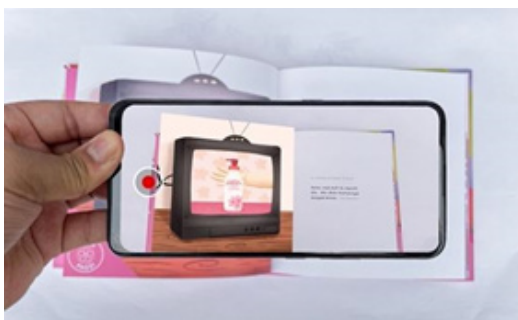


Figure 21. AR Content playing on Artivive  
(Source: Personal research documentation)

## Conclusion

Colorism has been a routine practice from colonialism to today, where white women are the ideal standard of beauty. This discrimination has been going on for generations without being challenged or questioned. This research aims to educate and attempt to change the concept of thinking about beauty through art forms

written by stories and illustrations to break the chain of stigma, starting from the younger generation. The target market, young girls aged six to eight, has chosen light skin as the definition of beauty.

The storybook was created to describe bullying due to colorism through intimidation and media exposure—the journey of a character who feels discriminated. The mother is a figure of comfort, educator, and mentor to overcome this stigma. Stories are made to trigger the reader’s empathy for the main character. Stories are deepened and made interesting with the use of AR features.

The educational section at the back of the book provides detailed information about the science of skin color, explanations of colorism, efforts made, and parental assistance. In conclusion, this book was created to spark conversations between children and adults about colorism and other social problems in Indonesia, especially in Jakarta.

Further research still needs to be done on this topic because research on colorism in children’s environments is limited to case studies initiated by the authors. The book is recommended to be tested and evaluated for its effectiveness in educating children. Research outside the Jakarta area can also widen the target market, making products more available to children from different parts of Indonesia.

## References

- Bettache, K. (2020). A Call to Action: The Need for a Cultural Psychological Approach to Discrimination on the Basis of Skin Color in Asia. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, 15(4), 1131–1139.
- Bifue, U. (2013, October 31). The Fair

- Face of Japanese Beauty. Nippon. Com. <https://www.nippon.com/en/views/b02602/>
- Bovet, J. (2018). The Evolution of Feminine Beauty. Exploring Transdisciplinarity in Art and Sciences, 327–357.
- Boyatzis, C. J., & Varghese, R. (1994). Children's Emotional Associations with Colors. *The Journal of Genetic Psychology*, 155(1), 77–85.
- Chen, J. M., & Francis-Tan, A. (2022). Setting the Tone: An Investigation of Skin Color Bias in Asia. *Race and Social Problems*, 14(2), 150–169.
- Herinjung, W. S., & Karyani, U. (2015). Profil Pelaku dan Korban Bullying di Sekolah Dasar. In W. S. Hertinjung & U. Karyani (Eds.), *2nd University Research Colloquium 2015*. Muhammadiyah University Semarang.
- Hladíková, H. (2014). Children's Book Illustrations: Visual Language of Picture Books. *CRIS - Bulletin of the Centre for Research and Interdisciplinary Study*, 2014(1), 19–31.
- Ikhsanty, A. (2020, December 28). Bagaimana Colorism Menjadi Bentuk Standarisasi di Tengah Masyarakat Indonesia . Kumparan.Com. <https://kumparan.com/alifya-heryana/bagaimana-colorism-menjadi-bentuk-standarisasi-di-tengah-masyarakat-indonesia-1urbEWofYQC>
- Kaur, K., Arumugam, N., & Yunus, N. M. (2013). Beauty Product Advertisements: A Critical Discourse Analysis. *Asian Social Science*, 9(3), 61–71. <https://doi.org/10.5539/ASS.V9N3P61>
- Pan, Z., López, M. F., Li, C., & Liu, M. (2021). Introducing Augmented Reality in Early Childhood Literacy Learning. *Research in Learning Technology*, 29, 1–21.
- Putri, S. R. A., Ismaya, E. A., & Fardani, M. A. (2021). Phenomenon Of Verbal Bullying In The Pedawang Society. *NATURALISTIC : Jurnal Kajian Penelitian Pendidikan Dan Pembelajaran*, 5(2), 792–796.
- Sani, B. A., Riyadi, A. R., & Saefudin, A. (2019). Perbedaan Prestasi Belajar Siswa Antar Pelaku Dengan Korban Bullying Kelas V SD. *Jurnal Pendidikan Guru Sekolah Dasar*, 4(3), 66–78.
- Saraswati, L. A. (2016). Seeing Beauty, Sensing Race in Transnational Indonesia. *TRaNS: Trans-Regional and -National Studies of Southeast Asia*, 4(1), 223–225.
- Sigelman, C. K., Miller, T. E., & Whitworth, L. A. (1986). The Early Development of Stigmatizing Reactions to Physical Differences. *Journal of Applied Developmental Psychology*, 7(1), 17–32.
- Simpson, R. H., Quinn, M., & Ausubel, D. P. (2012). Synesthesia in Children: Association of Colors with Pure Tone Frequencies. *The Journal of Genetic Psychology*, 89(1), 95–103.
- Stotz, M., & Columba, L. (2018). Using Augmented Reality to Teach Subitizing with Preschool Students . *Journal of Interactive Learning Research*, 29(4).
- Sukisman, J. M., & Utami, L. S. S. (2021). Perlawanan Stigma Warna Kulit terhadap Standar Kecantikan Perempuan Melalui Iklan. *Koneksi*, 5(1), 67.
- Waworuntu, S. R., & Tjahjawulan, I. (2021). Kulit Muka Majalah Djawa Baroe: Representasi Propaganda Pen-



dudukan Jepang di Indonesia. JSRW  
(Jurnal Senirupa Warna), 8(2), 198–  
226.

Yilmaz, R. M., Kucuk, S., & Goktas, Y.  
(2017). Are Augmented Reality Picture  
Books Magic or Real for Preschool  
Children Aged Five to Six? *British  
Journal of Educational Technology*,  
48(3), 824–841.