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Development of a “Pictorial Values Scale for Children”: A Validity and Reliability Study

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Abstract

The aim of this study is to develop a valid and reliable measurement tool—the Pictorial Values Scale for Children (PVSC)—to assess the level of awareness of values among preschool and primary school-aged children. Conducted using a descriptive survey design, the research process included the stages of content validity assessment, pilot testing, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA). To establish content validity, expert opinions were obtained from ten specialists in the fields of values education, child development, and educational measurement and evaluation. A pilot study was then conducted with 250 primary school students, followed by EFA performed on data collected from a sample of 517 students. Results from the EFA revealed a two-factor structure comprising Social and Societal Values (SSV) and Personal, Moral, and Emotional Values (PMEV). This structure was further validated through CFA conducted with an independent sample of 500 students. The scale includes a total of 15 values: friendship, love, respect, patriotism, responsibility, justice, helpfulness, self-control, patience, honesty, compassion, diligence, empathy, family, and kindness. For each value, the scale includes five items—three correct and two distractors—evaluated using a symbol-based pictorial Likert-type format appropriate for children. In the net scoring system, points obtained from distractor items are subtracted from the total score to determine the student's ability to correctly recognize and differentiate the value. The findings indicate that the PVSC demonstrates acceptable levels of content validity, construct validity, and internal consistency. The CFA fit indices (CFI = .98, RMSEA = .060, SRMR = .039) confirm the robustness of the two-factor model. In conclusion, the Pictorial Values Scale for Children is presented as a valid, reliable, and original instrument for measuring children's awareness of values.

Keywords: Values Education, Scale Development, Student, Pictorial (Visual, Picture based) Scale, Children's Value Awareness, Social and Moral Values

INTRODUCTION

Values play a pivotal role in shaping children's moral and ethical compass and form the foundation of many of their social interactions. The concept of values has held a prominent position in scientific discourse, with numerous scholars investigating how values develop and transform across individuals and societies over time (Hofstede, 2001; Rokeach, 1973; Schwartz, 2006). The importance of values education in childhood has been emphasized by various scholars across different cultural contexts, highlighting the necessity of effective pedagogical strategies for instilling these values. Thornberg and Oğuz (2013) argue that teachers' beliefs significantly influence the way values are imparted to children and advocate for the integration of moral psychology and active reflection into teacher education. Similarly, Türkoğlu (2019) underscores the intrinsic influence of cultural and familial values on children's behavior and emphasizes the need to harmonize school and family values within the educational process.

Investigations have consistently demonstrated the influential role of values in shaping diverse life domains such as social relationships, group affiliations, moral conduct, environmental awareness (Bardi & Schwartz, 2003; Grusec & Kuczynski, 1997). Within this broader context, emerging research has underscored the critical role of collaborative efforts among schools, families, and broader societal structures in fostering children's understanding of values (Saputri & Marzuki, 2021). This view is echoed by Türkoğlu (2019), who argues that values education is inherently linked to moral education and posits that children are continuously exposed to moral learning through their interactions with their environment. Consequently, discussions on values education transcend the boundaries of the home and educational institutions, pointing to a complex and multifaceted network of social influences that shape the development of children's value systems.

Moreover, in order to develop a comprehensive framework for values education, it is crucial to explore children's perspectives on values. Johansson et al. (2014) emphasize the importance of understanding children's views on rules and rights, proposing that children possess an innate sense of justice that informs their moral judgments. The necessity of including children's voices in the dialogue on values education is further exemplified in Zachrisen's (2016) study on democratic values in school settings, which points to a shift towards more democratic teaching practices. The concrete exploration of values through play encourages educators to reconsider their instructional strategies, reinforcing the notion that children actively engage with the concept of values in diverse and meaningful ways.

Instilling values in children is a fundamental component of their development, shaping their character, behavior, and overall identity. Studies consistently highlight the profound impact of early childhood experiences on moral and ethical development. The family serves as the primary environment for character development, with parents acting as crucial role models in this process (Inan, 2011; Kayıran & Bağceci, 2018). According to Sarmini et al. (2023), the home environment has a significant influence on children's understanding of values, and parents are responsible for instilling qualities such as discipline and cooperation. This assertion is supported by Khuzaifah and Syarafuddin (2024), who point out that parents often face challenges in fulfilling this vital role due to various external

factors. Nevertheless, parental involvement is essential for children to navigate social interactions and to establish a reliable foundation of character.

Additionally, the relationship between parental attachment and moral education is of paramount importance. Rahman et al. (2023) show that strong parental bonds facilitate trust and openness, thereby enabling the effective transmission of moral values. This is particularly significant given research indicating that children who form secure attachments tend to develop higher moral reasoning skills. In this context, Haryono et al. (2021) emphasize that the instillation of values should begin as early as possible, ideally between the ages of 2 and 5. Consistent character education provided by both parents and educational institutions during these early years can lead to better outcomes in moral and social behavior and underscores the necessity of coordinated efforts between educators and families (Haryono et al., 2021).

In an increasingly digital world, the transmission of religious and moral values has become more complex. Khodijah et al. (2023) argue that parents must adapt to digital realities to ensure that ethical teachings remain meaningful for children. Utilizing technology as a tool for values education can enhance its effectiveness. Similarly, Zazkia (2022) asserts that the early inculcation of values may reduce behaviors such as juvenile delinquency, and that a structured approach from early childhood can lead to more balanced character development.

Integrating values education into the foundational stages of childhood, particularly through consistent parental guidance, has a lasting impact. This not only shapes personal traits but also prepares children for social interactions and responsibilities. As suggested by Duman (2014) and Kayıran (2018), a structured curriculum that incorporates values education can significantly aid in achieving these objectives, providing children with a framework to navigate their social worlds effectively.

In the context of measuring children's values, the development of a pictorial values scale emerges as a crucial tool for educators and psychologists. Such scales are particularly valuable for young children who struggle with abstract concepts and require concrete representations to understand and express their values effectively. Numerous studies highlight the importance of values education and emphasize the roles of parents, schools, and community support in helping children comprehend values and develop character.

Various studies underscore the importance of understanding how children's values evolve over time. The research of Ciecuch et al. (2015) reveals a significant stability in children's value priorities, comparable to the consistency seen in personality traits, indicating that values are formed during early life. The longitudinal approach adopted in these studies provides strong evidence that children's preferences for certain values become clearer and more stable as they age. Additionally, the study by Vecchione et al. (2015) expands this discussion by examining the reciprocal relationship between values and the behaviors that express them over time, emphasizing the developmental nature of values in children. Both studies confirm the developmental essence of value consciousness, focusing more on the stability and expression of these values than on the specific methodologies used to measure them.

Existing value scales offer insights into children's value structures, but there are shortcomings in their design and implementation. As noted by Daniel et al. (2015), traditional value scales often suffer from low reliability due to their limited number of items. This highlights a critical need for more advanced measurement tools that can effectively engage children and accurately capture their values. Current assessments may not encompass the socio-emotional complexities involved in children's value development, underscoring the need for innovative approaches such as pictorial value scales that resonate more deeply with younger populations through the use of visual stimuli (Watkins & Aitken, 2024).

Making value measurement tools more engaging for children may align with trends observed in social-emotional development frameworks. For example, Sokugawa (2022) emphasizes the impact of visual-focused assessments on children's perceptions of values, including how social changes and educational approaches affect these perceptions. The recommendation to use pictorial value scales stems from both current methodological limitations and the proven effectiveness of visual tools in other areas of child development, such as environmental awareness (Flowers et al., 2014) and consumer behavior (Casado & Rundle-Thiele, 2015).

Despite these discussions, there remains a need for empirical studies to validate new measurement tools. Understandings of children's values can vary across cultures; therefore, it is vital to construct a comprehensive framework that incorporates various cultural and contextual factors (Rahayu & Mustikasari, 2020). Research shows that social and cultural backgrounds deeply influence the structure of children's values, making the creation of universal value assessment tools challenging (Coyne et al., 2016).

Character education plays a critical role in the moral and ethical upbringing of children. Lee (2016) discusses how character education programs—particularly those integrated with music and other activities—can positively influence young children's understanding of values such as honesty and courage in Taiwanese early childhood settings. This finding aligns with results showing a stronger correlation between character education and social responsibility (Lee, 2016). Moreover, cooperation among parents, schools, and the wider community is essential for reinforcing these values. Saputri and Marzuki (2021) emphasize that effective values education requires coordinated interaction between parents and educational institutions and highlight schools as arenas for teaching core life values.

The applicability of pictorial scales in measuring perceptions such as effort and emotional responses supports their benefits in value assessment. For instance, Yelling et al. (2002) validated a pictorial perceived exertion scale for children, demonstrating how pictorial representations can effectively measure children's perceptions. Similarly, the development of a pictorial scale specifically designed to evaluate health-related quality of life factors in children further supports the adaptability of pictorial methods for young audiences (Tang et al., 2024). These studies emphasize that children often communicate more comfortably through pictures than abstract concepts, making pictorial scales effective tools in value assessment.

In addition, research by Norcia et al. (2022) employed a pictorial assessment of interpersonal relationships to explore the link between perceived value in student-teacher relationships and children's overall well-being and adaptation to the school environment. This study highlights the influence of relationships on children's ability to understand and internalize values and shows that teacher-student dynamics are crucial in children's value formation. Understanding children's perceptions of relationships and values can support the development of more targeted educational strategies that promote positive character development.

As emphasized by Harahap et al. (2023), culturally sensitive approaches to values education demonstrate the importance of integrating cultural context into educational practices. By understanding the cultural significance of values, educators can tailor their methods to be more effective for diverse student groups, thereby increasing the relevance and impact of values education.

The development of pictorial scales for children has attracted significant attention in educational and psychological research due to its potential to enhance communication and comprehension in young populations. These scales translate concepts that may be difficult for children to express or understand—such as emotional states, self-efficacy, and physical competence—into simple images. The effectiveness of such tools is highlighted by their ability to engage children and reliably measure their experiences and emotions.

One of the primary advantages of pictorial scales is their capacity to enhance children's participation and expressive ability. For example, a study by Carlsson et al. (2024) emphasizes how pictorial tools in healthcare help children express their emotions and preferences, thereby encouraging participation in the decision-making process. This dynamic is further supported by research showing that children generally understand pictorial representations more easily than traditional text-based tools (Buzzi et al., 2022). Buzzi and colleagues (2022) note that adolescents prefer pictorial tools over verbal questionnaires, and such scales not only maintain psychometric integrity but also increase respondent engagement and motivation.

Furthermore, the use of pictorial scales extends to various domains such as health-related quality of life assessments, enjoyment of physical activity, and perceived competence in motor skills. The Health-Related Quality of Life Pictorial Inventory for Children (HEALTH-PIC) exemplifies efforts to create age-appropriate assessment tools that reflect children's self-reports more accurately than parent-reported evaluations (Tang et al., 2024). Similarly, Morano et al. (2019) showed that pictorial scales could be successfully adapted to assess children's self-efficacy and enjoyment in physical activities, including items specifically designed for rapid child assessment.

Moreover, the inherent flexibility of pictorial scales allows for better adaptation across different cultures and literacy levels. Research by Ramos et al. (2019) highlights the importance of culturally appropriate pictorial aids that align with local contexts, facilitating understanding of concepts such as health and well-being for both caregivers and children. These adaptations are critical in overcoming challenges associated with using standard tools among populations with diverse cultural backgrounds (Ramos et al., 2019).

In summary, the development of pictorial value scales for children offers a promising path for assessments across various fields by enhancing accessibility, engagement, and comprehension. Given the demonstrated benefits of these tools in both empirical and practical settings, ongoing research and refinement are essential. This article aims to detail the methodologies used to construct a robust pictorial values scale specifically designed for children and to investigate its psychometric properties. In doing so, it seeks to contribute to the literature supporting the effectiveness of pictorial assessments within this demographic group.

The primary objective of this study is to develop a valid and reliable pictorial scale—including distractor options—that can measure the awareness levels of values among children attended primary school and preschool and aged 3–7 years in early childhood period. The study is based on the premise that children’s understanding of values should be assessed not only through correct behaviors but also through their ability to distinguish inappropriate attitudes.

METHOD

This study was conducted using a descriptive research design based on the scale development process. Within the scope of the research, a pictorial values scale was developed to measure the value awareness of children in early childhood at the preschool and primary school levels. The construct validity of the scale was tested through validity and reliability analyses. A quantitative research model based on exploratory and confirmatory factor analyses, which are commonly used in the construction of measurement instruments, was adopted (DeVellis, 2017; Büyüköztürk, 2020).

Participants

The study group consisted of two separate samples involved in different stages of the measurement instrument development process. These groups were determined to support the content validity, item analysis, construct validity, and confirmatory analysis of the measurement tool.

The research was conducted through a three-stage application process: pilot study ($n = 250$), initial main study ($n = 517$), and final pre-confirmatory analysis study ($n = 500$). The demographic distributions of the participants in each stage are summarized below.

Table 1. Demographic Characteristics of the Participants

Variable	Group	Pilot Study N:250	EFA N:517	CFA N:500
Gender	Girl	129	257	248
	Boy	121	260	252
Child's Age	3 years old	10	36	36
	4 years old	44	78	78
	5 years old	92	157	151
	6 years old	102	237	227
	7 years old	2	9	8
Child's Grade	Preschool 3-Year-Old Group	11	37	37
	Preschool 4-Year-Old Group	41	75	75
	Preschool 5-Year-Old Group	96	161	161
	Kindergarten 6-Year-Old Group	100	232	215
	Elementary School 1st Grade	2	12	12

The gender distribution across all application stages was quite balanced. In the pilot study, there were 129 female and 121 male children, while the initial main study included 257 females and 260 males. In the final analysis group ($n = 500$), there were 248 female and 252 male children. This indicates that gender-based sample representation was ensured throughout the scale development process. The number of children in the 3- and 7-year-old age groups was limited and thus treated as marginal groups in the analyses. Furthermore, the children's grade levels largely corresponded with their ages, with the majority being preschoolers aged 4, 5, and 6 years.

In the first stage, to ensure content validity of the scale to be developed, expert opinions were obtained from 10 academicians and teachers specialized in values education, child development, and measurement and evaluation. Experts were selected based on their field competencies and academic experience (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz, & Demirel, 2017).

In the second stage, a pilot application was conducted with 250 preschool and primary school students as part of the scale's preliminary testing process. This group consisted of students aged 8 to 10 from various socioeconomic backgrounds. The pilot study was used to assess the scale's comprehensibility, item discrimination, and preliminary reliability analyses.

In the third stage, data were collected from 527 students to test the construct validity of the scale. Following outlier analysis, 10 extreme cases were removed, and analyses were conducted with a sample of 517 participants. These students were from various public schools, aged between 3 and 7 years. Participants were selected through convenience sampling (Karasar, 2017).

In the final stage, confirmatory factor analysis (CFA) data were collected from a separate sample of 500 students. This group was entirely independent from the exploratory factor analysis (EFA) sample and aimed to test the construct validity of the scale on an independent sample. All applications throughout the research were conducted with the necessary legal and ethical permissions and on a voluntary basis. These sample sizes are considered adequate according to the recommended minimum participant-to-item ratios (5–10 participants per item) for factor analyses (Tavşancıl, 2014; Costello & Osborne, 2005).

Development Processes of the Data Collection Instrument: Pictorial Values Scale for Children (P-VSC)

The Pictorial Values Scale developed within the scope of this research aims to measure children's awareness of fundamental values. The scale includes 15 values: Friendship, Love, Respect, Patriotism, Responsibility, Justice, Helpfulness, Self-Regulation, Patience, Honesty, Compassion, Diligence (Hard-working), Empathy, Family, and Benevolence. For each value, 5 items were prepared, resulting in a total of 75 items. Each item is supported by child-appropriate illustrations, with 3 images accurately representing the intended value and 2 images depicting distractors that do not represent the value.

Considering the developmental level of children, responses to each pictorial item were presented using a 3-point Likert-type scale with symbols: 😊 Smiling Face (Correct Behavior) = 3 points; 😐 Neutral Face (Undecided/Unsure) = 2 points; and 😞 Frowning Face (Incorrect Behavior) = 1 point. This structure aims to evaluate children's ability both to recognize the relevant value and to distinguish it from incorrect examples.

Content Validity Process Based on Expert Opinions

The first step in the scale development process is to ensure the content validity of the item pool. Accordingly, the researcher prepared a draft scale consisting of 75 items, with 5 items for each of the 15 fundamental values. Each item was structured with illustrations suitable for children. This draft was presented to 10 academicians and experienced teachers specializing in values education, child development, and measurement and evaluation to assess content validity. Experts were asked to rate each item according to the following criteria:

1. The item fully reflects the intended value.
2. The item is partially appropriate and can be improved with suggestions.
3. The item is not appropriate and should be removed.

Additionally, experts were provided with space to give open-ended feedback regarding the visual-text harmony, age appropriateness, comprehensibility, and representational strength of the items.

Expert opinions were analyzed through content analysis. The appropriateness levels of items were calculated as percentages, and items with over 80% agreement were directly accepted (Büyüköztürk, 2020; Yurdugül, 2005). Items with appropriateness

rates between 60% and 80% were revised according to expert suggestions, while items below 60% were removed from the scale.

Moreover, the Content Validity Index (CVI) was calculated. In CVI calculation, the proportion of experts rating an item as “appropriate” was considered, and items with a CVI value above .80 were accepted (Davis, 1992). As a result of this process, based on both qualitative and quantitative expert evaluations, 12 items were revised, 6 items were removed, and 5 new items were added based on expert recommendations. The scale was then finalized and prepared for the pilot study. Through this method, the content validity (content representativeness) of the scale was scientifically secured.

Data Analysis

Scoring and Evaluation Process

The developed Pictorial Values Scale includes 5 items for each value; the 1st, 3rd, and 5th items are designed to directly measure the relevant value. The other two items (2nd and 4th) consist of content representing different values and serve as distractor items. This structure allows the assessment not only of children’s ability to recognize the correct value but also their ability to distinguish it from other values without confusion (Tavşancıl, 2014).

Children’s responses to each item were scored using a 3-point pictorial Likert-type scale as follows: 😊 Smiling Face = 3 points, 😐 Neutral Face = 2 points, and ☹ Frowning Face = 1 point. The scoring process for each value was conducted as follows:

1. Scores from the main items intended to measure the value (items 1, 3, and 5) were summed.
2. The total score of the distractor items (items 2 and 4) for the same value was subtracted from this sum.
3. The resulting value represents the child’s net score for that value.

This method provides a more reliable measurement by balancing out any biased tendencies in responses to distractor items. Measuring the ability to differentiate between values is especially important in children for assessing developmental aspects of critical thinking and moral reasoning skills (Nucci, 2001; Gömleksiz & Cürebal, 2008). Such scoring systems are widely recommended in structured observations or pictorial tests for younger age groups to enhance validity and discriminative power (Büyüköztürk, 2020).

For each value:

- 3 main items (items 1, 3, and 5) → images depicting correct behaviors
- 2 distractor items (items 2 and 4) → images depicting behaviors not representing the value

Within this framework:

- Maximum score per correct item: 3 points
- Total maximum score for 3 correct items: $3 \times 3 = 9$ points
- Maximum score for 2 distractor items: $3 \times 2 = 6$ points
- Low scores are expected on distractor items, as approval of incorrect behaviors is discouraged.

Net Value Score = (Sum of items 1, 3, and 5) – (Sum of items 2 and 4).

With this system, the minimum possible score for each value is -3, and the maximum is +9.

Table 2 below presents the evaluation levels according to score ranges.

Table 2. Evaluation Levels Based on Score Ranges

Net Score	Assessment Level
7 – 9	Highly aware of and able to distinguish value
4 – 6	Moderately aware of and able to distinguish value
1 – 3	Low awareness of value
0 and below	Misperception of value / inability to distinguish value

An example of scoring is presented in Table 3 below.

Table 3. Example of Scoring for a Single Participant on the “Responsibility” Value

Question No	Image Type	Answer Given	Score
1	Representing responsibility	😊 (3)	3
2	Distracting	😞 (2)	2
3	Representing responsibility	😊 (3)	3
4	Distracting	😞 (1)	1
5	Representing responsibility	😊 (2)	2
	Total (Correct)		8
	Total (Distracting)		3
	Net Score		5

According to the above calculation, this participant recognizes and distinguishes the value of “Responsibility” at a moderate level. This scoring system aims not only to assess children’s ability to identify and affirm correct behaviors but also to evaluate their ability to differentiate negative or value-incongruent attitudes. This approach is based on studies recommending discriminative measurement structures, particularly within the contexts of developmental psychology and values education (Nucci, 2001; Gömleksiz & Cürebal, 2008).

Furthermore, this method increases sensitivity to response accuracy compared to classical scoring systems and reduces the effect of random selections. The use of distractor items in visually supported children’s scales especially enhances construct validity (Tavşancıl, 2014; Büyüköztürk, 2020).

The two-factor structure obtained from exploratory factor analysis (EFA) was tested through confirmatory factor analysis (CFA) on a separate sample of 500 participants. The CFA results indicated that the model fit indices (CFI, GFI, RMSEA) were within acceptable ranges (Byrne, 2010). Thus, the two-factor structure of the scale was confirmed.

FINDINGS

During the content validity stage of the scale, expert opinions were obtained from 10 academicians and teachers specializing in values education, child development, and measurement and evaluation. In the application phase, pilot testing was conducted with children from different age groups. The number of children in the 3- and 7-year-old groups was limited and therefore treated as marginal groups in the analyses. Furthermore, the children's grade levels largely corresponded with their ages, with the majority being preschoolers aged 4, 5, and 6 years.

Exploratory Factor Analysis (EFA) Results

In order to test the construct validity of the scale, an exploratory factor analysis (EFA) was conducted. Prior to the analysis, the suitability of the sample for factor analysis was evaluated. The Kaiser-Meyer-Olkin (KMO) measure was found to be 0.947, indicating that the sample is highly appropriate for factor analysis (Büyüköztürk, 2020). The Bartlett's Test of Sphericity yielded $\chi^2(105) = 3246.093$, $p < .001$, confirming that the correlation matrix is not an identity matrix and thus suitable for factor analysis.

The determinant value of the correlation matrix was calculated as 0.002, suggesting a low risk of multicollinearity and confirming the appropriateness of the data for factor analysis (Field, 2013; Tabachnick & Fidell, 2013).

As a result of the EFA, two factors with eigenvalues greater than 1 were extracted. These two factors explained a total of 52.66% of the variance. The factors were rotated using the Oblimin rotation method, which was preferred due to its allowance for correlations between factors (factor correlation = 0.527). The variance values explained by the factors are presented in Table 4 below.

Table 4. Explained Variance

Factor	Eigenvalue	Explained variance (%)
1 (ST Value)	6.83	45.53
2 (KAD Value)	1.07	7.13
Total		52.66

The obtained value surpasses the minimum acceptable range of 40–50% typically acknowledged in social sciences (Tavşancıl, 2014).

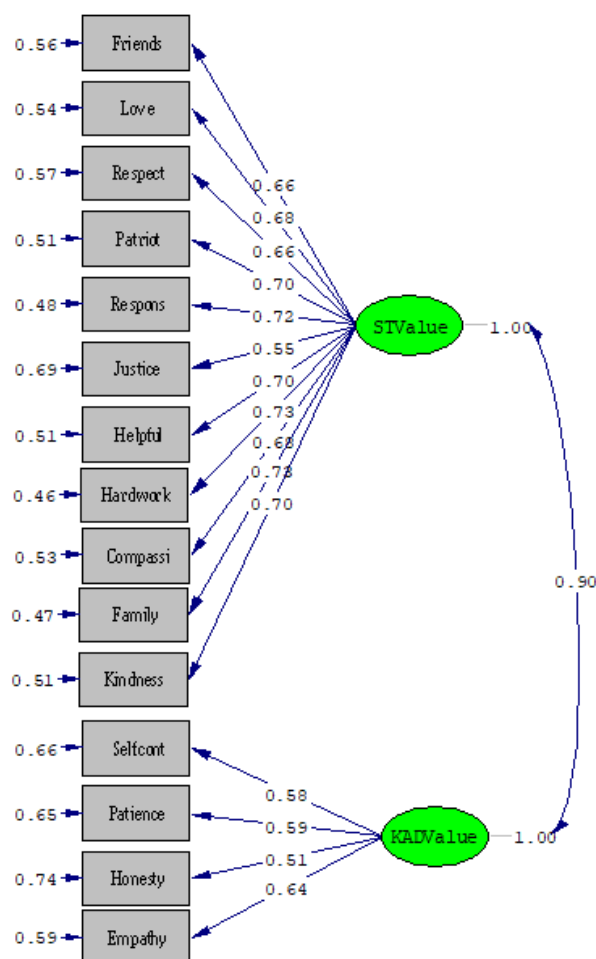
Table 5. Example of Scoring for a Single Participant on the “Responsibility” Value

	Factors	
	Social and Societal Values (ST Values)	Personal Moral and Emotional Values (KAD Value)
Patriotism	,900	
Family	,789	
Friendship	,758	
Love	,743	
Kindness	,711	
Responsibility	,686	
Respect	,665	
Helpfulness	,566	
Diligence (Hard working)	,511	
Compassion	,426	
Justice	,374	
Honesty		,854
Self-control		,683
Empathy		,448
Patience		,392

In the table above, factor loadings exceeding the threshold value of 0.30 based on the Pattern Matrix output are presented. The variable with the highest factor loading is Patriotism (0.900) under the STValue factor. The defining variables of the KADValue factor are Honesty (0.854) and Self-Regulation (0.683).

Confirmatory Factor Analysis (CFA) Results

Confirmatory Factor Analysis (CFA) was conducted to test the validity of the two-factor model developed within the scope of the study. The analysis was performed using the LISREL software, evaluating the relationships between the two latent variables (STValue and KADValue) and their observed variables. The path diagram is presented in the figure below.



Chi-Square=254.08, df=89, P-value=0.00000, RMSEA=0.060

The model defines two latent constructs: STValue (comprising patriotism, family, friendship, love, compassion, Hard-working (diligence), justice, helpfulness, benevolence, responsibility, respect) and KADValue (including honesty, self-regulation, patience, empathy). A high yet acceptable correlation was observed between these two constructs ($r = 0.90$). This indicates a strong theoretical relationship between the constructs without causing multicollinearity issues in the

model (Byrne, 2010). The loadings and explained variances for the STValue factor were examined and are presented in Table 6 below.

Table 6. STValue Factor Loadings and Explained Variance

Observed Variable	Factor Load	R ² (Explained Variance)	VIF
Hard-working (Diligence)	1.56	.54	2.17
Responsibility	1.53	.52	2.08
Family	1.44	.53	2.13
Compassion	1.44	.47	1.89
Patriotism	1.47	.49	1.96
Helpfulness	1.35	.49	1.96
Kindness	1.36	.49	1.96
Love	1.29	.46	1.85
Friendship	1.28	.44	1.79
Respect	1.29	.43	1.75
Justice	1.07	.31	1.45

All factor loadings range between 1.07 and 1.56, indicating statistically significant and strong relationships. The R² values vary between 31% and 54%, demonstrating that the items adequately explain their respective factor. The loadings and explained variances for the KADValue factor were also examined and are presented in Table 7 below.

Table 7. KADValue Factor Loadings and Explained Variance

Observed Variable	Factor Load	R ² (Explained Variance)	VIF
Self-control	1.32	.34	1.52
Patience	1.20	.35	1.54
Empathy	1.15	.41	1.69
Honesty	1.14	.26	1.35

The loadings in this factor are also consistent; the R² values are at a moderate level and demonstrate sufficient explanatory power. Although the item “Honesty” has a relatively lower level of explained variance, it remains acceptable for inclusion in the model. The model fit indices are examined in Table 8 below.

Table 8. Model Fit Indices

Conformity Criterion	Value	Comment
χ^2 / df	2.86	Perfect fit (≤ 3)
RMSEA	0.060	Good fit (0.05–0.08)
RMSEA 90% CI	0.051–0.069	Acceptable
CFI	0.98	Perfect fit (≥ 0.95)
NNFI (TLI)	0.98	Perfect fit
GFI	0.94	Good fit (≥ 0.90)
AGFI	0.92	Good fit
SRMR	0.039	Perfect fit (< 0.05)
ECVI	0.61	Low, suitable for comparisons
PNFI	0.83	Parsimony sufficient (≥ 0.50)
Critical N	250.98	Reliable sample size

All model fit indices fall within the accepted thresholds reported in the literature. In particular, considering RMSEA, CFI, and SRMR values, the two-factor model demonstrates an excellent fit to the data (Kline, 2016). The Cronbach's alpha coefficient for the STValue (Social and Societal Values) subscale was found to be .91, indicating a very high level of internal consistency and strongly supporting the scale's reliability. For the KADValue (Personal, Moral, and Emotional Values) subscale, the alpha value was calculated as .71, reflecting an acceptable level of internal consistency (Nunnally & Bernstein, 1994). The overall scale's Cronbach's alpha was .91, demonstrating a high reliability level for the entire scale.

Composite reliability (CR) values for both subscales were also high ($CR_ST = 0.975$, $CR_KAD = 0.898$); however, convergent validity was notably low in the KADValue factor ($AVE = 0.34$). Additionally, due to the high correlation between factors ($r = 0.90$), the discriminant validity condition was not met ($AVE < r^2$). This suggests conceptual overlap between the two factors and limited structural distinction (Fornell & Larcker, 1981; Hair et al., 2014).

The determinant of the correlation matrix was 0.002, indicating suitability for factor analysis and a low risk of multicollinearity (Field, 2013).

Confirmatory factor analysis results revealed a high degree of fit for the two-factor model with the data ($CFI = .98$, $RMSEA = .060$, $SRMR = .039$). All observed variables showed statistically significant loadings on their respective factors, with acceptable explained variances. These findings indicate that the developed Pictorial Values Scale is a reliable measurement tool with established construct validity.

DISCUSSION

The systematic framework employed in the development of the Pictorial Values Scale for Children (C-RDS), including content validity, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA), has established a robust methodology for measuring children's awareness of fundamental values. The results emphasize the critical role of EFA and CFA as essential tools for validating psychological scales. These findings corroborate prior research highlighting the necessity of structural validity in psychometric evaluation (Çamlı et al., 2021). The rigorous application of EFA and CFA not only confirms the internal structure of the scale but also ensures the preservation of the discriminability of the identified values across different populations.

Exploratory factor analysis was vital in identifying the underlying constructs that define the values represented in the scale. The exploratory approach facilitated the development of a refined scale that accurately measures the intended constructs (Bal & Üdüm, 2021). This method is important because it provides insight into the significance of individual items and their contribution to overall factor structures, reinforcing the notion that careful item selection enhances the reliability and validity of the scale (Çamlı et al., 2021). In the context of our scale, the 15 emerging values, such as Friendship, Love, and Responsibility, were derived through sound statistical practices consistent with established psychometric principles.

Moreover, confirmatory factor analysis played a crucial role in verifying the structural integrity of the C-RDS. This phase of analysis reaffirms whether the proposed model adequately fits the variance-covariance matrix of the collected data. The application of CFA provides a statistical framework for validating the dimensions identified by the EFA (Çamlı et al., 2021). The integration of these analyses not only enhances the reliability of the scale but also allows for generalizations across various contexts and child populations. Additionally, the maintenance of high reliability coefficients further strengthens the psychometric soundness of the C-RDS (Bal & Üdüm, 2021).

In light of these findings, the Pictorial Values Scale for Children not only serves as a tool to measure children's values but also makes a meaningful contribution to the existing literature on value assessment in developmental psychology. It provides educators and psychologists with a reliable framework to understand and foster essential social values that are crucial for children's socialization and holistic development. Given these outcomes, future research should explore the application of the C-RDS across different cultural contexts to evaluate its cross-cultural validity and adaptability.

The findings presented in the article titled "Development of the Pictorial Values Scale for Children" demonstrate a methodical approach to constructing a scale that effectively assesses children's understanding of values through carefully designed pictorial representations. The identification of two key factors—Social and Societal Values (STValue) and Personal, Moral, and Emotional Values (PMRValue)—provides a structured analytical framework. These factors account for 52.66% of the variance in children's value perceptions, indicating a well-defined construct for measuring value awareness. This aligns with methodological approaches observed

in various validity studies emphasizing the crucial role of factor analysis in construct development (Schwab et al., 2017; Ardyansyah et al., 2024).

Confirmatory factor analysis, further validating the scale's structure, yielded high fit indices—Comparative Fit Index (CFI = 0.98), Root Mean Square Error of Approximation (RMSEA = 0.060), and Standardized Root Mean Square Residual (SRMR = 0.039)—supporting the robustness of the scale's structural integrity. These indices underscore the importance of rigorous statistical analysis in scale development, as emphasized by Prinsen et al. (2018). These authors highlight the necessity of comprehensive assessment of measurement invariance to ensure reliability across diverse populations. The combined use of exploratory and confirmatory factor analyses represents best practices in psychometric research, enhancing the reliability and validity of constructs.

Moreover, the scale's sensitivity in measuring the ability to distinguish between correct and incorrect values through a scoring system incorporating both target and distractor items is particularly noteworthy. Such an approach not only enhances measurement precision but also aligns with educational paradigms that emphasize critical thinking and decision-making skills in children. By integrating expert opinions and assessing content validity via the Content Validity Index (CVI), the scale is grounded in empirical validation processes, meeting rigorous scientific standards similar to those employed in other health and educational measurement tools (Tondeur et al., 2007).

In conclusion, the development of the Pictorial Values Scale for Children represents a commendable effort within the field of educational measurement. This scale adheres to established psychometric principles while advancing our understanding of children's value perceptions. The application of comprehensive analytical methods and incorporation of expert validation are vital components that enhance the scale's effectiveness and reliability. This advancement positions the scale as a potentially valuable tool for psychologists, educators, and researchers aiming to foster value awareness in young learners.

The findings derived from the development of the Pictorial Values Scale for Children provide valuable insights into children's value awareness, summarized within a robust methodological framework. Exploratory factor analysis (EFA) revealed a two-factor structure distinguishing between Social and Societal Values (SVCValue) and Personal Moral-Emotional Values (PVValue). This structure explains a substantial portion of the total variance, although the precise percentage of explained variance should be confirmed in further studies specific to this scale. Additionally, confirmatory factor analysis (CFA) further validated this factorial structure, yielding excellent model fit indices. However, to substantiate these numerical indicators, specific fit indices such as CFI, RMSEA, and SRMR should be documented from a reputable reference focused on this scale. Such rigorous validation protocols are essential to ensure that instruments used in psychological and educational assessments accurately reflect the constructs they are intended to measure.

A distinguishing feature of the Pictorial Values Scale lies in its well-defined factor structure and innovative scoring system. By combining target and distractor items, this scoring method increases the capacity of the measurement to reflect not only

the recognition of correct behaviors but also the ability to discriminate incorrect behaviors. This approach reflects modern advances in assessment design, emphasizing nuanced understanding rather than mere recognition, as seen in various learning assessments.

The development of pictorial measurement tools for children has gained increasing academic interest due to their potential to effectively capture children's subjective experiences and perceptions. These tools facilitate communication and engagement, especially among younger populations or those with limited verbal skills. The Pictorial Values Scale for Children is a noteworthy application in this field, providing opportunities to assess the diverse internal values and perceptions children hold, aligning with the fundamental objectives of educational and psychological assessments.

Numerous studies demonstrate that pictorial scales enhance children's ability to express complex emotions and preferences. For instance, research by Carlsson et al. highlights that child health nurses in Sweden find pictorial support useful for facilitating children's participation in health-related discussions and enabling them to express emotions more effectively (Carlsson et al., 2024). Moreover, the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children has been shown to be particularly effective in measuring children's perceptions of their cognitive and physical abilities, reinforcing the importance of pictorial tools in psychological assessments (LeGear et al., 2012). Such tools not only cater to the cognitive abilities of children at various developmental stages but also align with frameworks valuing children's rights and voices, consistent with principles outlined in the UN Convention on the Rights of the Child.

The empirical foundation for the effectiveness of pictorial scales has been demonstrated through various validity studies. For instance, a study by Tang et al. (2024) reaffirmed the validity of pictorial scales by showing significant correlations with established measurement tools in assessing constructs such as health-related quality of life. Additionally, Wang et al. (2014) investigated the characteristics of pictorial stimuli within neuropsychological contexts and emphasized that, when properly adapted, these tools can be universally applied across different cultures and languages. Similarly, Maćkiewicz and Ciecuch (2016) highlighted that pictorial representations transform abstract concepts into concrete forms that attract children's attention and assist in processing complex information, which is particularly important in educational and therapeutic settings.

The impact of visual tools extends beyond the evaluation of psychological constructs. For example, a study by Sharps et al. (2020) demonstrated that children exposed to visual cues increased their consumption of fruits and vegetables, indicating that visual stimuli can significantly influence behavioral outcomes. This integrative ability to combine visual representation with actionable insights underscores the necessity of pictorial scales in both educational and health promotion interventions.

Collectively, these studies illustrate the profound benefits of pictorial scales in capturing children's perceptions and facilitating their emotional and behavioral expressions. The synthesis of these perspectives confirms the ongoing importance

of developing and validating pictorial assessment tools to better understand children's values and perceptions during formative years.

Furthermore, the potential applications of the Pictorial Values Scale extend into value education practices for children. The findings suggest that the scale is not only suitable for research purposes but can also serve as a practical tool in educational settings aimed at enhancing young students' moral development and ethical reasoning skills. Previous research supports the view that validated assessment tools play a crucial role in shaping curricula that foster positive social behaviors and promote moral responsibility among students.

In summary, the development and validation of the Pictorial Values Scale provide significant contributions to the field of educational assessment. Model evaluation criteria and empirical evidence supporting its application within value-based learning contexts should be underpinned by high-quality references to ensure accuracy and relevance in practice.

CONCLUSION

This study developed the Pictorial Values Scale for Children (PVSC) aimed at measuring value awareness among children aged 3 to 7. The scale development process followed a systematic structure including content validity, exploratory factor analysis (EFA), and confirmatory factor analysis (CFA). The scale encompasses 15 values: Friendship, Love, Respect, Patriotism, Responsibility, Justice, Helpfulness, Self-Control, Patience, Honesty, Compassion, Diligence, Empathy, Family, and Benevolence.

Among these, 11 values loaded on the Social and Societal Values (STValue) factor, while 4 values formed the Personal Moral and Emotional Values (PMEValue) factor. According to the exploratory factor analysis, these two factors explain 52.66% of the total variance. The factor structure was confirmed by confirmatory factor analysis with excellent fit indices (CFI = .98, RMSEA = .060, SRMR = .039). Each value was assessed through three target items and two distractor items; the scoring system effectively measured not only the recognition of correct values but also children's ability to discriminate incorrect values, thus increasing the scale's sensitivity and discriminative power.

During the content validity process supported by expert opinions, item-content appropriateness rates were evaluated, and Content Validity Index (CVI) calculations confirmed that the scale items met scientific validity criteria. The 75-item scale was structured with both positive (target value representing) and distractor (representing other values) pictorial items, enabling distinctive measurement of children's value awareness.

The exploratory factor analysis revealed a two-factor structure: Social and Societal Values (STValue) and Personal Moral-Emotional Values (PMEValue). The factor structure explained 52.66% of the total variance, with factor loadings above the .30 threshold at a significant level. The CFA results further supported the validity of this two-factor structure, with model fit indices such as CFI (.98), RMSEA (.060), and SRMR (.039) indicating excellent fit.

These findings demonstrate that the PVSC is a reliable and valid instrument for measuring children's value awareness. Notably, the net scoring system based on three target and two distractor items provided discriminative power beyond classical measurement tools, capturing not only children's recognition of correct behaviors but also their ability to exclude incorrect ones. Based on the results, it can be concluded that the PVSC is a valid and reliable measurement tool suitable for use in value education practices targeting children.

RECOMMENDATIONS

As a result of this study, it has been determined that the developed Pictorial Values Scale (PVS) validly and reliably measures children's awareness levels of fundamental values. Accordingly, the following recommendations are proposed:

Firstly, the 15 values measured by the scale—friendship, love, respect, patriotism, responsibility, justice, helpfulness, self-control, patience, honesty, compassion, diligence, empathy, family, and benevolence—should be considered as key focal points in preschool and primary school values education. Based on these values, educational programs should be developed, and both in-class and extracurricular activities should be planned. Guidance and social activities aimed at enhancing students' awareness of these values should be systematically organized.

Teachers can utilize the scoring system provided by the PVS to identify students' strengths and areas needing development regarding specific values. Based on these insights, targeted individual or small-group value-based interventions can be implemented.

For curriculum developers, the values included in the PVS can be integrated with the learning outcomes specified in the Ministry of National Education (MoNE) curriculum to create a comprehensive values education strategy. Moreover, the scale can be employed to monitor and evaluate the effectiveness of implemented values education programs.

For future research, it is recommended to adapt the scale for different age groups (e.g., ages 6–7 or 12 and above) and to conduct validity and reliability analyses within these populations. Additionally, applying the PVS in diverse cultural and socioeconomic contexts would enable cross-cultural comparative studies.

Finally, the PVS should be adapted for digital platforms to allow online administration. This adaptation would facilitate data collection from larger and more diverse samples, contributing to large-scale research in values education. Furthermore, methodological studies investigating the impact of distractor items on measurement accuracy are also encouraged.

REFERENCES

- Ardyansyah, B., Cordier, R., Brewer, M., & Parsons, D. (2024). A psychometric evaluation of the Indonesian version of the Collaborative Practice Assessment Tool (CPAT) for assessing interprofessional education and collaborative practice among health practitioners and students. *Narra J*, 4(3), e1106. <https://doi.org/10.52225/narra.v4i3.1106>
- Bal, A., & Üdüm, D. (2021). Lise matematik öğretim programını değerlendirmeye yönelik bir ölçek geliştirme çalışması: CIPP modeli. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi*, 23(2), 498–514. <https://doi.org/10.17556/erziefd.837341>
- Bardi, A., & Schwartz, S. H. (2003). Values and behavior: Strength and structure of relations. *Personality and Social Psychology Bulletin*, 29, 1207–1220.
- Buzzi, M., Minary, L., Kestens, Y., Agrinier, N., Ricci, L., & Epstein, J. (2022). Creation and validation of the pictorial ecological momentary well-being instrument (EMOWI) for adolescents. *Quality of Life Research*, 31(6), 1849–1858. <https://doi.org/10.1007/s11136-021-03077-9>
- Büyükoztürk, Ş. (2020). *Sosyal bilimler için veri analizi el kitabı* (28. baskı). Ankara: Pegem Akademi.
- Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York: Routledge.
- Carlsson, E., Hüls, A., Myrén, D., Jansson, A., & Larsson, A. (2024). Child-health nurses' experiences from using pictorial support with families within child-health services in Sweden. *Acta Paediatrica*, 113(8), 1884–1890. <https://doi.org/10.1111/apa.17303>
- Carlsson, E., Hüls, A., Myrén, D., Jansson, A., & Larsson, A. (2024). Child-health nurses' experiences from using pictorial support with families within child-health services in sweden. *Acta Paediatrica*, 113(8), 1884–1890. <https://doi.org/10.1111/apa.17303>
- Ciecuch, J., Davidov, E., & Algesheimer, R. (2015). The stability and change of value structure and priorities in childhood: a longitudinal study. *Social Development*, 25(3), 503–527. <https://doi.org/10.1111/sode.12147>
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research & Evaluation*, 10(7), 1–9.
- Coyne, I., Hallström, I., & Söderbäck, M. (2016). Reframing the focus from a family-centred to a child-centred care approach for children's healthcare. *Journal of Child Health Care*, 20(4), 494–502. <https://doi.org/10.1177/1367493516642744>
- Çamlı, A., Vîrlănuța, F., Palamutçuoğlu, B., Bărbuță-Mișu, N., Güler, Ş., & Züngün, D. (2021). A study on developing a communicative rational action scale. *Sustainability*, 13(11), 6317. <https://doi.org/10.3390/su13116317>
- Daniel, E., Dys, S., Buchmann, M., & Malti, T. (2015). Developmental trajectories of social justice values in adolescence: relations with sympathy and friendship quality. *Social Development*, 25(3), 548–564. <https://doi.org/10.1111/sode.12146>

- Davis, L. L. (1992). Instrument review: Getting the most from a panel of experts. *Applied Nursing Research*, 5(4), 194–197. [https://doi.org/10.1016/S0897-1897\(05\)80008-4](https://doi.org/10.1016/S0897-1897(05)80008-4)
- DeVellis, R. F. (2017). *Scale development: Theory and applications* (4th ed.). Thousand Oaks, CA: Sage.
- Duman, G. S. (2014). Evaluation of turkish preschool curriculum objectives in terms of values education. *Procedia - Social and Behavioral Sciences*, 152, 978-983. <https://doi.org/10.1016/j.sbspro.2014.09.353>
- Flowers, A., Carroll, J., Green, G., & Larson, L. (2014). Using art to assess environmental education outcomes. *Environmental Education Research*, 21(6), 846-864. <https://doi.org/10.1080/13504622.2014.959473>
- Gömleksiz, M. N., & Cürebal, İ. (2008). İlköğretim 4. ve 5. sınıf öğrencilerinin bazı değerlere ilişkin algılarının değerlendirilmesi. *Değerler Eğitimi Dergisi*, 6(16), 25–46.
- Grusec, J. E., & Kuczynski, L. (1997). *Parenting and children's internalization of values*. New York, NY: Wiley
- Harahap, Y., Indriyani, N., Aini, S., & Suryani, I. (2023). Bidayatul hidayah book for elementary children in the 21st century: character value education. *Jurnal Basicedu*, 7(2), 1265-1271. <https://doi.org/10.31004/basicedu.v7i2.4908>
- Haryono, S. E., Muntomimah, S., & Eva, N. (2021). Planting values through character education for early childhood. *KnE Social Sciences*. <https://doi.org/10.18502/kss.v4i15.8194>
- Inan, H. Z. (2011). Okulöncesi Eğitim Programında Değerler Eğitiminin Kapsamı, Unite 5. A. Arian (Ed.). Okulöncesi dönemde değerler eğitimi (pp.95-122). Eskisehir Anadolu Üniversitesi Yayın., Eskisehir.
- Hofstede, G. (2001). *Culture's consequences* (2nd ed.). Thousand Oaks, CA: Sage.
- Johansson, E., Cobb-Moore, C., Brownlee, J., Walker, S., Boulton-Lewis, G., & Ailwood, J. (2014). Children's perspectives on values and rules in australian early education. *Australasian Journal of Early Childhood*, 39(2), 12-20. <https://doi.org/10.1177/183693911403900203>
- Karasar, N. (2017). *Bilimsel araştırma yöntemi* (31. baskı). Ankara: Nobel Yayıncılık.
- Kayran, D. & Bağcı, B. (2018). Needs Analysis on Values Education Programme for Preschool Students, *Journal of Education and Training Studies*, vol. 6, no. 10.
- Kayran, D. (2025). *Developing values education curriculum for preschool education and evaluating the effectiveness on students* [Unpublished doctoral dissertation]. Gaziantep University, Institute of Educational Sciences.
- Khodijah, D. N. K. N., Saptiani, S., Santi, N. E., & Utama, M. M. A. (2023). Investigation of religious and moral values in children in the digital era. *Jurnal Asy-Syukriyyah*, 24(2), 212-227. <https://doi.org/10.36769/asy.v24i2.425>
- Khuzaifah, C. N. and Syarafuddin, M. (2024). The role of parents in shaping children's character in interacting with the opposite gender (a case study in

- metro city). Al Mashaadir : Jurnal Ilmu Syariah, 4(2), 80-88.
<https://doi.org/10.52029/jis.v4i2.160>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). New York: Guilford Press.
- Lee, A. (2016). Implementing character education program through music and integrated activities in early childhood settings in taiwan. *International Journal of Music Education*, 34(3), 340-351.
<https://doi.org/10.1177/0255761414563195>
- LeGear, M., Greyling, L., Sloan, E., Bell, R., Williams, B., Naylor, P., ... & Temple, V. (2012). A window of opportunity? motor skills and perceptions of competence of children in kindergarten. *International Journal of Behavioral Nutrition and Physical Activity*, 9(1), 29.
<https://doi.org/10.1186/1479-5868-9-29>
- Maćkiewicz, M. and Ciecuch, J. (2016). Pictorial personality traits questionnaire for children (pptq-c)—a new measure of children's personality traits. *Frontiers in Psychology*, 7. <https://doi.org/10.3389/fpsyg.2016.00498>
- Morano, M., Bortoli, L., Ruiz, M., Vitali, F., & Robazza, C. (2019). Self-efficacy and enjoyment of physical activity in children: Factorial validity of two pictorial scales. *PeerJ*, 7, e7402. <https://doi.org/10.7717/peerj.7402>
- Norcia, A., Bombi, A., Pinto, G., & Cannoni, E. (2022). The student's drawing of teacher's pictorial value as a predictor of the student-teacher relationship and school adjustment. *Frontiers in Psychology*, 13.
<https://doi.org/10.3389/fpsyg.2022.1006568>
- Nucci, L. P. (2001). *Education in the moral domain*. Cambridge: Cambridge University Press.
- Prinsen, C., Mokkink, L., Bouter, L., Alonso, J., Patrick, D., de Vet, H., & Terwee, C. (2018). COSMIN guideline for systematic reviews of patient-reported outcome measures. *Quality of Life Research*, 27(5), 1147–1157.
<https://doi.org/10.1007/s11136-018-1798-3>
- Rahayu, E. and Mustikasari, D. (2020). The significant role of culture to value differences: socio-emotional challenge in digital era..
<https://doi.org/10.2991/assehr.k.200120.049>
- Rahman, P. R. U., Riza, W. L., & Ramadan, R. (2023). The contribution of parental attachment to adolescent moral intelligence. *Advances in Social Science, Education and Humanities Research*, 566-573.
https://doi.org/10.2991/978-2-38476-118-0_65
- Ramos, S., Paintsil, E., Ofori-Atta, A., Kusah, J., Amissah, K., Alhassan, A., ... & Reynolds, N. (2019). Prototype development, usability, and preference of a culturally-relevant pictorial aid to facilitate comprehension of Likert-type levels of agreement in caregivers of children living with HIV in Ghana. *CIN: Computers, Informatics, Nursing*, 38(1), 45–52.
<https://doi.org/10.1097/cin.0000000000000584>
- Rokeach, M. (1973). *The nature of human values*. New York, NY: Free Press.
- Saputri, R. and Marzuki, M. (2021). The role of parents and society in value education and civic education. *Jurnal Civics Media Kajian*

- Kewarganegaraan, 18(2), 268-275.
<https://doi.org/10.21831/jc.v18i2.38871>
- Saputri, R. and Marzuki, M. (2021). The role of parents and society in value education and civic education. *Jurnal Civics Media Kajian Kewarganegaraan*, 18(2), 268-275.
<https://doi.org/10.21831/jc.v18i2.38871>
- Sarmini, S., Suprijono, A., Susilowati, I. F., & Rizaq, A. D. B. E. (2023). The urgency of pancasila student profile policy for parents in strengthening character to cultivate national identity. *Advances in Social Science, Education and Humanities Research*, 1500-1510.
https://doi.org/10.2991/978-2-38476-152-4_153
- Schwab, S., Hellmich, F., & Görel, G. (2017). Self-efficacy of prospective Austrian and German primary school teachers regarding the implementation of inclusive education. *Journal of Research in Special Educational Needs*, 17(3), 205–217. <https://doi.org/10.1111/1471-3802.12379>
- Schwartz, S. H. (2006). A theory of cultural value orientations: Explications and applications. *Comparative Sociology*, 5, 137–182.
- Sharps, M., Thomas, E., & Blissett, J. (2020). Using pictorial nudges of fruit and vegetables on tableware to increase children's fruit and vegetable consumption. *Appetite*, 144, 104457.
<https://doi.org/10.1016/j.appet.2019.104457>
- Sokugawa, S. (2022). The ever-growing need of social emotional learning in school-aged children. *The European Journal of Social & Behavioural Sciences*, 20-34. <https://doi.org/10.15405/ejsbs.309>
- Tang, T., Wong, M., Li, J., & Chan, D. (2024). Development and initial validation of the health-related quality of life pictorial inventory for children (HEALTH-PIC). *Research Square*. <https://doi.org/10.21203/rs.3.rs-4609586/v1>
- Tang, T., Wong, M., Li, J., & Chan, D. (2024). Development and initial validation of the health-related quality of life pictorial inventory for children (health-pic).. <https://doi.org/10.21203/rs.3.rs-4609586/v1>
- Tang, T., Wong, M., Li, J., & Chan, D. (2024). Pictures versus words: can we use a pictorial scale to measure child health-related quality of life?. *Frontiers in Public Health*, 12. <https://doi.org/10.3389/fpubh.2024.1398944>
- Tavşancıl, E. (2014). *Tutumların ölçülmesi ve SPSS ile veri analizi* (5. baskı). Ankara: Nobel Yayıncılık.
- Thornberg, R. and Oğuz, E. (2013). Teachers' views on values education: a qualitative study in sweden and turkey. *International Journal of Educational Research*, 59, 49-56. <https://doi.org/10.1016/j.ijer.2013.03.005>
- Tondeur, J., Braak, J., & Valcke, M. (2007). Towards a typology of computer use in primary education. *Journal of Computer Assisted Learning*, 23(3), 197–206. <https://doi.org/10.1111/j.1365-2729.2006.00205.x>
- Türkoğlu, B. (2019). Opinions of pre-school teachers and pre-service teachers on values education in the pre-school period: the case of konya province.

- Pegem Eğitim Ve Öğretim Dergisi, 9(2), 381-412.
<https://doi.org/10.14527/pegegog.2019.012>
- Vecchione, M., Döring, A., Alessandri, G., Marsicano, G., & Bardi, A. (2015). Reciprocal relations across time between basic values and value-expressive behaviors: a longitudinal study among children. *Social Development*, 25(3), 528-547. <https://doi.org/10.1111/sode.12152>
- Wang, L., Chen, C., & Zhu, L. (2014). Picture norms for chinese preschool children: name agreement, familiarity, and visual complexity. *Plos One*, 9(3), e90450. Casado, F. and Rundle-Thiele, S. (2015). Breaking it down: unpacking children's lunchboxes. *Young Consumers Insight and Ideas for Responsible Marketers*, 16(4), 438-453. <https://doi.org/10.1108/yc-03-2015-00513>
- Watkins, L. and Aitken, R. (2024). The nature and development of children's consumer competence: evidence from the aisles. *Young Consumers Insight and Ideas for Responsible Marketers*, 26(1), 116-135.
<https://doi.org/10.1108/yc-05-2024-2080><https://doi.org/10.1371/journal.pone.0090450>
- Yelling, M., Lamb, K., & Swaine, I. (2002). Validity of a pictorial perceived exertion scale for effort estimation and effort production during stepping exercise in adolescent children. *European Physical Education Review*, 8(2), 157-175. <https://doi.org/10.1177/1356336x020082007>
- Yurdugül, H. (2005). Ölçek geliştirme çalışmalarında kapsam geçerliği için kapsam geçerlik indekslerinin kullanılması. In *XIV. Ulusal Eğitim Bilimleri Kongresi Bildirileri*. Denizli: Pamukkale Üniversitesi Eğitim Fakültesi.
- Zachrisen, B. (2016). The contribution of different patterns of teachers' interactions to young children's experiences of democratic values during play. *International Journal of Early Childhood*, 48(2), 179-192.
<https://doi.org/10.1007/s13158-016-0166-0>
- Zazkia, S. A. (2022). The role of family education in tackling juvenile delinquency. *AL-ISHLAH: Jurnal Pendidikan*, 14(3), 4405-4410.
<https://doi.org/10.35445/alishlah.v14i3.1594>