

Lab on thumb dominance



Biology 111 Laboratory #1: MBS Title: Study of the Dominant Thumb and Handedness Abstract: The dominance of the thumb and its relationship to handedness was studied. 50 volunteers were asked to clasp their hands and the thumb dominance and handedness of each subject was noted. The results showed a connection between the handedness of a person and its opposite thumb dominance, though all combinations of handedness and thumb dominance were evidenced. 1. Introduction A. Background

Information Relevant literature addresses a few issues regarding the dominance of the thumb and handedness.

Some suggest right and left hand claspers do so because of a genetic connection, while environmental factors have also been suggested. A strong correlation between either right or left dominant thumbs and right or left-handedness has not been proven, though some have found a small relationship. B. Purpose The purpose of this study is to determine whether there is a relationship between dominant thumbs and handedness. C. Hypothesis Given the above background information, it is hypothesized that there will not be a correlation between right dominant thumbs and right-handedness and left dominant thumbs and left-handedness. . Procedure A.

Equipment Used A pencil, a notebook and 50 volunteers are needed to complete the experiment. B. Collection of Data The researcher stood in a public place (the library), and approached volunteers and asked each volunteer to help with a simple test. The researcher said, " Please clasp your hands together. " After the volunteer clasped his/her hands together, the researcher noted whether the right or left thumb was on top. Then, the researcher asked the volunteer, " Are you left-handed or right-handed? The

researcher also noted this in her notebook. 3. Results A. Table Summary of the Data

Volunteers (subjects)	Number	% of total volunteers
Right-handed with dominant right thumb	6	12%
Left-handed with dominant left thumb	5	10%
Right-handed with dominant left thumb	37	74%
Left-handed with dominant right thumb	2	4%
Total	50	100%

B. Summary of Data As shown in the above table, those who were right-handed with a dominant left thumb were in the majority. They make up 74% of the total subjects, totaling 37 in number.

Those who were right-handed with a dominant right thumb were the next largest group, making up 12% of the subjects, totaling 6 subjects. The next largest group was those who are left-handed with a dominant left thumb, 10% of the total group, 5 subjects. The smallest group was those who were left-handed with a dominant right thumb, only 2 subjects, which makes up 4% of the total tested. From the results above, it does not appear that there definitely a genetic link between the handedness of a person and their thumb dominance. 4. Discussion A. Support of Hypothesis

The experiment did support the hypothesis that there is not a correlation between right-handedness and right thumb dominance and left-handedness and left thumb dominance. Rather, in this study the opposite hand seems to hold the dominant thumb. Of the total subjects, 78% had the opposite thumb dominant. B. Explanation 86% of the subjects were right-handed, which given the prevalence of right-handed people as opposed to the less common left-handers, this seems to be a likely result. 78% of those tested also had an opposite thumb dominant, of which the cause is unknown.

C. Conclusion This study shows that it is likely to have the opposite thumb dominant from a person's handedness. As shown in the above data, there are exceptions to this. Additionally, no clear evidence of the cause of this is shown in the above study.

References Cited Lai, L. Y. C. , and R. J. Walsh. The patterns of hand clasping in different ethnic groups. *Human Biology* 37 (1965): 312-319. Lourie, J. A. Hand-Clasping and Arm-Folding among Middle Eastern Jews in Israel. *Human Biology* Vol. 44, No. 2 (May 1972): 329-334. Article Stable URL: <http://www.stor.org/stable/41459801> Reiss, M. [Hand clasping--an overview]. *Anthropol Anz* 1999 Jun; 57(2): 165-84. [Article in German] Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/9974082> Reiss, M. The genetics of hand-clasping--a review and a familial study. *Ann Hum Biol* 1999 Jan-Feb; 26(1): 39-48. Vorndam, Margaret E. *General Biology Independent Laboratory Experiences for the College Science Major First Semester: A Manual of Eleven Semester Laboratories for a Two-semester Laboratory Sequence in College Level Biology*. Hands-on Labs, Inc: Sheridan, CO.