

Comparison of Financial Literacy for Micro, Small and Medium Enterprises Entrepreneurs at *Bojong Soang* upon using Financial Planning Application "*SAKA (peSAK Abdi)*"

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Abstract: Financial literacy – the cognition and skills in managing financial resources is one of the elements that determine the success of a business. It deals with the understanding on how to manage money, especially when the money for doing the business is assisted by financial services such as banks, insurance, pawnshops, and pension funds. In Micro Small Medium Enterprise (MSME), financial literacy plays a significant role. Thus, the Indonesian government pays serious attention to improve the financial literacy of entrepreneurs involved in MSMEs, to ensure that the enterprise can survive. MSMEs are supported by the government as their existence is in accordance with one of the government's sustainable development goals, that is to alleviate poverty. Accordingly, this research is done to gain insight on MSME entrepreneurs' financial intelligence by measuring their level of financial literacy and to find out problems that the entrepreneurs have in understanding finance. The respondent of the research is MSME entrepreneurs in *Bojong Soang*. The data is gained through Financial Fitness Quiz (FFQ) to measure the entrepreneurs' financial behaviour and literacy. The data is taken twice, before and after they are trained to use the Financial Planning Application "*SAKA (peSAK Abdi)*". The before and after data are compared using the paired sample t test. The result shows a significantly different result before and after the training. Hence, the use of "*SAKA (peSAK Abdi)*" application shows a breakthrough in increasing the level of financial literacy of the MSME Entrepreneurs in *Bojong Soang*.


1 INTRODUCTION


Financial literacy involves the knowledge and understanding of financial issues to guide people in managing their funds. Inadequate financial literacy can lead to bad financial decisions that result in adverse effects not only on an individual but also his or her family financial health. Financial literacy also has a significant impact on welfare. (Lusardi & Mitchell, 2014). Therefore, financial management


education is essential to help people budget and manage their income, save and invest efficiently, as well as avoid being victims of fraud. Not only for people's personal and domestic affairs, financial education is also necessary for entrepreneurs to ensure their own financial well-being and the smooth functioning of financial markets and economies (Atkinson, 2017)


Based on the 2015 S&P Global FINLIT survey, only 1-in-3 adults worldwide were financially literate.


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Not only is financial illiteracy widespread, but there are also large variations between countries and groups. The information is acquired from the Gallup World Poll survey that added questions on financial literacy in their survey. More than 150,000 randomly selected adults from more than 140 countries were interviewed during the 2014 calendar year. They were asked questions that measure the four basic concepts for making financial decisions: basic arithmetic, compound interest, inflation, and risk diversification. The result of the survey showed that Indonesian respondents were 32% financially literate. This was lower compared to the percentage of Malaysians (36%) and Singaporeans (59%) (S7P Global, 2015).

The first National Survey on Financial Literacy (SNLK) or Indonesian Financial Literacy Index (FLI) which was conducted by Indonesian Financial Services Authority (OJK) in 2013 revealed that only 21 out of every 100 Indonesian residents were financial literate. This was indicated by the financial literacy index that stood at 21.84 percent (OJK, 2017). Similar survey was conducted in Japan, in which the result shows that the range of people that were financially literate was almost twice of the range in Indonesia. Surveys done in 26 OECD countries showed that financial levels were especially low for certain groups, such as the less educated, the minority, and people at the lower end of the income distribution (OECD, 2020). All the surveys showed an indication that financial literacy was correlated with income and education levels. The lower the education or income level was, the lower the level of financial literacy would be.

Therefore, proper financial management education can help people to get away from poverty. Furthermore, financial management education can help individuals and families to improve their levels of education, which will also take part in improving the people's welfare. With that in mind, the researchers are interested to find out how trainings in financial management can improve financial literacy. The research is focused on entrepreneurs in MSMEs, as the researchers have had scientific and practical experiences related to financial literacy and MSMEs in Indonesia.

The researchers are aware that there are many MSME entrepreneurs who find it difficult to manage their personal and business finances. They generally find it difficult to separate business capital from personal needs, so that in the end they think they are lacking in capital, and they face problems in cash flow management. In addition, there is a lack of information about financial services that the entrepreneurs can use to develop their business.

The above conditions lead the researchers to identify three major problems: (1) there is a lack of information on financial management services that can be obtained from related financial institutions (banks, insurance, pawnshops, pensions and others); (2) there is a lack of coaching about financial planning for MSME entrepreneurs; (3) there is no financial planning application that is simple and easy to use for the entrepreneurs. All the problems call for a solution. Thus, the researchers are to do a field research aiming at improving financial literacy, especially for MSME entrepreneurs, which in this study are those having MSMEs in *Bojong Soang*.

The field research is expected to fulfil the following objectives: a) mapping the problems that MSME Entrepreneurs in *Bojong Soang* have in understanding finance; b) measuring the entrepreneurs' level of financial literacy before and after financial training and practice in using a financial application; c) creating a simple application to help these MSME entrepreneurs improve their financial literacy. In addition, the researchers is going to use a financial planning application called "*SAKA (peSAK Abdi)*" to assist the entrepreneurs in managing their personal and business finances.

2 MSME ENTREPRENEURS AND FINANCIAL LITERACY

Indonesian Ministry of Finance in their Law No. 20 of 2008 defines Micro, Small and Medium Enterprises (MSMEs) as productive businesses owned by individuals and/or individual business entities that meet the criteria regulated in the Law. (Kemenkeu, 2012). MSMEs play an important role in Indonesian economic system for being the biggest drivers of the informal sector, as the enterprises absorb the largest number of workers (Aribawa, 2016).

Being owned by individuals, the financial management principles in MSMEs is similar to that of the personal finance. According to Braunstein and Welch (in Aribawa, 2016), the level of financial literacy of individuals / families would have an impact on their ability to manage long-term savings that could be used for some purposes, for example to own assets such as lands or houses, to pursue higher education, and to save for their retirement period. On the other hand, ineffective financial management could lead to financial crises. These findings can be adapted for the financial management of MSMEs. MSME entrepreneurs who have good financial literacy will have a business development orientation,

be able to achieve their company goals and to survive economic difficulties.

Some research in business literacy (Beck, Demircukunt & Maksimovic, 2005; Hutchinson & Xavier, 2006; Malo & Norus, 2009; Coad & Tamvada, 2012, in Aribawa 2016), found that the lack of knowledge and access to financial resources was linked to a company's inability to achieve goals and constraints in taking strategic actions (Wiklund & Shepherd, 2003, in Aribawa, 2016). Other literatures also explained that financial literacy and inclusion was important in increasing the company growth (Cooper, Gimeno-Gascon, & Woo, 1994; Storey, 1994; Forbes Insights, 2011, in Aribawa, 2016).

Financial literacy could be defined as financial knowledge whose aim was to attain prosperity (Lusardi & Mitchell 2007). Financial literacy has been a part of mental intelligence related to the ability to find solutions towards financial problems. The study of Byrne in 2007 (in Cahyono, 2012) noticed that low level of financial knowledge would lead to the making of wrong financial plans and cause bias in the achievement of welfare when one had pass the productive age. Financial difficulties occurred not only because of a lack of income, but also because of errors in financial management, such as the absence of financial planning and misuse of credit. Thus, having financial literacy is crucial to get a prosperous and high-quality life.

Previous studies have shown that there are at least two instruments that can be used to measure financial literacy. The first is the measurement created by SEADI (Support for Economic Analysis Development in Indonesia) in a collaborative project conducted by Definite, Indonesian Financial Services Authority (OJK) and USAID in 2013. The result of the project was called the Indonesian Basic Financial Literacy Index. A sample question from the questionnaire was "If the bank where you opened an account in the name of the company is bankrupt, will the government guarantee the amount of funds stored in that account?" (Aribawa, 2016, p. 2). The second measurement is the one used in Chen and Volpe's (1998) research. In their instrument, financial literacy was measured using four indicators, namely basic knowledge of financial management, credit management, savings and investment management, and risk management (Fitriana, 2016). In addition, a current study by Saksonova and Papiashvili (2021) revealed that financial literacy scores and financial inclusion of MSME entrepreneurs in Latvia and Estonia evidenced a constantly positive association. Positive cause-effect relationships were observed

between the level of general education of the population, personal literacy, financial literacy of the MSME entrepreneurs and their access to finance.

The current situation in Indonesia shows that business competition occurs in all business sectors, including MSMEs. Different from large companies, which have adequate resources, MSMEs usually have limited human resource. Thus, in large companies the administrative and financial managements are generally done well, and there might be many models of transaction processing in the companies' financial reports. On the other hand, MSMEs with their limited resources and capabilities, might find problems to make correct financial reports. There is also a tendency that MSMEs do not keep records of their transactions, which often makes them clueless whether what they have done so far is beneficial (profitable) or not. Hence, it is important to build the awareness of MSME entrepreneurs about the importance of financial recording and planning. By doing so, hopefully they can change their lifestyles from spending to investing (Cahyono, 2012). Futhermore, having staff members who have business, or business and financial recording skills in MSMEs is crucial to ensure the smooth running of their businesses (Cahyono, 2012).

Actually, the recording of financial transactions does not need sophisticated equipment, but it must be done every day. There are several things that should be included in MSMEs financial record: (1) financial posts, consisting of items such as assets, equity, expenses, and income, as well as other items that can be adjusted in accordance with the need of the MSME; (2) daily cash flow, a record every day's income and expenses; (3) reports or financial information from the results of recording (1) and (2), and (4) calculation of budget. To help MSME entrepreneurs in keeping financial records, the researchers propose the implementation of "*SAKA (peSAK Abdi)*" application, as shown in picture 1-6 in the next section of this paper.

3 DATA SAMPLES, MEASUREMENT AND RESEARCH METHODS

3.1 Data Samples

The research took data from 51 MSME entrepreneurs at *Bojong Soang*. The entrepreneurs were given online trainings on financial literacy and asked to implement "*SAKA (peSAK Abdi)*" application. The

data were collected twice, before and after the training and use of the application. The first data were collected in 2019 before the COVID-19 pandemic by distributing questionnaires to the research participants. The second data retrieval were done in 2020, during the COVID-19 pandemic, using online questionnaires. Thus, the whole process of data collections and analysis took about one year.

3.2 Measurement of Literacy

There are several methods that can be applied to get data on people's level of Financial Literacy. Previous studies have made use of questionnaires to collect data. A study by Ma'ruf and Desiyana (2015) was carried out to collect data on the level of knowledge about financial literacy. The data collection was done by distributing questionnaires to MSME Entrepreneurs in Yogyakarta, Indonesia. Other researchers, such as O'Neill and Xiao (2003), Mendari (2015), Malinda et al. (2020) used the Financial Fitness Quiz (FFQ) to measure financial behaviour and literacy (Agarwalla, Barua, Jacob, & Varma, 2015) measure financial literacy, financial knowledge, financial behaviour, and financial attitude of the young people in India. The result show that the respondents exhibit inferior financial knowledge, inferior financial attitude, but superior financial behaviour compared to their counterparts such as Sri Lanka and Pakistan (Agarwalla et al., 2015), Mendes-Da-Silva and Vieira also used questionnaires to measure the attitude, behaviour and financial management of higher education students. (Potrich, Vieira, & Mendes-Da-Silva, 2016)

Some other research employed trainings or educational coaching to measure the different results in financial literacy before and after training sessions. A recent research employing financial planning training for 32 MSMEs in Bandung revealed significant result in the FFQ measurement. The average score before the training was 3.45, a medium score for financial literacy. After the training, the score levelled up to 4.84, which was a high score for financial literacy. The increase was due to the implementation of financial management practices (Malinda, Harianti, Tjandra, & Meryana, 2020). Another research by Malinda, Tjandra, Harianti, and Olius (2020) to students from Management Department, Maranatha Christian University applying Wilcoxon test and FFQ measurement found significantly different scores before and after financial planning class. However, it has not been

proven that the financial planning education was effective to increase Financial Literacy, especially in the Financial Management and Saving, and Investment criteria.

The instrument for measuring Financial Literacy applied in this study is the Financial Fitness Quiz (FFQ) founded by Rutgers University. The quiz consists of 20 practical financial statements covering five dimensions, namely: Financial Management (a dimension describing how financial management is carried out), Saving and Investing (a dimension that describes financial behaviour in saving and investing), Insurance and Estate Planning (a dimension describing financial behaviour in insurance and long-term planning), Credit (a dimension of financial behaviour in debt management), and Shopping (a dimension that shows financial behaviour in spending money). Financial behaviour was measured by counting the total score obtained from the five dimensions. Similar to O'Neill and Xiao (2003) study, the respondents were asked to choose the response that was closest to their current financial management practices.

After the total score was obtained, the respondents were presented with the score interpretations. The interpretations are divided into five categories based on the range of points they got. When they had 0-20 points, the interpretation was "You need a lot of help, but don't despair. You can still take action to improve your finances". When the total was 21-40 points, the interpretation was "You are facing financial troubles. Now is the right time to take action to reverse the trend". When the total was 41-60 points, the interpretation was "You are doing a fair job managing your finances and have taken several steps in the right direction". The total of 61-80 points lead to the interpretation that "You are doing a good job and are above average in managing your finances". The last division was 81-100 points, in which the interpretation was "You are in very good financial shape. Keep going and continue the good work!"

3.3 Research Method

Paired Sample t-test was used for the statistical measurement. The paired sample t-test, sometimes called the dependent sample t-test, is a statistical procedure used to determine whether the mean difference between two sets of observations is zero. In a paired sample t-test, each subject or entity is measured twice, resulting in pairs of observations. (statisticssolutions.com, 2021). The use of paired sample t-test is important as this study compares the respondents' financial fitness scores BEFORE and

AFTER the implementation of "SAKA (peSAK Abdi)".

3.4 Application of "SAKA (peSAK Abdi)"

A financial planning application called "SAKA (peSAK Abdi)" was developed by the researchers with the purpose to help MSME entrepreneurs to manage their money in a simple and easy way. The figures below (figure 1-6) show the user interfaces of the application: the home screen, information on the types and detailed of the business, the landing page, the navigation page, and the statistic and financial reports pages.

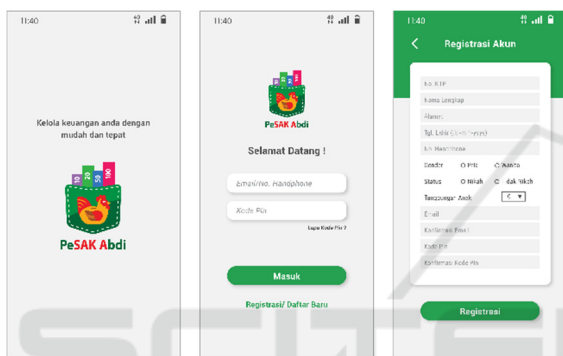


Figure 1: Splash screen page and home screen/ application sign-up of "SAKA (peSAK Abdi)".

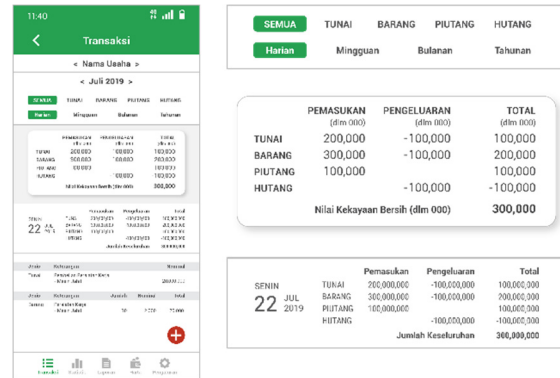


Figure 3: Landing page of application "SAKA (peSAK Abdi)".

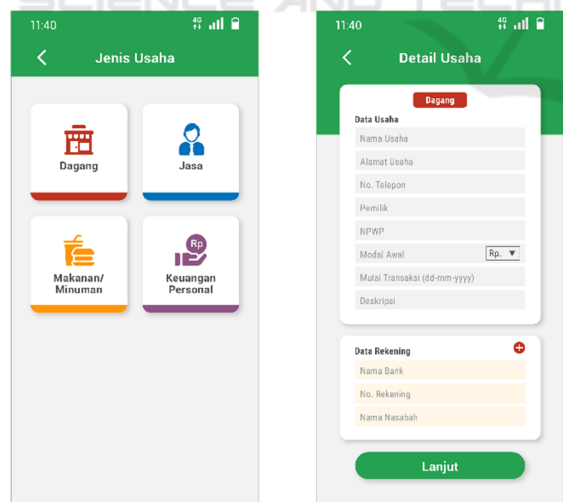


Figure 2: Type and detail of business page.



Figure 4: Navigation page, application content and data entry.

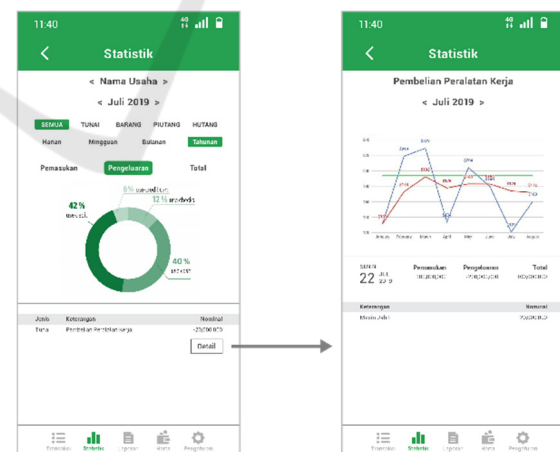


Figure 5: Statistic report page.

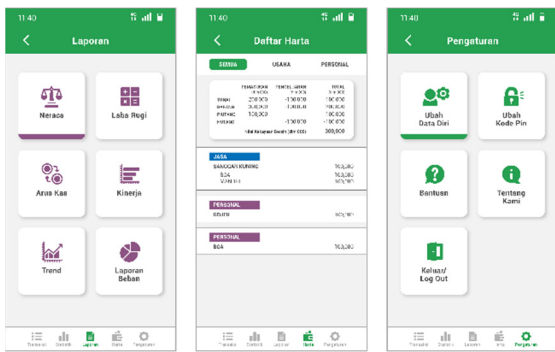


Figure 6: Financial report page, asset list and settings of application "SAKA (peSAK Abdi)".

4 RESULTS AND DISCUSSION

Information about the demography of the MSME entrepreneurs in *Bojong Soang* is presented in Tables 1 to 5. The information is provided to give a prelude before further explanation on the data findings and discussion.

Table 1: Business type.

		Freq.	%	Valid Percent	Cumulative Percent
Valid	Service	43	84.3	84.3	84.3
	Product	8	15.7	15.7	100.0
	Total	51	100.0	100.0	

Table 1 provides information on the respondent's types of business. Most of them provided service, and only 15% of them sold products.

Table 2: Gender of MSMEs.

		Freq.	%	Valid Percent	Cumulative Percent
Valid	Male	3	5.9	5.9	5.9
	Female	48	94.1	94.1	100.0
	Total	51	100.0	100.0	

The data distribution of the respondents' gender is shown in Table 2. More than 90% of the respondents were females. They were usually mothers and wives who also support their families. This implies that female MSME entrepreneurs have potentials for development and growth.

Table 3 shows the data distribution of the number of family members who were financially dependent upon each MSME entrepreneur. The highest frequency was found in entrepreneurs with three to four dependent family members. This implies that the more an entrepreneur has dependent family members,

the more proficient he or she is in financial management. The fact also shows the importance of equipping MSME entrepreneurs with financial planning skills.

Table 3: Dependent family members.

		Freq.	%	Valid Percent	Cumulative Percent
Valid	1-2	14	27.5	27.5	27.5
	3-4	27	52.9	52.9	80.4
	>= 5	7	13.7	13.7	94.1
	No dependent	3	5.9	5.9	100.0
	Total	51	100.0	100.0	

Table 4: Expenditure.

	IDR (Indonesian Rupiah)	Freq.	%	Valid Percent	Cumulative Percent
Valid	< 1.000.000	4	7.8	7.8	7.8
	1.000.000 - < 2.000.000	1	21.6	21.6	29.4
	2.000.000 - < 3.000.000	22	43.1	43.1	72.5
	>3.000.000	14	27.5	27.5	100.0
	Total	51	100.0	100.0	

The highest frequency shown in Table 4 was MSME entrepreneurs whose expenditure was between 2.000.000-3.000.000 IDR. In other words, the minimum expenditure per day for this group was around 70.000-100.000 IDR.

Table 5: Assets.

	IDR (Indonesian Rupiah)	Freq.	%	Valid Percent	Cumulative Percent
Valid	<50.000.000 (Micro)	41	80.4	80.4	80.4
	50.000.000-500.000.000 (small)	8	15.7	15.7	96.1
	500.000.000-1.000.000.000 (Medium)	2	3.9	3.9	100.0
	Total	51	100.0	100.0	

Data distribution of assets is shown in Table 5. More than 80% of the MSMEs in *Bojong Soang* were categorized as Micro Entrepreneurs. Whereas less than 4% could be categorized as medium entrepreneurs. The data imply that there were a significant number of micro entrepreneurs who need support to be able to gain skills in financial planning.

The results of the Paired Sample t-test are shown in tables 6 to 8. The normality of data distribution was

checked by applying Kolmogorov Smirnov Test. When the data distribution showed normal result, the Paired Sample t-test was done. The outcome of the Paired Sample t-test would be two hypotheses:

H0: There was no difference BEFORE and AFTER "SAKA (peSAK Abdi)" training.

H1: There were differences BEFORE and AFTER "SAKA (peSAK Abdi)" training.

Table 6 below presents the result of presents the results of the Paired Sample t-test:

Table 6: Normality test results.

One-Sample Kolmogorov-Smirnov Test			
		BEFORE	AFTER
N		51	51
Normal Parameters ^{a,b}	Mean	9.4235	15.6745
	Std. Deviation	3.18085	3.04866
Most Extreme Differences	Absolute	.090	.122
	Positive	.090	.117
	Negative	-.066	-.122
Kolmogorov-Smirnov Z		.642	.870
Asymp. Sig. (2-tailed)		.805	.435

a. Test distribution is Normal.

b. Calculated from data

Based on the result of the normality test, it was found that the data was normally distributed, because the sig value of the before and after was 0.805 and 0.435 respectively. When the value was greater than 0.05 or 5%, the data was normally distributed. Concerning the hypotheses tested, the result was as follows:

H₀: Residual data were normally distributed

H₁: Residual data were not normally distributed

Criteria: Asymp sig > 0.05: H₀ is accepted; Asymp sig ≤ 0.05: H₀ is rejected (reference.wolfram.com, 2021).

Table 7: Statistical descriptive test results.

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	BEFORE	9.4235	51	3.18085	.44541
	AFTER	15.6745	51	3.04866	.42690

Table 7 shows the results of descriptive tests such as mean and std. deviation, for each of the BEFORE and AFTER variables. The BEFORE result standard deviation was more than the AFTER. This means that the data BEFORE was more spread out than the AFTER.

Based on the results of the Paired Sample t-test in table 8, it is found that the Asymp.Sig obtained was

0,000 and the value was below the 5% significance level. Therefore, it can be concluded that Ho is rejected as there is a difference of data between BEFORE and AFTER the training and implementation of "SAKA (peSAK Abdi)" for financial planning.

5 CONCLUSIONS

After finding out the result and discussion, the researchers draw several conclusions. First of all, the mapping the financial literacy problems of MSME entrepreneurs in *Bojong Soang* shows three major problems. First, the entrepreneurs did not have financial notes. Second, they found it difficult to manage personal and business finances and to separate business capital and personal spending. Third, they did not have any application to help them.

Secondly, the levels of financial literacy among MSME Entrepreneurs BEFORE and AFTER they underwent a training and implementing "SAKA (peSAK Abdi)" application differ significantly. Before the training their average score was only 9,42, and after training the average increase to 15,67. It means the training has high impact in increasing the entrepreneurs' score in the Financial Fitness Quiz. This is in line with the result of a previous study done by that after the training of financial planning there was significant improvement in the level of financial literacy of the respondents (Malinda, Harianti, et al., 2020).

Third, the implementation of a simple financial management application "SAKA (peSAK Abdi)" proves to improve MSME entrepreneurs' financial literacy. This is shown from the different result BEFORE and AFTER the training using the application.

Finally, it is expected that when MSME entrepreneurs are financially literate, they can employ careful financial planning that will help them build their enterprises. The new finding from this research is that implementing a simple financial management application turns out to bring great result in improving MSME entrepreneurs' financial literacy.

Table 8: Hypothesis test results.

		Paired Samples Test							
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. deviation	Std. Error Mean	95% Confidence Interval of the Difference				
Lower	Upper								
Pair 1	BEFORE – AFTER	-6.250	4.157	.582	-7.420	-5.081	10.7	50	.000

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