



Drawing a Home:

Insights on Child Attachment from the Bird's Nest Drawing Test

Aldani Putri Wijayanti
Dwi Hardani Oktawirawan
Fika Nadia Tirta Maharani
Yohanis Frans La Kahija
Kartika Sari Dewi
Annastasia Ediaty*

Faculty of Psychology, Universitas Diponegoro, Indonesia

*Corresponding author: Annastasia Ediaty, S.Psi., M.Sc., Ph.D.

Faculty of Psychology, Universitas Diponegoro, Indonesia. Email: ediati@lecturer.undip.ac.id

Highlights

- Bird Nest Drawing (BND) is a popular tool to assess parent-child emotional bonding..
- BND was mostly used to assess the parent-child emotion bonding in US and Euro
- Texture, colors, and narration following the drawings are strongly associated with attachment security

Abstract

Background: Attachment is a fundamental aspect of human development. Insecure attachment is associated with various negative outcomes, including mental health problems, relationship difficulties, and academic problems. Bird's Nest Drawing (BND) is widely known as a projective test to assess attachment. **Study aims:** This review aimed to (1) critically assess BND and its interpretation toward various attachment styles and (2) examine BND's strengths and operational challenges and (3) provide insight into the cultural and contextual factors that may affect the interpretation of the test results. **Method:** This study is a literature review with a narrative synthesis approach. Eligibility criteria were accessed through the SPIDER framework. We focused on studies investigating the relationship between BND and attachment theory, with no age restrictions for participants. The authors followed Joanna Briggs Institute (JBI) Critical Appraisal checklist to evaluate chosen literature's quality. A narrative synthesis was performed to extract information that can be compared or integrated. **Result:** Ten studies met the eligibility criteria. The results suggest that texture, colors, and narration following the drawings are strongly associated with attachment security, while other variables show weaker associations with attachment. **Conclusion:** The BND test is beneficial to explore individuals' perception and attachment relationships, particularly with their primary caregiver. However, further studies are needed to assess interrater reliability for some themes and cultural context in BND interpretation.

Keywords: Attachment; Bird's Nest Drawing; Literature Review; Narrative Synthesis

INTRODUCTION

The attachment theory has been of longstanding relevance in academia. The “Bowlby theory” examines the strong emotional bond between people, especially between newborns and their primary caregivers (Ainsworth et al., 2014; Bowlby, 1982). Understanding human development theory (Cassidy et al., 2013; Crouch, 2015), interpersonal relations (Choi et al., 2022), and the influence of early experiences on later well-being (Backos & Samuelson, 2017; Kroger, 2017) have all benefited from the insights offered by attachment. The attachment paradigm provides a comprehensive theoretical framework for identifying human behavior from an evolutionary perspective, considering cognitive, emotional, and behavioral factors are all equally important (Cassidy et al., 2013).

Bowlby (1979) asserted that it is beneficial to assess attachment disorders in therapeutic and mental health situations by integrating projective techniques into clinical examinations. Projective tests and family drawings have been employed to evaluate family dynamics and an individual's perception of family attachment, facilitating the assessment of secure and insecure attachment (Kwiatkowska, 1978; Pace et al., 2022). These assessments have been conducted in various countries (Amod et al., 2013; Pace et al., 2022), signifying the widespread use of family drawings. In particular, the bird's nest test was initially invented to assess attachment between mother and children.

Understanding attachment

Attachment is an emotional relationship that begins when a child is born, and continues into adulthood, in which a child intends to maintain physical closeness with another individual who is identified as reliable (Bowlby & WHO, 1952; Bowlby, 1973). While Ainsworth et al. (2014) initially proposed three basic attachment patterns in the form of secure, anxious or ambivalent, and avoidant, the term 'attachment' has been used in various studies to encompass a wide range of definitions. These definitions include emotional connection (Crouch, 2015), object relations (Cassidy et al., 2013), Internal Working Model (IWM) (Kaiser & Deaver, 2011; McCarthy & Maughan, 2010), parental involvement (Garrett, 2022), parental closeness (Choi et al., 2022), and separation anxiety (Cassidy et al., 2013). Consequently, some studies have examined attachment using alternative conceptual frameworks rather than the more commonly used secure, anxious, and avoidant classifications (Cassidy et al., 2013; Crouch, 2015).

Bowlby (1978) initially argued that engaging with attachment figures who are accessible and responsive during moments of need will improve the attachment system, cultivates a relatively consistent sense of secure attachment, and strengthens the belief in the efficacy of seeking support as a strategy for regulating distress. In circumstances where an individual's attachment figures are regularly unavailable or unsupportive, attempts to seek proximity and comfort fail to ease distress, leading to a lack of attachment security despite the individual's best efforts (Cassidy, 2013). It is when secondary attachment methods, or alternative strategies of affect regulation, emerge. These strategies can be defined as insecure avoidance attachment (Ainsworth et al., 2014).

Healthy and stable attachments play an important role in relationships and emotional bonds (Choi et al., 2022; McCarthy & Maughan, 2010). It can also help individuals better face adult life challenges, while unhealthy attachments can influence their experiences and behaviors in adulthood (Francis et al., 2003; Goldner & Golan, 2016). Furthermore, attachment can also influence decision-making and behavior in emerging adulthood. Individuals with secure attachments tend to be more confident in making decisions and have a higher sense of self-

confidence in facing the challenges of life (Francis et al., 2003; Garrett, 2022; Goldner & Golan, 2016).

Conversely, Backos and Samuelson (2017) found that individuals who experience insecure or unstable attachments may experience difficulties in making decisions or may experience anxiety and insecurity in facing difficult situations. Additionally, individuals who experience insecure or unstable attachment with their caregiver may be at greater risk for problems forming stable and healthy relationships throughout adulthood (Backos & Samuelson, 2017; Kroger, 2017). Evaluating individual attachment types is important to help therapists and counsellors find the most appropriate intervention (Crouch, 2015).

Projective test and the Bird's Nest Drawing

In the preface chapter, Verdon and Azoulay (2020) examine the extent to which mental conflict is an inherent aspect of human psychological experience, influencing all mental processes throughout life and potentially causing disorders. Projective tests serve as a means of uncovering internal conflicts and assessing the extent to which they are organized (Groth-Marnat, 2019; Verdon & Azoulay, 2020). Therefore, the tests reveal individuals' underlying forces to manage and resolve these conflicts.

Projective tests are considered capable of assessing verbal and non-verbal expressions of personal feelings and attitudes, understanding the complexity of symbolic messages communicated through images, and also as therapeutic and diagnostic procedures (Groth-Marnat, 2019). The nature of the stimulus is intentionally ambiguous, allowing individuals to subjectively perceive and interpret the test material, thereby revealing fundamental aspects of their psychological processes (Urbina, 2014). During this process, individuals project their cognitive patterns, desires, anxieties, and conflicts onto the test material (Verdon & Azoulay, 2020).

Kaplan and Main, in 1986, were the first to classify Ainsworth's Strange Situation and attachment security categories toward a family drawing or projective test (Goldner, 2014; Kallitsoglou et al., 2021; Pace et al., 2022). Securely attached children draw with reality, wholeness, grounding, centeredness, and individuation. Accurate figures and objects show realism. Avoidant children draw a happy, invulnerable family (Kallitsoglou et al., 2021). These drawings may lack arms or depict them in a way that prevents holding, the figures look similar and lack individuality and movement and dynamics (Goldner, 2014).

Bird's Nest Drawing (BND) is considered a therapy task that utilizes a rating system to predict attachment security in participants (Kaiser, 1996; Harmon-Walker & Kaiser, 2015). BND visually and emotionally represents the experience of attachment as well as the metaphorical concepts of sensations of security and protection (Kaiser, 1996; Kaiser & Deaver, 2011; Sheller, 2007). The BND Projection test was first invented to evaluate a child's attachment to their parents (Kaiser, 1996). The existing body of research on attachment suggests that this emotional bond may have a long-term impact on children. Several researchers have created various techniques to measure adult attachment, including interviews and self-report questionnaires, owing to the conceptual diversity within attachment theory (Ravitz et al., 2010). Attachment differs across cultures and is manifested through the drawings. Participants will be asked to draw a picture of a bird's nest, in which they will perceive the test as non-threatening and therefore expected to project their attachment type (Kaiser & Deaver, 2011; Harmon-Walker & Kaiser, 2015).

Attachment themes may be difficult to explore in day-to-day practice only through the interview assessment methods alone, in which projective tests serve their role in observing

attachment. Therefore, researchers need to look at the variations and themes that emerge from the BND drawings as well as the details that represent the attachment style.

Aims of this review

Considering the aforementioned knowledge in the projective test field, this study aims to identify BND and its interpretation toward various attachment styles between parent-child and examine BND by synthesizing interpretation details of each drawing component. Specifically, the current review seeks to address the limitations of the previous studies by incorporating contextual and cultural aspects that may affect test results interpretation. BND needs renewal on literature and is rarely tested in collectivist culture settings. Therefore, this review was intended to set clear goals for reviewing and rating aspects during the BND test. Despite the lack of study retrieved due to the limitation of the paper published regarding the BND test, this study presents what Yoon et al. (2020) recommend, in which we analyzed different patterns and the possibility of cultural differences in how each paper interprets their participants' drawings.

METHOD

Study design

This study was a systematic review with a narrative synthesis approach. A literature review is a comprehensive synthesis of the available literature on a topic with no systematic search and Boolean keywords performed (Robinson & Lowe, 2015). On the other hand, a systematic review follows a predetermined methodology, strives to reduce bias, and provides an objective analysis of peer-reviewed studies, while a literature review is more flexible and subjective in how the material is obtained and evaluated (Jahan et al., 2016; Robinson & Lowe, 2015). Additionally, Robinson and Lowe (2015) stated that while systematic reviews focus on specific studies, literature reviews can draw from a variety of sources, including grey literature. Data synthesis is often narrative in literature reviews, but systematic reviews may use statistical methods like a meta-analysis.

Popay et al. (2006) pioneered the development of guidelines for narrative synthesis, marking the beginning of this increasingly used approach to conducting literature reviews. The authors follow Popay et al.'s study and start by developing a preliminary synthesis right after the theoretical models from the introduction section have been built and explore the relationship between included studies. Lastly, we assess the robustness of the synthesis.

Search strategy

The first author searched electronic databases during January-March 2023. We specifically focus on studies' terms indicative of BND combined with times indicative of parent-child attachment using the SPIDER framework. In the field of qualitative and review research, SPIDER provides a technique for conducting searches that is more effective than conventional methods (Methley et al., 2014). Examples of the search terms utilized are included in Table 1. The initial pilot search yielded a low number of results, with many irrelevant articles being retrieved. Consequently, in consultation with an anonymous reviewer, we enhanced our search strategy by incorporating the 'adjacency' operator (abbreviated as 'ADJn', where 'n' represents the number of words from each other in any order) into our search terms. Due to the nature of the study as a literature review, we did not perform a systematic Boolean search and took grey literature into account.

Table 1.

SPIDER framework used in the search strategy

Search component	Description
(S) Sample	Parent-child
(PI) Phenomenon of Interest	Studies related to Bird's Nest Test that precisely assess attachment and rating
(D) Design	Any qualitative or mixed methods with a specific description of each part
(E) Evaluation	Studies related to attachment styles from BND interpretation
(R) Research type	Qualitative or mixed-methods

Eligibility criteria

Studies were only included if published in English or full text. Studies utilized the Bird's Nest Test to detect attachment types are included, regardless of study design. The authors did not employ any limitations on the participant age range. A detailed screening checklist based on the criteria summarized above was developed and utilized by two reviewers (APW and DHO). Both researchers independently reviewed all search results. First, titles and abstracts of potentially eligible papers were examined, and then the full texts of those articles were examined. Studies that did not match the requirements were indicated, accompanied by the reasons for exclusion. As reviewers, both researchers discussed disagreements to reach a consensus. It was also searched for pertinent studies among the retrieved articles and review papers, and the rest of the authors were requested to suggest eligible papers through a hand search.

Papers were included if they described the forms of attachment assessed through BND. Studies that considered cultural factors on BND drawing, efforts to interpret and rate the BND test, and participants' perspectives on BND drawing were all considered for inclusion. Articles focusing on projective tests other than the BND (e.g., family drawing, Adult Attachment Projective Picture System) were excluded.

Quality appraisal of included studies

The discourse surrounding quality appraisal incorporated in reviews is contested among scholars (Dixon-Woods et al., 2005). Authors felt the need to assess the previous study's robustness because most selected articles were qualitative or review studies. Santos et al. (2018) first analyzed the use of the Joanna Briggs Institute (JBI) Critical Appraisal Checklist to ensure unbiased synthesis and summarize what is already known in a certain field rather than to generate new knowledge. Authors performed JBI and later presented the table of analysis before the discussion section.

Synthesis method

Qualitative research can be synthesized with different methods, such as narrative synthesis, meta-ethnography, or grounded theory (Pope et al., 2007). Popay et al. (2006) created a new guideline framework for narrative synthesis to address problems concerning a lack of structure. This framework enables us to explore data linkages and evaluate synthesis robustness for this review. However, a critical evaluation of this guidance is presented in the discussion.

Following the advice, the synthesis process has four iterative stages after methodically locating relevant literature. This review used tabulation and theme analysis. FNTM extracted data from all studies for tabulation and thematic analysis. To affect the conclusions, we produced tables with demographic information of participating subjects and major research qualities (e.g.,

study duration, types of procedures). "One sheet of paper" theme analysis followed as the thematic analysis. After rigorous analysis of each paper's findings, codes were sorted into themes. AE and YFLK separately extracted data from half the studies to verify the above patterns. After thematic analysis, we examined the distinctions and similarities of the attachment patterns and each component of the BND test.

RESULT

Summary of included studies

Ten studies were included. All studies proportionally used BND as part of the assessment. Studies that are literature review in nature, such as Kaiser and Deaver (2011) and Yoon et al.,

Table 2.

Summary of included studies

No	Author(s) (Year)	Design of the study	Participants	Findings
1	Bouteyre et al. (2022)	Qualitative; semi-structured interview	n=7 adopted women who opted to be childfree	Types of insecure attachment, especially avoidant
2	Francis et al. (2003)	Experiment	n=43 substance abuse patients; and comparison n=27 with no history of substance abuse	Substance abuse patients tended to have an insecure attachment, projected by less color choice. The comparison group predominantly uses green and is interpreted as highly secure individuals who are more likely to be married.
3	Goldner & Golan (2016)	Mixed-method	n= 80 young Israeli first-time mothers SES middle to high. Age range 22-44 yo. 79% married; 19% single mother; 2% divorced.	The degree of bizarreness in the mothers' drawings was positively correlated with how demanding the child was. Compared to mothers whose drawings were rated as secure, mothers whose drawings were rated as avoidant were less likely to set limits and were more likely to perceive higher levels of demandingness.
4	Goldner (2014)	Mixed-method	n=81 elementary school middle SES neighborhood, age range 8-12.	The scores on the BND scales varied depending on the children's attachment orientations, as determined from their family drawings. In addition, correlations were found between attachment orientations obtained from BND drawings and those based on family drawings.
5	Goldner et al. (2017)	Mixed-method	n=38 male and 38 female, middle-high SES background/	There was a small but significant relationship between women's attachment anxiety and lower levels of vitality in the context of couple relationships. In addition, there were small but significant relationships between men's attachment avoidance and higher levels of pathology and

				lower levels of optimism in the BND narratives.
6	Harmon-Walker & Kaiser (2015)	Mixed-method	n=136 adult undergraduates	Strong attachment to the mother was significantly correlated with the presence of a family of birds in the drawings, whereas the depiction of bottomless nests was associated with a poor experience with personal relationships. In addition, a correlation was found between participants' self-reported attachment to their mother and their overall impression of attachment based on the BND drawings.
7	Kaiser & Deaver (2011)	Review	n=8, papers related to Bird's Nest Drawing	The BND has a number of distinguishing advantages, two of which are theoretically grounded art therapy directive and that its interpretation investigates a drawing's overall impression, its symbolic content, and the formal features of an image.
8	Redtschitz (2012)*	Observational study; Mixed methods	n=3 foster children aged 7-11 years old	All participants having insecure attachments. The results of this study showed that the children's experiences of nest loss, vulnerability, fear, lack of protection, and some kind of external threat to the safety of the bird.
9	Sheller (2007)	Qualitative, Phenomenology	n=4 children aged 7-11 years old in initial stage of insecure-attachment therapy session	All of the participants seeing world as a dangerous place, having disproportionate drawings, and few stories accompanying BND narrated that eggs hatched without the presence of the caregiver.
10	Yoon et al. (2020)	Mixed methods	n=136 university students, use past sample from the unpublished study with Kaiser in 2012	Four of the 11 rating components for the drawings exceeded expectations in terms of their psychometric qualities, as did the overall attachment rating. However, the remaining seven items did not increase internal reliability. The construct validity of the assessment items was not well established when compared to known attachment measures.

Notes: Redtschitz's (2012) study is the only grey literature included.

The synthesis

Data analysis in this study is based on the BND test, which is grounded in the works of Kaiser (1996), Kaiser and Deaver (2009), and Francis et al. (2003). These works emphasize the interpretation of visual elements, including nest content, trees, dead trees, tree-lined soil, baby birds, parent birds, very large birds, very small birds, eggs, parenting behavior (incubation,

feeding, protecting), protected nests, and thorny nests. In addition to these components, the researcher will also observe the composition of paper utilization and color usage.

The BND was originally designed to assess children, but it applies to both children and adults (Kaiser, 1996). In the context of attachment theory, attachment patterns in children are typically categorized as secure, insecure-avoidant, insecure-ambivalent, and insecure-disorganized. On the other hand, attachment in adults is commonly described in terms of relationship styles, including secure, dismissing-avoidant, preoccupied, and anxious-avoidant.

Table 3.

Summary of research findings on BND indicators for drawing components

Drawing component	Indicator	Types of attachment
Birds	Birds present	Secure (Harmon-Waker & Kaiser, 2015; Yoon et al., 2019)
	Presence of a baby bird	Secure attachment for children (Goldner, 2014; Kaiser & Deaver, 2011; Yoon et al., 2019)
	Entire bird family	(Kaiser & Deaver, 2011)
	Absence of parents' bird	Insecure disorganized (Kaiser & Deaver, 2011; Yoon et al., 2019)
	Egg without parent bird	Insecure ambivalent (Kaiser & Deaver, 2011)
	Colorful, harmonious color	Secure (Harmon-Waker & Kaiser, 2015)
	Head of the parent bird appears on the edge of the paper	Insecure disorganized (Harmon-Waker & Kaiser, 2015)
Colors	Four or more colors	Secure (Francis et al., 2003; Yoon et al., 2019)
	Green is a dominant color	Secure (Harmon-Walker & Kaiser, 2015; (Kaiser & Deaver, 2011));
	Brown is the dominant color	Insecure ambivalent (Kaiser & Deaver, 2011; Yoon et al., 2019)
	No color presented	Insecure disorganized (Goldner, 2014; Kaiser & Deaver, 2011)
	Fewer color	Insecure attachment (Kaiser & Deaver, 2011)
Line	Fine lines	Secure if added with centred image (Goldner, 2014); flowing line quality means prominent secure individual (Goldner, 2014)
	High-level vitality	Secure (Goldner, 2014)
	Bizarreness	Vulnerable, insecure ambivalent (Kaiser & Deaver, 2011; Yoon et al., 2019); Unfinished object or figures represent insecure disorganized (Goldner, 2014)
	Spontaneous and flowing line quality	Secure, high optimism (Goldner & Golan, 2016)
Nest	Nest not tilted	Secure (Goldner & Golan, 2016)
	Tilted nest	Insecure ambivalent; insecure-avoidant (Francis et al., 2003; Kaiser & Deaver, 2011) Tilted nest without bird: less secure (Kaiser & Deaver, 2011); Vulnerable (Yoon et al., 2019)
	Nest without a bottom depicted	Insecure disorganized (Goldner, 2014; Kaiser & Deaver, 2011)
	Vulnerable nest	Inadequate mothering, feeling of threat, insecure (Bouteyre et al., 2022)

DISCUSSION

In this review, we examined the literature to identify each Bird's Nest Drawing component and categorized it based on four types of attachment. While secure attachments often exhibit a distinct pattern characterized by colorful drawings, predominantly green, and the presence of parents and baby birds, it is important to recognize that all types of insecure attachments also manifest themselves through various aspects such as raw line quality, drawing low vitality, and disproportional use of the page.

This study is the preliminary stage before conducting observational, mixed-method for university students/emerging adults in Indonesia. Therefore, this review was intended to set a clear goal on the aspects to be reviewed and rated during BND test. Despite the lack of study retrieved due to the limitation of the paper published regarding BND test, this study presents what Yoon et al. (2020) recommend, in which we analyzed different patterns and the possibility of cultural differences in the way each paper interpret their participants' drawing.

Elaboration of discourse, or the narration page accompanied after the drawing, was therefore meant to provide a note of the mental mechanisms that are similar to defense mechanisms. Therefore, it is important for all studies to elaborate on the discourse within the following narratives or supplementary page after the participant draws the bird's nest. This was done in order to determine whether or not these mental mechanisms are present and have been discussed in all papers we found.

Vitality, in the context of Goldner and Golan's study, was conceptualized as the emotional dedication and engagement demonstrated through the act of drawing and creative expression. This vitality was evident in various aspects, including the richness of colors utilized, the level of ornamentation and detail incorporated, and the inclusion of references to the environment (Goldner & Golan, 2016). Furthermore, vitality encompassed depictions of interactions between the birds, emphasizing their dynamic engagement with the surrounding environment.

As Kaiser & Deaver (2011) suggest, it is important to incorporate the forthcoming BND manuals and scoring system that are currently being developed while using methods and rating systems based on previous studies. Our research has shown that not all of the previous studies on BND were merely assessing attachment in parent. Future studies should continue to examine the applicability of this projective technique with diverse clinical populations, utilizing larger sample sizes to obtain more robust data (Kaiser & Deaver, 2011). In addition, valuable insights can be gained through complementary qualitative research that explores clients' perspectives on the effectiveness of this approach and art therapists' perspectives on its potential benefits.

Robustness of the synthesis

This review possesses certain limitations that should be acknowledged. One notable limitation pertains to the search strategy, which exhibited specific weaknesses. The search results yielded a significant number of duplicate studies, primarily attributed to publications available in English. Consequently, relevant studies published exclusively in languages other than English may have been overlooked. The use of JBI in Tables 4 and 5 showed that most of the included studies are fair in rating, despite the use of mixed-method in each paper not explicitly stated and rather informed on a step after the BND drawing. All participants in the study were given the BND instruction: drawing session and narration. Some of the studies also included questionnaires on perceived attachment toward mother and father figure, and also toward their children for the adults participants.

It is advised not to generalize this study's results to a larger population because of the small number of papers included. Only a limited understanding of the BND component was synthesized, and the examined literature is possible due to the descriptive character of the data. Despite the fair rating on the JBI, we concluded that studies on BND should be mixed-method in nature, due to the urgency to explore both narrative, drawing components, and individual survey or quantitative analysis.

Table 4.

Summary of research findings on BND indicators for drawing components

Author(s) name (Year)	Q.1	Q.2	Q.3	Q.4	Q.5	Q.6	Q.7	Q.8	Q.9	Q.10	Q.11
Bouteyre et al. (2022)	×	√	√	√	√	√	√	√	N/A	√	×
Francis et al. (2003)	√	√	N/A	×	×	√	√	√	N/A	√	×
Goldner & Golan (2016)	×	√	√	√	√	×	√	√	N/A	√	×
Goldner (2014)	×	√	√	√	√	×	√	√	N/A	√	√
Goldner et al. (2017)	√	√	√	√	√	×	√	√	N/A	√	√
Harmon-Walker & Kaiser (2015)	√	√	√	√	√	×	√	√	N/A	√	√
Kaiser & Deaver (2011)	√	√	√	√	√	×	√	√	N/A	√	×
Redtschitz (2012)	√	√	√	×	√	√	√	√	N/A	√	√
Sheller (2007)	√	√	√	√	√	√	√	√	N/A	√	√

Note: √ = indicates good rate in the article; × = indicates poor rate in the article; N/A = indicates not applicable

Table 5.

Details of questions from Joanna Briggs Institute (JBI) critical appraisal checklist

No	Joanna Briggs Institute's checklist question
1	Is the review question clearly and explicitly stated?
2	Were the inclusion criteria appropriate for the review question?
3	Was the search strategy appropriate?
4	Were the sources and resources used to search for studies adequate?
5	Were the criteria for appraising studies appropriate?
6	Did two or more reviewers conduct critical appraisal independently?
7	Were there methods to minimize errors in data extraction?
8	Were the methods used to combine studies appropriate?
9	Was the likelihood of publication bias assessed?
10	Were recommendations for policy and/or practice supported by the reported data?
11	Were the specific directives for new research appropriate?

Implication for practice and future research

Individual understanding of attachment and its projection on the bird's nest are culture-specific, and it is important that any interpretation made can be adapted to meet the needs of art therapy or assessment. As survivors of family abuse are often marginalized, using BND to assess prone individuals is likely biased if the tester cannot perform validity and reliability checking, as revealed by Betts (2013), who examined sociocultural differences that may influence the interpretation of projective tests across countries. Due to the differences in the interpretation of the BND test, further studies are needed to explore the validation of the BND test as a tool to measure attachment patterns in non-clinical settings among children and parents, including in different socio-economic status (SES).

Only studies by Goldner (2014), Goldner and Golan (2016), and Goldner et al. (2017) explicitly stated the SES level of their participants. Even though there is no clear explanation of why SES was considered in those studies, all of Goldner's studies showcase the possibility of correlating SES background and how individuals perceived their attachment style through

projective drawing. Further insight into a culture that affects how to draw, using markers and pencil colors, was significant in the study of Betts (2013) due to the difference in context across countries.

CONCLUSION

The BND test is beneficial for exploring individuals' perceptions and attachment relationships, particularly with their primary caregiver. Most studies are considered fair due to limited methodology, incomplete reporting, and cultural bias. Further studies are needed to assess interrater reliability for some themes and cultural contexts in BND interpretation.

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CONFLICT OF INTEREST

The authors do not have conflicts of interest to declare. All co-authors have read and agree with the manuscript contents, and there is no financial interest to convey. We confirm that the submission is an original work and is not under review at any other publication.

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