

Research Paper

Investigating the Adaptation of the Father Nurturance Scale: Validation for Adolescents in Indonesia



Ersa Lanang Sanjaya^{1,2*} , Dewi Retno Suminar¹ , Nur Ainy Fardana¹ 

1. Faculty of Psychology, Universitas Airlangga, Surabaya, Indonesia.

2. School of Psychology, Universitas Ciputra Surabaya, Surabaya, Indonesia.



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ABSTRACT

Objectives: This study tests the internal structure of the nurturance fathering scale (NFS) in the context of adolescents in Indonesia. Adolescents' perception of paternal presence is important as it has positive impacts on young people's lives. Father care is not necessarily present in Indonesia's cultural context. This context underpins the need for a strong scale to measure adolescents' perceptions of father nurturance.

Methods: The data were collected through self-report using the adaptation of the NFS. Methods used for the current study include a confirmatory factor analysis to assess the internal structure of NFS. The total number of respondents to the study was 324 adolescents.

Results: Eight items from the NFS adapted in the Indonesian version are fit for the sample of adolescents in Indonesia, based on several fit indicators as follows: Comparative fit index (CFI)=0.998, trophic level index=0.998, root mean square error of approximation (RMSEA)=0.074, standardized root mean square residual=0.037. Meanwhile, the factor loading ranged from 0.808 to 0.947 and the cronbach α coefficient=0.938.

Discussion: The Indonesian iteration of the NFS demonstrates great potential and could prove beneficial in future investigations. It can serve as a foundation for formulating specific policies. The outcomes of this study will act as a catalyst, propelling the advancement of subsequent research about paternal caregiving, particularly within the Indonesian context.

* Corresponding Author:

Ersa Lanang Sanjaya, Assistant Professor.

Address: School of Psychology, Universitas Ciputra Surabaya, Surabaya, Indonesia.

Tel: +62 (81) 235041269

E-mail: ersa.sanjaya@ciputra.ac.id



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Highlights

- The Ministry of Women's Empowerment and Child Protection in Indonesia has affirmed that the nation is characterized by a significant population of individuals who lack paternal presence.

- Previous studies have shown that the presence of a father is critical in an adolescent's life.

A scale measuring adolescents' perceptions of the presence of a father in their lives is needed for further research and the formulation of policies for related parties.

- The nurturance fathering scale (NFS) adapted in the context of Indonesian adolescents is valid.

Plain Language Summary

The presence of the father has an important impact on various aspects of adolescent development. On the other hand, the Indonesian Ministry of Women's Empowerment and Child Protection released data showing that Indonesia is among the ten countries where children do not play the optimal role as fathers. Furthermore, studies of father-centered parenting are still less popular compared to mother-centered parenting or parenting. For this reason, it is considered important to have a measurement tool that is reliable enough to measure father care, especially in the context of adolescents in Indonesia. It is hoped that the existence of a scale reliable enough to use will stimulate further studies focused on paternal care and also on decision-making for related parties. This research aims to adapt the nurturance fathering scale, written in English, to the Indonesian language and context. There are 8 statements to the National Centre of Competence in Research, in which all these statements have been translated and adapted to the Indonesian context. Confirmatory factor analysis is used as the validation method. The respondents included 324 young people, for whom this number was considered sufficient to carry out the validation. The findings from this study found that the nurturance fathering scale adapted to the Indonesian language and context is valid. This is indicated by multiple fit indices that meet the requirements. Thus, the nurturance fathering scale adapted to the Indonesian language and context can be used for other purposes, such as research or decision-making. We hope that the findings of this study will incite additional research endeavors and consequently enhance our understanding of paternal caretaking.

Introduction

The paternal figure's involvement in the nurturing and development of offspring has experienced substantial changes throughout history. In the era of Puritanism, the father's primary focus was on imparting moral lessons and instilling religious principles. Subsequently, in the 1920s, amidst America's Industrial Revolution, the father assumed a more singular responsibility as the provider for the family. Following this, during the Second World War and the subsequent global economic crisis of the late 1940s, the role of the father evolved into that of an exemplary figure, particularly for sons, devoid of any sexual characteristics. Considering the multifarious alterations in the environment, contemporary scholars have recognized the necessity to redefine the role of the father, leading to more active involvement in the act of parenting [1]. In the context of Asia, specifically Indonesia, Bemmelen demonstrated that the responsibility of parenting is predominantly shouldered by

women. The father must serve as the primary earner and is primarily concerned with personal, ethical and spiritual growth. The distinct delineation of roles implies that mothers do not actively encourage fathers to participate in the upbringing of their offspring, consequently resulting in fathers' limited involvement in child-rearing [2].

However, research over the past 20 years has revealed that paternal involvement in parenting has positive impacts on child development. Several studies have indicated that the participation of fathers in parenting has a significant influence on multiple facets of child development, such as the temperament observed in children of preschool age [3], children's cognitive abilities [4], language skills [5], secure attachment styles [6], a lower level of problem behavior [7, 8] and psychopathological symptoms such as depression and antisocial traits [9, 10], and an increase in entrepreneurial intentions among late teens [11]. This is because there is a significant disparity in the extent of research conducted on maternal involvement in parenting as compared to research conducted on paternal involvement

in parenting [12, 13]. In addition, according to the [Ministry of Women's Empowerment and Child Protection](#), Indonesia is recognized as one of the countries constituting the top ten nations worldwide in terms of the highest number of children lacking paternal care or in need of fatherly affection within the realm of childcare [14]. For this reason, it is important to continue conducting studies of father care in the Indonesian context, starting with a valid scale.

Father nurturance conceptualized

The pioneering work on the involvement of fathers in parenting was conducted by Lamb [15]. Lamb et al. proposed a conceptual framework consisting of three distinct dimensions about the involvement of fathers in the process of parenting. The first dimension, referred to as interaction, entails the direct engagement between a father and his child through various parenting activities and shared experiences. The second dimension, denoted as availability, focuses on the father's accessibility and willingness to be physically present and engage directly with his child. Lastly, the third dimension, responsibility, encompasses the time spent by the father in interacting with his child, and his crucial role in ensuring the overall well-being and fulfillment of his child's needs through the provision of specific resources. Studying a father's involvement in parenting is multidimensional, necessitating a comprehensive approach to its exploration and understanding [15].

Lamb's approach focused primarily on measuring the time fathers spent with their children and often overlooked the nature and content of parenting [16, 17]; however, examining the father's involvement in parenting solely from the perspective of time-based interactions does not provide a true measure of the impact that a father's parenting has on his child, particularly in the case of fathers living with their children permanently [16]. Hawkins et al. attempted to broaden and enrich the concept of the father's involvement in parenting over the previous approach by examining only the father's involvement in parenting, which was limited to time spent with the child [17]. Hawkins et al. have formulated an inventory of father involvement which encompasses a total of nine dimensions for measurement. These dimensions include the following items: 1) The exercise of discipline and the assumption of teaching responsibility, 2) The encouragement of scholastic pursuits, 3) The support provided by the mother, 4) The act of provision, 5) The allocation of time for shared conversation, 6) The expression of praise and affection, 7) The cultivation of talents and the fostering of concerns for the future, 8) The facilitation of reading and assistance with homework and 9) The demonstration of attentiveness [17].

Finley and Schwartz took a different approach to examining the father's involvement in parenting by exploring the child's perspective. The main essence of Finley and Schwartz argues that a child's future behavior is a retrospective perception of his parents. When a teenager or adult perceives that their father is present and involved in their life, at perception affects their current behavior. Several factors serve as the foundation for this notion. Firstly, father involvement in parenting is a highly diverse concept, encompassing numerous domains through which children can be impacted. Secondly, the significance that children attach to their perception of their father's involvement surpasses the importance placed on the actual amount of time spent together. Thirdly, the long-term consequences of a father's involvement in parenting warrant examination. Lastly, the most effective approach to evaluating the enduring effects involves studying the perceptions of teenagers or adults regarding their father's past involvement. These aspects establish the imperative nature of investigating the father's involvement in parenting from the child's standpoint. Finley and Schwartz formulated the nurturance fathering scale (NFS) to evaluate paternal caregiving through the lens of the child [16].

Father nurturance in the context of adolescents

Understanding paternal care in the context of adolescents is of utmost importance. By adopting an ecological approach, adolescent issues can be linked to internal family patterns. Father nurturance is one family pattern that can provide an overview of an adolescent's overall picture [18]. The presence of a father figure in an adolescent's life affects their life satisfaction in a crisis [19]. In their longitudinal study, Flauri and Buchanan found that the presence of a father in the life of a 16-year-old helps him deal with and cope with the stress he faces around the age of 30 years [20]. Several studies have also highlighted the positive relationship between adolescent self-esteem and the presence of their father in their life [21, 22]. The presence and involvement of a father in the life of adolescents is an important factor in their development, and the lack of a father figure has specific implications for young people [23].

Based on the previous review, the primary objective of the current study is to validate the NFS developed by Finley and Schwartz [16] in the context of Indonesian adolescents. Overall, the need for the current study builds on previous research showing that an adolescent's perception of whether or not their father accepts them has an impact on their emotional, psychological, and behavioral development [24]. Therefore, it is crucial to

acquire a deeper comprehension of the repercussions stemming from the participation of a paternal figure in teenagers within Indonesia. By having a measuring tool that can observe what adolescents feel regarding parenting and the presence of fathers, we will have a better understanding of whether the father's role in parenting is optimal, especially from the child's perspective. This instrument of measurement can also serve as a quantifiable assessment of the extent to which initiatives aimed at enhancing paternal engagement in child-rearing truly yield beneficial outcomes for young individuals in the Indonesian context. In addition, by having a validated measuring tool, knowledge about fathers' parenting, especially in Indonesia, where fathers are not considered the main caregivers, will grow. This makes this research have many benefits.

Materials and Methods

The scale adaptation process uses the flow proposed by Beaton et al. [25]. Before the adaptation stage started, we emailed Finley and Schwartz to ask for permission to adapt the original NFS. Afterward, the initial phase of the scale adaptation procedure involves the process of forward translation, wherein the scale in the original language is linguistically transformed into the desired language. The second stage is carrying out back translation, namely the scale that has been translated into the target language and then is translated back into the original language. The third stage is to carry out a synthesis where a comparison is made between the original scale and the scale resulting from back translation to see whether there is a difference in meaning between the original scale and the translated scale. If there is a difference in meaning, the synthesizer will adjust so that the meaning remains the same. The translation process is carried out by different linguists at each stage. The fourth stage is to provide the translated scale to 2 experts. Experts will assess 4 aspects of equality according to Beaton et al. [25], namely semantic equivalence, idiomatic equivalence, experiential equivalence and conceptual equivalence. Based on the expert's assessment, a content validity index (CVI) was found. The CVI range of each item was 0.85-1. For the overall CVI results, the score was 0.96. These results indicate that the content validity of the NFS adaptation is quite good. The next stage is to test construct validity by looking at the internal structure of the scale using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA).

The data were collected through self-reporting using the NFS. Finley and Schwartz [16] developed this measuring tool in the context of students in America.

Accordingly, the NFS produced an adequate fit to the data with one factor (χ^2 , $P < 0.001$, comparative fit index [CFI]=0.99, root mean square error of approximation [RMSEA]=0.11).

Factor pattern coefficients ranged from 0.50 to 0.85. Meanwhile, the Cronbach α score was 0.94. In this research, the scale was distributed using Google Forms together with an informed consent form. Construct validity was determined for the scale using CFA. CFA is used in situations where a researcher already possesses knowledge and understanding of the dimensions of a scale based on theories and empirical findings from previous studies [26]. The data were tested using the JASP software. The scale consists of eight items ranging from one to five. Each question has a unique answer response, with the numbers by question. The complete items and their responses can be found in the appendices. The total number of respondents to the study was 324 adolescents.

Results

The demographic presented in Table 1 shows that the age range of respondents was between 15 and 18 years, with the majority of respondents being 17 years old (62.9%). The majority of respondents came from families where both father and mother survived and lived together (86.1%). The gender of the respondents was relatively balanced between men (44.4%) and women (55.6%).

Before evaluating the model, a preliminary examination of the data was performed, using EFA to observe the dispersion of item clusters derived from the scale. Based on the EFA results (Table 2), the items from the NFS were grouped into one factor; accordingly, the NFS was unidimensional. This is following the original NFS scale designed by Finley and Schwartz. Based on the results of the EFA, the next process is CFA with 1 factor to see the fit model of this measuring instrument.

Factor loading for the eight-item model of the Indonesian version of the NFS for adolescents ranged from 0.808 to 0.947 (Table 3). Factor loading illustrates the relationship between indicators and latent variables [27]. Brown argued that 0.3 was the minimum limit of factor loading, while Ford stated that 0.4 was the lower limit of factor loading [26, 28]. Based on these calculations, the items of the Indonesian version of the NFS intended for adolescents represent aspects that we wished to measure father nurturance.

Table 1. Demographic data

Demographic Data		No. (%)
Gender	Male	144(44.4)
	Female	180(55.6)
	Total	324(100)
Status of parents	Father and mother alive and living together	279(86.1)
	Father and mother are alive but divorced	28(8.6)
	Father and mother deceased	1(0.3)
	Father deceased	16(4.9)
	Total	324(100)
Order of birth	1	133(41.0)
	2	118(36.4)
	3	56(17.3)
	4	14(4.3)
	5	2(0.6)
	6	1(0.3)
	Total	324(100)
Age (y)	15	3(0.9)
	16	105(32.4)
	17	204(62.9)
	18	11(3.4)
	Total	324(100)

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Table 2. Exploratory factor analysis

Item	Factor 1
1	0.809
2	0.822
3	0.750
4	0.815
5	0.855
6	0.891
7	0.746
8	0.787

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Table 3. Factor loading

Item	Factor Loading
1	0.841
2	0.849
3	0.805
4	0.840
5	0.920
6	0.947
7	0.808
8	0.819

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The criterion employed to evaluate the appropriateness of the model utilized in the present study was the CFI, which necessitates a minimum value of 0.9 to be regarded as appropriate. Additionally, the Tucker-Lewis index, with an anticipated value exceeding 0.9, is encompassed within the incremental fit indices [27]. The present investigation additionally scrutinized the approximation of the RMSEA, whereby the threshold value is <0.8 and the standardized root-mean-square residual (SRMR), with the threshold value being <0.08 . Both of these values are encompassed within the absolute fit indices [26, 27, 29]. The chi-square value is anticipated to be greater than 0.05, indicating no discernible distinction between the model and the data [30]. However, the chi-square statistic exhibits a high degree of sensitivity concerning the number of observations. As the sample size increases, the estimation findings tend to become statistically significant. Consequently, the suitability of the model is deemed inadequate; therefore, for the current research, the chi-square values were calculated, but not used as material for the analysis.

A chi-square value was calculated to be <0.001 for the current study (Table 4). However, due to the susceptibility of chi-square values to the size of the sample, the aforementioned value was not incorporated into the examination of the research study. The study obtained

the following values: CFI=0.998, Tucker Lewis index (TLI)=0.998, RMSEA=0.074, SRMR=0.037. Based on the results, the NFS adapted into the Indonesian language is a fit model. Reliability was assessed through the utilization of Cronbach α , yielding a score of 0.938. Furthermore, the range of item-rest correlations was observed to fall within 0.762-0.858 (Table 5).

Discussion

This study examined the validity of the NFS after it had been modified to suit Indonesian adolescents. Through the adaptation process, an eight-item Indonesian-language NFS was standardized for adolescents, finding that the internal structure corresponds to a model fit. Item number seven (“overall, how would you rate your father?”) was determined to have the lowest factor loading. However, the range of factor loading for the Indonesian version of the NFS for the context of adolescents was 0.808-0.998, suggesting that all items are capable of illustrating what we intended to measure father nurturance. In addition, based on several fit indices, the Indonesian version of the father nurturance scale was determined to be fit. Accordingly, the scale is suitable for use after adaptation to the Indonesian language and the specific context of adolescents.

Table 4. Chi-square test

Model	χ^2	df	P
Baseline model	23390.364	28	
Factor model	55.557	20	<0.001

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Table 5. Fit indices

Index	Value
CFI	0.998
TLI	0.998
RMSEA	0.074
SRMR	0.037
GFI	0.998

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Abbreviations: CFI: Comparative fit index; TLI: Tucker Lewis index; RMSEA: Root mean square error of approximation; SRMR: Standardized root-mean-square residual; GFI: Goodness of fit index.

The significance of the Indonesian scale's progress lies in the pivotal role that fathers assume in the advancement of adolescents. Additionally, within patriarchal settings like Indonesia, the engagement of fathers in child-rearing and their active presence in their children's lives do not arise inherently [31]. The development of an NFS for adolescents in Indonesia can be beneficial in measuring how adolescents perceive their father's presence in their lives. This information can then be used as a reference for decision-making by relevant institutions, including educational and government institutions [18].

There is an ongoing debate about the reliability of scales that measure concepts retrospectively, such as the NFS, since the results are highly dependent on the respondent's memory process [18]. However, as Finley and Schwartz argue, retrospective measurements may not be objective, but a person's subjective perception of their past concerning their father's presence is more important than objectivity since this perception influences every phase of their development and current state [16]. Meanwhile, the effects of a father's child-rearing on his offspring endure over time, thus, the creation of this measurement tool has the potential to enhance long-range investigations in the forthcoming years [32].

The present investigation discovered that the adapted iteration of the father nurturance scale in the Indonesian language exhibits commendable internal validity and can be effectively employed for subsequent investigations. However, there are a few ways to make the scale more robust. The validity of the scale should be tested in different population contexts so that its use can be more widespread, and can be used in different research contexts in the future.

Conclusion

The primary aim of this study was to modify NFS for the Indonesian context, with a specific focus on adolescents. This is considered important as previous studies have shown the importance of the father's role in adolescent development; however, the role of fathers in Indonesia is still not optimal. The findings of this research demonstrated that the NFS instrument, when adjusted to the specific circumstances of Indonesia, exhibits a satisfactory level of reliability, rendering it suitable for application in future investigations. Suggestions for future research are to try to validate NFS in wider cultural contexts and also try to correlate it with other variables.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Ethics Committee of the [Ciputra University](#) (Code: 034/EC/KEPK-FKUC/X/2022).

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Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

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Appendix 1.

Indonesian Version of NFS

1. Menurut Anda, seberapa menikmati ayah Anda menjadi menjadi seorang ayah?

_____ sama sekali tidak menikmati

_____ tidak menikmati

_____ terkadang menikmati

_____ menikmati

_____ sangat menikmati

2. Ketika Anda membutuhkan dukungan ayah Anda, apakah dia ada untuk Anda?

_____ tidak pernah ada

_____ jarang ada

_____ terkadang ada

_____ seringkali ada

_____ selalu ada

3. Apakah ayah Anda memiliki cukup energi untuk memenuhi kebutuhan Anda?

_____ tidak pernah

_____ jarang

_____ terkadang

_____ sering

_____ selalu

4. Apakah ayah Anda memiliki waktu untuk dihabiskan berkegiatan bersama Anda?

_____ tidak pernah

_____ jarang

_____ terkadang

_____ sering

_____ selalu

5. Seberapa dekat Anda secara emosional dengan ayah Anda?

_____ tidak pernah

_____ jarang

_____ terkadang

_____ sering

_____ selalu

6. Dalam masa remaja Anda, seberapa akrab Anda dengan ayah Anda?

_____ sangat tidak akrab

_____ tidak akrab

_____ cukup akrab

_____ akrab

_____ sangat akrab

7. Secara keseluruhan, bagaimana Anda menilai ayah Anda

_____ sangat buruk

_____ buruk

_____ cukup

_____ baik

_____ sangat luar biasa

8. Saat Anda menjalani hari Anda, seberapa besar kehadiran psikologis ayah Anda dalam pikiran dan perasaan Anda sehari-hari?

_____ tidak pernah ada

_____ jarang ada

_____ terkadang ada

_____ sering ada

_____ selalu ada