CHAPTER 5: DISCUSSION AND CONCLUSIONS

This study was aimed at examining the potential of two projective drawings techniques of HTP and DAP to identify emotional disturbances in children. The study used quantitative scoring methods namely that of Naglieri, Mc Neish and Bardos (1991) for the DAP test and the system of Van Hutton (1994) for the HTP test. It attempted to investigate the extent to which their findings were comparable to other available quantitative tools for the screening of emotional disturbance, and a measure of self-esteem and adjustment. The techniques of projective drawings have been vastly popular, but encased in controversy like other projective techniques. Many clinicians have moved towards behavioral assessments leaving projective methods behind. This chapter seeks to find out if this move is justified. The chapter is divided into the following sections, wherein the main findings of the study are highlighted in terms of the research questions and contextualized within the theoretical and research backgrounds of these techniques. This chapter reports the outcomes of this study by examining important trends and patterns revealed. It examines the validity of projective drawing tools against the SDQ, CFSEI and PAAS and evaluates their potential to identify emotional disturbance. Following this, the major findings of the study are summarized, major conclusions are drawn and implications of the study with directions for further research are presented.

5.1. What is Evident from Projective Drawings of Children? Some Important Patterns

As noted earlier, projective techniques are believed to a qualitative indicator of specific key, unconscious conflicts of a subject which are intra- personal in nature. When projective drawings are subjected to quantitative scoring methods, they move

out of the subtle, selective intra-personal zone of inner conflicts to an area of broader manifestation of covert and overt conflicts. In this sense, the quantitative scoring of projective drawings is likely to indicate trends of covert and overt manifestation of conflicts. As a preliminary task, this study explored the prevalence of emotional disturbance in children aged 7-11 years, selected from a normal school sample by using the cut off scores that were normatively suggested in the quantitative scoring methods of DAP and HTP. The groups created by the cut-off scores on the two tests, were examined for independence by using the t-test. Highly significant differences between the emotionally disturbed and non-emotionally disturbed groups were found.

In this study, it is found that about 47.3% children in the Reference group of children between the ages 7-11 years who are attending a normal school, emotionally disturbed. On a first impression, these figures seem to be high, and beyond estimation. Yet when this figure is compared to findings in past literature, we have seen prevalence rates ranging from 7% to 25% and even 38%, when figures on internalizing and externalizing disorders are combined (Brown, Copeland, Sucharew and Kahn,2012, Pastor, Reuben and Duran,2012 and Forness, Kim and Walker,2012). Forness, Kim and Walker (2012) have also noted in their article that prevalence rates are likely to be even higher than the combined values of internalizing and externalizing disorders i.e. they are likely to exceed 38%. In view of this, in our study, if projective drawings are truly able to identify emotional disturbances then the figure of 47.3% would be only a mild overestimation.

Turning to Group 3, the clinically referred group, we find that the projective drawing techniques identified about 56% of the group as having emotional disturbance. As this group is clinically referred, it precludes that the children of this group have a visible level of emotional and behavioral disturbance. Therefore, the prevalence rate

evidenced by the projective drawing techniques do not just overestimate emotional disturbance in normal school going population but also seem to underestimate emotional disturbances in a clinically referred group.

Looking at age trends we see that age does not seem to impact the HTP drawings on the scales of SRC, ADST and WGA and the mean scores across the different age groups remain approximately the same. This suggests homogeneity within this age range for most of the features found on the HTP. However, this does not hold true for the sub scale of AH where a highly significant increasing trend is observed in the mean scores. This indicates that children show more signs of aggression on the projective drawings as age increases. This finding can be explained by the fact that there is a well- documented trend of increasing aggression in early adolescent years (Underwood, Beron, Rosen, 2009). Further, it is also documented by Xie, Drabick and Chen, 2011) who studied changes in aggression from childhood to adolescence and found increase in teacher reported fights, argumentativeness and getting into trouble in early adolescent years. It is also well known that due to media exposure, changes associated with adolescence are occurring at earlier ages. Hence this trend may be evident.

The clinical experience of the investigator lends credence to the increasing aggression and hostility as a personality trait in youngsters today. It is increasingly becoming a common complaint of parents. A few contributory factors to this appear to be a growing belief in children of the 2016 world, that "to be aggressive ... is to be cool and confident". Thus aggression is becoming a valued trait and is confused for confidence. Further youngsters today are bombarded by a number of desirable material goods in today's highly commercial and capitalistic economy (Alladi Venakatesh, 1994). Parents have smaller families and greater income leading to more

access of material goods to the younger generation today. Consequently, a generation of low frustration tolerance is emerging who cannot take 'no' for an answer. In keeping with the frustration-aggression hypothesis, with increasing frustration it will be natural to find increasing aggression.

The aggression seen at this age may also be a manifestation of the stage of middle childhood to late childhood which is associated with a sense of agency and independence where the child begins to make independent choices and to assert their own rights, gradually moving towards adolescent identity formation.

An issue to be kept in mind when understanding aggression and its expression is that there are many known types of aggression: physical/verbal, direct/ indirect, relational/ self-directed etc. Though there is work to understand aggression and externalizing behaviours on Human Figure Drawings e.g. Koppitz (1966), it is not clear what type of aggression is evidenced in the projective drawings. It is therefore not known what type of aggression is increasing on the drawings. When age trends in the DAP were studied, no significant age differences are seen in the ANOVA. This finding is likely, because the DAP scoring is done according to age-wise norms that are grouped.

A further finding that comes to light from the drawings is that while there were no significant group gender differences in the identification of emotional disturbance. However, when the number of emotionally disturbed boys within the total sample of boys was compared with the number of emotionally disturbed girls within the sample of girls, a highly significant chi-square difference was found. This shows that the number of girls having emotional disturbance is significantly higher. This gender difference in the identified emotional disturbance is a significant finding which is contradictory to previous research, as most studies report more emotional disturbance

in boys. Yet Deighton and Wolpert (2015) reported a similar finding in their study with a comment that this trend needed to be better understood through research. Looking at adult figures, Eaton, Keyes , Krueger, Balsis, Skodol , Markon, Grant and Hasin (2012) too, in their review article based on international research, reported that among adults women had higher rates of internalizing disorders namely anxiety and depression. This is a frequently reported finding in psychiatric epidemiology and the findings of the present study presents important pointers towards this direction. Studies in India have also shown that common mental health disorders such as depression and anxiety are strongly associated with the female gender and that women are, on average, 2–3 times, at greater risk to be affected by common mental health disorders. (Malhotra and Shah, 2015)

In the light of these, the finding of female vulnerability in the present study raises certain important issues. First is that this may be a cultural pattern. As we have no studies examining the prevalence of emotional disturbances and gender patterns of prevalence in the context of Indian children, we do not have previous estimates to fall back on. It may be possible that the rates of emotional disturbance in the girls of the Indian population may be originally higher. This is a possibility because, ours is a patriarchal society and despite modernization and western influences, a larger part of our society remains male dominated and female suppressive. Gender inequalities in our society has been well documented and analyzed by Jayachandran (2014). As females do not find a possibility to express themselves and assert their individualities, there may be more indirect expression of emotional conflicts seen in them through a medium like drawings as is reflected in their having higher levels of internalizing disorders. Besides as international research found girls to be at higher risk for psychiatric disturbance in later life when found to be having a diagnosis in childhood

(Costello, Mustillo, Erkanli, Keeler, and Angold, 2003), this finding presents a worrying trend.

Second, the fact that this finding has been reported in a very recent study (Deighton and Wolpert, 2015), may suggest that it is more a current phenomenon of increasing in emotional disturbance in girls. If we look at it as a current phenomenon, we need to keep in mind that in continuation with the above patriarchal trend, we are at a transitional period in our society today where there is a conflict between espoused and enacted values. Gender equality is an espoused value but a value that is tough to enact at individual and familial level for adults, creating more confusions in the mind of young girls. Bahadur and Dhawan (2008) have reported value conflicts between parents and children in the modern Indian society, particularly in nuclear family set ups which is the increasing trend.

Besides, with increased media exposure there is an exponential increase in the aspirations of young girls today in terms of looks, accessories, mobile phones or clothes. Often this aspiration comes in conflict with growing parental aspirations of academic success and achievement for their children again resulting in emotional disturbances. In summary we can say that this study finds that, the answer to Research questions 1 is that there are gender and age differences in emotional disturbances as identified by the projective drawing techniques, namely: HTP and DAP. We also find a high degree of prevalence of emotional disturbances (47.3%) when we use combined cut-of scores across the HTP and DAP which needs verification with other methods.

5.2. How do HTP and DAP Compare with Each other and with Other Techniques? A Search for Reliability and Validity

This section is divided into a discussion of convergent validity first within the projective drawing techniques i.e. HTP/DAP and later with the other descriptive measures namely CFSEI and PAAS. Later, criterion validity with the SDQ is discussed.

5.2.1 Convergent validity within HTP and DAP

Examining the nature of the two projective drawings used, we can see that both the HTP and the DAP have three drawings each and both include human figure drawings. Thus there are expectations of similarity and a positive correlation between the two is anticipated. The person drawn on the HTP may have similarity in content with either man, woman or self-drawings. The correlations revealed that there was a highly significant correlation between the total scores on HTP and DAP (r =.251). This indicates that when total scores are taken across both tests, there is a similarity in the nature of emotional disturbance identified. It suggests high convergent validity between the HTP and DAP. Looking at sub-scale correlations, we see that the scale of Sexually Relevant Concepts (SRC), there is mildly significantly correlation within the subscales of Alertness to Danger, Suspiciousness and Mistrust, and Withdrawn and Guarded accessibility. This indicates that as signs of sexual maturity and preoccupation increases in children, so does alertness to danger and mistrust and withdrawn and guarded accessibility to people. We can understand this developmentally. As a child becomes aware of their sexual identity of sexual maturity in general, there is a tendency to be guarded and withdrawn in some relationships and spheres of life. They may also become temporarily more mistrustful of adults in their life which may be reflected in the scores.

The Aggression and Hostility scale only correlated significantly with the Withdrawn and Guarded Accessibility. This finding seems to suggest that with increasing levels of Aggression and Hostility, we find coincidence of increasing levels of Withdrawn and guarded accessibility. Conceptually, it indicates that a child who shows higher aggression or hostility may, out of defensiveness or need to justify one's behaviour become more withdrawn or guarded in his or her approach to others. In a clinical situation, this presents a challenge, as it would result in children with problem behaviours becoming less open to developing a trustful therapeutic relationship and would prevent them from opening up to change. In terms of test qualities, we find that there is better interrelatedness as seen in correlations between the SRC, WGA and ADST scales. The AH scale shows better relationship with the WGA scale within the DAP results, the different aspects of the test show good interrelationship as the drawings correlated well with each other. Man drawings correlated highly significantly with scores on Woman drawing ($p<.01$) and significantly ($p<.05$) with self-drawings ($p<.05$). This suggests that while 'man' and 'woman' drawings may be lending similar results; self-drawings seem to tap a different area of information about the child. Woman drawings were also correlated at $p<.01$ level of significance with self -drawings.

A closer scrutiny of the two test components showed that while some parts of the tests were strongly related i.e 'self' drawings correlated with SRC and AH subscales, whereas 'woman' drawings were related to the AH scale scores e.g., other aspects differed i.e. 'man' drawings showed no relationship with any subscale of the HTP. Across the tests, it is evident that the SRC subscale of HTP correlated with 'myself' drawings. This implies that 'self' drawings may be a more reliable indicator of sexual maturity, sexual preoccupation or sexual abuse than 'man' or 'woman drawings'.

‘Woman’ and ‘self ’drawings also correlated significantly with the Aggression and Hostility scale, which suggests that these drawings are perhaps more successful in revealing aggressive tendencies as known to be expressed on drawings.

Thus we can say that there is fair convergent validity between the DAP and HTP. While some areas of information received from them show good correlation, there are also areas that do not correlate. This indicates that together both techniques complement each other on information about emotional disturbance while also bringing in their unique, individual contributions that can together enhance the understanding of children’s emotionality and behaviours. In answer to our Research question 3, therefore, we can say that quantitative scores derived from HTP and DAP are similar when we look at global scores of disturbances. However, they differ on some of the key areas of disturbance tapped by their sub-scales.

5.2.2. Clinical Validity of the Projective Drawings

When the projective drawings were examined with respect to their capacity to discriminate between clinically referred and non-clinical groups, it was seen by an ANOVA analysis that both HTP and DAP were highly successful in discriminating between the groups. Further the post hoc analysis showed that there were significant similarities between the emotionally disturbed groups identified by using the drawings and the clinical group on most scales of the tests. There were also significant differences between the Non-emotionally disturbed and emotionally disturbed, as well as the clinical groups. This indicates that the projective drawing methods have a potential clinical validity in differentiating between clinical disturbed and well-adjusted students. In response to Research question 4 we find strong support that DAP and HTP significantly differentiate between emotionally disturbed and non-disturbed

groups. Also, in answer to Research question 5, we find that there are significant similarities between Emotional disturbance as identified through projective drawings when compared with a clinical sample. This section also answers research question 6 and finds there are significant differences between a group identified as Non-emotionally disturbed on the projective drawings and the clinically referred sample.

5.2.3. Criterion Validity of HTP/ DAP with the SDQ

The SDQ is a short and recent screening tool for childhood emotional and behavioral disturbances with good psychometric properties, which has found relevance across several cultures. It was, therefore considered as a good criterion measure to use against the projective drawings. Analyzing the correlations of the HTP with the different scales of this the SDQ namely the Emotional, Conduct, Hyperactive, Peer problems and Prosocial scales, it is seen, were remarkably low across the HTP test scales of SRC, AH, WGA, therefore not reaching statistical significance in both, the emotionally disturbed and non-emotionally disturbed group. The ADST scale of the HTP however, correlated with the scales of Hyperactivity and Externalizing behavior on the SDQ in the emotionally disturbed group. This indicates that disturbance revealed in the projective drawings in the Indian set up are more reflective of externalizing behaviour problems and is related to hyperactivity. The SRC, AH and WGA scales did not seem to be related to the children's scores on Emotional, Conduct, Hyperactivity and Peer problems scale. This shows that emotional disturbances detected on the HTP are not significantly reflective of overtly identified disturbance in any of the above areas.

Within the clinical group, the HTP subscale of WGA correlated significantly in a negative direction with the SDQ scale of Hyperactivity. It suggests that when there

are clinical levels of disturbance in a group and the level of Hyperactivity is high, then the child becomes less withdrawn and guarded. Conceptually, this upholds the clinical description of Hyperactivity, as the diagnosis includes, impulsivity and disinhibited social behaviour, naturally leading to decreased withdrawal and guardedness. This finding supports the validity of the WGA subscale of the HTP, as it establishes that it is not a measure of Hyperactivity which is an externalizing condition

The validity of scales however, was better for the DAP test. The scores on 'Man' drawings and the DAP total scores were significantly correlated with SDQ- Conduct and Hyperactivity scales, Externalizing behavioral disturbance scales, Pro-social behaviour scale and total SDQ scores in the non-emotionally disturbed group. This finding is contrary to previous studies on the projective drawings, where projective drawings have been found more likely to reflect internalizing emotional and behavioral problems. As this finding, has emerged in the non -emotionally disturbed group, it is possible that the correlation reflects lower scores on both the scales thus giving a significant correlation. On the other hand, this finding suggests a need for redefining norms for the Indian context. It is possible that expressions of internalizing and externalizing conditions differ for the Indian culture. For example, it is well documented in the field of psychiatry that rural and less literate populations in India are likely to express depression more in a somatic form. Similarly, we may need to redefine what constitutes externalizing behaviour syndromes in our culture.

A further contradiction emerged as, in the emotionally disturbed group, there was no significant relationship seen between the DAP and the SDQ scales of Emotional disturbance, Peer problems scale, Hyperactivity or Conduct scales, Internalizing or Externalizing scales. This may be a possibility as the sample comes from the mainstream setting, with no known history of behavioral or emotional problems. This

indicates that though the drawings identify them as emotionally disturbed, the level of problems may be mild and more at the level of internal unconscious conflicts.

The DAP man drawings also correlated significantly in a negative direction with the SDQ- Pro social behaviour scale. The prosocial behaviour scale in the SDQ, moves away for the task of screening for psychopathology and is the only scale in a screening tool of such nature, that is aimed at identifying strengths in the social behaviour of children. The findings with regard to prosocial behaviour show an expectable direction in the relationship with 'man' drawings. As higher scores are given on the 'man' drawings reflecting greater disturbance, so is there a decline in pro-social behaviour of children. We have seen earlier in the review section of this research, that emotional and behavioral disturbance can lead to subjective distress, low self-esteem and withdrawal (internalizing problems) or to acting out behaviours causing more disturbance in the external environment (externalizing problems). Both types of problems tend to reduce pro-social behaviours and impact relationships.

Turning towards, the correlations between SDQ and DAP in the clinical group, a few significant findings emerged in the Non- emotionally disturbed group for self-drawings and the DAP total scores. 'Self' drawings correlated significantly with the SDQ- Emotional, peer problems, internalizing and total SDQ scores. This suggests that scores of lower significances on the DAP that do not reach the set cut off level of disturbance were more strongly related to internalizing behaviours and emotional or peer problems that contribute to it. This points out towards the need to identify different cut off scores for internalizing behaviours and externalizing behaviours instead of a single score to identify global emotional or behavioral disturbance. This seems especially necessary and important for the Indian clinical context if the quantitative scores on projective drawing techniques were to be used meaningfully.

The findings in this section shows that in answer to Research question 6, the identification of emotional disturbance on projective drawings only related marginally to identified emotional disturbance on the selected criterion, screening measure SDQ.

5.2.4. Convergent Validity of HTP/DAP as tested with CFSEI and PAAS

In scrutinizing, the issue of convergent validity of projective drawing techniques we realize that some aspects of Self-esteem, namely Social self-esteem, General self-esteem and Parental self-esteem show significant convergent validity with the HTP drawings. Specifically, Social self-esteem correlated significantly in a positive direction with the Aggression and Hostility subscale in the non- emotionally disturbed children's group. This shows that, as aggression increases, Social self- esteem increases. As discussed earlier, aggression is increasingly becoming a desirable trait. Therefore, children with higher levels of aggression will see themselves as more powerful and so hold on to a higher social image of themselves. General self- esteem was found to correlate with Withdrawn and guarded accessibility in the negative direction in the emotionally disturbed children's group. This indicates that as emotional disturbance increases, as might be expected, General Self-esteem is lowered. This finding has been reported in the concept of internalizing disorders, where increasing emotional disturbances like anxiety or depression along with low self-concept for the spectrum of internalizing disorders. WGA is an internalizing behavioral manifestation and it is likely to affect a child's positive estimation of him or herself in general situations.

Parental self- esteem was also seen to correlate significantly with total HTP scores. As such, Van Hutton (1994) has been unable to provide specific guidelines for the interpretation of the total scores of HTP. However, one line of thought that can be

pursued, is that, since the scores of the HTP can be assumed to be a representation of cumulative disturbance, it follows that the more the level of emotional disturbance, it will begin to impact more areas of functioning for the child. As functioning decreases, positive feedback from parents would automatically decrease leading to the child's feeling his/ her parents do not view him or her positively.

Coming to the DAP findings with regard to Self- esteem, it was seen that the scores on Man drawings and the total DAP scores, correlated significantly with general self-esteem scores of the ED group. As the 'man figure' is considered to be representative of a significant person in the life of a child. It may be understood that, children who are emotionally disturbed tend to base their self-esteem on the approval of their significant others. If the child meets with approval, then the general self- esteem increases and vice versa. Further, the negative relationship between Social self-esteem and 'self" drawings in the Non-ED group suggests that, as scores on 'self' drawings increase, emotional disturbance decreases. Here the findings suggest that as this group is non emotionally disturbed, they may have normal level of social esteem and lower levels of disturbance in the 'self' drawing.

In the case of correlations of the HTP with the PAAS only school adjustment was found to negatively but significantly correlated to ADST. This indicates that increased alertness to danger, suspiciousness and mistrust significantly and negatively affects school adjustment. This is understandable as, increased mistrust- increases hostility which increases chances of misconstruing actions and motives in the relational context, in-turn would increase 'acting out behaviours' that can interfere with school adjustment.

Once again when we look at scores of Adjustment with the DAP drawings, there is only one significant correlation i.e. of 'self' drawing with total adjustment scores. This would suggest that when a child is asked to draw a picture of him or herself it is likely to be a global reflection of how well he or she considers the self as being adjusted in the external environment.

Thus, when we examine the projective drawing techniques with non-clinical self-report measures of socio-emotional well-being like self-esteem and adjustment, we find that the information from specific scales of projective drawings do reflect on some select aspects of self-esteem and adjustment. The areas of self-reported self-esteem that show correlation are also indicative of areas of a child's functioning, where self- estimates overlap with covert expressions of personality.

We find moderate support for relationship between quantitative scores on projective drawings with self-esteem and limited support for adjustment. The scales of AH, WGA, and total HTP scores emerged significant in the context of self- esteem. These were found to relate with Social, General and Parental Self-esteem. Man and Self drawings of the DAP also showed relationship with general and social self-esteem. In the context of adjustment, the ADST scale of the HTP test was negatively related to school adjustment and 'self' drawings on the DAP related to total adjustment scores.

To summarize the trends of this section with regard to the validity of the projective tests, we find that

1. There is high concurrent validity between the projective drawings themselves
2. There is significant clinical validity in the projective drawing techniques and they are able to differentiate between Non-emotionally disturbed, emotionally disturbed and clinical groups.

3. Criterion validity, largely, could not be established against the SDQ. However, the scales of Conduct, Hyperactivity and Externalizing scales was seen to correlate with the DAP and ADST scale of the HTP in the group of children selected from the school setting
4. Criterion validity in the clinical group could be better established and showed correlations between SDQ scales of Emotional problems, Peer problems and Internalizing scale5. The convergent validity with measures of self-esteem and adjustment in unsatisfactory, but shows some evidence of a meaningful correlation for social, parental, general self-esteem, school and total adjustment with limited sub-scale measures of the drawings.

5.3. Qualitative Analysis of Scoring indicators

The purpose of the qualitative analysis done on this study is three-fold.1. To see which scoring indicators were more useful in identifying disturbance particularly in the clinical context. 2. To see if which scoring indicators proved least effective in identifying emotional disturbance in each scale. 3. To see if there are any age specific patterns in use of the scoring indicators.

The findings of the qualitative analysis for the HTP showed that there were important differences between the clinical and Non- emotionally disturbed group particularly in the Sexually Relevant Concepts Scale. These indicators were: Figures drawn more mature than the child's age, under clothed or nude figure, long neck, body part cut off and figure not child's own sex. An age wise pattern of decrease in us of these scoring indicators was also seen There were less discriminating indicators found on the AH, WGA and ADST scales. On the AH scale 'large talon like fingers' showed increase use in the age group of 12-15 years. While on the ADST scale the indicator- 'emphasis on barriers and fences' discriminated to an extent between clinical and

Non-ED group of the Reference group. Similarly, only one item 'door very small' discriminated between the clinical and non-clinical group on the WGA scale.

A number of items that were found to be non- discriminatory due to negligible use, are presented in the Results chapter. These findings have highlighted the need for eliminating some indicators and for having age-wise norms for the HTP quantitative scoring system.

For the DAP drawings, patterns of use of scoring indicators for the identification of emotional disturbance suggest nearly identical results on the 'man' and 'woman' drawings with almost no group differences. This implies that these two drawing lend similar results and can be used interchangeably, making a case for using only one of these drawings, instead of both. The 'myself' drawings were more successful in discriminating between groups. Tall figure, big figure, failed integration, restart, hair omitted, nose omitted, fingers omitted, crotch erasure, vacant eyes, gazing left-right, fists, object attached, nude figures, were the indicators that lent useful information to discriminate between clinical and non- clinical groups. As with the HTP, a number of indicators were found less useful in the DAP once more raising a need to reduce the scoring indices for use in the Indian clinical context.

5.4. Evaluating the Potential of Projective Drawings to Identify Emotional Disturbances.

Having examined the validity of projective drawings we find ourselves faced with the familiar question above. It is a question that has been often revisited. Critical reviews by Swenson (1959, 1968), Roback (1968), Gresham, (1993) have adopted a stance of scepticism and are unconvinced about the uses of the tool of projective techniques. So what is the true potential of these projective drawings in the arena of identification

of emotional disturbances? Do we write them off because they seem to have limited proof of validity as is also evidenced in this study? Or do we have enough reason to hold on to them? To answer these poignant questions, we need to gain a full understanding of the **strength and weaknesses** brought to us by these techniques vis-a vis other available techniques.

The strength of this technique lies in its versatility in going across many settings and purposes. In the capacity of a psychological assessment tool, it has been used as a **screening device.** This study shows that the HTP and DAP together as a technique can be used in the school setting and can reliably differentiate between clinical and non-clinical groups, especially when the clinical group is referred or pre- identified. When used to screen for emotional disturbances in the normal population, they seem to be effective as a global measure of emotional disturbance and can be considered at best as a pre-screening tool as there are chances of over identification. The simplicity and ease of administration of the tool, ensures that it can be given in the school set-up multiple times by drawing teachers or school counsellors. The scoring and interpretation however would require the use of trained personnel.

When we examine the potential of this tool for the purpose of **diagnosis,** we find that this study establishes that it can be considered as a measure of externalizing behaviour disorders, namely hyperactivity and conduct disorders in the emotionally disturbed group identified through the projective drawings and as correlated by their expression on the SDQ. This is an unexpected finding, since projective drawings have conceptually been considered more reflective of internalizing behaviour problems (Naglieri, Mc Neish and Bardos, 1991). The nature of externalizing conditions ensure that they receive attention from the environment as the child may throw tantrums, engage in attention seeking behaviours, be intrusive, impulsive or talkative, resort to

lying or stealing, arguments, fights. All of these necessarily catch adult attention. On the other hand, internalizing conditions may go unnoticed as they cause internal and subjective distress to the child and are not visible until they reach a high level of severity. It is important therefore that tools be identified for the proper and timely screening of these. This concern was a primary one, when this study was undertaken as explained in the rationale. This study has established that projective drawings have not met the requirements needed to diagnose for internalizing conditions, as there were only weak and statistically insignificant correlations between the Internalizing scale of SDQ which consists of the Emotional disturbance and peer problem scale and HTP/DAP in the selected ED/Non-ED group. On the other hand, the DAP: SPED's self-drawing scores correlated significantly with the internalizing subscales scores on the SDQ in the clinical but Non-ED group. It is possible that this failure reflects the need for culturally relevant norms and redefining cut off scores on the HTP and DAP.

Thus, with respect to the **DAP,** it was revealed that it has better psychometric properties and better validity for our population. However, the validity seems limited in the absence of separate norms for the Indian context. One of the features that came to light is that 'man' drawings and 'self' drawings were more useful than woman drawings. The information received from 'man' drawings may be repetitive or more than information gained from 'woman' drawings and less or no new information is added by them. On the other hand, significantly different information can come up on the 'self' drawings. 'Man' drawings reflected emotional and behavioral disturbance better, while 'self' drawings were found particularly useful in the identification of aggression and in tapping of sexually relevant concepts. An interesting finding was revealed when an additional analysis was taken up for the clinical group. Using the 88^{th} percentile cut off score criteria the accuracy in using the DAP was about 56% in

the clinical group. The concordance between the DAP and SDQ scales in in identifying clinical levels of disturbance increased up to 82% when a cut off criteria of 95th percentile was set for identification. This suggests that we need more stringent norms and higher cut off values to identify emotional disturbance, when we apply the DAP to the Indian clinical context.

One of the tasks taken up in this research has been to identify whether the quantitative scoring on the **HTP,** which has been primarily explored as a tool to identify sexual abuse by the author, Van Hutton (1994) had the potential to identify emotional disturbance. This aspect was explored, using the rationale that a large component of the test scales was directed to scoring and classifying emotional disturbance related to sexual abuse and norms for identifying emotional disturbance were also provided. In this context, it has come to light that it is a valid measure for emotional disturbance and shows good correlation with the DAP-SPED (1991) which is essentially a measure of emotional disturbance. However, while the analysis of subscale features shows the subscales of SRC, AH and to an extent WGA were more successful in identifying the ED group, in the research it was seen that ADST correlated better with the other quantitative measures used, when actually very few children achieved a raw score beyond 2 on this scale. This is a finding that seems to pose a contradiction to the earlier reported finding. It suggests that scores on quantitative criterion measures are better correlated to the less useful scale of ADST. A possible reason for this may be that the scale of ADST reflects paranoid behaviour and a higher level of clinical disturbance than may be visible in the stage of childhood and in mainstream educational settings. So if we consider the ADST scale as representative of higher levels of clinical disturbance, it suggests that only when disturbance on projective drawings reach that level, then it is noticeable by others in the environment.

Analysing the relative strength of **quantitative tools for the identification of emotional disturbance**, it was seen that while there was a predictive relationship between the internalizing and externalizing scales of the SDQ with social and academic self- esteem and school and home adjustment. Many of the other scales namely, did not show a significant predictive relationship. This appears to suggest that self-esteem and adjustment are only partly predicted by internalizing and externalizing behavioral disturbance. Hence, this brings us to conclude that because of the homogeneity within the technique of quantitative measures, they show a more significant relationship between themselves than they show with projective drawings techniques. Yet it may also be said that their success in identification of emotional disturbance is not uniform across sub- scales of the tests.

The nature of these findings raises some **important issues** about existing quantitative measures. Firstly, it brings up the question about the **accuracy of self -report measures**. With increasing media and social media exposure one Facebook, WhatsApp or Instagram, our children are growing up in a culture where 'portraying a positive external image' is extremely important. Our children learn early that they need to put 'their best foot forward'. This tendency may be reflected in the scores. For e.g. in the clinical group analysis, it was seen that 56% of the group showed 'Above average self-esteem' scores. This may show a tendency to 'fake good' as the direction of many of the statements in the tests clearly indicate which response may be considered more desirable. 'Faking good' is a phenomenon where a respondent deliberately marks answers to show oneself in a desirable light. It is possible that children wish to portray greater self-confidence or better adjustment as they know and understand that it is a desirable response.

Moreover, findings on self-report measures are equally susceptible to 'faking bad'. The issues of 'faking bad' and 'faking good' have been taken up in research of self - report measures in the clinical context, by different researchers e.g. Daldin (1985), Franke, 2002 and Hahn, 2005. The same arguments can be extended to the use of non-clinical self-report measures, especially when good adjustment and high self-esteem are desirable features in personality.

Further, as we find low correlations of other's ratings of emotional and behavioral problems with projective drawings and limited strength of relationship with self-report measures too, it raises the issue of possibility of inaccuracy in **other rated quantitative measures** is also raised in the study (Webb, 1993). The screening tools are dependent on other ratings and observations. The raters who are generally selected for children from non-clinical settings, are parents or teachers. There are limitations in using this group for rating. It is a probability that the rater may be less aware or reflective about the behaviour of the child that is in question. It is also known that they may have a tendency to over or under report problems for varying subjective reasons. Martin, Ford, Christine, Dyer-Friedman, Jennifer, Tang, Huffman, Lynne (2004) studied the differences between self- reported and other reported measures of emotional and behavioral disorders in an outpatient clinical set up, and found only 25% concordance between self and parent rating. Only 38% of parents were able to identify clinically elevated levels of disturbance. This testifies that the well- known problem of 'false positives' and 'false negatives' documented in the context of psychological assessment, can plague quantitative and projective tools alike.

5.5 Major Findings

In this section, a summary of the significant of the study is presented: -

- This study revealed that the prevalence of emotional disturbances in a group of school going children in the age range of 7-11 years without any reported diagnosis, was found to be 47.3% using a cut off criterion of cut off scores recommended by quantitative scoring systems developed for the western context on the DAP and HTP tests. This suggests a tendency to mild overestimation of disturbance in general population if projective drawings are used.

- The prevalence of emotional disturbance in a clinically referred group of children aged 7-11 years who were referred for academic, emotional, behavioral or social difficulties and diagnosed by the IDEA criteria in clinical and school settings was found to be 56%. This showed a tendency towards underestimation of disturbance in clinical groups when projective drawing techniques of DAP and HTP are used to identify emotional disturbance.

- Age trends in identified emotional disturbance using Chi- square, showed significant age variation at 8,9,10 and 11 years. There was an increasing trend in the percentage of cases identified as age groups increased.

- Age trends in identified emotional disturbance in the children selected from a general setting showed that on the HTP test there was an approximately decreasing trend in the scores on SRC, WGA and ADST scales, while the scores on the AH scale increased. This showed increased aggression and hostility in this age group as they approach adolescence. The finding can be explained by the current cultural context that we are living in where aggression is becoming a desirable value and economic changes are increasing material expectations leading to lower frustration tolerance and increased aggression.

- Age trends in the DAP test scores did not reveal and significant difference according to age groups which can be explained by the use of age group based norms used for scoring and interpretation.

- Gender trends for identified emotional disturbance in the group of school going children aged 7-11 years showed that girls were more vulnerable to emotional disturbance. This contradicts a bulk of consistent findings in past literature where boys have been found to have more emotional and behavioral disturbances. The finding is also supported by two recently reported studies. This finding can be understood in the context of our patriarchal society which is currently in a stage of transition in terms of changing values and aspirations.

- In terms of validity, the two projective drawing techniques, HTP and DAP showed significant concurrent validity amongst themselves when total scores across the tests were used. This suggests similarities in patterns of identification of emotional disturbance across DAP and HTP.

- Examining sub components across the two tests, it was seen that the SRC subscale of HTP correlated with 'myself' drawings of the DAP. This implies that 'self' drawings may be a more reliable indicator of sexual maturity, sexual preoccupation or sexual abuse than 'man' or 'woman drawings'.

- 'Woman' and 'self 'drawings of the DAP also correlated significantly with the Aggression and Hostility scale of the HTP. It suggests that these drawings are perhaps more successful in revealing aggressive tendencies which is known to be expressed on drawings.

- 'Man' drawings of the DAP did not relate to any scale of the HTP, suggesting that the information emerging for these two do not match.

- Clinical validity of the DAP and HTP was found satisfactory as they could differentiate successfully between the clinical and non- emotionally disturbed groups of children from the reference group. There were significant similarities in the scores of the emotionally disturbed group and the clinical group. There were also significant differences between the clinical and non-emotionally disturbed groups.

- In terms of criterion validity, a statistically weak relationship between the projective drawing techniques and the selected criterion measure of SDQ was seen, with only some of the scales reaching significance.

- Specifically, the ADST scale of HTP test showed a significant relationship with the Hyperactivity and Externalizing scales of the SDQ in the emotionally disturbed group of the selected group, indicating criterion validity between these two aspects of the tests. This is a contradictory finding since, usually projective drawings are considered better measures of internalizing problems in children.

- In the clinical group, the WGA scale showed divergent validity through a significant negative correlation with the Hyperactivity scale of the SDQ, which can be understood in terms of the conventional understanding of Hyperactivity which is opposite to the patterns of behaviour associated with the WGA scale

- On the DAP, 'man drawings' ad total DAP scores were found to be valid in relation to the Conduct, Hyperactivity as well as the integrated scores on Externalizing scales of the SDQ in the emotionally disturbed group of the selected group. This reaffirms the contradictory finding mentioned above.

- In the clinical group, for a sub group identified as non- emotionally disturbed the DAP 'self' drawings and total scores showed validity against the scales of

Emotional disturbance, Peer problems and Internalizing behaviour scales of the SDQ raising questions about the applicability of identified cut off scores on the test in the Indian clinical context.

- With respect to convergent validity with the CFSEI, the AH subscale of the HTP test was found to have significant positive relationship with Social self-esteem, which raises the issue of a possible link between the expression of aggression and a positive social self-image.

- A negative relationship of the General self-esteem with WGA scale and Parental self-esteem with Total HTP scores was seen suggesting that increasing emotional disturbance can lead to decreasing self-worth for some areas of functioning, in the eyes of the child.

- In exploring the relation between DAP and the CFESI for convergent validity, 'man' drawings and Total DAP scores were found to be significantly related to General self-esteem in the Emotionally disturbed group, whereas was 'self' drawings were found to be negatively correlated with Social self-esteem in the Non emotionally disturbed group. These suggest that DAP drawings can reveal information on some aspects of self- esteem in a manner corresponding to a self-report measure of self-esteem. 'Woman' drawings did not show any relation to any of the areas of self-esteem namely: General, academic, parental, social, or total self- esteem.

- Findings related to convergent validity between the HTP and PAAS showed that the ADST scale was significantly negatively correlated with School adjustment. The SRC, AH, and WGA scales of the HTP showed no relation with any areas of adjustment i.e. Home, school, teachers, peers or total adjustment.

- Convergent validity findings relating the DAP with PAAS, showed that only 'self' drawings related to PAAS total scores implying that 'self' drawings may be indicative of the global adjustment of a child with the environment.

- Qualitative analysis showed that some indicators of the SRC scale on HTP drawings had the capacity to discriminate between the clinical and non-clinical groups.

- The AH, ADST and WGA scales could give very little towards the final understanding of emotional disturbance in these groups.

- The qualitative analysis of the DAP drawings showed that 'man' and woman drawings follow similar scoring trends and therefore can be interchangeably used or either one may be used.

- 'Myself 'drawings were largely successful in differentiating across groups and important indicators were identified.

- Several scoring indicators on both HTP and DAP were found to be used negligibly or not at all. A case for modification of scoring for use in the Indian context is made on the basis of these.

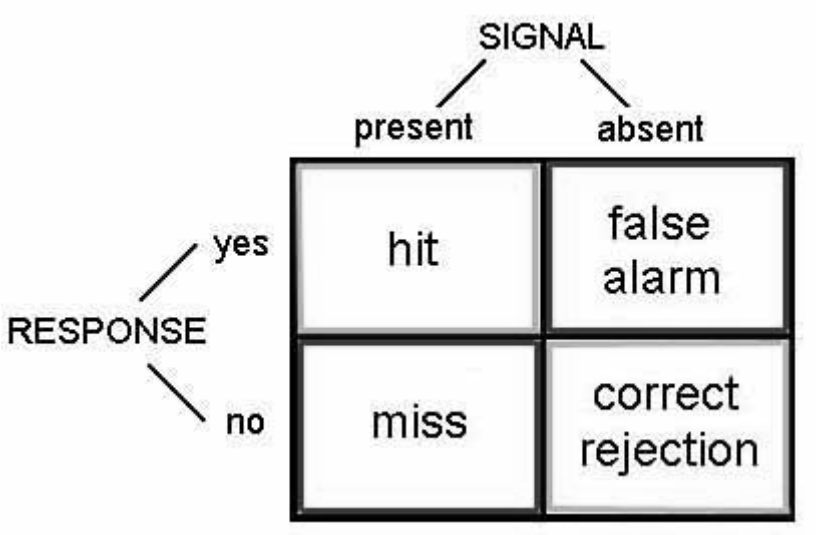
5.6 Concluding Remarks

So what has been gained through this study? Evaluating the relative strengths of the DAP, HTP, SDQ, CFSEI and the PAAS, we find that, the projective techniques can surpass the issues of faking responses and subjective bias as the stimuli given in such tasks are ambiguous and the information for which it is to be used is not self-evident to the subject being tested. In comparison to the self - report measures or behavioral ratings, projective techniques can offer a genuine

and a first-hand view of a child's difficulties. The projective drawing tools specifically have much to offer, but with 'hits and misses'. There is a tendency found to over identify group from school setting and to under identify in the clinically referred group. As to the question – "How well they meet the rigors of quantification and quantitative analysis?", the study has highlighted that the two approaches met each other half way with strengths and limitations on both sides.

The search for statistical validity in this research, has led us back to one of the classic theories in psychology, the 'Signal detection theory' that originated form the science of radar technology and was applied to the field of Psychophysics by Swets and Green (1966). The theory highlights how, two main features may influence whether a signal is detected or reported. First is the ability to discriminate the signal from 'background noise' or distractors and second is making the decision to report it. Many factors can influence these two features which lead to 'hits' and 'misses'. In this context of screening, a 'signal' that is an identifiable problem may be present or absent. If it is present, there is a chance that the tool either makes a 'hit' i.e reports its presence or 'misses' i.e. reports its absence when it is actually present. Similarly, when the 'signal' is absent, there is a possibility that it is still reported making it a 'false alarm' or that it is actually reported as being absent when it is actually absent. It appears that exactly this is what is happening with the projective drawings.

Figure 5.1. Diagrammatic representation of the diagnostic use of 'Signal detection theory'



(Adapted from Heeger, 1998, retrieved from *www psych.stanford.edu/~lera/psych115s/notes/**signal**/*

One of the cultural factors to be kept in mind when we use drawings in the Indian context is that Art is a subject that is taught with a specific syllabus, here. In such classes, a school going child is expected to make exact replicas of the Art teacher's drawings with little scope for the children to use their own imagination. They are also graded for their drawings. The children learn early to make specific types of representations for e.g. When asked to draw a house, most children would quickly draw a 'hut' with triangular roof, a square for the main section and staircases leading to the door (see appendix for illustration) Some may draw a rectangle split on one side and a rhomboid figure for a roof. The house is rarely given rooms, levels or other details. Similarly, children are taught to draw human figures in as early as the 3rd std. Many learn to draw a balloon man, an ice-cream seller, a village woman carrying pots. Such drawings naturally score high on the projective drawing system of the DAP: SPED as they would be scored for being tall and big, backgrounds would be filled in, objects would be attached, crotch area may be shaded, hands may be in an

inconsistent position etc. thus getting a cut off score of emotional disturbance when actually there may not be any. In this backdrop, asking the child to make 'self' drawings instead of 'man' or 'woman' drawings may be more useful in the Indian context.

5.7. Implications of the Study

The motivation that prompted this research have stemmed from multiple theoretical and clinical frameworks. Hence, the implications of this research are discussed accordingly.

5.7.1. Implications for uses of Projective drawings in the School Setting

In the field of mental health there is a constant need to identify appropriate tools to screen for different types of disorders from large groups for the purpose of primary preventions or early interventions. The screening tools have to be quick, easy to administer and has to give reliable results. In the capacity of a screening tool, the DAP and HTP meet the criteria for being quick and easy to administer and have been successful in identifying emotional disturbance. However, there is a likelihood of overestimation in the school context. To ensure more reliability, it will be useful to use the HTP and DAP together as they complement each other and add significant dimensions of information about the subjects. The DAP and HTP can be looked on as a tool at a preliminary screening level, that can help to decide if a child needs to be assessed further. The drawings may be collected by art teachers or school counsellors who have received specific training for this. While administering, it will be necessary to instruct to draw from their imagination rather than what has been taught, and that these drawings will not be graded. The scoring of these needs to be done specifically by trained personnel who are form the field of clinical or counselling psychology and

are trained for the use of this tool. It must also be kept in mind that multiple drawings be taken at an interval of 2- 4 weeks and disturbance identified on both can be processed for the second level of screening. At a further screening level, quantitative tools like the CBCL and SDQ can be used. At this stage, enquiry with teachers and parents will also give added weightage to the findings form the tools. Referrals for detailed assessments need only be made if the child is screened positively at both levels.

This study also points out the inadequacy of using the available norms of the DAP and HTP quantitative scoring systems directly for use in the Indian context. Therefore, it is necessary to develop a set of standard norms for use in the school settings. Thus we can see that projective drawings can play a useful role in prevention and early intervention if 1. They are handled carefully 2. Data from multiple sources is gathered 3. Multiple drawings are taken and 4. The norms of these tests are modified for the Indian context.

5.7.2. Implications for uses of Projective Drawings in the Clinical Practice

In the clinical setting, projective drawings have been proved successful in differentiating between emotionally disturbed, non-disturbed groups and clinical groups. Thus when symptoms of emotional or behavioral problems are reported in paediatric, neurological or psychiatric clinical settings, they can work as a screening device and be used as a referral base to clinical psychologists.

In the clinical process, it was seen during data collection that the projective techniques can help children to adapt to a clinical set up as they appeared to take to the activity with pleasure and it helped them to lower their defensiveness. It also helped to build on rapport and in developing a strong therapeutic relationship. Diagnostically, it was

proved that the Van Hutton's system of HTP scoring can be used for the diagnosis of emotional disturbance. Projective drawing techniques are also useful for a generic classification of internalizing and externalizing problems. Man' and 'self' drawings proved more helpful for clinical diagnosis. So instead of giving 3 drawings children may be asked for 1 or 2 drawings depending on the referral question. It is recommended that both the DAP and HTP be used together and that projective drawings be used alongside other quantitative and projective tests for the purpose of clinical diagnosis or psychological case formulation. Again, multiple drawings taken over period of time may be more useful. It must be also kept in mind that a revision of norms for the Indian clinical context, will help increasing its accuracy in diagnosis.

An important benefit of using the HTP and DAP, established by the study is that they can reveal important information about certain aspects of self-esteem and adjustment. Therefore, an understanding of the child's positive self-estimation and global understanding of the child's adjustment can also be gained along with their socio-emotional functioning.

5.7.3 Implications for Research

As a research tool, too, the DAP and HTP can give best results if used alongside with other quantitative tools as each method will bring in their specific strengths and weaknesses and multiple tools can give a better understanding of different aspects measured by each one.

The quantitative scoring methods were proved useful up to an extent. To achieve best outcomes on the projective techniques, researchers need to capitalize on the uniqueness of the projective drawings by using qualitative methods too.

5.8. Limitations of the Study

Despite the rigors of methodology attempted in this study, there are some limitations of this study.

1. This study used a purposive and convenience sample for the clinical and school samples, the use of a stratified random sample for the school setting may have been preferable to maximize generalizability.

2. The tool on adjustment (PAAS) had to be used despite not having a very high validity or reliability on some of the scales as there were no better available tools for adjustment in this age group.

3. An unplanned for gap in data collection of almost 4 years, occurred due to illness of the investigator and permission denial in the school where data was initially collected which may have affected findings to an extent.

4. Due to permission issues the size of Group 2 had to be restricted to 65 which was less than planned the original planned sample of 120 in the second stage.

5. More rigorous qualitative analysis of data is desirable as it would provide a detailed understanding about the usefulness of projective drawings as a method focussing on the nuances which could not be taken up due to time limitations.

5.9. Directions for Future Research

To further understand the potential of projective drawing tools in the identification of emotional disturbance, the following avenues of research are worth pursuing-

1. To replicate this study using a stratified random sampling method.

2. This study needs to be replicated with a larger sample of children identified at the second level of sampling i.e. where children with and without emotional disturbance are selected for the original sample.

3. For a better understanding of validity, a matched sample for the clinical group can be used for better comparability.

4. A normative study is necessary to develop norms for the quantitative scoring methods of HTP and DAP for school and clinical populations.

5. A further research to extend these findings can be conducted along with other projective drawings like the Kinetic-Family Drawing technique and the Kinetic- School- Drawing technique to get better insights into specific aspects of school and family adjustment.

6. A similar study using a mix of quantitative and qualitative data analysis will help to validate these tools further.

7. It may be useful to study clinical groups with a single diagnosis that need to can be studied in the context of projective drawings such as hyperactivity and learning disabilities which are common reasons for referral in the school context.