

VALIDATION OF THE INDONESIAN VERSION OF THE MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT (MSPSS): A RASCH MODEL APPROACH

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Abstract

Scale adaptation in different cultures is needed to ensure that the scale measures the intended target. The Multidimensional Scale of Perceived Social Support (MSPSS) has been adopted in several countries, but no Indonesian language adaptation has been made so far. This study aims to test the construct validity of the Indonesian MSPSS that measures one's level of social support. Rasch analysis was used to examine the psychometric properties of the scale. The subject in this study was 495 Indonesian marine cadets with an average age of 19.32 (41% Engineering, 52.7% Nautical, and 5.5% Electro). In terms of gender, 94.3% were male and 5.7% female. Findings from the Rasch analysis support the one-dimensionality of the 12-items MSPSS in measuring marine cadets' level of social support. This finding differs from similar MSPSS studies that show the scale's structure to be multidimensional. The 12-items MSPSS showed excellent internal consistency (person-item interaction index = .85) and fulfilled all the Rasch model requirements. No item misfit was detected from the MNSQ score ($.5 < \text{MNSQ} < 1.5$). Also, there was no item bias based on gender was detected from the scale ($.0949 - .9687$) $> .05$. Future studies are advised to test the scale with different samples to further confirm this study's findings.

Keywords: Rasch model; social support; validity; psychometric attribute; objective measurement

INTRODUCTION

Indonesia is a collectivist country. Countries with collectivist cultures are characterized by strong relationships between families, both nuclear and extended families. These relationships provide mutually reinforcing support in a variety of contexts (Hofstede, 2011). Thus, support from the closest people is essential in achieving success in various fields. Parental support has a significant role for children, including education and career choices (Amini & Salim., 2020; Sawitri et al., 2014; Simbolon & Rasyid, 2021). Studies on secondary students or college students in Asia showed that most people choose education majors and occupations following their parents' expectations (Leong et al., 2010; Sawitri et al., 2014). The role of parental social support was also found to be positively correlated with the adjustment of the freshmen

that leaving home for college (Gunandar & Utami, 2017; Rasyid & Chusairi, 2021; Rufaida & Kustanti, 2018). The role of peers and significant others also has a major role for an individual (Canty-Mitchell & Zimet, 2000). The results of the study found that peer social support was correlated with academic resilience of migrant students in Indonesia (Putri & Nursanti, 2020). Another study on students in Indonesia found that there was a significant positive relationship between the social support of significant others and academic achievement (Dwiandini & Indriana, 2018).

Several studies showed that individuals transitioning from secondary school to higher education could experience stress from adapting to a new environment (Cobo-Rendon et al., 2020). One of the higher education institutions in Indonesia, whose students

require a reasonably large adaptation process, is merchant marine education. Merchant marine education is a post-secondary vocational education that prepares students to become professionals with work skills under predetermined standards (Direktorat Jenderal Pembelajaran dan Kemahasiswaan Ristekdikti, 2016). This education equips students with the applicative skills in navigation at roughly the same level as an undergraduate program, preparing students to work in that field (Regulation of the Minister of Transportation [Permenhub] No.PM 67 of 2014). Students at the Merchant Marine Education is known as marine cadet. During their education, marine cadets will learn the knowledge and skills through training that will shape them into competent individuals ready to work in the marine field. As a vocational education, the marine education has different rules from other higher education. Marine cadets live in dormitories with certain norms and rules both on-campus and in dormitories during their education (Winarno, 2016). During their stay in the dormitory, cadets need various support from various parties (e.g., long distance family, friends in the dormitory, significant other) to adapt.

Studies on social support are found in several studies related to self-adaptation (Marhamah & Hamzah, 2016; Martinez-Lopez et al., 2020; Rahat & Ilhan, 2016), including adaptation in education to prepare for future careers (Öztemel & Yıldız-Akyol, 2021). Social support from the closest people is considered to have an essential role in solving career-related problems for students (Chan, 2018; Ghosh & Fouad, 2017; Guan et al., 2016; Hou et al., 2019; Tian & Fan, 2014; Turan et al., 2014). Social support refers to meaningful aid that others have given to comfort a person (Zimet et al., 1988). There are several examples of studies on the social support of college students. Guan et al. (2016) explored parental support in the career adaptability of college students in China. Tian and Fan (2014) explored the relationship between social support and career adaptability

in nursing students in China. Turan et al. (2014) investigated the role of social support towards the career exploration of college students in Turkey. Lastly, Ghosh and Fouad (2017) examined social support with the career adaptability of graduating seniors at Midwestern university.

Social support is the availability of people who can be relied on to tell, care, appreciate and love an individual. Social support affects self-development, positive adjustment, and gives positive feelings when individuals experience stress (Sarason et al., 1983). Social support is an individual's perception of feeling cared for by others who have closeness, can be relied on when needed, especially when facing difficulties (Taylor, 2011). Social support is the support that individuals feel consciously in several factors, both personally and socially. This support can be obtained from parents, friends, and people considered necessary (Canty-Mitchell & Zimet, 2000). To assess perceptions of social support from the closest people, namely family, friends, and important people, Canty-Mitchell and Zimet developed a Multidimensional Scale of Perceived Social Support (Zimet et al., 1988).

MSPSS has been commonly used in varying populations and cultures. Among others, it has been used in studies involving senior and junior high schools in Turkey (Turan et al., 2014), undergraduate students in Hongkong (Hui et al., 2018), undergraduate students in Midwestern University (Ghosh & Fouad, 2017), high school students in Indonesia (Laksmita et al., 2020), as well as undergraduate in Indonesia (Salsabhillah & Panjaitan, 2019).

Some past studies using several analytic techniques have shown that MSPSS has a good psychometric property and is a validated instrument for measuring social support for individuals from various cultures. A study by Canty-Mitchell and Zimet (2000) on urban adolescents in Midwestern cities found that their CFA showed a Coefficient of .93 for the

12-item MSPSS: Family = .91, Friends = .89, and Significant Other = .91. The traditional three-factor or multidimensional model is supported by several research results that use CFA to prove that the three MSPSS factor structures fit the data (Adamczyk, 2013; Ermis-demirtas et al., 2018; Martins et al., 2012). A different psychometric result was found by Osman et al. (2014). Osman et al. (2014) used a bifactor analytic strategy to explore the dimensions of the MSPSS assessment tool. The results of this study provided strong support for the use of the MSPSS as a single instrument. In other words, further testing of the psychometric property of MSPSS is still needed. All psychometric analyzes of the existing MSPSS used the Classical Test Theory (CTT) approach.

CTT focuses on the observed score from the overall scale. On the contrary, the item response theory, including Rasch analysis, focuses on the items as well as the instrument level (de Ayala, 2013). This process of analyzing at the item level is critical when validating or translating new scales. The Rasch analysis is an excellent tool for testing the psychometric properties of a given scale (Boone & Staver, 2020; Lee et al., 2010; Smith et al., 2002; Tennant & Conaghan, 2007). In the Rasch analysis, each item is considered to have several parameters that reflect how the item would be scored and felt by the participants, allowing us to calibrate the difficulty level of each item (specific). In the context of education for Marine Cadets, MSPSS will enable targeting of improvements to the availability of social support in the educational process, including helping of creating an educational environment that supports the success of Marine Cadets in learning and, more broadly, creating school welfare.

Rasch analysis allows researchers to examine several measurement properties through a unified approach (Tennant & Conaghan, 2007). For example, it could measure the scale's construct validity by adjusting it to a unidimensional model, making the factor

analysis irrelevant. Rasch analysis also allows researchers to examine the rating scale structure, including whether each item's response format, such as a 4-point scale works as expected or not (i.e., following monotonic assumption). In addition, it allows the researcher to examine whether the items are biased towards subgroups in the sample i.e., analyze the function of different items (Tennant & Conaghan, 2007). It also estimates one's ability to answer an item and the difficulty attached to that item (Tennant et al., 2004). Moreover, it enables the transformation of ordinal data into interval data (Tennant & Conaghan, 2007) using probability and non-linear function, which is logarithm. In summary, this study aims to test the construct validity of the Indonesian version of the MSPSS using Rasch analysis. It is hoped that the well-adapted and validated Indonesian version of the MSPSS will be useful for research on social support in the Indonesian context, especially in education in the future.

METHOD

Participants

Participants in this study were marine cadets totaling 495 cadets (219 from Semarang and 276 from Surabaya) because they lived in student dormitory, so that social support became something interesting to explore. In terms of gender, 467 of them are male cadets, and the remaining 28 are female cadets. The participants came from three education majors, namely 41.8% Engineering, 52.7% Nautica, and 5.5% Electronic. The mean age of the cadets who became participants was 19.32, with details from 17 years old (0.2%); 18 years old (15.4%); 19 years old (51.1%); 20 years old (22.6%); 21 years old (3.5%); 22 years old (1.8%); and 23 years old (1.4%). The cadets needed to fill out the informed consent before completing the questionnaire. The procedure for filling out the questionnaire was carried out in class. This study used a convenience sampling technique, a non-probability sampling technique with samples

selected by researchers from cadets who happened to be at the research location (Neuman, 2014).

Instrument

The Multidimensional Scale of Perceived Social Support (MSPSS) was developed by Zimet et al. (1988). This measuring instrument consists of 12 items consisting of three subscales, namely support from family (items 3, 4, 8, and 11; $\alpha = .929$), friends (items 6, 7, 9, and 12; $\alpha = .942$), and significant others (items 1, 2, 5, and 10; $\alpha = .941$), each subscale containing four items. Each item was assessed using a Likert scale with scores ranging from 1 (strongly disagree) to 7 (strongly agree).

Research procedure

Researchers adapted the scale by following a series of steps according to the test adaptation guidelines from the International Test Committee (ITC) guidelines for translating and adapting tests (2017). The stages in the scale adaptation process are as follows: (1) Preparation. This phase involves getting permission from the original scaler before adaptation. The original scale was obtained by email correspondence with the author. (2) The translation process (translation and back translation). The researcher chose two translators and two back translators according to their qualifications, namely mastering English with a minimum TOEFL score of 500, Indonesian, and having a background in psychology. The translation results were then reconciled to determine which items are appropriate before back translation is carried out. That last process was done to determine the appropriate items to be assessed by expert reviewers. According to Sperber (2004), the adaptation process must carefully consider the measuring instrument's grammar, meaning, and intent to remain in accordance with the original measuring instrument. (3) Assessment by expert reviewers. The researcher chose an expert reviewer who is fluent in English and Indonesian, has the experience and knowledge related to the

construct, and has a psychology background with a minimum of a master's degree. At this stage, the expert reviewer assessed the suitability of grammar and word choice. The reviewers also assessed item clarity, suitability between the item and the construct, and the importance of each item. They were asked to rate it using the following response option: 1 (not appropriate), 2 (slightly not appropriate), 3 (quite appropriate), and 4 (very appropriate). This stage is referred to as the Evidence-Based on Test Content (CVI) validation stage. Validity is an essential quality that indicates the extent to which a test measures the psychological attributes to be measured (Supratiknya, 2016). (4) Pretest stage. Ali (2016) stated the need to re-examine the measuring instrument translated to the subject of the research target. The researchers conducted trials on nine marine cadets to determine whether the subjects could understand the items on the MSPSS scale. (5) The scale is ready for testing. This step is also to test the validity of the scale based on evidence-based internal structure.

Analytical techniques

The scale's estimated reliability and validity (internal structure) were obtained using the Rasch model (Sumintono & Widhiarso, 2014). The Rasch analysis model is a mathematical model of measurement that describes how each individual responds uniquely to specific items in the instrument. The Rasch model is part of the item response theory. In modern test theory, Rasch modeling can provide more specific reliability information to the item and person (Verhelst & Glass, 1993). Rasch analysis was performed using Winsteps software version 3.75.0. By using Winstep, the data will be calibrated automatically into ratio data, either item or person data of the same scale (Linacre, 2018; Sumintono & Widhiarso, 2014)

Rasch analysis was carried out to test the validity of the internal structure, including unidimensionality, to evaluate whether the developed instrument was able to measure what it was supposed to measure. The scale's

unidimensionality was examined following the procedures recommended by Smith et al. (2002) and the guidelines by Tennant and Conaghan (2007). These processes involved a principal component analysis (PCA) of residuals, which measures the extent to which the variance of the instrument measures what it is supposed to measure (raw variance explained index must be >20%, raw variance unexplained index must be <15%). The person and item fit residuals were then conducted to check the result of the analysis. The person-fits residuals were checked to exclude persons whose residuals fall outside the recommended range of +2.5 (Tennant & Conaghan, 2007). The INFIT MNSQ value of each item is analyzed to check the item fit statistics value. The mean and standard deviation values are summed, then compared with the logit value of the item. A logit value greater than this value indicates a misfit item. The MNSQ index of fit items was in the pool $0.5 < \text{MNSQ} < 1.5$.

In addition, the item differential function (DIF) was assessed to detect any measurement bias. Items and measurement instruments can be biased when an item favors one individual with specific characteristics. On the other hand, individuals with the opposite characteristics would be more disadvantaged. In psychometry, testing for bias in measuring is called differential item functioning (DIF). The probability value of the item must be $> .05$ so that the item is free from bias. In this study, the differential item function will be seen by gender, male/female (Hagquist & Andrich, 2017).

Table 2.
Item Measurement of the Indonesian MSPSS

Item	Logit score	SE	Infit		Outfit	
			MNSQ	ZSTD	MNSQ	ZSTD
My family really tries to help me.	-1.18	.08	1.43	3.7	1.02	.2
I get the emotional help & support I need from my family.	-.45	.05	1.54	5.7	1.44	4.2
I can talk about my problems with my family.	.06	.05	1.10	1.4	1.07	.8

The scale's internal consistency was checked using the person separation index (PSI), where a value of 2 or higher represents adequate internal consistency (Tennant & Conaghan, 2007).

RESULT AND DISCUSSION

Table 1.
Dimensions and Invariance in the Dimensionality Test with Rasch

Raw explained variance	
By measure	44.1%
By person	19.3%
By items	24.8%
Raw unexplained variance	
In first contrast	13%
In second contrast	7.8%
In third contrast	5.5%
In fourth contrast	5.1%
In fifth contrast	4.5%

The estimation of the validity of the Rasch modeling was done through a unidimensionality test that uses principal component analysis of the residuals, which measures the extent to which the instrument measures what it is supposed to measure. From Table 1, it is known that the raw data variance measurement results are 44.1% ($> 40\%$) with an eigenvalue below 3 (2.8). The variance that the instrument cannot explain is 13% ($< 15\%$). In other words, it can be said that the MSPSS scale is a unidimensional scale with an excellent value category (Linacre, 2007; Sumintono & Widhiarso, 2014). The MSPSS scale can measure the social support construct as a unidimensional construct and measure what is supposed to measure.

Table 2.*(continued)*

My family is willing to help me make decisions.	-.39	.05	1.03	.4	1.02	.2
My friends really try to help me.	.56	.04	.66	-5.7	.65	-5.6
I can count on my friends when things go wrong	.84	.04	1.02	.4	1.09	1.4
I have friends with whom I can share my joys and sorrows.	.22	.04	.83	-2.4	.75	-3.5
I can talk about my problems with my friends	.60	.04	.88	-1.8	.89	-1.6
There is a special person who is around when I am in need.	.12	.04	1.34	4.2	1.27	3.2
There is a special person with whom I can share joys and sorrows	-.10	.05	1.11	1.4	1.00	.0
I have a special person who is a real source of comfort to me.	-.29	.05	1.28	3.3	1.15	1.7
There is a special person in my life who cares about my feelings.	.01	.05	1.15	2.0	1.03	.4

Note. SE = Separation Index; MNSQ = Outfit Mean Square; ZSTD = Outfit Z-Standard.

Cultural values can be considered as why an item is very difficult or very easy to agree. Table 2 shows the items starting from the most difficult one to agree with to the easiest for the respondents to agree. The item that was the most difficult to approve was the item “I can

rely on my friends when things go wrong” with a logit value of .84, while the item that was the easiest to approve was the item “My family really tries to help me” with a logit value -1.18.

Table 3.

Item Measures and Fit Statistics for The Indonesian MSPSS

Item	Measure	Model	Infit		Outfit		PT-Measure
		SE	MNSQ	ZSTD	MNSQ	ZSTD	Correlation
FA2	-.45	.05	1.54	5.7	1.44	4.2	.42
FA1	-1.18	.08	1.43	3.7	1.02	.2	.38
SO1	.12	.04	1.34	4.2	1.27	3.2	.50
SO3	-.29	.05	1.28	3.3	1.15	1.7	.48
SO4	.01	.05	1.15	2.0	1.03	.4	.53
SO2	-.10	.05	1.11	1.4	1.00	.0	.52
FA3	.06	.05	1.10	1.4	1.07	.8	.53
FR2	.84	.04	1.02	.4	1.09	1.4	.59
FA4	-.39	.05	1.03	.4	1.02	.2	.47
FR4	.60	.04	.88	-1.8	.89	-1.6	.61
FR3	.22	.04	.83	-2.4	.75	-3.5	.59
FR1	.56	.04	.66	-5.7	.65	-5.6	.65
<i>Mean</i>	.0	.05	1.12	1.0	1.03	.1	
<i>SD</i>	.52	.01	.24	3.0	.20	2.6	

Note. FA = Family; FR = Friend; SO = Significant Other; Measure = the estimate of the item difficulty; Infit & Outfit = a mean-square statistic; MNSQ = Outfit Mean Square; ZSTD = Outfit Z-Standard; PT-Measure = The Correlation between the observations and the Rasch measures.

Based on table 3, it can be seen the value of the outfit (MNSQ) received. This data describes fit and misfit items. Criteria for fit and misfit items according to Linacre (2007), are $.5 < \text{MNSQ} < 1.5$. The data in Table 3 shows that the twelve items of the MSPSS are fit (no items are misfits).

Table 4.
Reliability and Separation Score

	Item	Person	α^a
Reliability	.99	.77	.85
Separation	9.62	1.85	

Note.

^aAlpha Cronbach (person-item interaction).

This data shows information about the quality of the respondents, the quality of the instrument, and the person-item interaction (Bond & Fox, 2007; Linacre, 2007). Person measure equals to +1.26 logit indicates the average respondent's value is more than logit 0.0 which mean that respondents tend to agree more (higher ability) on items on the MSPSS scale.

The person item reliability of the MSPSS Indonesia version is .77. This finding shows that this measuring tool can distinguish between the perceived social support of individuals in the low and high categories. The value of separation $((4 \times 1.85) + 1) / 3 = 2.8$ means that three groups of respondents and groups of items can be identified. The greater the value of separation, the better the quality of the instrument because it can identify groups of respondents and groups of items. The reliability of the item is .99, indicating that the respondents are consistent in providing answers to these very high-quality items. In addition, the Cronbach alpha value, which measures the reliability of the person-item interaction, is .85. This result shows that it is considered a very good category.

Table 5 is a DIF test based on gender to detect any item bias influenced by gender differences. The bias in items is seen based on the item probability value (Prob), which is below 5%. The 12-item MSPSS did not indicate a gender bias.

Table 5.
Differential Item Functioning (DIF) Test based on gender

Item	DF	DF Probability
	Chi-Squared	
FA1	6.7826	.6597
FA2	13.1392	.1563
FA3	13.1150	.1574
FA4	8.3651	.4978
FR1	2.8829	.9687
FR2	8.1876	.5153
FR3	5.4410	.7943
FR4	6.5117	.6878
SO1	12.8894	.1676
SO2	14.8566	.0949
SO3	13.6994	.1334
SO4	13.5857	.1378

Note. DF = Density Function; FA = Family; FR = Friend; SO = Significant Other. Item bias if DF probability $< .05$.

The respondents of this study are marine cadets. Several findings show that marine cadets experienced pressure when undergoing their education years. This pressure often derived from different work expectations and the new role cadets experienced when they started college education. Packed academic and non-academic schedules are sources of pressure that they feel (Putri & Sawitri, 2017; Setyorini & Kuncoro, 2019). Marine cadets live in dormitories for the duration of their studies and are expected to follow all campus and dormitory rules and regulations. Cadets who can adapt to the situation will have good psychological well-being, allowing them to process their learning better. Individuals with great social support have been predicted to be more actively involved in preparing for their future careers, from how well they keep up with their studies (Tian & Fan, 2014). Several studies have stated that social support is a construct that is strongly related to physical health and psychological well-being (Hardan-Khalil & Mayo, 2015). In their study, Li et al. (2018) found that social support was the single most crucial factor in increasing academic accomplishments and lower academic fatigue among students in China. In Malaysia, Abdullah et al. (2014), discovered

that social support correlates with new college students' ability to adapt to campus. Estiane (2015) also found a similar finding, noting that the social support received from close friends significantly correlates with one's ability to adapt.

This study is the first to evaluate the psychometric properties of MSPSS using Rasch analysis. This analysis is considered a new approach to measuring scales compared with previous procedures. The Indonesian MSPSS is proven to have excellent psychometric properties. The findings of this research show that the scale is one-dimensional. This particular finding contradicts previous studies that claim the scale to be a multidimensional scale (Adamczyk, 2013; Ermis-demirtas et al., 2018; Martins et al., 2012). It could also be stated that the psychometric properties evaluated using CFA and EFA resulted in a different result when tested using the Rasch model, a common thing when using different approaches.

The analysis result shows that the Pearson reliability score of the Indonesian MSPSS is 0.77. This score is bigger than the received score, namely 0.70 (Tennant & Conaghan, 2007). This result indicates that this measurement tool can differentiate participants' level of social support between the high- and low- categories (Linacre, 2018). The reliability score of this measurement tool is recorded at 0.99, indicating an excellent level of consistency in the respondents' responses towards the items. Cronbach's alpha value which shows the reliability between person and item, is .85, which indicates a very high category. The results of the raw data variance measurement are 44.1% (> 40%) with an eigenvalue below 3 (2.8); the variance that the instrument cannot explain is 13% (< 15%), so it can be said that the MSPSS scale is a unidimensional scale with excellent category value (Linacre, 2007; Sumintono & Widhiarso, 2014). Based on these results, it can be said that the psychometric property evaluation of this scale shows new findings.

The MSPSS social support scale can measure the social support construct as a unidimensional construct and measure what it should measure. This analysis supports the results of previous researchers who support the MSPSS as a unidimensional scale (Osman, 2014).

The results of the item measurement show that the items that are the most difficult for respondents to agree on are items related to social support from friends. If sorted the most approved item first, "I can count on my friends when something goes wrong." The second most challenging item to agree on was "I can talk about my problems with my friends." The third most difficult item to agree on was "My friends really try to help me." The fourth most difficult item to agree on was "I have friends to share my joys and sorrows with." These results indicate that the perceived support from friends is the most challenging support for cadets to decide. Friends for cadets cannot provide the primary support for cadets, even though cadets live together in dormitories and on-campus in everyday life. This finding is consistent with the results of research on social support with academic resilience Cadets in Polytechnics of Makassar Merchant Marine, which shows family support has a higher contribution than other supports. Peer support contributed the lowest compared to others (Permatasari et al., 2021). According to Winarno (2016), during the educational process, cadets have norms and rules that apply, both on campus and in dormitories. One of these rules is for discipline. Based on this, all cadet behavior is under supervision so that if cadets commit a violation, they must be ready to be punished. In addition, merchants cannot be separated from seniority in marine education. Seniors often give orders that bring disadvantages and make juniors uncomfortable doing it—for example, washing seniors' clothes and giving physical punishment for no apparent reason. On the other hand, the demands of the task as cadets are quite a lot. This condition can cause cadets to not have the opportunity to build closer relationships with friends in the dormitory.

On the other hand, the easiest support item to agree on is the family support item, which is “My family really tries to help me.” This means that the family is considered the most supportive of the cadets even though they are far away. The results of this study are in accordance with the results of qualitative research with marine cadet subjects who found that parental support is the biggest support for marine cadets (Sulistiani et al., 2021). These findings can contribute to marine education. Marine education should create a pleasant educational environment among cadets so that the social support of fellow cadets can be felt. The existence of social support in the educational environment will create school well-being and psychological well-being for students (Adyani et al., 2019; Alwi et al., 2020). The study in marine cadet found that perceived social support is positively correlated with resilience (Permatasari et al., 2021). Another study found that the perceived support that college students had was beneficial to their general well-being, which had an impact on their mental health (Cobo-Rendon et al., 2020). Another study at university students found that quality of life was predicted by the social support of friends and significant others (Alsubaie et al., 2019). Social support from others is positively correlated with career adaptability (Giffari & Suhariadi, 2017; Hlad’o et al., 2020; Li et al., 2022). Several studies also show that the relationship with significant others (e.g., teachers, parents, peer) has a correlation with student well-being and academic success (Wijnia, 2021).

The findings in this study indicate that the psychometric characteristics of the Indonesian MSPSS are essential information for Indonesian researchers. The availability of a validated Rasch-based Indonesian version of the MSPSS is expected to be used in further research. It can create an educational environment that supports each other among cadets to create school well-being. These results can also provide information related to social support from family, friends, and significant others in marine education.

CONCLUSION

This research is the first to translate and explore the psychometric properties of the MSPSS Indonesian version using Rasch analysis. The current findings show that the translated version of the scale represents good psychometric properties to measure the social support of Indonesian Marine students. The MSPSS unidimensional model shows a model fit when measured through the Rasch model. Thus, the Indonesian MSPSS scale can be recommended to be used to measure social support.

REFERENCES

- Abdullah, M. C., Kong, L. L., & Talib, A. R. (2014). Perceived social support as predictor of university adjustment and academic achievement amongst first year undergraduates in a Malaysian Public University. *Malaysian Journal of Learning and Instruction*, 11, 59–73. <http://dx.doi.org/10.32890/mjli.11.2014.7665>
- Adamczyk, K. (2013). Development and validation of the Polish-language version of the Multidimensional Scale of Perceived Social Support (MSPSS). *Revue internationale de psychologie sociale*, 26(4), 25-48.
- Adyani, L., Suzanna, E., Safuwani, S., & Muryali, M. (2019). Perceived social support and psychological well-being among interstate students at Malikussaleh University. *Indigenous: Jurnal Ilmiah Psikologi*, 3(2), 98-104. <https://doi.org/10.23917/indigenous.v3i2.6591>
- Amini, D. S. & Salim, R. M. A. (2020). Dukungan orangtua, efikasi diri pengambilan keputusan karier, dan planned happenstance pada siswa Sekolah Menengah Pertama. *Jurnal Psikologi Ulayat*, 7(1), 87-98. <https://doi:10.24854/jpu02020-294>

- Ali, M. M. (2016). Are we asking the same questions in different contexts: Translation techniques in cross-culture studies in science education? *Journal of Turkish Science Education*, 13(1), 31–44.
- Alsubaie, M. M., Stain, H. J., Webster, L. A. D. & Wadman, R. (2019). The role of sources of social support on depression and quality of life for university students. *International Journal of Adolescence and Youth*, 24(4), 484-496, <https://doi.org/10.1080/02673843.2019.1568887>
- Alwi, M. A., Suminar, D. R., & Nawangsari, N. F. (2020) Support in Schools and School Well-Being: Self Esteem as a Mediator. *International Journal of Pedagogy and Teacher Education*, 41(2), 119-125. <https://doi.org/10.20961/ijpte.v4i2.42869>
- Bond, T., & Fox, C. (2007). *Applying the Rasch model: Fundamental measurement in the human sciences* (2nd ed.). Lawrence Erlbaum Associates, Inc., Publishers.
- Boone, W. J., & Staver, J. R. (2020). *Advances in Rasch analyses in the human sciences*. Springer Cham. <https://doi.org/10.1007/978-3-030-43420-5>
- Canty-Mitchell, J., & Zimet, G. D. (2000). Psychometric properties of the Multidimensional Scale of Perceived Social Support in urban adolescents. *American Journal of Community Psychology*, 28, 391-400. <https://doi.org/10.1023/A:1005109522457>
- Chan, C.-C. (2018). The relationship among social support, career self-efficacy, career exploration, and career choices of Taiwanese college athletes. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 22, 105–109. <https://doi.org/10.1016/j.jhlste.2017.09.004>
- Cobo-Rendon, R. C., López-Angulo, Y., Pérez-Villalobo, M. V., & Díaz-Mujica, A. (2020). Perceived social support and its effects on changes in the affective and eudaimonic well-being of Chilean University Students. *Front. Psychol*, 11:3380. <https://doi.org/10.3389/fpsyg.2020.590513>
- de Ayala, R. J. (2013). *The theory and practice of item response theory*. Guilford Publications.
- Direktorat Jenderal Pembelajaran dan Kemahasiswaan. *Buku panduan teknologi pembelajaran pendidikan tinggi vokasi*. (2016). Kementerian Riset Teknologi dan Pendidikan Tinggi. <https://p2appjj.ub.ac.id/wp-content/uploads/2019/06/Chomsin-Sulistya-Widodo-S.Si.-M.Si.-Ph.D.-Panduan-Penyusunan-Kurikulum-Pendidikan-Vokasi-2016-1.pdf>
- Dwiandini, R. P., & Indriana, Y. (2018). Hubungan antara dukungan sosial significant others dengan prestasi akademik pada mahasiswa rantau anggota himpunan-himpunan daerah Sumatera di Universitas Diponegoro Semarang. *Jurnal Empati*, 7(1), 84-91. <https://doi.org/10.14710/empati.2018.20150>
- Ermis-Demirtas, H., Watson, J. C., Karaman, M. A., Freeman, P., Kumaran, A., Haktanir, A., & Streeter, A. M. (2018). Psychometric properties of the Multidimensional Scale of Perceived Social Support within Hispanic college students. *Hispanic Journal of Behavioral Sciences*, 40(4), 472-485. <https://doi.org/10.1177/0739986318790733>
- Estiane, U. (2015). Pengaruh dukungan sosial sahabat terhadap penyesuaian sosial mahasiswa baru di lingkungan perguruan tinggi. *Jurnal Psikologi Klinis dan Kesehatan Mental*, 4(1), 29–40.

- Ghosh, A., & Fouad, N. A. (2017). Career adaptability and social support among graduating college seniors. *The Career Development Quarterly*, *65*(3), 278–283. <https://doi.org/10.1002/cdq.12098>
- Giffari, N., & Suhariadi, F. (2017). Pengaruh social support terhadap career adaptability pada mahasiswa tingkat akhir Fakultas Psikologi Universitas Airlangga. *Jurnal Psikologi Industri dan Organisasi*, *6*(4), 64–77.
- Guan, P., Capezio, A., Restubog, S. L. D., Read, S., Lajom, J. A. L., & Li, M. (2016). The role of traditionality in the relationships among parental support, career decision-making self-efficacy and career adaptability. *Journal of Vocational Behavior*, *94*, 114–123. <https://doi.org/10.1016/j.jvb.2016.02.018>
- Gunandar, M. S., & Utami, M. S. (2017). Hubungan antara dukungan sosial orang tua dengan penyesuaian diri mahasiswa baru yang merantau. *Gadjah Mada Journal of Psychology*, *3*(2), 98–109. DOI: 10.22146/gamajop.43441
- Hagquist, C., & Andrich, D. (2017). Recent advances in analysis of differential item functioning in health research using the Rasch model. *Health and quality of life outcomes*, *15*(1), 181. <https://doi.org/10.1186/s12955-017-0755-0>
- Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Culture*, *2*(1). <https://doi.org/10.9707/2307-0919.1014>
- Hou, C., Wu, Y., & Liu, Z. (2019). Career decision-making self-efficacy mediates the effect of social support on career adaptability: A longitudinal study. *Social Behavior and Personality: An International Journal*, *47*(5), e8157. <https://doi.org/10.2224/sbp.8157>
- Hui, T., Yuen, M., & Chen, G. (2018). Career adaptability, self-esteem, and social support among Hong Kong University students. *The Career Development Quarterly*, *66*(2), 94–106. <https://doi.org/10.1002/cdq.12118>
- Hardan-Khalil, K., & Mayo, A. M. (2015). Psychometric Properties of the Multidimensional Scale of Perceived Social Support. *Clinical Nurse Specialist*, *29*(5), 258–261. <https://doi.org/10.1097/NUR.0000000000000148>
- Hlad' o, Petr., Kvasková, L., Ježek, S., Hirschi, A., & Macek, P. (2020). Career adaptability and social support of vocational students leaving upper secondary school. *Journal of Career Assessment*, *28*(3), 478–495. <https://doi.org/10.1177/1069072719884299>
- ITC Guidelines for Translating and Adapting Tests (2nd ed.). (2017). *International Journal of Testing*, *18*(2), 101–134. <https://doi.org/10.1080/15305058.2017.1398166>
- Laksmi, O. D., Chung, M-H., Liao, Y-M., & Chang, P-C. (2020). Multidimensional Scale of Perceived Social Support in Indonesian adolescent disaster survivors: A psychometric evaluation. *PLoS ONE*, *15*(3), Article e0229958. <https://doi.org/10.1371/journal.pone.0229958>
- Lee, M., Peterson, J. J., & Dixon, A. (2010). Rasch calibration of physical activity self-efficacy and social support scale for persons with intellectual disabilities. *Research in Developmental Disabilities*, *31*(4), 903–913. <https://doi.org/10.1016/j.ridd.2010.02.010>
- Leong, F. T. L., Hardin, E. E., & Gupta, A. (2010). A cultural formulation approach to career assessment and career counseling with Asian American clients. *Journal of Career Development*, *37*(1),

- 465–486.
<https://doi.org/10.1177/0894845310363808>
- Li, J., Han, X., Wang, W., Sun, G., & Cheng, Z. (2018). How social support influences university students' academic achievement and emotional exhaustion: The mediating role of self-esteem university students. *Learning and Individual Differences, 61*(1), 120–126. <https://doi.org/10.1016/j.lindif.2017.11.016>
- Li, T., Tien, H.L.S., Gu, J. & Wang, J. (2022). The relationship between social support and career adaptability: The chain mediating role of perceived career barriers and career maturity. *International Journal Educational and Vocational Guidance*. <https://doi.org/10.1007/s10775-021-09515-x>
- Linacre, J. M., (2007). *A user's guide to WINSTEPS Rasch-model computer programs*. MESA Press.
- Linacre, J. M. (2018). Winsteps® Rasch measurement computer program user's guide. Winsteps.com. <https://www.winsteps.com/a/Winsteps-Manual.pdf>
- Marhamah, F., & Hamzah, B. H., (2016). The relationship between social support and academic stress among first year students at Syiah Kuala University. *Jurnal Psikoslamedia, 1*(1), 149-171. <http://dx.doi.org/10.22373/psikoslamedia.v1i1.1487>
- Martinez-Lopez, Z., Tinajero, C., Rodriguez, M. S., & Paramo, M. F. (2019). Perceived social support and university adjustment among Spanish college students. *European Journal of Psychology and Educational Research, 2*(1), 21-30. <https://doi.org/10.12973/ejper.2.1.21>
- Martins, M. V., Peterson, B. D., Almeida, V. M., & Costa, M. E. (2012). Measuring perceived social support in Portuguese adults trying to conceive: Adaptation and psychometric evaluation of Multidimensional Scale of Perceived Social Support. *Peritia, 133*, 5–11.
- Neuman, W. L. (2014). *Social research methods: Qualitative and quantitative approaches* (7th ed.). Pearson Education.
- Osman, A., Lamis, D. A., Freedenthal, S., Gutierrez, P. M., & McNaughton-Cassill, M. (2014). The Multidimensional Scale of Perceived Social Support: Analyses of internal reliability, measurement invariance, and correlates across gender. *Journal of Personality Assessment, 96*(1), 103–112. <https://doi.org/10.1080/00223891.2013.838170>
- Öztemel, K., & Yıldız-Akyol, E. (2021). The predictive role of happiness, social support, and future time orientation in career adaptability. *Journal of Career Development, 48*(3), 199–212. <https://doi.org/10.1177/0894845319840437>
- Peraturan Menteri Perhubungan No PM. 67 Tahun 2014. (2014). Indonesia. Retrieved from https://legalitas.org/download/write_pdf.php?url=pdf/peraturan_menteri/kementerian_perhubungan/2014/Peraturan-Menteri-Kementerian-Perhubungan-PM-67-tahun-2014.pdf
- Permatasari, N., Rahmatillah., A. F., & Ismail, N (2021). Contribution of perceived social support (peer, family, and teacher) to academic resilience during Covid-19. *Golden Ratio of Social Support Science and Education, 1*(1), 1-12. <https://doi.org/10.52970/grsse.v1i1.94>
- Putri, W. C & Nursanti, A. (2020). The relationship between peer social support and academic resilience of young adult migrant students in Jakarta. *International Journal of Education, 13*(2), 122-130. <https://doi.org/10.17509/ije.v13i2.24547>

- Putri, S. A., & Sawitri, D. R. (2017). Hubungan antara hardiness dengan stres akademik pada taruna tingkat II Politeknik Ilmu Pelayaran Semarang. *Jurnal Empati*, 6(4), 319-322. <https://doi.org/10.14710/empati.2017.20100>
- Rahat, E., & İlhan, T. (2016). Coping styles, social support, relational self-construal, and resilience in predicting students' adjustment to university life. *Educ. Sci. Theory and Practice*, 16, 187–208. <https://doi.org/10.12738/estp.2016.1.0058>
- Rasyid, H. A., & Chusairi, A. (2021). Hubungan antara dukungan sosial dan penyesuaian diri pada mahasiswa Universitas Airlangga. *Buletin Riset Psikologi dan Kesehatan Mental (BRPKM)*, 1(2), 1306–1312. <https://doi.org/10.20473/brpkm.v1i2.28617>
- Rufaida, H., & Kustanti, E. R. (2018). Hubungan antara dukungan sosial teman sebaya dengan penyesuaian diri pada mahasiswa rantau dari Sumatera di Universitas Diponegoro. *Jurnal Empati*, 6(3), 2017-222. <https://doi.org/10.14710/empati.2017.19751>
- Salsabhilla, A & Panjaitan, R. U. (2019). Dukungan sosial dan hubungannya dengan ide bunuh diri pada mahasiswa rantau. *Jurnal Keperawatan Jiwa*, 7(1), 107 – 114. <https://doi.org/10.26714/jkj.7.1.2019.107-114>
- Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology*, 44(1), 127–139. <https://doi.org/10.1037/0022-3514.44.1.127>
- Sawitri, D. R., Creed, P. A., & Zimmer-Gembeck, M. J. (2014). Parental influences and adolescent career behaviours in a collectivist cultural setting. *International Journal for Educational and Vocational Guidance*, 14(2), 161–180. <https://doi.org/10.1007/s10775-013-9247-x>
- Setyorini, A., & Kuncoro, J. (2019). Hubungan antara kecerdasan emosi dengan tingkat stres terhadap program wajib asrama dan pendidikan semi militer pada taruna Politeknik Ilmu Pelayaran Semarang. *Proyeksi*, 14(1), 63–73. <http://dx.doi.org/10.30659/jp.14.1.63-73>
- Smith Jr, E. V., Conrad, K. M., Chang, K., & Piazza, J. (2002). An introduction to Rasch measurement for scale development and person assessment. *Journal of Nursing Measurement*, 10(3), 189-206. <https://doi.org/10.1891/jnum.10.3.189.52562>
- Sperber, A. D. (2004). Translation and validation of study instruments for cross-cultural research. *American Gastroenterological Association*, 126, 124–128. <https://doi.org/10.1053/j.gastro.2003.10.016>
- Simbolon, N. P., & Rasyid. M. (2021). Konsep diri dan dukungan orangtua terhadap keputusan karir. *Psikoborneo Jurnal Imiah Psikologi*, 9(2), 391-401. <http://dx.doi.org/10.30872/psikoborneo.v9i2.5980>
- Sulistiani, W., Suminar, D. R., Hendriani, W., & Suryanto, S. (2021). A content analysis of career adaptability among marine cadet. *Journal of Educational, Health and Community Psychology*, 10(2). <http://dx.doi.org/10.12928/jehcp.v10i2.19967>
- Supratiknya, A. (2016). *Pengukuran psikologis*. Sanata Dharma University Press.

- Sumintono, B., & Widhiarso, W. (2014). Aplikasi Model Rasch untuk penelitian ilmu-ilmu sosial. Tri Komunikata Publishing House. <https://doi.org/10.1016/j.jvb.2014.07.006>
- Turan, E., Celik, E., & Turan, M. E. (2014). Perceived social support as predictors of adolescents' career exploration. *Australian Journal of Career Development*, 23(3), 119–124. <https://doi.org/10.1177/1038416214535109>
- Taylor, S. E. (2011). Social support: A review. In H. S. Friedman (Ed.), *The Oxford handbook of health psychology* (pp. 189–214). Oxford University Press. DOI: 10.1093/oxfordhb/9780195342819.013.0009
- Tennant, A., & Conaghan, P. G. (2007). The Rasch measurement model in rheumatology: What is it and why use it? When should it be applied, and what should one look for in a Rasch paper? *Arthritis Care & Research*, 57, 1358–1362. <https://doi.org/10.1002/art.23108>
- Tennant, A., Penta, M., Tesio, L., Grimby, G., Thonnard, J. L., Slade, A., & Tripolski, M. (2004). Assessing and adjusting for cross-cultural validity of impairment and activity limitation scales through differential item functioning within the framework of the Rasch model: The PRO-ESOR project. *Medical Care*, 42(1), I37–I48. <https://doi.org/10.1097/01.mlr.0000103529.63132.77>
- Tian, Y., & Fan, X. (2014). Adversity quotients, environmental variables and career adaptability in student nurses. *Journal of Vocational Behavior*, 85(3), 251–257.
- Verhelst, N. D., & Glas, C. A. (1993). A dynamic generalization of the Rasch model. *Psychometrika*, 58(3), 395–415. <https://doi.org/10.1007/BF02294648>
- Wijnia, L. (2021). Well-being, academic success, and the role of relationships. *Educational Psychology*, 41(8), 949–951. <https://doi.org/10.1080/01443410.2021.1994305>
- Winarno. (2016). *Rekonstruksi norma tata tertib taruna sebagai upaya memutus mata rantai kekerasan* [Doctoral Dissertation, Sultan Agung Islamic University (UNISSULA)]. Repository UNISSULA. jurnal.unissula.ac.id/index.php/PH/article/download/1452/1123
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2

Appendix

Items translate in Indonesian language

Item
<i>Keluarga saya sungguh-sungguh berusaha membantu saya.</i>
<i>Saya mendapatkan bantuan emosional dan dukungan yang saya butuhkan dari keluarga saya.</i>
<i>Saya dapat membicarakan masalah-masalah saya dengan keluarga saya.</i>
<i>Keluarga saya bersedia untuk membantu saya dalam mengambil keputusan.</i>
<i>Teman-teman saya sungguh-sungguh berusaha membantu saya.</i>
<i>Saya dapat mengandalkan teman-teman saya ketika sesuatu berjalan tidak seperti yang seharusnya.</i>
<i>Saya memiliki teman-teman untuk berbagi suka dan duka.</i>
<i>Saya dapat membicarakan masalah-masalah saya dengan teman-teman saya.</i>
<i>Ada seorang yang spesial di sekitar saya ketika saya membutuhkan.</i>
<i>Ada seorang yang spesial yang menjadi tempat saya berbagi suka dan duka.</i>
<i>Saya memiliki seorang yang spesial yang menjadi sumber nyata kenyamanan bagi saya.</i>
<i>Ada seseorang special dalam kehidupan saya, yang peduli dengan perasaan-perasaan saya.</i>
