I wish to thank Mr T. V. Simpson, FRCS, for photographing the original radiographs; Dr J. M. Meyer, of the Cardiothoracic Department of the National Hospital, Bloemfontein, for the operative findings and the report on the patient's postoperative course; and Dr van der Berg, the Medical Superintendent of the Provincial Hospital, Welkom, for permission to publish.

REFERENCES


Assessment of Body-Image Disturbances in Peripheral Neurological Disease

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SUMMARY

Body-image is defined as the peripheral, schematically conscious, structured, plasticly bordered spatial concept of one's body, constructed from previous and current sensory information. On the basis of this definition the difficulties arising in the objective measurement of body image experiences are discussed, and the Draw-a-Person (DAP) test is examined regarding its validity as a measure of body-image disturbances in a group of paraplegic patients.

It is concluded, bearing in mind that the sample is small, that there was no correlation between absence of body parts, distortions or position discrepancies in the drawings and verbal description of body-image experiences. The Draw-a-Person test is probably invalid as a pure research tool as it measures many other parameters besides body-image.


Body-image can be defined as 'the peripheral, schematically conscious, structured, plasticly bordered, spatial concept of one's own body, constructed from previous and current (especially somaesthetic) sensory information." It is a phenomenon of consciousness usually in a peripheral way, and becomes the object of central consciousness by an act of will or direction, or by dysfunction of a body part or organ. It is not homogeneous, with equal emphasis on all parts of the body, but is structured in a hierarchical fashion, most emphasis probably being on the hands.

In neuropsychiatric practice and research adequate means for measuring and objectifying the body-image and its disturbances are necessary for any definite results to acquire replicable meaning. Such means are as yet largely unsatisfactory, even after consideration of the questions whether self-image or self-concept, body-image, body-schema and body-concept are mutually exclusive theoretical entities, or whether they constitute different but interrelated facets of the same larger concept. The difficulty in objectifying this concept is considerable. The most useful method would be the subjective, phenomenological self-description of the body-image, but this presupposes that the whole body-image can be at any one moment available for conscious awareness; that aspects of body image experience are amenable to description by language as symbol, and that sufficient symbols exist to cover the whole experience of the body. This is not the case, as shown by the inability of persons intoxicated with hallucinogenic drugs to describe adequately their changing perceptions of body-image experiences; and that persons have sufficient sensitivity and critical appraisal of these experiences. This is a common difficulty and one which can invalidate a study of body-image phenomena.

One of the projective techniques which offers itself for use in determining the body-image is the Draw-a-Person (DAP) test, where the subject's only cue is the
instruction to draw a human figure. This technique was used in the following short pilot study to investigate body-image disturbances in paraplegic subjects, as an assessment in addition to a free interview.

MATERIALS AND METHODS

Ten patients with spinal cord injuries and paraplegia after road or industrial accidents, who participated in an intensive inpatient rehabilitative programme at a spinal cord injuries unit, were interviewed. A special effort was made to determine their body perceptions at the time, and any changes therein resultant from their neurological lesions. A DAP test was carried out and related to findings at the interview.

Cord lesions extended from functional levels C7 to L3; 9 cases had complete functional loss of sensation, voluntary motor or bladder control; any cerebral lesions which might account for centrally-caused body-image disturbances were excluded. The duration of the paraplegia varied from 4 months to 14 years; ages ranged from 19 to 56 years. Nine cases were male and 1 female (Table I).

As 2 patients had cervical cord lesions with paralysis of the upper limbs, they could not complete the DAP test.

RESULTS

All 10 cases complained of spontaneous body-image disturbance, and in all cases this took the form of phantom pain or some other unpleasant sensation, present continuously or intermittently, and often evoked by external stimuli. Of the 9 cases with complete functional loss of their legs (as well as arms and trunk in 1), 2 did not include their legs in their body-image, and described their experiences as 'My legs don’t feel like my legs. I’ve not got used to not having legs yet' (case 6), and 'My legs feel strange, as if they don’t “belong to me, although I know they do. I’m aware of my feet but nothing in between' (case 7). Of these 2 cases only 1 showed some evidence on the DAP test response of non-inclusion of his legs in his body-image (Fig. 1). Another case who was aware of his denervated limbs drew a figure with complete cut-off below the level of the neck (Fig. 2).

This did not coincide with the level of his lesion which was at the 10th thoracic segment.

It appears, therefore, that there is no accurate or adequate correlation of subjective self-descriptive findings and DAP test responses.

DISCUSSION

One of the more obvious faults of this test is the subject’s inability to draw adequately, and another is the inherent inability to provide finer nuances and meaning of body-image perception. Schilder accepted the

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<td>C7</td>
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<td>T5</td>
<td>T12</td>
<td>T11</td>
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<td>1½</td>
<td>14</td>
<td>5</td>
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<td>10</td>
<td>1</td>
<td>½</td>
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<td>Yes</td>
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<td>Yes</td>
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way children drew human figures really does reflect their knowledge and experience of the body-image. He thought that they express at least the mental picture they have of the human body, and that the body-image is a mental picture as well as a perception. Studies of DAP responses in children with cerebral palsy matched with normal children of similar age, showed that whereas some disabled children drew figures which included a representation of their disabilities, some normal children also drew figures which could be construed as representative of some physical disability. This has been confirmed in another study, where children with residual poliomyelitis disabilities were indistinguishable from normals in their DAP responses.

A study in men with spinal cord injury and paraplegia, using the DAP to evoke self-concepts, showed that the drawings of paraplegics were indistinguishable from those of non-paraplegics insofar as length of figure, proportions, presence or absence of parts, position, etc. were concerned, or in sexual choice. Drawings of thalidomide victims, on the other hand, are claimed to show frequently a true representation of their physical status.

A fairly well-controlled study testing the hypothesis that DAP responses indicate a direct projection of body-self or body-image, had negative results. Students taking an elementary course in psychology were instructed to draw a whole person. Full-length frontal photographs were then taken of these students and a different group were asked to match drawing to drawing without knowing which belonged to whom. It was found that matching was better than by chance expectation, but the average number of matching successes was low. It was concluded that the DAP test possibly reflects ideal body-image or some other person.

The DAP test has found uses other than its initial use by Goodenough as a measure of intellectual maturity. Harris considers that there is little or no evidence for body-image disorder as seen in distorted body figures, missing limbs, etc., but a survey of the studies suggests that inconsistencies or uncertainties in execution, rather than in content or subsequent representation are more likely to appear in neurological deficits. Swansen states that DAP responses relate intimately to impulse, anxiety and conflicts or compensations characteristic of that individual. The figure drawn is the drawer, and the paper corresponds to the environment. The emotional aspects of the DAP responses are reiterated in Wysocki and Whitney’s study of crippled children. Significant differences were found in comparison with normal children in areas of inferiority, anxiety, and aggression, the latter indicated by shading, pressure and ‘negative compensation’ (large figure). Of the cripples, 36% indicated in their drawings an area of insult corresponding to their own crippling conditions. Children crippled by poliomyelitis often omitted the area of insult entirely, and this is thought to be a denial of loss of function and a representation of the self as intact. Wysocki and Whitney remind us that this is a frequent finding in adults. Loss of function is not acceptable and is thought to give rise to feelings of culpability for the loss.

The DAP test has also been used in a similar context, as a measure of body-image in correlating the latter with social desirability, with negative results.

One must conclude that the DAP test used as an indication of body-image is possibly of some value in children whose awareness is more concentrated on their bodies, especially so when orthopaedic disabilities prevent unencumbered use of the body. The use of the DAP test in adults is very much open to question regarding its validity. The test appears to evoke much more than just body-image, but also social conformity, ideal body-image, abilities in visual representation, and emotional aspects of body-self conceptions.

REFERENCES