Rasch Model Analysis: Measuring Psychometric Properties of Career Orientation Scale for High School Students

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Abstract
According to the Super career development theory, high school students as adolescents need to have a clear understanding of their career orientation. Career orientation is defined as the direction of the tendency to make conclusions about future career expectation. The phenomenon is not easy to reveal students' career orientation due to the limitations of measuring instruments used by school counsellors. Using the Rasch analysis model, this study aims to measure the psychometric properties of 20 items on the Career Orientation Scale (COS), including measuring the validity and reliability of this scale which is specially prepared for high school students. The study involved 65 high school students who were taken by random sampling. The results showed that COS had psychometric properties and internal consistency to prove to be a valid and reliable research instrument. This research implies that researchers can use COS to collect data or information related to the career orientation of high school students.

Keywords: career, orientation scale, Rasch measurement tool

1. Introduction
According to the Super career development theory, high school students as adolescents (aged between 15-18 years) are at an exploratory stage. They have an interest and future career plans at this stage, thinking of an alternative career choice, even though not a binding decision (Zunker, 2015). To support student development, Education at school focuses on helping achieve tasks and career expectations. Precisely, career development expectations for high school students can determine future education and employment choices (Amin, Wibowo, & Nusantoro, 2014; Amin, 2015; Saraswati & Amin, 2016).

However, career development is now full of dynamics, uncertain, and changing quickly (De Vos et al., 2016). This often causes significant problems for someone who cannot adjust to the career development (Savickas & Porfeli, 2012; Hirschi et al., 2014). Urbanaviciute, Pociute, Kairys, & Liniauskaite (2016) suggest that career problems experienced by individuals come from internal and external sources and have an impact on the achievement of one's career development tasks. External issues are often caused by factors like the work organization system and employment. Meanwhile, internal factors related to the lack of individual hard and soft skills, goal orientation confusion, and low self-motivation.

Career problems can be avoided by understanding career orientation. Career orientation is a critical dimension in career selection (Djibu & Duludu, 2020). Students at every level of education should have the correct career orientation following the story of readiness, meaningfulness, and developmental tasks (Gibson & Mitchell, 2011). These problems are not easy because individuals must overcome the lack of clarity regarding their capabilities, the stability of interests, current and prospects for choices, career accessibility, and the identity they want to develop within themselves (Bandura, 1997).

Super (Sharf, 2006) suggests a term called the Career orientation is understood as an individual's readiness to make career choices (Super in Sharf, 2009). Super also emphasized that career orientation is defined as the direction of a person's tendency to draw conclusions about the career expectations he will have in the future. More specifically, career orientation is an individual's attitude towards career choice, be it the choice of further study or the choice of work which is indicated by the existence of self-knowledge, self-understanding, self-ability, and future planning (Super, cited in Sharf, 2009).

Information gathering and research related to career orientation in various places have been found, for example in the United States (Igbaria & Baroudi, 1993), Japan (Okura et al., 2013), Singapore (Akmal & Arlinkasari, 2017), and Hungary (Gergely, 2016). Unfortunately, none of the studies investigated or disclosed the career orientation of high school students. Previous research studies and examines the career orientation of workers in accordance with the type and type of work. This is partly also due in Indonesia is not an instrument to reveal valid data on students' career orientation. Even though there are several well-established and popular instruments, and are often used to measure career orientation or similar constructs, however specifically have not yet facilitated the analysis of career orientation in high school students, such as Career Orientation Assessment (COA) developed by (Derr, 1987) and Career Anchors Inventory (COI) developed by (Schein, 1985). While other studies (Suryadi et al., 2018) that have tried to uncover the career orientation of students in Indonesia have not shown an analysis of the validity of the instrument to reveal this construct.

This study aims to determine the psychometric properties of COS, including measuring the validity and reliability of COS which is specifically prepared for high school students. The validation process is carried out by evaluating the psychometric properties of career orientation scales that reach research instrument standards. In addition, this research also analyzes in-depth how the position of respondents in responding to all items on the career orientation scale. This study uses the Rasch Model or also known as the Rasch Measurement Tool (RMT) to achieve the research objectives. The Rasch model is known as one type of Item Response analysis.

Unlike the Classical Test Theory (CTT) which relies heavily on non-linear samples and has limitations in terms of score ranges, the Rasch analysis model offers a different perspective. Rasch Model Theory has characteristics (1) independent of the sample, (2) completing the barriers difference metric item, (3) generating scores were analyzed based on the measurement of pure error, (4) complete the missing data, (5) linear, (6) and provide independently (Sumintono & Widhiarso, 2015). In addition, RMT can also provide detailed diagnostic information to be able to scale up (Sumintono & Widhiarso, 2014). It is our focus to be novelty and value-added to achieve psychometric property estimates that fit the career orientation scale.

2. Literature Review

2.1 Career Orientation in High School Students

Super (cited in Sharf, 2009) suggests a term called Career Orientation which is defined as a general stance on the career maturity of students who hope to provide a summary or collection of what students expect in terms of career orientation. The career orientation referred to is the readiness of individuals to make choices (Super in Sharf, 2009). Super added that career orientation is the direction of the tendency to conclude future career expectations In particular, career orientation consists of two aspects. First, the aspect of developing attitudes towards career, which consists of career planning and career exploration. Second, the aspect of developing career knowledge and skills, which consists of the sub-aspects of career decision making and world-of-work information.

Therefore, according to Super (1990), career orientation is defined as the direction of the tendency to make conclusions about future career expectation, which includes aspects of both attitudes, knowledge, and skills. Crites (in Sharf, 2006) explains that career orientation is attitudes toward work whether pleasure-oriented or work-oriented, which means that attitudes toward work are shown with a clear objective of achieving job satisfaction or simply to work. Career orientation reflects a person's tendency towards the relationship between opportunities, self-conditions, and career types. Thus, career orientation is defined as a person's attitude towards career decision making demonstrated by setting the center of attention and self-understanding and career opportunities. From several concepts, it can be concluded that career orientation is an individual's attitude towards his career choice, be it a choice of further study or a choice of work as indicated by the presence of self-knowledge, self-understanding, self-ability, and future planning.
Career orientation is one of the important dimensions in choosing one's career, as stated that the main dimension in career selection for high school students in career orientation. Students at every level of Education, including high school, should have career-oriented experiences that are appropriate to their level of readiness as well as meaning and reliability (Gibson & Mitchell, 2011; Kanto et al., 2020; Nuraini et al., 2019). This means that every student has the opportunity to participate and observe continuously in the form of discussions, services, or teaching from the teacher or counselor. Activities that will become the direction of career orientation for high school students are recognizing the social needs of a job, then developing an understanding of the school curriculum, part-time work, and higher secondary Education both now and in the future. The career orientation process starts early and ends until resignation from the world of work, including high school students who are in the process of developing a career orientation. Psychologically, high school students are in middle adolescence aged 15-18 years (Zunker, 2015). High school students already have an interest in work that is marked by starting to think seriously about the future.

Career orientation for high school students can more accurately describe the success of a job in the future. This is in line with the opinion of Dillard (cited in Abdullah, 2018) which states that career orientation helps students in (1) understanding their own interests, talents, skills, and strengths, (2) developing abilities that are useful as basic skills in career development, (3) obtaining career information related to training and job opportunities, (4) recognizing the types of jobs and skills needed in the job of interest, (5) assessing personal goals and exploring careers, and (6) developing career planning according to interests, skills, talents, and goals. So it can be concluded that career orientation in high school students in the process of selecting students regarding further Education and employment based on clear objectives, self-understanding, consideration of opportunities, exploration of relevant resources, and planning for the future.

2.2 Aspects of Career Orientation in High School Students

Career orientation aspects consist of knowledge, attitudes, and skills. This aspect is following the Career Orientation Total formulation put forward by Super. Career orientation has two components: Career Development, Attitude and Career Development Knowledge and Skill (Sharf, 2006). Career Development Attitude is an affective aspect that relates to the tendency of individual responses to future expectations and curiosity, consisting of career planning and career exploration sub-aspects. Career planning is a student's activities related to career selection and decision making. According to Super (Sharf, 2006) career planning is shown as an information-seeking activity and how much individuals are involved in the information-seeking process, this condition is supported by the knowledge of the various elements in each job. Career planning is the preparation and design of activities that support further Education and employment, which can be done by talking to adults about future plans, taking courses according to career interests, taking extracurricular activities or part-time jobs, and training.

Meanwhile, career exploration is a series of activities consisting of systematic planning analysis and tracing of what is of interest and what suits students' talents (Gibson & Mitchell, 2011). Meanwhile, Super (Sharf, 2006) conceptualizes career exploration as an individual activity in utilizing career information sources. Furthermore, Super explained that the sources of career information can be obtained from parents, teachers, counselors, peers, books, and films that can add insight into careers. This career exploration has a deeper meaning than career planning, career planning emphasizes its attention to thinking and mapping future plans, while career exploration is further related to the use of career information sources that can help the process of making career decisions. However, these two aspects of career orientation (career planning and career exploration) have the same focus on developing attitudes in work and work. This aspect relates to the capacity of information and rationale in decision-making, which consists of knowledge about work and career and knowledge about the principles and practice of decision-making, which includes the sub-aspects of career decision-making world-of-work information. More

specifically, decision making is the ability to use knowledge and thoughts to make career planning (Sharf, 2006). The knowledge that can underlie career decision making is (1) knowledge of the steps for making career decisions, (2) suitability of a career with abilities, talents, and interests, (3) knowledge about the importance of an independent career decision making. Whereas the ability to use the mind is the function of thinking in making career decisions, the function of thinking includes rationality of thought, predictive power, and anticipatory power. Therefore the ability to use thinking in making career decisions refers to these three aspects. First, being able to make rational career decisions. Second, being able to estimate the consequences of the career decisions taken. Third, being able to prevent and anticipate the negative consequences of career decisions taken.

The next sub-aspect of the world of work is a dynamic world that is always changing, which requires everyone to enter the world of work dynamically and be ready to adapt and be able to place themselves in any changes that occur. Super (Sharf, 2006) said that it is very important for individuals to have information or knowledge about the world of work before making career decisions. Through information on the world of work, students are introduced to various types of work so that they can explore which ones are of interest. Students are asked to guess what people have to do in a particular job and what skills are required so that they are able to determine which ones are most suitable for themselves to ensure career choices. According to (Sharf, 2006) world-of-work information includes (a) information about a particular job and (b) information about others in the world of work.

3. Methods

The career orientation scale in this study is structured based on the theoretical concept of Super's Career Development Theory, which is one part of the concept of career maturity (Super, 1990). The career orientation scale (COS) reveals 2 main components of career orientation: Career Development Attitude and Career Development Knowledge and Skill (Sharf, 2006). In particular, the COS consists of 20 questionnaire items. The validation process is carried out in three stages. The first is developing a blueprint from the outline and theoretical study. Secondly, an expert judgment is also carried out to assess aspects of the COS items qualitatively. While the third stage, a career orientation scale is compiled, consisting of a 5-point Likert scale, which is prepared for data collection using a survey method. Respondents in this study consisted of 65 high school students (15 to 17 years old). Participant consists of 19 (29.23%) males and 46 (70.77%) females from several students in SMA Kota Salatiga. Besides, there is no compulsion or obligation from their institution to be involved in this research. All participant data in the study were credentials that were purely intended for this study. Rasch analysis was performed on the WINSTEPS computer program.

4. Results and Discussion

4.1. Item Fit

To initiate the initial phase of the analysis, the researcher carries out an initial check to ensure the accuracy of the items that have been taken according to the ideal measurement model. This preliminary analysis is used to look at the quality of the item complies with the model referred to as the items fit. This analysis explains whether sal items can function properly to take measurements or not. There are three things that need to be considered in carrying out this analysis, the first is seen from the outfit mean square (MNSQ) value, the ideal measurement range for the MNSQ OUTFIT is 0.5 - 1.5 logit. Second, it is seen from the z-standard outfit value (ZSTD) with the accepted score in the range -2.0 to +2.0. The three point measure correlation (Pt Measure Corr) values with the ideal score range are 0.4 to 0.85. the item of COS can be seen at the table 1.

Table 1. Item Measure of COS

Item No	Measure	MNSQ	ZTSD	PTMEA Corr.	Summary	Perceived
17	1.27	1.00	0.02	0.50	Fit	Difficulties
4	1.20	1.46	2.59	0.37	Fit	
12	1.18	0.91	-0.57	0.42	Fit	
18	0.73	1.15	0.95	0.48	Fit	
19	0.35	0.59	-2.74	0.65	Fit	
7	0.22	1.09	0.56	0.52	Fit	
13	0.20	0.87	-0.74	0.46	Fit	
20	0.03	0.78	-1.29	0.50	Fit	
14	-0.06	0.91	-0.45	0.48	Fit	
10	-0.09	0.79	-1.19	0.47	Fit	

3	-0.30	1.11	0.65	0.47	Fit	
9	-0.33	1.26	1.38	0.45	Fit	
11	-0.36	0.68	-1.88	0.63	Fit	
2	-0.39	1.15	0.82	0.58	Fit	
8	-0.39	1.97	4.18	0.35	Missfit	
16	-0.46	0.89	-0.55	0.46	Fit	
5	-0.54	0.73	-1.50	0.56	Fit	
6	-0.56	1.30	1.54	0.47	Fit	
15	-0.66	0.74	-1.45	0.37	Fit	
1	-1.04	0.63	-2.23	0.39	Fit	Easiest

All measure in Logits. MNSQ = outfit mean square. ZTSD = outfit z-standard. PTMEA Corr.= Point Measure Correlation. Total 20 item. N = 65

Based on the analysis of all items in COS as describe at the table 1 showed average values for the 20 items was 1.00 logit. This means that all the items in good condition for measurement. However, when looking at and analyzing per item, it is found that item number 8 can only meet one criterion, namely the Pt Measure Corr criterion, while the other two criteria in the MNSQ and ZTSD outfits do not meet the criteria. So that the researchers decided to revise item number 8. Complete information on the estimation results for misfit items can be accessed in https://bit.ly/3aiMjHL. In addition we also calculated the COS measure item which aims to determine which item has the highest and lowest difficulty levels. Each scale is arranged with a different difficulty level, from the lowest to the most difficult. Table 1 also shows the order of difficulty levels for the 20 COS items from the easiest to the most difficult. Based on Table 1 shows that the item number 17 is the most difficult item to get the approval of all respondents. Conversely, item No. 1 is the easiest item approved by all respondents.

4.1. Test Reliability and Separation Index

Evaluate the reliability of the COS instrument shown in Table 2. Based on Table 2, it can be analyzed that COS has very high reliability. The reliability of the COS item shows the quality of the item with a score (0.93) and the consistency of the respondent's answer or also known as the reliability of the person (0.82) in the strong category. Another thing that is good is the reliability of the interaction between people and items when COS is applied which is showing good results ($\alpha = 0.82$). Meanwhile, the grouping of persons and items can be determined based on the separation index value. With an item separation index value of 3.35, the value of H = 4.8 or if rounded to 5, which means that there are 5 groups of difficulty levels, namely items that are very difficult, difficult, medium, easy, and very easy. Based on these results, COS as an instrument has a fairly stable capacity in relation to ensuring the quality of items and people, it can be seen clearly at the table 2.

Table 2. Estimation of test reliability and separation index (N = 65)

Estimation	Measure
Items reliability	0.92
Person reliability	0.79
Cronbach alpha (KR-20) person raw score "test" reliability	0.82
Item separation index	3.35
Person separation index	1.93

4.3. Threshold: Partial Credit Model

Another thing that we tried to examine is how well the COS performance measures the threshold analysis rating. COS has 5 alternative answer choices which are stratified starting from dari *Sangat tidak setuju* (Strongly Disagree), *Tidak setuju* (Disagree), *Tidak setuju atau tidak setuju* (Neither agree nor disagree), *Setuju* (Agree), and *Sangat setuju* (Strongly Agree). The five answer choices are given a score range of 1 to 5.

Table 3. Summary of Category Structure. Model="R" (N = 65)

Label	Category Label	Observed Average	Infit MNSQ	Outfit MNSQ	Andrich Treshold
Strongly Disagree	1	0.14	1.77	2.08	None
Disagree	2	-0.11	0.90	0.89	-2.56
Neither agree nor disagree	3	0.66	0.94	0.93	-0.44

Agree	4	1.32	0.92	0.93	0.27
Strongly Agree	5	1.92	1.02	1.01	2.73

Based on table 3, it can be understood that the alternative answers in the COS are not yet fully appropriate, or it also means that the respondent is confused in choosing alternative answers. It also means that there are better alternative answers in COS. This can be understood even though the monotonic upward movement of the Andrich Threshold score, starting from the smallest logit (minimum score) to the largest logit (maximum score), however, in the observed average there is one negative value, option "*Tidak setuju* (Disagree)". Based on this analysis, it provides input that the alternative answers to COS are more appropriate if they only have 4 answer choices as it describe at the figure 1 and figure 2.

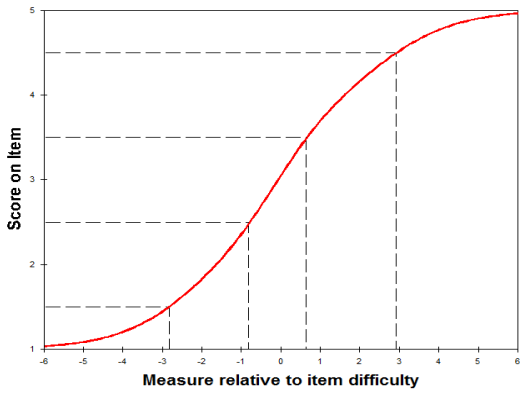

Figure 1. Expected score ICC (N=65)

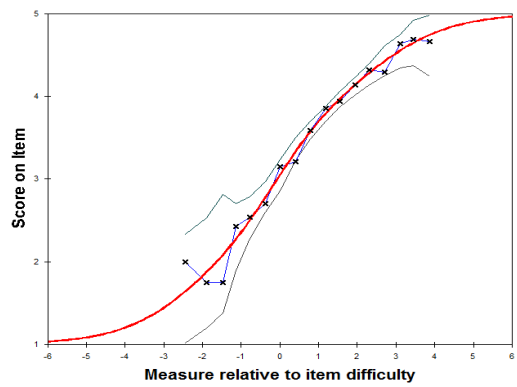

Figure 2. Expected and empirical ICC (N=65)

4.4. Estimation Validity Through Principal Component Analysis

One of the important concepts on a scale / instrument is about unidimesionality, which is interpreted as a measure to be able to determine whether COS can actually measure what it should be measured. Using the Rasch Model, validity is reviewed based on its relationship with the Principal Component Analysis (PCA).

Table 4. Standardized Residual Variance (in Eigenvalue Units) (N = 65)

	Empirical	Modelled
Total raw variance in observations	100.0%	100.0%
Raw variance explained by measures	35.3%	35.3%
Raw variance explained by persons	11.7%	11.7%
Raw Variance explained by items	23.6%	23.6%
Raw unexplained variance (total)	64.7%	64.7%
Unexplained variance in 1st contrast	9.1%	14 %
Unexplained variance in 2nd contrast	7.1%	10.9%
Unexplained variance in 3rd contrast	6 %	9.3%
Unexplained variance in 4th contrast	5.2%	8 %
Unexplained variance in 5th contrast	4.3 %	6.6 %

Based on the measurement results of standardized residual variance (in units of eigenvalue) shown in Table 4, it can be analyzed that COS is quite unidimensional although it still needs to be re-confirmed. This can be seen from the Raw value of the variance in this study that got a score of 35.3% or not higher than 40%, which means that the COS needs to be confirmed again (Chou & Wang, 2010).

4.5. Person Measure

Being an advantage of RMT is that it makes it easier for researchers to understand data in a comprehensive way, including finding out the person measures of respondents who have filled in COS. Because the data displayed by the RMT is interval data that has the same linear distance (Boone W.J. et al., 2013). This can give the authority to analyze and identify all respondents who have filled the COS with a strong level of analysis. Complete information about the person measure in this research at the link https://bit.ly/3b2Sxuv.

Based on the person measure research results, this study analyzed 65 respondents who filled the COS; respondent number 44 was the person with the highest level of approval (3 logits) from the Career Orientation. In contrast, respondent 9 is the person with the lowest level of consent (1.23 - logit). The result determines the high or low measurement obtained based on the approval of the response for each item in the COS.

5. Conclusion

The Career Orientation Scale (COS) is prepared based on the Career development theory concept developed by Super; more specifically, COS takes one component of individual career maturity. This instrument was designed to help counsellors or researchers collect data related to the career orientation of high school students. Based on the data in this study can be concluded that COS fulfils the psychometric measurement. However, further research is still needed to make this scale even more precise. The results showed that COS had psychometric properties and internal consistency to prove to be a valid and reliable research instrument. As for the fit item analysis, it was found that item number 8 still needs to be revised for further research.

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References

Abdullah, S. M. (2018). Career Decision Making in College Students. *GUIDENA: Jurnal Ilmu Pendidikan, Psikologi, Bimbingan Dan Konseling*, *8*(1), 30–39. https://doi.org/10.24127/gdn.v8i1.1192

Akmal, S. Z., & Arlinkasari, F. (2017). Career Orientation Scale: Validity and Reliability Test with Confirmatory Factor Analysi. *International Conference on Education and Social Science*.

Amin, Z.N, Wibowo, M. ., & Nusantoro, E. (2014). Perbandingan orientasi karier siswa keturunan Jawa dengan siswa keturunan Tionghoa. *Indonesian Jornal of Guidance and Counseling*, *3*(3), 8–16.

Amin, Zakki Nurul. (2015). Pengaruh Identitas Etnis Terhadap Orientasi Karir Siswa Keturunan Jawa dan Siswa Keturunan Tionghoa. *Seminar Nasional Bimbingan Dan Konseling Universitas Negeri Semarang 2015*.

Bandura, A. (1997). Self-efficacy: The exercise of control. In *Self-efficacy: The exercise of control.* W H Freeman/Times Books/ Henry Holt & Co.

Boone W.J., J.R., S., & M.S, Y. (2013). *Rasch analysis in the human sciences*. Springer International Publishing.

Chou, Y. T., & Wang, W. C. (2010). Checking dimensionality in item response models with principal component analysis on standardized residuals. *Educational and Psychological Measurement*, *70*(5), 717–731. https://doi.org/10.1177/0013164410379322

De Vos, A., Dujardin, J. M., Gielens, T., & Meyers, C. (2016). Developing sustainable careers across the lifespan: European social fund network on career and AGE (age, generations, experience). In *Developing Sustainable Careers Across the Lifespan: European Social Fund Network on' Career and AGE (Age, Generations, Experience)*. https://doi.org/10.1007/978-3-319-47741-1

Derr, C. (1987). *Managing the new careerists: The diverse career success orientation of today's workers*. Jossey-Bass.

Djibu, R., & Duludu, U. (2020). *Journal of Nonformal Education Impact of the Work Environment and Work Motivation in Influencing the Performance of Non-Formal Educators*. *6*(1), 92–100.

Gergely, É. (2016). Examining career orientations at the University of Debrecen. *Applied Studies in Agribusiness and Commerce*, *10*(4–5), 59–67. https://doi.org/10.19041/apstract/2016/4-5/8

Gibson, R. ., & Mitchell, M. H. (2011). *Bimbingan dan Konseling Edisi Indonesia* (Tujuh). Pustaka Pelajar.

Hirschi, A., Freund, P. A., & Herrmann, A. (2014). The Career Engagement Scale: Development and Validation of a Measure of Proactive Career Behaviors. *Journal of Career Assessment*, *22*(4), 575–594. https://doi.org/10.1177/1069072713514813

Igbaria, M., & Baroudi, J. J. (1993). A Short-Form Measure of Career Orientations: A Psychometric Evaluation. *Journal of Management Information Systems*, *10*(2), 131–154. https://doi.org/10.1080/07421222.1993.11518003

Kanto, S., Wisadirana, D., Chawa, A. F., & Umanailo, M. C. B. (2020). Change in community work patterns. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, *0*(March), 2496–2502.

Nuraini, N., Riadi, A., Umanailo, M. C. B., Rusdi, M., Badu, T. K., Suryani, S., … Hentihu, V. R. (2019). Political Policy for the development of Education. International Journal of Scientific & Technology Research, 8(10).

Okura, M., Noro, C., & Arai, H. (2013). Development of a career-orientation scale for public health nurses. *Open Journal of Nursing*, *03*(01), 16–24. https://doi.org/10.4236/ojn.2013.31003

Saraswati, S., & Amin, Z. N. (2016). Career Planning Attitude of Javanese and Chinese Student. *1st Semarang State University International Conference on Counseling and Educational Psychology*.

Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior*, *80*(3), 661–673. https://doi.org/10.1016/j.jvb.2012.01.011

Schein, E. H. (1985). *Career anchors: Discovering your real values*. University Associates.

Sharf, R. . (2006). *Applying Career Development Theory to Counseling*. Brooks/Cole Publishing Company.

Sumintono, B., & Widhiarso, W. (2014). *Aplikasi model Rasch untuk penelitian ilmu-ilmu sosial (edisi revisi)*. Trim Komunikata Publishing House.

Sumintono, B., & Widhiarso, W. (2015). *Aplikasi Pemodelan Rasch pada Assessment Pendidikan*. Trim Komunikata.

Super, D. . (1990). *A life-span: life-span approach. Career choice and development* (L. D. Brown & & A. Brooks (eds.); 2nd ed.). Jossey-Bas.

Suryadi, B., Ratna Sawitri, D., Hamidah, & Hanifa, F. (2018). Career orientation of senior secondary school students. *SHS Web of Conferences*, *42*, 00005. https://doi.org/10.1051/shsconf/20184200005

Urbanaviciute, I., Pociute, B., Kairys, A., & Liniauskaite, A. (2016). Perceived career barriers and vocational outcomes among university undergraduates: Exploring mediation and moderation effects. *Journal of Vocational Behavior*, *92*, 12–21. https://doi.org/10.1016/j.jvb.2015.11.001

Zunker, V. G. (2015). Career Counseling: A Holistic Approach. In *Handbook of Career Studies* (9th ed.). Brooks Cole. https://doi.org/10.4135/9781412976107.n6

Biography

Zakki Nurul Amin currently works at the Department of Guidance and Counseling, Universitas Negeri Semarang. He holds bachelor's and master's degrees in guidance counseling from Universitas Negeri Semarang. Zakki does research in educational psychology, applied psychology, and specific on multicultural counseling. His study results have been published in international and national journals as well as conference proceedings. He also become a reviewer for national and international journal.

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