Generation z future time perspective scale: A study of validity and reliability

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Abstract. With a future-time perspective, Generation Z will view future objectives in terms of how closely their present lives relate to the future and explain the time period that people take into account when deciding what they want to accomplish in the future. Given that Generation Z is greatly impacted by future temporal perspective, this research is crucial. This study aims to evaluate the Future Time Perspective Scale (FTPS) for Generation Z in terms of validity and reliability. Several future time perspective scales are used to assess future time perspective, but the one that is appropriate for Generation Z is the Future Time Perspective Scale (FTPS). For this study, 352 Generation Z residents of Surabaya, Indonesia, were enlisted. Data analysis using confirmatory factor analysis with LISREL software. The results showed that the loading factor value ranged from 0.58 to 0.94 and met the minimum criteria, so it could be considered valid. Reliability is shown by alpha = 0.843 and CR = 0.96, which have met the minimum criteria, so they are reliable, while AVE = 0.573 has met the minimum criteria, thus showing good convergence. Therefore, the Future Time Perspective Scale for Generation Z has good validity and reliability. These findings have implications for educational psychology theory, particularly about the ability to interpret the future, connect current activities with the future, project the future, and utilize time to encourage them to achieve their goals immediately.

1 Introduction

The success of Generation Z is influenced by habits they create for themselves, and positive habits will accelerate their studies, but bad habits will hinder the completion of Generation Z's studies. Generation Z's academic assignments are increasing as they progress through higher semesters, with heavier workloads and assignments due at almost the same time. This is because, after graduation, Generation Z must also compete with other graduates to find and secure employment, choose a career path, and develop themselves effectively [1].

Generation Z, who have long-term goals, develop skills and competencies to prepare themselves for the future. Individuals often fail to achieve long-term goals because they set goals that are too big and fail to plan properly, thereby increasing academic procrastination [2]. The same thing was revealed in a study conducted by [3] that a higher

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future time perspective with stronger motivational components can reduce academic procrastination and self-control effects in stressful situations. Another study was conducted by [4] revealed that the critical brain region for episodic future thinking may be the neural basis responsible for the impact of future time perspective on academic procrastination.

According to [5], the future time perspective can be viewed as a motivating characteristic that has motivational components and weakens the effects of resource depletion on self-control diri. This, in turn, decreases procrastination by lowering the depletion of self-control brought on by various stressors. To put it another way, those who have a higher future time perspective are more motivated than those who have a lower one, which helps them to exercise more self-control and refrain from putting things off [3].

Future time perspective describes the time frame that a person takes into consideration when deciding what they want to accomplish in the future. It also includes how much a person perceives goals in the future, how much their current life is related to the future, and how much they project their thoughts into the future [6]. Individuals often fail to achieve long-term goals because they set goals that are too ambitious and fail to plan properly, thereby increasing academic procrastination [2].

The purpose of this study is to assess the validity and reliability of the Future Time Perspective Scale (FTPS) designed by [6]. This reliability and validity can help researchers, practitioners (lecturers), and other researchers to collect information about the level of future time perspective of Generation Z. Validated measurements better reflect actual conditions, and results obtained using such measurements can be more easily generalized to other populations. Additionally, this study contributes to the development of psychological research in Indonesia, particularly regarding the future time perspective of Generation Z, demonstrating that future time perspective has consequences for this generation.

The state of the art and novelty in this study lies in the variable of future time perspective. Several studies have conducted research on future time perspective in Generation Z in general without specifying the age group [3,7,8]. Researchers have also not yet found the validity and reliability of the future time perspective scale in Generation Z. This reliability and validity can help researchers, practitioners (lecturers), and other researchers to gather information about the level of future time perspective in Generation Z. Validated measurements better describe the actual conditions, and the results obtained using these measurements can be more easily generalized to other populations. Furthermore, this research contributes to the development of psychological studies in Indonesia, particularly regarding Generation Z's future time perspective, to show that future time perspective has consequences for Generation Z.

2 Method

The validity and reliability of the Future Time Perspective scale in Generation Z are examined in this study using a survey approach and a methodological research design.

2.1 Participants

Generation Z population of Surabaya made up the study's population. Convenience sampling, which is sampling based on the availability of elements and their ease of getting, was the data gathering method employed in this study.

2.2 Research Instrument

[6] employed a five-point Likert scale, with 1 indicating "strongly disagree" and 5 meaning "strongly agree," for assessing future time perspective. The prospects improve with a greater future time perspective score. On the other hand, future prospects are worse the lower the future time perspective score. The ability to value the future, relate present activities to the future, project the future, and chase time to swiftly accomplish future goals are all aspects of future time perspective that are reflected in this scale.

2.3 Data Analysis Techniques

Construct validity based on internal structure, which is founded on confirmatory factor analysis (CFA), is used in the data analysis of this study. The model's viability and the inclusion of components to prove construct validity based on internal structure were tested using CFA testing. LISREL was used for the CFA.

The dependability of the items from the future time perspective scale that will be used in this study was assessed after they showed construct validity based on internal structure. Generally speaking, measurement accuracy or precision is referred to as reliability. The ability of an instrument to measure properties consistently is related to its reliability. To ascertain whether the data from the research instrument shown sufficient internal consistency, reliability testing was carried out.

To evaluate internal consistency dependability, the researcher employed Cronbach's alpha coefficient. If an instrument's Cronbach's alpha coefficient is at least 0.70 and its CR and AVE values are at least 0.70 and 0.50, respectively, it is deemed dependable. Therefore, the Cronbach's alpha coefficient must be between 0.60 and 0.70, and its value must be between 0 and 1.

3 Result

The measuring model of Generation Z's future time perspective scale was examined using CFA in order to gather proof of internal structure validity. Four dimensions—speed, extension, value, and connectedness—are theoretically covered by the design of Generation Z's future time viewpoint. Consequently, multidimensional tests with correlated dimensions, another name for the suggested measurement model, is a multidimensional model with four correlated dimensions.

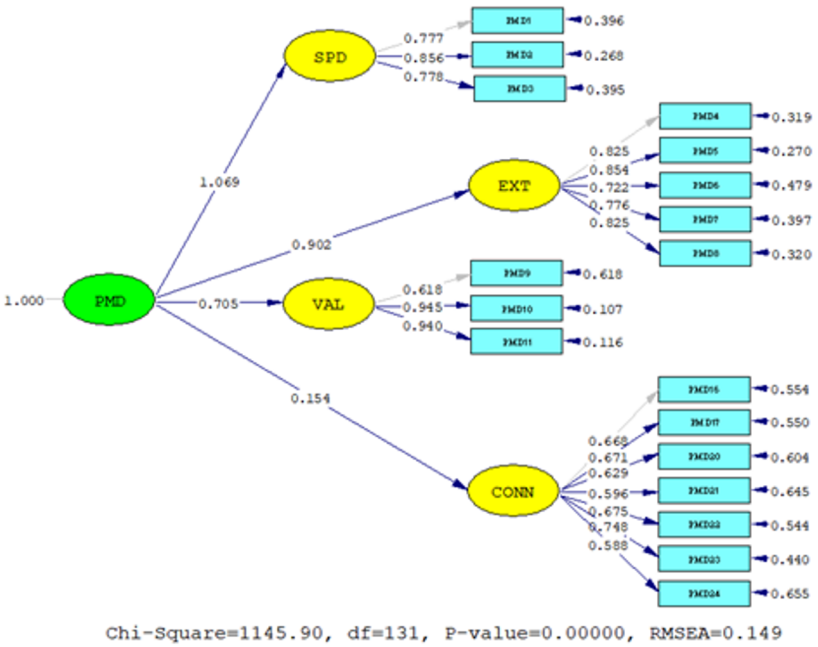

Fig 1. Model feasibility results and measurement of future time perspective factor loadings

The model feasibility results and factor loading measurements from the CFA results provide evidence that the future time perspective construct for Generation Z is legitimate. The future time perspective construct model of Generation Z has a CFI value of 0.911 (≥ 0.90), IFI of 0.911 (≥ 0.90), and PNFI of 0.768 (> 0.09), according to the findings of the CFA test for the future time perspective scale. According to these findings, the Generation Z future time perspective scale satisfies the goodness-of-fit requirements. Thus, it may be said that the model measurement validity test has been passed by the Generation Z future time perspective scale.

Additionally, the factor loadings of the items in the values dimension range from 0.618 to 0.945, the items in the speed dimension range from 0.777 to 0.856, the items in the extension dimension range from 0.722 to 0.854, and the items in the connectedness dimension range from 0.588 to 0.748. As a result of meeting the factor loading criteria (>0.50), the items in the Generation Z future time perspective scale have been shown to be legitimate. As a result, the statistics provide credence to the measuring model that has been proposed for the future time perspective scale for Generation Z. Based on the concept of the future time perspective construct for Generation Z, it can be determined that this scale is a four-dimensional multidimensional scale that is correlated and consistent. The following table displays the reliability estimation findings for each item from the four instruments/scales utilized in this investigation.

Table 1. Reliability Estimation Results

Scale	CR	AVE	*Alpha Cronbach*	Description
Future Time Perspective	0,960	0,573	0.843	Reliable

According to Table 1 above, the measurement model's reliability coefficients for the future time perspective scales have Cronbach's Alpha values above 0.70, AVE values above 0.50, and CR values greater than 0.70. Consequently, it can be said that the future time

perspective scale employed in this research satisfies the criteria needed to determine the dependability of a quality measurement model

4 Discussion

The future time perspective scale's psychometric qualities are investigated in this study. To ascertain the degree to which an instrument's items are appropriate and pertinent to the measurement objectives and variables under study, the validity value of each item is required after the data has been gathered. Internal structure provides evidence for construct validity in this study. Confirmatory factor analysis (CFA) was used to evaluate construct validity based on internal structure. To assess model fit and estimate factor loadings for every item as proof of construct validity based on internal structure, CFA was carried out.

This study demonstrates that the Future Time Perspective (FTP) scale for Generation Z exhibits a multidimensional structure that is mutually associated and passes the model measurement validity test. If at least one of the model validity test parameters is satisfied, the model is deemed valid based on a number of model validity parameters. Nonetheless, if it satisfies several model validity test parameters, the test will be more effective. Therefore, there is no difference between the measurement created using the empirical model and the one backed by data, indicating that the concept of academic procrastination with its four dimensions—value, connection, extension, and speed—is acceptable and consistent with empirical evidence. The Future Time Perspective scale as a whole is valid and dependable if the model validity test is passed.

This is in line with a study. FTP is a multidimensional construct through EFA and CFA, as well as good model reliability and validity [9]. The FTP Adolescents and Young Adults Scale (FTPS-AYA) in the Chinese cultural context and identified six valid factors through EFA and CFA, along with high reliability across subscales [10]. This reinforces the conclusion that FTP has complex and contextual dimensions, supporting the findings of this study on the four-dimensional structure of FTP for Generation Z. Previous cross-cultural studies, conducted by [11] on the Multidimensional Future Time Perspective (MFTP), found similarities in FTP factor structure and high reliability, supporting the cross-cultural validity of this construct. Other researchers tested the Persian version of FTPS-AYA and reported strong construct validity and model reliability meeting standards—Cronbach's Alpha values and confirmatory validity tests—indicating that FTP can be culturally adapted while remaining valid [12]. These findings support the notion that the four-dimensional structure is a valid manifestation of FTP in the context of Generation Z.

In a meta-analysis by [9] it was found that diverse FTPs encompassing a combination of cognition, affect, and behavioral intent had the strongest association with motivation and behavior in the domains of education, work, and health. This supports the relevance of multidimensional constructs to this study.

The developing of a Japanese version of the Multidimensional Future Time Perspective (MFTP) based on the model which showed comparable factor structure and reliability in the Japanese population by multigroup SEM, further reinforces cross-cultural validity [9]. This suggests that the multidimensional structure of FTP in this study is likely to be robust across cultural and generational variations. Findings from meta-analyses and cross-national studies indicate that FTP is a theoretically and empirically robust psychological construct [9–13]. Thus, your Generation Z FTP scale is not only valid and reliable but also consistent with conceptual developments in the field of time perspective.

5 Conclusion

Overall, this study makes a significant contribution to future orientation psychometrics, particularly in Generation Z. The proven multidimensional structure and high reliability open up opportunities for broad application in developmental research, education, and motivational intervention. This study was conducted to test the validity and reliability of the future time perspective. The results of this study indicate that the future time perspective scale instrument for Generation Z is suitable for use in Indonesia and has been adapted to Indonesian culture. The psychometric properties indicate that the factor loading values range from 0.61 to 0.94, meeting the minimum criteria and thus considered valid. Regarding reliability, the future time perspective scale has an alpha value of 0.865 and a CR of 0.95, meeting the minimum criteria and thus reliable. Additionally, the AVE of 0.62 meets the minimum criteria, indicating good convergence. The future time perspective scale has an alpha value of 0.843, CR = 0.960, and AVE = 0.573, which meet the minimum criteria, making it reliable and showing good convergence. The findings of this study regarding the validity and reliability of the future time perspective scale reinforce other studies on instrument adaptation and evaluation. The use of this scale allows for the comparison of research data in Indonesia with international research findings. From here, the cultural specificity of future time perspective in the Indonesian context can be identified in future studies and compared with other similar studies. Additionally, given the instrument's brevity and ease of use, it can be employed in studies with large populations. However, it should be noted that the scale's validity has only been verified in a Generation Z sample.

6 Implication

Further research could adapt the future time perspective scale to the general population. In addition, further research could also assess correlations with other variables such as self-efficacy, self-control, academic procrastination, and psychological well-being.

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