# Financial Literacy Ability in Solving Mathematical Problems
## (Case Study of Bugisneese Gender Differences)

# Arma Wangsa[1*], Heri Retnawati[2], Ariyadi Wijaya[3], Asrul Nur Iman[4], Sitti Mutia Umasugi[5]

[1*,2,3,5]Mathematics Education Department, Faculty of Mathematics and Natural Science, Universitas Negeri Yogyakarta
[4]Communication Science Department, Faculty of Communication Science, Universitas Bhayangkara Jakarta Raya
**\*Corresponding Author. Email: armawangsa.2020@student.uny.ac.id

**Abstract:** This study aims to analyze students' financial literacy abilities in terms of Bugisneese gender differences (*oroane*, *makkunrai*, *calabai*, and *calalai*) in solving math problems using a survey method of 309 XI graders of public senior high schools in Soppeng Regency, South Sulawesi Province. The data collection techniques were carried out using a financial literacy test and gender diversity questionnaires. The collected data were analyzed using ANOVA with the help of IBM SPSS Statistics 25 (trial version). The research results showed that there were differences in students' financial literacy abilities, especially between students with an *oroane* and *makkunrai* gender tendency. The financial literacy abilities of students who tend to gender with feminine roles (*makkunrai* and *calabai*) are better than students who tend to gender with masculine roles (*oroane* and *calalai*). These results construct the knowledge that differences in students' financial literacy abilities in terms of solving mathematics problems do not only occur in sex differences (binary gender roles) cases but also involve differences in non-binary gender roles. Therefore, gender role differences need to be considered in integrating learning mathematics with financial literacy.

## Introduction

Learning in schools is expected to form an understanding of concepts and impact lives, especially in learning mathematics (Jeheman et al., 2019), as is known about the meaning of learning and mathematics. *Learning* is an interactive process that helps students experience the learning process and changes in their behavior (Sarumaha et al., 2022; Suardi, 2018). Meanwhile, mathematics is a branch of science that studies logical thinking methods (facts, numbers, space and form, symbolic and numerical language) related to various life contexts (Ibrokhimovich, 2022; Rahmah, 2013). Therefore, learning mathematics can be interpreted as an interactive process to help students experience and understand logical thinking methods to solve everyday problems (Nasir & Widiyono, 2022).

The importance of understanding and mathematics skills in solving various problems makes mathematics a discipline needed in everyday life (Ibrokhimovich, 2022). One of the life problems that significantly and positively impact math skills is financial literacy skills (Amezcua & Everardo, 2017). *Financial literacy* uses knowledge and skills to manage financial resources effectively (OECD, 2019b). Understanding and having an emotional attitude toward numbers is a driving force for financial literacy (Skagerlund et al., 2018). Mastery of numbers, the ability to represent numbers, and skills in mental estimation are

fundamental aspects of financial literacy (OECD, 2017). Based on these explanations, math, and financial literacy are two related skills.

The findings of some surveys and assessments show that Indonesian students' mathematical ability and financial literacy skills are still in the low category. The mathematical ability of Indonesian students in the 2018 Programme for International Student Assessment (PISA) was an average of 379 (OECD, 2019a), a decrease from the 2015 PISA score average of 386 (OECD, 2016). Meanwhile, Indonesian students' financial literacy skills were ranked last out of the 20 participating countries with a score of 388 (OECD, 2020). The Financial Services Authority (OJK) survey revealed that the financial literacy ability of the Indonesian people only reached 38.03% (Kuswanti & Ulfah, 2021). Related to these data, Indonesian students' mathematical and financial literacy abilities are still relatively low. As previously described, these data also show a positive relationship between math and literacy skills (Amezcua & Everardo, 2017).

Besides the financial literacy skills conceptually related to mathematical abilities, financial literacy is also stereotypically related to several other aspects (e.g., culture and gender differences) (Bottazzi & Lusardi, 2020; Brown et al., 2018). The results of a survey of 12 countries stated that there is a relationship between culture and the level of financial literacy ability, so cultural aspects are important to consider in research on financial literacy skills (De Beckker et al., 2020). Meanwhile, several research results also state that adolescent financial literacy gaps are stereotypically related to gender differences (Driva et al., 2016). The gap in financial literacy skills between gender differences occurs significantly in numerical and non-numerical contexts (Bottazzi & Lusardi, 2020; Tinghög et al., 2021). Based on these statements, academic studies regarding financial literacy, culture, and gender differences need to be researched further.

Indonesia is known as a country with diverse cultures and ethnicities (Fuadi, 2020). One of the fascinating tribes to study in terms of their financial literacy skills is the Bugis tribe because it is known as a tribe that is skilled at applying financial management principles so that it can last a long time in the business sector (Ansar, 2017). Especially in the shipping industries and craft (Amar & Sulastri, 2020; Ansar et al., 2019; Budhi, 2015). In addition, the Bugisneese is also known as the only ethnic group in Indonesia that adheres to a non-binary gender system (Davies, 2010). Gender is, by definition, different from sex (binary); gender prioritizes socially and culturally constructed roles (Butler, 1999; Nagoshi & Nagoshi, 2014). It is the same with the Bugisneese gender, which divides the gender system not based on sex differences but on socially and culturally constructed roles and identities (Davies, 2007, 2010).

Bugisneese, in its cultural construction, recognizes that there are five types of gender with their respective roles and identities (Nurohim, 2018; Ramli & Basri, 2021), namely: 1) *oroane* (masculine male); 2) *makkunrai* (feminine female); 3) *calabai* (feminine male); 4) *calalai* (masculine female); and 5) *bissu* (religious specialists) (Iman et al., 2018; Millar, 1983; Pelras, 1996). The division of the five genders is not only based on individual biological differences, but differences produced socio-culturally (roles and identities), and biological structures only involve a small role in their construction (Davies, 2007; Sastrawati, 2018; Sovitriana, 2020).

Description of mathematics ability, financial literacy ability, and Bugisneese gender differences above are fascinating topics to study. Therefore, this study aims to describe students' financial literacy skills in solving math problems regarding Bugisneese gender differences. The review was conducted on 4 out of 5 genders, namely: *oroane*, *makkunrai*,

*calabai*, and *calalai*. A review of *bissu* was not carried out because no *bissu* was attending school (Iman et al., 2021).

**Research Method**

This research used a survey method with a quantitative approach to determine students' financial literacy skills in solving math problems and the gender diversity of students. This research was conducted in one of the districts with the largest spread of the Bugisneese in South Sulawesi, Soppeng Regency (Iman et al., 2018). Respondents in this study consisted of 309 students (125 male, 184 female)  XI graders who were taken proportionally from 8 public senior high schools. Respondents were taken using the accidental sampling technique by assuming the selected population was homogeneous (Cohen et al., 2018).

Data were collected using two instruments: 1) Seven items on the math test which were valid and reliable with the results of the person validity showing the p-value for each item < 0.050 and Cronbach's Alpha of 0.809 > 0.600, 2) Fifteen questions of the gender diversity questionnaires which have been valid and reliable with the results of person validity, obtained p-value for each question item < 0.050 (towards male and female) and Cronbach's Alpha of 0.668 > 0.600 (to male), 0.606 > 0.600 (to female). The instrument is reliable if Cronbach's Alpha exceeds 0.600 (Brookhart & Nitko, 2011). The results of the questionnaire analysis can be seen in table 1.

**Table 1. Gender Diversity Distribution of Research Respondents**

| Sex | Gender | Quantity | Ratio |
|---|---|---|---|
| Male (125) | *Oroane* | 120 | 24:1 |
| | *Calabai* | 5 | |
| Female (184) | *Makkunrai* | 178 | 29,667:1 |
| | *Calalai* | 6 | |

Table 1 shows that 120 students tended to belong to *oroane*, and five students tended to belong to the *calabai* or with a ratio of 24:1. Meanwhile, 184 students were female, 178 students tended to belong to the *makkunrai*,  and six students tended to belong to the *calalai* or with a ratio of 29.667:1. The proportion of students tends belong to *oroane* and *makkunrai* more than *calabai* and *calalai*, and the proportion of students tends belong to *calabai* more then *calalai*, these things are in line with the statements of Davies (2010) and Nurohim (2018).

The analysis technique used is the one-way analysis of variance (ANOVA) using IBM SPSS Statistics 25 (trial version) aiming to find out the average difference (Gunawan, 2015; Nuryadi et al., 2017) financial literacy skills in solving math problems in terms of Bugisneese gender differences (*oroane*, *makkunrai*, *calabai* and *calalai*). After carrying out the ANOVA test, a follow-up test is carried out with the Tukey test (if there is an average difference) to find out multiple comparisons of the average score of each gender (Gunawan, 2015).

**Results and Discussion**

The financial literacy ability of XI graders  of senior high schools in Soppeng Regency in solving math problems can be seen in table 2 below.

**Table 2. Average Test Result Score**

| Gender Categories | N | Mean | Standard deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| *Oroane* | 120 | 11,040 | 4,684 | 1 | 25 |
| *Makkunrai* | 5 | 12,770 | 4,477 | 1 | 24 |

**Jurnal Kependidikan:**
**Jurnal Hasil Penelitian dan Kajian Kepustakaan**
**di Bidang Pendidikan, Pengajaran dan Pembelajaran**
*https://e-journal.undikma.ac.id/index.php/jurnalkependidikan/index*

*Vol. 9, No. 1 : March 2023*
*E-ISSN: 2442-7667*
*pp. 296-304*
*Email: jklppm@undikma.ac.id*

| | | | | |
|---|---|---|---|---|
| *Calabai* | 178 | 14,200 | 7,950 | 4 | 24 |
| *Calalai* | 6 | 11,000 | 3,162 | 8 | 17 |
| **Total** | **309** | **12,090** | **4,666** | **1** | **25** |

It is known that the average score of the 309 students surveyed was 12.090 (see Table 2.). The average score does not reach half the maximum (34/2), so the average score of students' financial literacy skills in solving math problems still tends to be in a low category. From the table above, the maximum score obtained by students is 25, and the minimum score is 1. Thus, no student gets the maximum score in this study.

The low financial literacy ability of XI graders of Senior High Schools in Soppeng Regency in solving math problems aligns with the 2018 PISA test results and the 2020 OJK survey results. The 2018 PISA results show that Indonesian students' financial literacy skills are ranked 20th out of 20 countries that participated, with a score of 388 (the only country with a score < 400) (OECD, 2020). Meanwhile, the results of the 2020 OJK survey show that the financial literacy ability of the Indonesian people only reached 38.030% (< 50%) (Kuswanti & Ulfah, 2021; Otoritas Jasa Keuangan, 2020). Therefore, the financial literacy ability of class XI students of public high schools in Soppeng Regency in solving math problems is still in a low category.

To find out the difference in the average scores of students' financial literacy abilities in solving math problems, an ANOVA test was carried out. Before carrying out the ANOVA test, it is also necessary to test the assumptions that state that the data is normally distributed and homogeneous (Gunawan, 2015; Nuryadi et al., 2017). The data in this study have fulfilled these two assumptions. The SPSS output of the ANOVA test results can be seen in table 3 below.

**Table 3. ANOVA Test Output**

| F | Sig. |
|---|---|
| 3,831 | 0,010 |

Table 3 shows that the F count (3.831) > F table (1.968) and the probability value (sig.) is $0.010 < 0.050$, thus the $H_0$ is rejected. In other words, there are differences in students' financial literacy abilities regarding Bugisneese gender differences (*oroane*, *makkunrai*, *calabai*, and *calalai*). Therefore, a follow-up test was carried out with the Tukey test to see multiple comparisons of the average score for each gender.

**Table 4. Multiple Comparisons of Average Scores Each Gender**

| (I) Gender | (J) Gender | Mean Difference (I-J) | Std. Error | Sig. |
|---|---|---|---|---|
| *Oroane* | *Calabai* | -3,158 | 2,101 | 0,437 |
| | *Makkunrai* | -1,728 | 0,544 | 0,009 |
| | *Calalai* | 0,042 | 1,925 | 1,000 |
| *Calabai* | *Oroane* | 3,158 | 2,101 | 0,437 |
| | *Makkunrai* | 1,430 | 2,087 | 0,903 |
| | *Calalai* | 3,200 | 2,787 | 0,660 |
| *Makkunrai* | *Oroane* | 1,728 | 0,544 | 0,009 |
| | *Calabai* | -1,430 | 2,087 | 0,903 |
| | *Calalai* | 1,770 | 1,910 | 0,791 |
| *Calalai* | *Oroane* | -0,042 | 1,925 | 1,000 |
| | *Calabai* | -3,200 | 2,787 | 0,660 |
| | *Makkunrai* | -1,770 | 1,910 | 0,791 |

Table 4 shows that the average student score is significantly different only in the average score of students who tend to belong to gender *oroane* with the average score of students who tend to belong to gender *makkunrai* (sig. = 0.009 < 0.050). Meanwhile, there was no

significant difference in the average score between *oroane* and *calabai*, *oroane* and *calalai*, *calabai* and *makkunrai*, *calabai* and *calalai* and *makkunrai* and *calalai*. Based on these findings, it is also known that the ability of financial literacy in solving mathematics problems of students with a gender tend to assume feminine roles, namely: *makkunrai* and *calabai* better when compared to students with a gender who tend to carry masculine roles, namely: *oroane* and *calalai* (tables 2 and 4).

Several results of previous studies stated differences in financial literacy abilities between males and females (Hasler & Lusardi, 2017; OECD, 2020; Okamoto & Komamura, 2021; Yu et al., 2015). This review of males and females is based on binary gender (there are only two types of gender): males who carry out masculine roles and females who carry out feminine roles (Hyde et al., 2019). If referring to these definitions, males and females in the binary gender concept are the same as *oroane* and *makkunrai* in the Bugisneese gender concept (Pradipta & Resen, 2020). Therefore, the results of this study align with some of the results of previous studies, which stated that there are differences in financial literacy abilities between masculine males (*oroane*) and feminine females (*makkunrai*).

Several findings state differences in financial literacy abilities between masculine males and feminine females, but there is a basis for differences in several findings. Several stated that feminine females' financial literacy skills are better than masculine males' financial literacy skills, including research by Okamoto & Komamura (2021). In addition, the 2018 PISA results also show that the financial literacy skills of female students in several countries are better than male students, even though the average male score is higher than females (OECD, 2020). The two previous studies are in line with these findings, which show that the financial literacy abilities of students with a gender *oroane* tendency (masculine males) are better than the financial literacy abilities of students with makkunrai gender tendency (feminine females).

Apart from the research results of Okamoto & Komamura (2021) and the 2018 PISA findings, other studies are against the findings of this study. One of them is research by Hasler & Lusardi (2017), which measured financial literacy skills between males and females, stating that out of 20 countries where measurements were taken, 16 countries, including Indonesia, showed that males' financial literacy skills were better than females. Likewise, the findings of research conducted by Yu et al. (2015) also showed that the literacy skills of male workers are more dominant or better than those of female workers.

This research further explains that the financial literacy abilities of students who carry out feminine roles (*makkunrai* and *calabai*) are better than those who carry out masculine roles (*oroane* and *calalai*). Students with the *calabai* gender tendency do better when compared to students with the *oroane* and *calalai* gender tendency (descriptive statistics). Even though *calabai* is a male who is the same as *oroane* in terms of sex, they are different in choosing roles in social life. Meanwhile, *oroane* and *calalai* are two genders that are different in gender but choose the same role as masculine figures. The financial literacy abilities of the *calabai* gender tendency students are better than the *oroane* and *calalai* gender tendency students (descriptive statistics) and it seem to have implications for the roles of the *calabai*. As previously mentioned, the role of *calabai* in Bugisneese gender construction tends to involve more financial literacy skills. One of the examples is the role of working as a chef (*jennang*), make-up artist, and wedding decorator, even involved and have a role in traditional activities such as deciding marriage agreements and marriages between two families (Bahfiarti et al., 2021; Iman et al., 2021).

Likewise, the financial literacy abilities of the *makkunrai* gender tendencies students are better when compared to the financial literacy abilities of the *oroane* and *calalai* gender

tendencies students (descriptive statistics). Even though *makkunrai* and *calalai* are two genders that are both female, they differ in the selection of roles in gender construction. *Makkunrai* is more towards feminine roles while *calalai* is more towards masculine roles just like the *oroane*. The life of a makkunrai in a household, apart from having almost the same role as the *calabai*, namely *misseng dapureng* (knowing the kitchen area), *makkunrai* in the Bugisneese is also believed to be an *imattaro* (household financial manager) (Diansyah et al., 2018), so that the role as a *makkunrai* places more emphasis on having good financial literacy skills. In addition to the role chosen by a *makkunrai* implies having good financial literacy skills, a *makkunrai* is also expected to have good mathematical skills to accommodate his financial literacy skills. As previously stated, numerical abilities, numeracy skills, and understanding numbers are prerequisites for financial literacy skills (Huston, 2010; Skagerlund et al., 2018).

The results of this study have theoretical implications for differences in students' financial literacy ability index and mathematical abilities based on non-binary gender differences (not just sex differences), in this case, Bugisneese gender differences. Therefore, the findings of this study can become a practical basis for mathematics teachers in the Bugisneese area in integrating mathematics learning with various financial literacy content and contexts while still paying attention to gender diversity and the roles played by students. In addition, this research can initiate further studies to conduct mathematics education studies about students' cognitive and non-cognitive domains in terms of non-binary gender differences, especially the Bugisneese gender.

**Conclusion**
The conclusions drawn from this study showed the differences in financial literacy skills of XI graders in public high schools in Soppeng Regency in solving math problems in terms of Bugisneese gender differences (*oroane*, *makkunrai*, *calabai*, and *calalai*), especially between students with an *oroane* and *makkunrai* gender tendency. The ability of financial literacy in solving math problems shows that students with a gender tend to assume feminine roles (*makkunrai* and *calabai*) are better than students with masculine roles gender tendency (*oroane* and *calalai*).

**Recommendation**
The results of this study suggest that further research is required. These are some recommendations for further research, researchers can use a small and specific detail about the difference between gender and the influence on mathematics financial literacy. Additionally, provide the possible measurement techniques for determining the gender (eg. observation). Add another point of view on skills in mathematics that correlate with gender and mathematics. The study of the domains that are the point of difference in students' financial literacy abilities and students' obstacles in solving math problems that contain the domain of financial literacy in terms of Bugisneese gender differences is recommended. The recommendation for teachers is we as an educator should pay attention to differences in students' gender tendencies in integrating learning mathematics with financial literacy so that it can accommodate students' gender roles and experiences in daily life.

**References**
Amar, S., & Sulastri, A. (2020). The Pinisi: A Study on the Development of Boat Technology. *Journal of Physics: Conference Series*, *1539*(1), 12069. https://doi.org/10.1088/1742-6596/1539/1/012069

Amezcua, A. V., & Everardo, J. A. H. (2017). Financial Literacy and Mathematics: A Study Among Young Mexican High School Students. *Revista Mexicana de Economía y Finanzas*, *12*(2), 1–22.

Ansar. (2017). A Pattern of Organization Management of Entrepreneurial Bugis Merchants Rice Trade in South Sulawesi, Indonesia. *Asian Journal of Social Sciences and Management Studies*, *4*(2), 100–106. https://doi.org/10.20448/journal.500.2017.42.100.106

Ansar, U. F., Yahya, M., Yusriadi, Y., & Bin-Tahir, S. Z. (2019). Institutional Economic Analysis Of Bugis Merchants In The Inter-Island Trade. *International Journal of Scientific & Technology Research*, *8*(8), 149–152.

Bahfiarti, T., Theriady, A. A. Z., Akmalia, D., & Sabir, T. A. (2021). Penggunaan Media Sosial pada Calabai di Sulawesi Selatan. *Jurnal Komunikasi Global*, *10*(2), 197–213. https://doi.org/10.24815/jkg.v10i2.22343

Bottazzi, L., & Lusardi, A. (2020). Stereotypes in Financial Literacy: Evidence from PISA. In *JEL No. G53* (No. 28065). https://doi.org/10.3386/w28065

Brookhart, S. M., & Nitko, A. J. (2011). *Educational assessment of students* (6th ed.). Pearson Education, Inc.

Brown, M., Henchoz, C., & Spycher, T. (2018). Culture and financial literacy: Evidence from a within-country language border. *Journal of Economic Behavior & Organization*, *150*, 62–85. https://doi.org/10.1016/j.jebo.2018.03.011

Budhi, S. (2015). Bugis Pagatan: Migration, Adaptation and Identity. *IOSR Journal Of Humanities And Social Science (IOSR-JHSS)*, *20*(5), 71–78. https://doi.org/10.9790/0837-20517178

Butler, J. (1999). *Gender Trouble*. Routledge Taylor & Francis Group. https://doi.org/10.4324/9780203902752

Cohen, L., Manion, L., & Morrison, K. (2018). *Research Methods in Education*. Routledge Taylor & Francis Group.

Davies, S. G. (2007). Challenging Gender Norms : Five Genders Among Bugis in Indonesia. In *Case studies in cultural anthropology*. Thomson Wadsworth.

Davies, S. G. (2010). Gender Diversity in Indonesia: Sexuality, Islam and queer selves. In *Gender Diversity in Indonesia: Sexuality, Islam and Queer Selves*. Routledge Taylor & Francis Group. https://doi.org/10.4324/9780203860953

De Beckker, K., De Witte, K., & Van Campenhout, G. (2020). The Role of National Culture in Financial Literacy: Cross-Country Evidence. *Journal of Consumer Affairs*, *54*(3), 912–930. https://doi.org/10.1111/joca.12306

Diansyah, N. M., Belasunda, R., & Hendiawan, T. (2018). Konstruksi Relasi Gender Suku Bugis pada Karakter Emma dalam Film Athirah (2016). *Jurnal Penelitian Pendidikan*, *18*(3), 354–360. https://doi.org/10.17509/jpp.v18i3.15007

Driva, A., Lührmann, M., & Winter, J. (2016). Gender Differences and Stereotypes in Financial Literacy: Off to an Early Start. *Economics Letters*, *146*, 143–146. https://doi.org/10.1016/j.econlet.2016.07.029

Fuadi, A. (2020). *Keragaman Dalam Dinamika Sosial Budaya Kompetensi Sosial Kultural Perekat Bangsa*. Deepublish.

Gunawan, M. A. (2015). Statistik Penelitian Bidang Pendidikan, Sosial dan Psikologi. In *Parama Publishing*. Parama Publishing. https://id1lib.org/book/2590684/b5881d

Hasler, A., & Lusardi, A. (2017). *The Gender Gap in Financial Literacy: A Global Perspective*. Global Financial Literacy Excellence Centre. www.gflec.org

Huston, S. J. (2010). Measuring Financial Literacy. *Journal of Consumer Affairs*, *44*(2), 296–316. https://doi.org/10.1111/j.1745-6606.2010.01170.x

Hyde, J. S., Bigler, R. S., Joel, D., Tate, C. C., & van Anders, S. M. (2019). The Future of Sex and Gender in Psychology: Five Challenges to the Gender Binary. *American Psychologist*, *74*(2), 171. https://doi.org/10.1037/amp0000307

Ibrokhimovich, F. J. (2022). Teaching Mathematics in Elementary School: Issues and Solutions. *Eurasian Journal of Learning and Academic Teaching*, *4*, 84–87.

Iman, A. N., Mulyana, D., Pratama, A. G., & Novianti, E. (2018). A Study of Transvestites: The Self-Presentation of Bissu. *Journal of Social Sciences Research*, *Specialissue2*, 70–75.

Iman, A. N., Mulyana, D., Pratama, A. G., & Novianti, E. (2021). Bissu As Heirloom Keeper : How Is Their Gender Identity Constructed ? *LINGUISTICA ANTVERPIENSIA*, *3*, 1943–1959.

Jeheman, A. A., Gunur, B., & Jelatu, S. (2019). Pengaruh Pendekatan Matematika Realistik terhadap Pemahaman Konsep Matematika Siswa. *Mosharafa: Jurnal Pendidikan Matematika*, *8*(2), 191–202. https://doi.org/10.31980/mosharafa.v8i2.454

Kuswanti, H., & Ulfah, M. (2021). Gerakan Literasi Finansial di SMA Kabupaten Kubu Raya Kalimantan Barat. *Ekuitas: Jurnal Pendidikan Ekonomi*, *9*(1), 1–8. https://doi.org/10.23887/ekuitas.v9i1.32710

Millar, S. B. (1983). On Interpreting Gender in Bugis Society. *American Ethnologist Society*, *10*(3), 477–493. https://doi.org/10.1525/ae.1983.10.3.02a00050

Nagoshi, J. L., & Nagoshi, C. T. (2014). Gender and sexual identity: Transcending feminist and queer theory. In *The Cambridge Introduction to Modern British Fiction, 1950–2000*. Springer Science & Business Media. https://doi.org/https://doi.org/10.1007/978-1-4614-8966-5

Nasir, A. H. K., & Widiyono, A. (2022). Pengaruh Pola Asuh Orang Tua terhadap Hasil Belajar Matematika di Sekolah Dasar. *Journal on Teacher Education*, *3*(3), 365–373. https://doi.org/0000-0002-2852-5795

Nurohim, S. (2018). Identitas dan Peran Gender pada Masyarakat Suku Bugis. *Sosietas*, *8*(1). https://doi.org/10.17509/sosietas.v8i1.12499

Nuryadi, Astuti, T. D., Utami, E. S., & Budiantara, M. (2017). *Dasar-Dasar Statistik Penelitian*. Sibuku Media.

OECD. (2016). *PISA 2015 Results (Volume I): Excellence and Equity in Education: Vol. I*. OECD Publishing. https://doi.org/10.1787/9789264266490-5-en

OECD. (2017). PISA 2015 Assessment and Analytical Framework: Science, Reading, Mathematic, Financial Literacy and Collaborative Problem Solving, revised edition, PISA. In *OECD Publishing*. OECD Publishing. https://doi.org/10.1787/9789264281820-en

OECD. (2019a). *Country Note Programme for International Student Assesment (PISA) Results from 2018* (PISA 2018). OECD Publishing.

OECD. (2019b). PISA 2018 Assessment and Analytical Framework. In *OECD Publishing*. OECD Publishing. https://doi.org/10.1787/b25efab8-en

OECD. (2020). PISA 2018 Results: Are Students Smart about Money? In *OECD Publishing: Vol. IV*. https://doi.org/10.1787/48ebd1ba-en

Okamoto, S., & Komamura, K. (2021). Age, gender, and financial literacy in Japan. *PloS One*, *16*(11), e0259393. https://doi.org/10.1371/journal.pone.0259393

Otoritas Jasa Keuangan. (2020). *Survei Nasional Literasi dan Inklusi Keuangan Indonesia 2019*. Survey Report. www.ojk.go.id

Pelras, C. (1996). The Bugis. In *Choice Reviews Online*. Blackwell Publishers.

Pradipta, A. D., & Resen, P. T. K. (2020). Representasi Transgender pada Novel Calabai: Perempuan dalam Tubuh Lelaki. *Warta Ikatan Sarjana Komunikasi Indonesia*, *3*(02), 103–111. https://doi.org/10.25008/wartaiski.v3i02.66

Rahmah, N. (2013). Hakikat Pendidikan Matematika. *Al-Khwarizmi: Jurnal Pendidikan Matematika Dan Ilmu Pengetahuan Alam*, *1*(2), 1–10. https://doi.org/doi.org/10.24256/jpmipa.v1i2.88

Ramli, U., & Basri, L. (2021). Peran Gender Pada Masyarakat Bugis. *Jurnal Noken: Ilmu-Ilmu Sosial*, *7*(1), 78–89. https://doi.org/10.33506/jn.v7i1.1524

Sarumaha, M., Harefa, D., Ziraluo, Y. P. B., Fau, A., Fau, Y. T. V., Bago, A. S., Telambanua, T., Hulu, F., Telaumbanua, K., & Lase, I. P. S. (2022). Penggunaan Model Pembelajaran Artikulasi Terhadap Hasil Belajar Siswa pada Mata Pelajaran IPA Terpadu. *Aksara: Jurnal Ilmu Pendidikan Nonformal*, *8*(3), 2045–2052. https://doi.org/10.37905/aksara.8.3.2045-2052.2022

Sastrawati, N. (2018). *Laki-Laki dan Perempuan Identitas yang Berbeda: Analisis Gender dan Politik Perspektif Post-Feminisme*. Alauddin Press. https://id1lib.org/book/5996253/a62273?dsource=recommend

Skagerlund, K., Lind, T., Strömbäck, C., Tinghög, G., & Västfjäll, D. (2018). Financial Literacy and the Role of Numeracy–How Individuals' Attitude and Affinity with Numbers Influence Financial Literacy. *Journal of Behavioral and Experimental Economics*, *74*, 18–25. https://doi.org/10.1016/j.socec.2018.03.004

Sovitriana, R. (2020). Kajian Gender dalam Tinjauan Psikologi. In *Angewandte Chemie International Edition, 6(11), 951–952*. (Vol. 13, Issue April). Uwais Inspirasi Indonesia.

Suardi, M. (2018). *Belajar & Pembelajaran* (1st ed.). Deepublish.

Tinghög, G., Ahmed, A., Barrafrem, K., Lind, T., Skagerlund, K., & Västfjäll, D. (2021). Gender Differences in Financial Literacy: The Role of Stereotype Threat. *Journal of Economic Behavior & Organization*, *192*, 405–416. https://doi.org/10.1016/j.jebo.2021.10.015

Yu, K.-M., Wu, A. M., Chan, W.-S., & Chou, K.-L. (2015). Gender Differences in Financial Literacy Among Hong Kong Workers. *Educational Gerontology*, *41*(4), 315–326. https://doi.org/10.1080/03601277.2014.966548