Kinesthesiometer
User's Manual



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Description

This unit has been designed to provide a standardized instrument for the study of Kinesthesis. It has been calibrated in 1-degree increments and is ruggedly constructed for long life and frequent use. An adjustable finger guide and elbow saddle increases the comfort of the subject while keeping his arm in place. This instrument is equally well suited for active as well as passive movement or for the comparison of the two.

The following experiments have been provided as sample illustrations only and may be used as is or modified to suit any given laboratory situation.

Sample Experiment

Comparison of active and passive movement in Kinesthesis.

Procedure

The experimenter and subject will face one another. The unit should face the subject such that when his hand is extended straight out from his body the arrows point to zero degrees. Subject should be seated at a table so that his elbow rests naturally on the table when he is seated. His right arm should be placed on the quadrant with his elbow at the center and middle finger at zero. The zero radius of the quadrant should be parallel with the subject's chest and subject should be instructed to look carefully at the arc to fix in mind the positions of the different degrees. The experimenter should then blindfold subject and present the stimuli from Table 1 in the following manner:

A. Passive Movement

1. Using the elbow as a pivot, experimenter (E) takes subject's (S) arm by the wrist and moves it to the one of the points previously selected from zero through 90, stopping with the middle finger on the number.
2. S should estimate the distance moved in degrees.
3. E should record the error of this estimate in the appropriate column of Table 1 keeping in mind time direction of the error.
4. E will move S's arm for ten trials each for each of the points indicated in Table 1, starting each trial at zero. These trials should be randomly present, S should remain blindfolded throughout the 70 trials, and at no time should S be told the amount or direction of his errors. The 70 trials may be presented to the right, to the left, or both while the errors should be recorded with algebraic sign, keeping track of whether the S's estimate was too large or too small.

B. Active Movement

After completing the first part of this experiment, the subject should be given a rest, after which the following procedure should be incorporated.

1. E tells S, who is again blindfolded, to move his arm a specified number of degrees, with this number corresponding to the same headings found on Table 1, as used in the first part of the experiment.
2. S, with his finger at zero, should move his arm until he thinks he as moved the distance indicated by E.
3. E notes where S's finger has stopped and records the results on Table 1.
4. E then moves S's arm back to zero and gives him another trial. Again, remember to randomize the presentation of stimuli and do not tell the subject the amount or direction of his errors.

Results

Compute the total amount of error with the signs as well as the total amount of error without the signs. Compute the constant and average errors.

References

Gilford, J.P., *Psychometric Methods*, McGraw-Hill, 1954.

Underwood, B.J., *Experimental Psychology*, New York, Appleton Century, 1949.

Woodworth, R.S. & Schlosburg, H., *Experimental Psychology*, New York, Holtwein, Hsrt & Winston Inc., 1954.

Table 1: Kinesthetic Sensitivity

(A) Errors in Passive Movement

Angles

	0°		15°		30°		45°		60°		75°		90°	
Trials	R	L	R	L	R	L	R	L	R	L	R	L	R	L
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
Total w/o Signs														
Total w/ Signs														

Table 2: Kinesthetic Sensitivity

(B) Errors in Passive Movement

Angles

	0°		15°		30°		45°		60°		75°		90°	
Trials	R	L	R	L	R	L	R	L	R	L	R	L	R	L
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
Total w/o Signs														
Total w/ Signs														

Terms and Conditions

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