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# THE ANALYSIS VALIDITY OF SELF-DETERMINATION INSTRUMENT IN ADOLESCENTS USING RASCH MODEL

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ABSTRACT

*This study was conducted to analyse the validity of the self-determination instrument. The study used a quantitative approach with a cross-sectional survey design with a convenience sample technique of 102 people, consisting of 45 men and 57 women, in junior high schools in West Java, Indonesia. The self-determination instrument was elaborated from Ryan and Deci's Theory, with 17 items and 6 levels of answer choices. Data were analysed using the Rasch Model with the help of Winstep software version 3.73. Analysis of self-determination instrument results through the Rasch model based on aspects of unidimensionality, item analysis (item difficulty level and item suitability level), diagnostic rating scale and instrument analysis. The results of the reliability value of 0.91 so that it can be used as a consideration of measuring instruments to measure self-determination abilities in junior high school students, and the Guidance and Counselling process can be implemented in the need assessment step.*

*Keywords: validity, self-determination, Rasch model, adolescents*

## INTRODUCATION

Without us realising it, human behaviour is directed towards achieving a goal. Besides being known as social human beings, students are also seen as individuals who are born with a specific purpose.

Students must be able to direct their behaviour and cognition towards planning, controlling the learning process in order to achieve learning goals. (Geon, 2016). Awareness and belief in directing behaviour towards achieving goals is called self-determination (Utari & Rinaldi, 2020).

Self-determination is the ability to identify and achieve goals based on an individual's own knowledge and judgement (Field & Hoffman,1994). This is reinforced by the opinion Deci dan Ryan

(1985) The definition of self-determination from a psychological perspective is the ability to choose which determines one's actions. So if it is associated with students, then self-determination is the ability of students to achieve their goals as students who achieve academic, personal, social, and career success. Pada teori determinasi diri, Ryan dan Deci proposes that intrinsic motivation is always autonomous but that extrinsic motivation can vary greatly in its degree of autonomy (Deci, 2016). In addition, in the theory of self-determination (Self Determination Theory) motivation is divided into two, namely autonomous motivation and controlled motivation (Ryan dan Deci, 2017)

Autonomous motivation consists of intrinsic and extrinsic motivation types, i.e. when people are autonomously motivated, they experience volition, or self-support for their actions. Whereas controlled motivation consists of external regulation and introjection, i.e. when a person's behaviour is controlled, they experience pressure to think, feel or behave in a certain way. (Rahman dkk., 2020).

Students who have self-determination can more easily maximise their talents and interests. Students who are able to understand themselves by feeling competent within themselves, knowing the career choices they want, having a good relationship with their environment, will make students have good self-determination. In addition, the higher the self-determination score on students, the higher the level of self-determination possessed by students.

Based on previous research on instrinsic motivation and the internalisation process of, Deci dan Ryan (2008) suggests that there are psychological needs that must be met to bring about effective psychological functioning and encourage psychological health, namely the need for competence (competence), the need for autonomy (autonomy), and the need for relatedness (relatedness). The achievement of these three aspects can change the style of regulation of amotivation, external regulation, introjected regulation, identified regulation, integrated regulation and intrinsic motivation of individuals towards intrinsic motivation which builds individuals have self-determination (Deci & Ryan, 2008).

Based on the results of research conducted by Muslihin et al in 2022 with the title ‘Analysis of the Reliability and Validity of the Self-Determination Questionnaire Using Rasch Model’ it can be concluded that the Rasch model is very appropriate to use in finding the validity and reliability of self-determination.

In the last 21 years of developing self-determination in educational settings (college and high school), but research to analyse self-determination instruments at the junior high school education level has not been carried out in parts of ASEAN countries, especially in Indonesia, thus the direction of research to follow up the instrument analysis process is studied based on the cognitive level of students at the junior high school education level, the culture of junior high school life, and the action process carried out by junior high school students.

In taking further action, the identification of self-determination requires precision, meaning that the identification of self-determination must use a valid instrument in order to describe self-determination well according to individual conditions. Rasch Model analysis was used to investigate the validity of the instrument.

Rasch modelling was invented by Dr Georg Rasch who was a mathematician from Denmark. Rasch modelling provides a different approach to the use of test scores or raw data in the context of educational assessment. Analysis of the Rasch model will yield information about item and student characteristics that have been moulded into the same metric (Sumintono dan Widhiarso ; Tarigan dkk., 2022)

According to Sumintono & Widhiarso (2014 ; Ardiyanti, 2017) The advantage of Rasch modelling is that the Rasch model is able to predict missing data, based on individual response patterns. The Rasch model provides information about the scale

structure of an instrument, so that the disclosure of self-determination instruments is valid or invalid (Muslihin et al., 2022).

Therefore, the researcher formulated the research problem by focusing on analysing the validity of the self-determination instrument of junior high school students using the Rasch model.

## METHODS

This research was conducted using a quantitative approach with a cross sectional survey design. The research subjects were 102 students. In determining the research sample, the researcher used conveience sampling technique. in detail in the following table.

Table 1. Sample Research

| Class | Male | Female | Amount |
|---|---|---|---|
| **7** | 25 | 24 | 49 |
| **8** | 12 | 14 | 26 |
| **9** | 8 | 19 | 27 |
| **Amount** | 45 | 57 | 102 |

The Self-determination instrument elaborates on the theory of Deci dan Ryan (2017) As an individual's ability to facilitate himself in identifying and achieving goals, with aspects of self-determination, namely aspects of autonomy, competence and connectedness or interconnectedness. The achievement of these three aspects will affect the levels of self-determination including ammotivation, external regulation, introjection, identification, integration, and instrinsic motivation, these levels are used as alternative choices in responding to student answers.

The data obtained was analysed using winstep version 3.73 as a tool to perform Rasch model analysis. Rasch model analysis is able to provide overall information, the quality of the instrument used, the quality of the overall learner response and the interaction between respondents and items.

Data analysis using Rasch model includes undimensionality, item analysis (item difficulty level and item suitability level), rating scale, and data analysis using Rasch model *diagnostic*, and analyse the instrument. With this information, the resulting instrument has validity and reliability that is good enough to measure this instrument can be classified as a valid instrument or not.

## RESULTS AND DISCUSSION

### Unidimensionalitas

Unidimensionality identifies how many attributes or dimensions are measured by the instrument. This analysis uses Output Table 23 in the winstep version 3.7 application by paying attention to the value of Raw variance explained by measures and Unexplained variance in 1st to 5st contrast of residuals. Measurement unidimensionality can be proven if the Raw variance explained by measures ≥ 20% with a note of the general criteria for interpretation, namely sufficient if 20-40%, good if 40-60%, and very good if above 60%) and if the Unexplained variance in 1st to 5st contrast of residuals is < 15% each.

Table 2. Unidimensionalitas *Self-Determination*

| Table of Standardized Residual variance (in Eigenvalue units) | | |
|---|---|---|
| No | Keterangan | Empirical Nilai 2 |
| 1 | Total raw variance in observations | 100.00% |
| 2 | Raw variance explained by measures | 33.40% |
| 3 | Raw variance explained by persons | 10.90% |
| 4 | Raw Variance explained by items | 22.60% |
| 5 | Raw unexplained variance (total) | 66.6% 1 |
| 6 | Unexplned variance in 1st contrast | 11.60% |
| 7 | Unexplned variance in 2nd contrast | 9.20% |
| 8 | Unexplned variance in 3rd contrast | 9.10% |
| 9 | Unexplned variance in 4th contrast | 8.10% |
| 10 | Unexplned variance in 5th contrast | 6.80% |

Table 2 shows that the result of 33.40% is in the sufficient category, while the unexplained variance in 1st to 5st contrast of residuals is 11.60%, 9.20%, 9.10%, 8.10% and 6.80% respectively. It appears that each is less than 15%. Thus, the construct of the instrument used really measures one variable, namely student self determination as a whole.

Attributed to teori *self determination* (Edward L. Deci & Ryan, 1985; J. Schneider, J. F Pierson, 2015) The research findings mean that the instrument has the value to measure students' ability to think and act

constructively, students weigh alternative decisions and determine possible directions of action to be taken in dealing with various situations based on goals, and refer to a diverse value system.

### Item Analysis

This item analysis includes the level of difficulty (item measure), the level of suitability of the item (item fit), and the detection of item bias. To find out the level of difficulty of the item, it can be examined from Table 13 Item Measure Order. From the table, the SD value or standard deviation is 0.41.

This SD value when combined with the average logit value, the level of difficulty of the item can be grouped into the very difficult category (greater than +1 SD), difficult category (0.0 logit + 1 SD), easy category (0.0 logit - 1 SD), and very easy category (less than -1 SD). 1 SD), easy category (0.0 logit - 1 SD), and very easy category (less than -1 SD).

Thus, the value limit for the very difficult category is more than 0.47, the difficult category is 0.00 to 0.47, the easy category is -0.47 to less than 0.00, and the very easy category is less than -0.47. The following is a detailed table 3.

*Tabel 3.* Item Level of Difficulty

| ENTRY NUMBER | TOTAL SCORE | TOTAL COUNT | MEASURE |
|---|---|---|---|
| 3 | 353 | 102 | 0.61 |
| 8 | 415 | 102 | 0.28 |
| 2 | 436 | 102 | 0.15 |
| 5 | 456 | 102 | 0.02 |
| 7 | 465 | 102 | -0.04 |
| 10 | 471 | 102 | -0.08 |
| 9 | 485 | 102 | -0.19 |
| 6 | 467 | 102 | -0.05 |
| 4 | 501 | 102 | -0.32 |
| 1 | 506 | 102 | -0.37 |
| **MEAN** | 455.5 | 102 | 0 |
| **S.D.** | 43 | 0 | 0.28 |

By looking at the logit value of each item in table 13, the level of suitability of the items is sequentially based on their level of difficulty (from the most difficult to the easiest). It is known that there is one item that is included in the very difficult category, namely item 3. The difficult category is at numbers 8, 2, and 5. The easy category has six items, namely 7, 10, 9, 6, 4, and 1.

Based on the research findings, it is implied that the development of self-determination instruments is still confusing in terms of directing cognitive considerations and is not yet a real action, even according to the results of the study Lewin (1951) dan Tolman (1932) the main motivational construct/behavior related to decision making, and the function of expectations of what happens are greatly influenced by cognitive movements. The findings and studies represent a very open possibility that what students think as good and correct alternative actions in facing a situation, is not necessarily realized in real action.

In the level of item suitability, interpreting item items functions normally to measure Self-determination so that there is no misconception in the individual regarding the item items studied based on data processing using winstep in table 10.1, namely item fit order. Based on table 10.1, item fit order can be studied based on the MNSQ outfit column, ZSTD outfit, point measure correlation. The criteria for studying the suitability of item fit or item misfit, namely the MNSQ outfit value> 0.5 and <1.5, the closer to 1 the better. Outfit ZSTD> (-2.0) and <(+2.0), the closer to 0 the better. Point measure correlation> 0.4 and <0.85. Items can be studied as fit if they meet at least 1 of the 3 criteria.

Table 4 The Level of Suitability Item

| OUTFIT | | T-MEASURE | | Item |
|---|---|---|---|---|
| MNSQ | ZSTDC | ORR. | EXP. | |
| 1.52 | 2.8 | 0.3 | 0.48 | 9 |
| 1.3 | 2.1 | 0.6 | 0.55 | 3 |
| 1.18 | 1.1 | 0.5 | 0.49 | 10 |
| 0.97 | -0.1 | 0.4 | 0.52 | 2 |
| 0.91 | -0.5 | 0.5 | 0.45 | 4 |
| 0.91 | -0.6 | 0.6 | 0.54 | 8 |

| | | | | |
|---|---|---|---|---|
| 0.87 | -0.8 | 0.4 | 0.51 | 5 |
| 0.77 | -1.5 | 0.6 | 0.5 | 7 |
| 0.71 | -2 | 0.5 | 0.5 | 6 |
| 0.65 | -2.3 | 0.6 | 0.45 | 1 |
| 0.98 | -0.2 | | | |
| 0.26 | 1.6 | | | |

### *Rating Scale Diagnostic*

This diagnosis is conducted to determine whether participants understand the differences in answer choices at Self-determination levels 1, 2, 3, 4, 5, and 6. The differences in answers are understood by respondents if the observed average and andrich threshold values increase according to their levels, in detail the andrich threshold values can be seen in winstep table number 3.2 which can be seen in table 4 below**.**

Table 5. *Rating Scale Diagnostic Self-determination*

| Observed Count | % | Obsvd Average | Andrich Threshold | Category Measure | |
|---|---|---|---|---|---|
| 71 | 7 | -0.27 | NONE | ( -1.67) | 1 |
| 60 | 6 | -0.06 | 0.03 | -0.8 | 2 |
| 46 | 5 | 0.25 | 0.35 | -0.33 | 3 |
| 293 | 29 | 0.4 | -1.55 | 0.11 | 4 |
| 246 | 24 | 0.68 | 0.68 | 0.79 | 5 |
| 304 | 30 | 0.76 | 0.5 | -2.07 | 6 |

Table 5 shows the suitability and the same increase in alternative levels 1, 2, 3, 4, 5 and 6. The results of the analysis show that the levels of the Self-determination instrument are in accordance with the real behavioral conditions of students.

### Instrument Analysis

For instrument analysis, the information presented in winstep Table 3.1: Summary Statistics is used. Details of the instrument analysis can be seen in table 6 and table 7.

Table 6. Sumarry *Statistic Person*

| | TOTAL | | | MODEL ERROR | INFIT | | OUTFIT | |
|---|---|---|---|---|---|---|---|---|
| | SCORE | COUNT | MEASURE | | MNSQ | ZTSD | MNSQ | ZTSD |
| MEAN | 44.7 | 10.0 | .49 | .28 | 1.01 | .0 | -98 | .0 |
| S.D. | 7.1 | .0 | .47 | .05 | .48 | .9 | .47 | .9 |
| MAX. | 55.0 | 10.0 | 1.49 | .43 | 3.45 | 2.9 | 3.47 | 3.0 |
| MIN. | 24.0 | 10.0 | -.63 | .21 | .23 | -2,3 | .24 | -2,2 |
| REAL RMSE | .31 TRUE SD | 0.35 | Separation | 1.13 | Person Reability | | | 0.56 |
| MODEL RMSE | .28 TRUE SD | 0.37 | Separation | 1.31 | Person Reability | | | 0.63 |
| S.E. OF Person MEAN = .05 | | | | | | | | |
| Person RAW SCORE-TO-MEASURE CORRELATION = 0.98 | | | | | | | | |
| Cronbach Alpha (KR-20) Person RAW SCORE "TEST" RELIABILITY = 0.68 | | | | | | | | |

Tabel 7. Summary Statistic Item

| | TOTAL | | | MODEL ERROR | INFIT | | OUTFIT | |
|---|---|---|---|---|---|---|---|---|
| | SCORE | COUNT | MEASURE | | MNSQ | ZTSD | MNSQ | ZTSD |
| MEAN | 455.5 | 102.0 | 0.00 | 0.08 | 0.99 | -0,1 | 0.98 | -0,2 |
| S.D. | 43.0 | 0.0 | 0.28 | 0.01 | 0.26 | 1.7 | 0.26 | 1.6 |
| MAX. | 506.0 | 102.0 | 0.61 | 0.10 | 1.48 | 2.8 | 1.52 | 2.8 |
| MIN. | 353.0 | 102.0 | -0,37 | 0.07 | 0.64 | -2,6 | 0.65 | -2,3 |
| REAL RMSE | .09 TRUE SD | 0.26 | Separation | 2.95 | Item Reability | | | 0.90 |

| | | | | | | |
|---|---|---|---|---|---|---|
| MODEL RMSE | .08 TRUE SD | 0.26 | Separation | 3.11 | Item Reability | 0.91 |

S.E. OF Item MEAN = .09

UMEAN = 0000 USCALE = 1.0000

Item RAW SCORE-TO-MEASURE CORRELATION = -,99

1020 DATA POINTS LOG-LIKELIHOOD CHI-SQUARE : 2804.70 with 905 d.f.p = 0000

Global Root-Mean-Square Residual (Excluding extreme scores) : 1.1889

Person measure shows the average score of all participants in working on the items of the student self-determination data disclosure instrument. The average person value that is greater than the average item (where the average item is 0.00 logit) indicates that the participant's ability is generally greater than the difficulty of the instrument items. Based on table 5, the reliability of the interaction between respondents and the items as a whole obtained based on Cronbach Alpha is 0.68. This means that the instrument used is in very good and effective condition with a high level of consistency, so it can be used in actual research. Analysis was also carried out on the instrument as a whole, namely reliability and separation with respondents.

Tables 6 and 7 show the reliability of respondents and items, where the item reliability is 0.56, while the item reliability is 0.90. Based on item reliability, a value of 0.84 indicates that the respondent's answer consistency indicator is in good condition and can be accepted or categorized as good. Meanwhile, the item reliability of 0.90 as an indicator of the quality of the items in the instrument is classified as an excellent category.

The Cronbach Alpha value represents the interaction between the person and the items as a whole, of 0.96, including the very good category. Furthermore, the Person Reliability value of 0.94 as an indicator of the consistency of the respondent's answers, is included in the very good category. Meanwhile, the Item Reliability of 0.98 as an indicator of the quality of the items in the instrument, is classified as an excellent category.

Other data in Table 5 that can be used are the infit mean square (IMS) and outfit mean square (OMS) in both the Person and Item tables. Based on the Person Table, the average values of IMS and OMS are -0.98 and 0.98, respectively. Thus, the average of both person and item is close to the ideal criteria.

Meanwhile, related to the infit z-standard and outfit z-standard, the average value for person is 0.0 and 0.0 respectively. While the infit z-standard and outfit z-standard item values are -0.1 and 0.2 respectively. The ideal value of ZSTD is 0 the closer to 0 the better. Thus, it can be said that the quality of respondents and items is good.

The last result is related to the separation or grouping of person and item. Individual separation shows how well a set of items in the Student Self-determination instrument spreads across the logit ability range. The greater the individual separation, the better the instrument is composed because the items in it are able to reach individuals with high to low levels of ability. While item separation shows how much the sample subjected to measurement is spread across a linear interval scale. The higher the item separation, the better the measurement. This index is also useful for defining the meaningfulness of the construct being measured.

The table also shows the separation value for person is 1.13 and for item is 2.95. The greater the separation value, the better the overall quality of the person and instrument. The separation value is calculated more accurately using the formula: H = {(4 x separation) + 1} / 3. Thus, the separation value for person is 1.84 rounded to 2, while the separation for item is 4.26 rounded to 4. This means that the research participants have diverse abilities that can be categorized into 2 groups. Meanwhile, the level of difficulty

of the items is spread across 4 groups starting from the easiest to the most difficult group.

Research result Deci et al. (1991) found that students who have low self-determination will show behavior such as: skipping lectures, being bored with studying, being lazy about doing assignments, lacking motivation, feeling helpless, pampering themselves, criticizing themselves, often thinking negatively and being dependent on others and being inadequately self-motivated. (Lynch, 2010; Robertson & Smith, 1985; Ryan et al., 2011; Ryan & Deci, 2000b).

The usefulness value of the validity data of the self-determination instrument can be used as a consideration for measuring instruments at the junior high school level. Researchers can follow up on the measurement of the self-determination instrument with classical theory, so that it can be used as a consideration for the validity and reliability values. The self-determination instrument data is of an equal interval nature which determines the quality of the results of the learning process as an effort to improve the education process at the junior high school level.

## CONCLUSION

The Self-determination disclosure instrument has 10 items. The suggested answer choice scale is 6 levels. In addition, the Cronbach Alpha value represents the interaction between the person and the items as a whole, including the excellent category. Furthermore, the Person Reliability value as an indicator of the consistency of the respondent's answers is included in the excellent category. Meanwhile, Item Reliability as an indicator of the quality of the items in the instrument is included in the excellent category. The items on the professional identity of prospective teacher students tend to produce high information in individuals with moderate to low abilities. The average level of difficulty of the standard items is below the ability level of junior high school students. Thus, the items of this Self-determination instrument are easily approved by junior high school students.

## REFERENCE

Ardiyanti, D. (2017). Aplikasi Model Rasch pada Pengembangan Skala Efikasi Diri dalam Pengambilan Keputusan Karir Siswa. *Jurnal Psikologi*, *43*(3), 248. https://doi.org/10.22146/jpsi.17801

Bouffard, L. (2017). Ryan, R. M. et Deci, E. L. (2017). Self-determination theory. Basic psychological needs in motivation, development and wellness. New York, NY : Guilford Press. *Revue Québécoise de Psychologie*, *38*(3), 231. https://doi.org/10.7202/1041847ar

Deci, Edward L., & Ryan, R. M. (1985). Intrinsic Motivation and Self-Determination in Human Behavior. In *Contemporary Sociology* (Vol. 17, Issue 2). Springer Science & Business Media. https://doi.org/10.2307/2070638.

Deci, E. L., & Ryan, R. M. (2013). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media.

Deci, E. L. (2016). Intrinsic motivation and self-determination. *The Curated Reference Collection in Neuroscience and Biobehavioral Psychology*, *October 2015*, 437–448. https://doi.org/10.1016/B978-0-12-809324-5.05613-3

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-Determination Theory in Work Organizations: The State of a Science. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*(March), 19–43. https://doi.org/10.1146/annurev-orgpsych-032516-113108

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology*, *49*(3), 182–185.

Depen-, T. H. E. P. F. (1997). *Self-Determination During Adolescence*. *18*(5), 285–293.

Dharmasatya, A., & Wilani, N. M. A. (2020). Peran determinasi diri dan dukungan sosial terhadap kematangan karier pada remaja siswa SMA kelas XII di Denpasar. *Jurnal Psikologi Udayana Edisi Khusus*

*Mental Dan Budaya*, *2*, 60–72. https://doi.org/10.1037/a0012801

Field, S., & Hoffman, A. (1994). Development of a model for self-determination. *Career development for exceptional individuals*, *17*(2), 159-169.

Field,S., Hoffman,A., & Posch,M. (1997). Self-Determination During Adolescene a Developmental Perspective. *Journal of Remedial and Special Education, 18*(5), 285-293.

Fitri, H. Y., & Saraswati, S. (2021). PENGARUH SELF DETERMINATION DAN PRESTASI AKADEMIK TERHADAP KEMATANGAN KARIER SISWA MA NU NURUL HUDA. *G-Couns: Jurnal Bimbingan dan Konseling*, *5*(2), 247-257.

Geon, S. A. B. (2016). Hubungan antara Efikasi Diri dan Determinasi Diri Siswa Kelas X SMA Charitas. *Psiko-Edukasi*, *14*(1), 11.

J. Schneider, J. F Pierson, J. F. T. B. (2015). *The Handbook of Humanistic Psychology: Theory, Research, and Practice*. SAGE Publications Inc.

Juariyah, L., & Adi, S. S. (2017). Dampak Motivasi Dan Kepuasan Terhadap Prestasi: Pengujian Teori Motivasi Determinasi Diri (Self Determination Theory). *Ekonomi Bisnis*, *22*(2), 143-150.

Lewin, K. (1951). *Field theory in social science: selected theoretical papers (Edited by Dorwin Cartwright.)*. Harpers.

Lynch, M. (2010). Basic Needs and Well-Being : A Self-Determination Theory View. *Journal of Ideas and Research You Can Use*.

Lusiana, A. (2019). HUBUNGAN ANTARA DETERMINASI DIRI DAN PENYESUAIAN DIRI SISWA KELAS VII SMP'SK'JAKARTA BARAT TAHUN AJARAN 2018/2019. *Psiko Edukasi*, *17*(1), 1-14.

Mamahit, H. C. (2014). Hubungan antara determinasi diri dan kemampuan pengambilan keputusan karir siswa SMA. *Jurnal Psiko-Edukasi*, *12*(2), 90-100.

Muslihin, H. Y., Suryana, D., Ahman, Suherman, U., & Dahlan, T. H. (2022). Analysis of the Reliability and Validity of the Self-Determination Questionnaire Using Rasch Model. *International Journal of Instruction*, *15*(2), 207–222. https://doi.org/10.29333/iji.2022.15212a

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom:Applying self-determination theory to educational practice. *Theory and Research in Education*, *7*(2), 133–144. https://doi.org/10.1177/1477878509104318

Nilamsari, G. A., Sugara, G. S., & Sulistiana, D. (2020). Analisis Determinasi Diri Remaja. *Journal of Innovative Counseling: Theory, Practice, and Research*, *4*(01), 20-33.

Nuryanti, S., Masykuri, M., & Susilowati, E. (2018). Analisis Iteman dan model Rasch pada pengembangan instrumen kemampuan berpikir kritis peserta didik sekolah menengah kejuruan Iteman and rasch model analysis on the development of critical thinking instruments for vocational school students. *Jurnal Inovasi Pendidikan IPA*, *4*(2), 224–233. http://journal.uny.ac.id/index.php/jipi

Ryan, Richard M, & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications.

Ryan, R. M., & Deci, E. L. (2000b). *Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being*. *55*(1), 68–78.

Ryan, R. M., Lynch, M. F., Vansteenkiste, M., & Deci, E. L. (2011). Motivation and Autonomy in Counseling, Psychotherapy, and Behavior Change: A Look at Theory and Practice 1ψ7. *The Counseling Psychologist*, *39*(2), 193–260. https://doi.org/10.1177/0011000009359313.

Robertson, I., & Smith, M. (1985). *Motivation and Job Design: Theory, Research and Practice*. Inst. of Personnel Management.

Rahman, F., Abdillah, H. Z., & Hidayah, N. (2020). Determinasi Diri Sebagai Prediktor School Wellbeing pada Siswa

SMP. *Psikoislamedia : Jurnal Psikologi*, *5*(1), 94. https://doi.org/10.22373/psikoislamedia.v5i1.6336

Tarigan, E. F., Nilmarito, S., Islamiyah, K., Darmana, A., & Suyanti, R. D. (2022). Analisis Instrumen Tes Menggunakan Rasch Model dan Software SPSS 22.0. *Jurnal Inovasi Pendidikan Kimia*, *16*(2), 92–96. https://doi.org/10.15294/jipk.v16i2.30530

Tekeng, S. N. Y., & Alsa, A. (2016). Peranan Kepuasan Kebutuhan Dasar Psikologis dan Orientasi Tujuan Mastery Approach terhadap Belajar Berdasar Regulasi Diri. *Jurnal Psikologi*, *43*(2), 85. https://doi.org/10.22146/jpsi.22856

Tolman. (1932). *Purposive Behavior in Animals and Men*. University of California Press.

Utari, U., & Rinaldi, R. (2020). Hubungan antara Determinasi Diri dengan Pengambilan Keputusan Karir pada Siswa SMA. *Jurnal Riset Psikologi*, *2019*(4).