THE DIAGNOSTIC UTILITY OF THE DRAW-A-PERSON TEST IN ASSESSING CHILD DEVELOPMENT: A SYSTEMATIC REVIEW OF INTELLECTUAL AND EMOTIONAL INDICATORS ACROSS CHANGING ERAS

Nadzya Arifa Zahri[1]*, Raffi Yassar Aziz Wibowo[2]
[1]*Bhakti Kencana University, Indonesia*
[2]*Bhakti Kencana University, Indonesia*
*) email: 241fs02034@bku.ac.id

Abstract

This study evaluates the contemporary relevance and diagnostic utility of the Draw-A-Person (DAP) test amidst the shifting developmental landscape of the digital era. As children's fine motor skills and psychological pressures are increasingly mediated by technology, this research aims to determine the effectiveness of traditional DAP scoring for intellectual maturity, its sensitivity to modern psychopathological phenomena, and its role in integrated clinical profiling. Utilizing a systematic literature review of 17 key studies published between 2015 and 2025, the analysis reveals a significant "graphic-motoric lag" where high digital exposure correlates with diminished anatomical detail, potentially distorting traditional IQ measurements. Conversely, the DAP test remains highly sensitive to modern emotional distress, effectively detecting indicators of cyber-bullying, body image distortion in obese children, and risks of self-harm through specific figurative markers. The findings conclude that while the DAP's role as a standalone intelligence measure is evolving, its value as a projective screening tool is enhanced when integrated with multi-method diagnostic frameworks. This study recommends a contextualized interpretation of DAP results that accounts for a child's digital lifestyle to ensure a holistic understanding of their cognitive and emotional reality.

Keywords: Draw-A-Person (DAP) test, Child Assessment, Digital Era, Intellectual Maturity, Emotional Indicators, Projective Techniques.

1. INTRODUCTION

Projective psychological assessment, specifically the Draw-A-Person (DAP) test, has long served as a fundamental instrument for evaluating children's psychological profiles due to its unique ability to facilitate self-expression without the constraints of linguistic barriers (Machover, 1949). Since its inception, the DAP has been recognized not only as a measure of non-verbal intelligence but also as a projective medium for a subject's emotional dynamics and self-image (Goodenough, 1926; Harris, 1963). However, the effectiveness of this instrument now faces significant challenges as children's lifestyles in the digital age shift toward intensive exposure to touch-screen technology (Picard, 2015). Massive digital stimulation is reported to influence fine motor development and graphic fluency, which directly risks distorting traditional scores of intellectual maturity (Altun & Karaca, 2023; Rodrigues et al., 2022). Consequently, there is an urgent need to re-evaluate the extent to which classic

scoring criteria remain relevant for measuring the cognitive capacity of today's "Alpha Generation" children.

Furthermore, the increasing complexity of mental health issues among modern children and adolescents, such as cyber-bullying and body image disturbances influenced by social media, demands more sensitive diagnostic instruments (Scimeca et al., 2016). Projective tests possess a unique advantage in detecting emotional indicators that are often hidden or difficult to articulate through clinical interviews or self-report questionnaires (Lev-Wiesel et al., 2024). The application of the DAP has proven capable of capturing signs of psychological distress, such as anxiety and low self-esteem, through the analysis of specific figurative details (Koppitz, 1968; Mancini, 2019). This positions figure drawing as a crucial component in modern psychopathology screening processes that require a more intuitive approach (Garcia-Perez et al., 2023).

In addition to the challenges of validity and sensitivity, the integration of the DAP with various other diagnostic instruments has become a primary focus in contemporary clinical practice to achieve a holistic clinical profile (Anjum et al., 2023). A multi-method approach that combines projective techniques with objective tests is considered capable of minimizing bias and providing a more comprehensive understanding of a child's internal world (Shukla & Padhi, 2020). Through the utilization of assistive technology and the hybridization of assessment techniques, practitioners are expected to identify developmental needs more accurately for both typical populations and children with special needs (Lampe et al., 2016; Mathijssen et al., 2018). Based on this background, the present study aims to review the effectiveness, sensitivity, and integration strategies of the DAP test in addressing the future challenges of child psychological assessment.

2. METHODOLOGY

The literature selection process in this systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 standard guidelines. In the initial identification stage, the authors collected relevant candidate articles through various scientific journal databases. The inclusion criteria for this review were defined as: (1) articles published from January 1, 2015, through December 31, 2025; (2) publications written in English; and (3) a thematic focus on the Draw-a-Person (DAP) test, as well as children's emotional and intellectual development.

The initial phase of this investigation involved a strategic keyword selection process using a top-down (macro) methodology, which narrowed the search from broad trajectories to specific studies. Recognizing the limitations in existing literature and the scarcity of comprehensive research on the Draw-a-Person test, this study designates "draw-a-person test" as the primary focal point within the titles, abstracts, and keyword sections of the analyzed records.
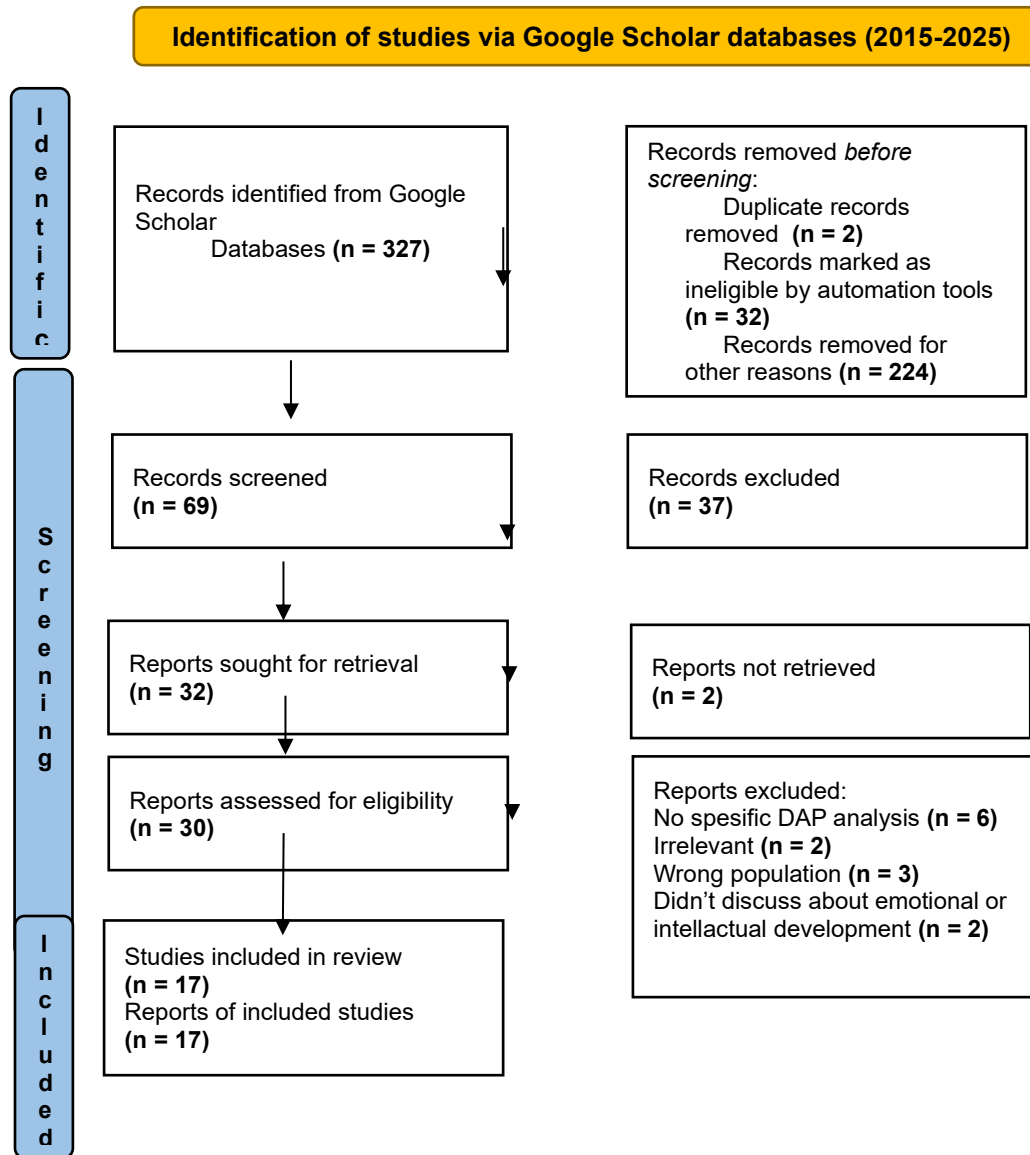
Identification of studies via Google Scholar databases (2015-2025)

Identific

Records identified from Google Scholar
Databases **(n = 327)**

Records removed *before screening*:
　　Duplicate records removed **(n = 2)**
　　Records marked as ineligible by automation tools **(n = 32)**
　　Records removed for other reasons **(n = 224)**

Screening

Records screened
(n = 69)

Records excluded
(n = 37)

Reports sought for retrieval
(n = 32)

Reports not retrieved
(n = 2)

Reports assessed for eligibility
(n = 30)

Reports excluded:
No spesific DAP analysis **(n = 6)**
Irrelevant **(n = 2)**
Wrong population **(n = 3)**
Didn't discuss about emotional or intellactual development **(n = 2)**

Included

Studies included in review
(n = 17)
Reports of included studies
(n = 17)

Figure 1. Systematic Literature Revies information flow using PRISMA

The literature selection process for this study was conducted systematically following the PRISMA flow diagram. The initial identification phase involved a comprehensive search on the Google Scholar database for articles published between 2015 and 2025, yielding 327 potential records. Following the removal of 2 duplicates, 32 inaccessible records, and 224 records excluded for other reasons (primarily lack of Draw-A-Person [DAP] analysis, non-scholarly nature, or non-pediatric subjects), 69 articles remained for screening. During the eligibility assessment of full-text versions, 15 articles were excluded for failing to meet specific inclusion criteria, such as unavailability in English, non-peer-reviewed status, methodological inconsistencies, irrelevance to the topic, or lack of focus on emotional and intellectual development in

children. Ultimately, 17 articles met all criteria and were included in this systematic review for data extraction. The synthesized data aims to address three core Research Questions: RQ1: To what extent is the traditional DAP scoring system effective in measuring children's intellectual maturity amidst today's massive digital technology exposure?; RQ2: Which emotional indicators in the DAP test are most sensitive for detecting modern psychopathological phenomena?; and RQ3: How can the integration of the DAP test with other diagnostic instruments provide a more holistic clinical profile for practitioners in child assessment?

3. FINDINGS AND DISCUSSION

This study provides a profound examination of the evolution and relevance of the Draw-A-Person (DAP) instrument within contemporary psychological practice. Through an analysis of 17 selected articles, it was found that the DAP test remains a valuable tool; however, its application must now account for new variables emerging in the digital era and the necessity for more integrated diagnostic approaches.

RQ1: The Effectiveness of Traditional DAP Scoring for Intellectual Maturity Amidst Massive Digital Technology Exposure

The analysis of the literature reveals new challenges in utilizing traditional DAP scoring to measure intellectual maturity amidst today's massive digital technology exposure. A primary finding indicates a "motoric-cognitive interference" phenomenon affecting test outcomes. According to Picard (2015), graphic fluency is a key predictor of DAP scores, where children with mature fine motor control tend to achieve higher cognitive scores. However, in the current era, Altun & Karaca (2023) found that digital technology addiction and high screen time correlate negatively with intellectual maturity as measured through the DAP. This suggests that the decline in detail in modern children's drawings is often not caused by a deficit in pure intellectual capacity, but rather a lack of fine motor practice displaced by touch-screen interactions, as supported by Rodrigues et al. (2022).

Furthermore, the effectiveness of the DAP as an IQ measure becomes more complex when applied to clinical populations. A study by Lampe et al. (2016) on children with Cerebral Palsy reinforces the argument that low DAP scores in children with physical limitations are often misinterpreted as low IQ, when they are actually a reflection of visual-perceptual and sensorimotor integration deficits. A systematic review by Zuanazzi et al. (2020) also highlights variability across cognitive scoring systems, suggesting that a child's developmental environment significantly influences the consistency of results. Consequently, while traditional scoring still holds validity, practitioners must "contextualize" findings by considering the child's digital exposure, making the DAP more appropriate as a screening tool for developmental delays rather than an absolute standalone measure of intelligence.

RQ2: Sensitive Emotional Indicators for Detecting Modern Psychopathological Phenomena

In terms of detecting emotional issues and modern psychopathology, the DAP test demonstrates remarkably high resilience and sensitivity compared to its intellectual aspects. Findings consistently show that emotional indicators in human figure drawings serve as a powerful barometer for projecting psychological distress that is difficult to express verbally. Scimeca et al. (2016), in their study on childhood obesity, demonstrated that the DAP is highly effective in capturing low self-worth and somatic dissatisfaction through figure size distortion and the omission of specific body parts. This aligns with recent findings from Lev-Wiesel et al. (2024), which validated the self-figure drawing technique as a highly sensitive screening tool for identifying risks of sexual abuse, eating disorders, and suicidality in children and adolescents.

Moreover, the sensitivity of the DAP extends to modern social trauma phenomena such as bullying. Research by Garcia-Perez et al. (2023) and reports in MDPI Children (2022) identified that victims of cyber-bullying often project feelings of helplessness through specific indicators, such as very faint line pressure or the omission of sensory organs. Conversely, Mancini (2019) and Mancini et al. (2020) provide a perspective on resilience, showing that children with high trait emotional intelligence (EI) tend to produce fewer negative emotional indicators in their drawings. This proves that Koppitz's emotional indicators and other systems remain relevant diagnostic instruments for detecting contemporary psychopathological phenomena that are often hidden behind digital interactions.

RQ3: Integrating the DAP with Other Instruments for a Holistic Clinical Profile

The integration of the DAP test with other diagnostic instruments was found to be the key to creating a comprehensive clinical profile for practitioners. Findings from various studies emphasize that the strength of the DAP lies in its ability to provide qualitative-subjective data that complements quantitative-objective data. For instance, Anjum et al. (2023) validated the DAP test alongside the Modified Hand Test to assess aggression, where the integration of these two instruments provided a more complete picture of the relationship between underlying emotional states and actual overt behavioral tendencies. Callegaro Borsa (2019) also noted that in evaluating aggressiveness, the DAP provides a depth of interpretation that cannot be achieved through self-report behavior scales alone.

This integrative approach is also crucial in diagnosing complex developmental disorders. Zvereva et al. (2023) showed that using projective techniques such as the Self-Portrait helps clinicians differentiate between organic mental disorders and other developmental hurdles. Additionally, Mathijssen et al. (2018) suggested using the DAP to identify highly gifted children through the analysis of creative details that often go undetected by standardized IQ tests. Support from studies by Maurer (2017) and Shukla & Padhi (2020) confirms that when drawings are integrated with play therapy or verbal narratives, practitioners can design far more targeted interventions. Thus, a multi-method integration ensures that assessments are not confined to a single aspect but cover the cognitive, emotional, and social dimensions of the child holistically

amidst a changing era.

4.   CONCLUSION

This systematic review of 17 key studies provides a critical re-evaluation of the Draw-A-Person (DAP) test's diagnostic utility within the complexities of the 21st century. The synthesized research underscores a significant "graphic-motoric lag" induced by massive digital technology exposure, which complicates the assessment of intellectual maturity. While the DAP remains a valuable indicator of conceptual development, its effectiveness as a strict measure of IQ is increasingly compromised by a decline in fine motor dexterity. Traditional scoring systems must therefore be interpreted with caution, as a lack of detail in modern drawings may reflect environmental motoric shifts rather than a deficit in innate cognitive capacity.

The DAP test remains an unparalleled instrument for detecting modern psychopathological phenomena. Its sensitivity to "invisible" distress—including cyber-victimization, somatic dissatisfaction related to obesity, and internalizing markers of trauma—confirms its resilience as a projective tool. Specific indicators, such as figure size distortion and the omission of sensory organs, serve as vital non-verbal signals for practitioners to identify risks of self-harm, eating disorders, and social withdrawal that often remain hidden in standardized verbal interviews.

The future of the DAP test lies in its integration into a multi-method diagnostic framework. The most robust clinical profiles are achieved when projective drawings are synthesized with objective psychometric instruments and trait-based assessments, such as emotional intelligence scales. This holistic approach allows for the cross-validation of subconscious emotional states with overt behavioral tendencies, providing a more equitable and comprehensive diagnostic profile for children and adolescents.

Practitioners are encouraged to adopt a contextualized interpretation of the DAP test by incorporating a brief assessment of a child's digital lifestyle to differentiate between developmental delays and environmental shifts in manual dexterity. The DAP should be utilized as a primary screening bridge for children with communication barriers or those suspected of experiencing modern social traumas. By hybridizing traditional projective techniques with contemporary diagnostic frameworks, clinicians can more accurately capture the full spectrum of a child's psychological and intellectual reality in a rapidly changing era.

The authors also wishes to thank the leadership of Bhakti Kencana University for their support, specifically Mr. Yoko Jimmy Panjaitan, as the Head of the Psychology Study Program; Ms. Myrna Anissaniwaty, as the Dean of the Faculty of Social Sciences; and Dr. apt. Entris Sutrisno, MH.Kes, as the Rector, for providing the essential facilities and fostering a conducive academic environment for scientific development.

It is hoped that this work will contribute valuable insights to the field of Psychology. While every effort has been made to ensure the quality of this study, the author acknowledges that it is not without limitations and remains open to constructive suggestions and critiques from readers.

REFERENCES

Altun, H., & Karaca, N. H. (2023). The relationship between digital game addiction and the intellectual maturity of children: A study on human figure drawings. *KutBilim: Journal of Social Sciences and Arts, 3(1), 1–18.* https://doi.org/10.58642/kutbilim.1118088

Anjum, G., Kanwal, S., & Naz, M. (2023). Validation of the Modified Hand Test with the Human Figure Drawing Test on personality traits of aggression. *Journal of Pakistan Medical Association.*

Callegaro Borsa, J. (2019). The Draw-a-Person test in the evaluation of child aggression: A pilot study. *Psicologia Clínica, 31(2), 367–385.* https://doi.org/10.33208/PC1980-5438v0031n02A08

Garcia-Perez, M., et al. (2023). Children's drawings as a projective tool to explore and prevent experiences of mistreatment and/or sexual abuse. *Frontiers in Psychology, 14, Article 1002864.* https://doi.org/10.3389/fpsyg.2023.1002864

Goodenough, F. L. (1926). Measurement of intelligence by drawings. *World Book Company.*

Harris, D. B. (1963). Children's drawings as measures of intellectual maturity: A revision and extension of the Goodenough Draw-a-Person Test. *Harcourt, Brace & World.*

Lampe, R., et al. (2016). Children's drawings as a diagnostic tool in Cerebral Palsy. *Journal of Clinical Medicine, 5(11), 102.* https://doi.org/10.3390/jcm5110102

Lev-Wiesel, R., et al. (2024). Use of self-figure drawing as a screening tool to identify child sexual abuse, eating disorders, and suicidality. *Child Abuse & Neglect, 147, Article 106550.*

Machover, K.A. Personality projection in the drawing of the human figure. Springfield, IL: Charles C. Thomas.1949

Mancini, G. (2019). Trait Emotional Intelligence and Draw-A-Person emotional indicators: A first study on 8-year-old Italian children. *Child Indicators Research, 12, 1629–1641.* https://doi.org/10.1007/s12187-018-9601-0

Mancini, G., et al. (2020). Emotional intelligence and projective drawings: Validation of the Koppitz indicators. *Journal of Psychoeducational Assessment.*

Mathijssen, A. C. S., Feltzer, M. J. A., & Hoogeveen, L. (2018). Identifying highly gifted children by analyzing human figure drawings: A literature review and a theoretical framework. *Psychological Test and Assessment Modeling, 60(4), 493–515.*

Maurer, M. H. (2017). Draw, write, speak, play: The role of projection in diagnosis and therapy of children and adolescents. *In Psychotherapy - Models, Methods and Applications. IntechOpen*. https://doi.org/10.5772/67578

Picard, D. (2015). Sex differences in scores on the Draw-a-Person test across childhood: Do they relate to graphic fluency? Perceptual and Motor Skills, 120(1), 273–287. https://doi.org/10.2466/22.PMS.120v10l3

Rodrigues, J., et al. (2022). The impact of touch-screen devices on fine motor skills and graphic fluency in preschool children. *Children, 9(6), 868.* https://doi.org/10.3390/children9060868

Scimeca, G., et al. (2016). Self-worth and psychological adjustment of obese children: An analysis through the Draw-A-Person. *World Journal of Psychiatry, 6(3), 329–338*. https://doi.org/10.5498/wjp.v6.i3.329

Shukla, P., & Padhi, D. (2020). Projective tests in psychiatric disorders. *International Advance Journal of Engineering, Science and Management, 12(1).*

Zuanazzi, A. C., et al. (2020). Human figure drawing: Systems most used in cognitive assessment of children. *Psico (Porto Alegre), 51(1), e31313.* https://doi.org/10.15448/1980-8623.2020.1.31313

Zvereva, N., et al. (2023). "Self-portrait" graphic test in psychological diagnosis of children and adolescents with developmental disorders. *KutBilim: Journal of Social Sciences and Arts, 3(1).*

Zvereva, M. V., et al. (2023). Cognitive and emotional maturity in clinical populations: A review of graphic projective techniques. *Frontiers in Psychiatry.*