The Tension Literature.

This is a bibliography of literature on the subject of tension. Books, films, and periodicals with a bearing on stress, relaxation, anxiety, and/or methods of controlling stress are listed from the fields of physiology, psychology, and philosophy. New methods such as transcendental meditation and biofeedback are analyzed briefly and criteria are suggested for evaluating research. Annotations are supplied for most of the books listed; some books are reviewed in more detail. Publishers’ addresses and costs are provided for the majority of the entries. (CD)
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The itemized list prepared herein especially for members of the American Association for the Advancement of Tension Control is intended to promote the following:

1. To serve as a basic resource list for the AAATC.
2. To assist non-members in obtaining valuable resources prior to the initiation of research and/or instruction in tension control.
3. To be employed as basic references for the development of a set of operational definitions for terminology common to the diverse set of professionals served by the AAATC with the hope of arriving at some common ground for dialogue.
4. To be employed in the development of a set of criteria for the assessment and encouragement of research in tension control.
5. To serve as a format, later inclusive of key words, for the efficient retrieval of current literature in tension control with the ultimate development of a comprehensive bibliography.

Note: For each entry, the reader will find in addition to the normal bibliographical data, the cost of most items and the publishers' addresses. A very brief annotation has been added for a majority of entries.

Additional copies are available from the Chairman @ .50 per copy to defray printing costs.

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Roger Enfield, Ph.D.

9-22-75
THE LITERATURE OF TENSION - A SELECTED LIST

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Committee on Bibliography and Criteria

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Frederick


Brown, B., *New Mind, New Body*. N.Y.: Harper and Row (10 E. 53rd St., 10022), 1974 $9.95 A good layman's overview of the field. With respect to this author, a "Don't hold the party, yet" caution. See Melzack below.

Budzynski, T.H., et. al., "EMG Biofeedback and Tension Headache: A Controlled Outcome Study." *Psychosomatic Medicine* 35:484-496 (Nov., 1973) AAATC Psychology Div. Chairman, Johann Stoyva, also prominent in this important study described by Blanchard and Young and others as the only firm study in the field. See also Melzack's comments.


Jacobson, E., Direct Electrical Measurements of Mental Activities in Action Potentials (Vol. 1 Reprints) Chicago: Laboratory for Clinical Physiology (55 E. Washington St., 60602) $1.50 This classic series of studies was originally found in 1930 and 1931 in the American Journal of Physiology contributed immensely to the understanding of "mental activity."

———, Progressive Relaxation. (2nd Ed.) Chicago: University of Chicago Press, 1938. (Reprint currently available from Laboratory for Clinical Physiology) $16.50 Perhaps the classic work in tension control most frequently cited as a reference. Many techniques for instruction are found which can easily be adapted for school use.

———, You Must Relax. (4th Ed. soon to be revised) N.Y.: McGraw-Hill Book Co., 1962 This text is commonly used by students taking a first course in tension control or relaxation.

———, Self-Operations Control. Phila.: J.B. Lippincott Co. (E. Washington Square, 19105), 1964 30 copies for $12.00 An excellent supplemental pamphlet for the instructor illustrating all muscle groups employed in training sessions and practice.

Laban, R. and Lawrence, F.C., Effort. Boston: Plays Inc. (8 Arlington St., 02116), 1974. This valuable little book treats the qualitative analysis of movement in a very special way. Effort based therapies are based on this work. The publisher carries a full line of the Macdonald-Evans movement books inclusive of many on dance therapy.

Luthe, W., "Autogenic Training: Method, Research and Application in Medicine." American Journal of Psychotherapy 17:174-195, 1963. The only definitive article to be found in the literature. Other works in English may be obtained from Grune and Stratton Pubs. The article cited is also found in Biofeedback and Self-Control (Reader), See below. Volume 1 of the Grune and Stratton series is most often cited. (Luthe and Schultz - 1970 - Vol. 1, $13.75; Vol. 2, $11.75; Vol. 3, $11.75 - Luthe is credited with Vols. 4-6; Vol. 4, $14.75; Vol. 5, $17.50 and Vol. 6, $19.75) An earlier volume by Luthe (1965) is also available from Grune and Stratton entitled Autogenic Training, $17.50. (Grune and Stratton, Inc., 111 Fifth Ave., N.Y., N.Y., 10003. Methods of training based on autosuggestion.

Mason, J., "The Integrative Approach in Medicine - Implications of Neuroendocrine Mechanisms." Perspectives in Biology and Medicine, Spring, 1974 pp. 333-347 Outlining what the author feels is the modern approach to the study of "stress." See also first two issues of the Journal of Human Stress (Cited below under "Journals.") for a contrast between the positions of Mason and Selye.

McCroskey, J.C., "The Implementation of a Large Scale Program of Systematic Desensitization for Communication Apprehension." The Speech Teacher 21:269-277, 1972 Recommended by Professor John A. Daly of Purdue University's Communication Research Center as a most recent "classic" on the treatment of "stage fright." A reference to Dr. Daly's bibliography on communication apprehension is found below under "Bibliographical Materials."

McGuigan, F.J. and Schoonover, R.A., (Eds.), The Psychophysiology of Thinking. N.Y.: Academic Press (111 Fifth Ave., 10003), 1973 $26.50 A collection of papers presented at the Hollins College Symposium on the Psychobiology of Thinking with contributions by leading authorities. (Note: A transcript of Dr. Jacobson's most recent thoughts on mental activities is available from the compiler.)
A concise, two-part exposure of scientific and religious approaches to meditation. See also Ornstein in "Reference Works" below.

One of the few comparative studies to be found in the literature.

Richardson, A., *Mental Imagery*. N.Y.: Springer Pub. Co., Inc. (200 Park Ave. S., 10003), 1969 $7.50 A good coverage of the research on covert rehearsal leading to an understanding of the variables of "mental practice." Relates Jacobson's work to this field of study.


Written for the general reader, Selye exposes his concepts of stress including the G.A.S. and L.A.S. His more recent *Stress Without Distress* (Lippincott Pubs., E. Washington Square, Phila., Pa., 19105 $6.95) adds to the definitions presented in his former publications. (Stress, distress and eustress) His Acta publication on stress is also soon to be revised.

Sherrington, C., *Man on His Nature*. (2nd Ed.) N.Y.: Cambridge University Press (32 E. 57th St., 10022), 1963 $3.75 paper This collection of Sir Charles Sherrington's series of lectures is a most interesting background volume. His concepts are colorfully presented and can add to the lectures of those teaching tension control.

Sokolov, A.N., Inner Speech and Thought. N.Y.: Plenum Press (227 W. 17th St., 10011), 1972 $22.50 (Translation from the Russian edited by D.E. Lindsley.) Clearly confirming Jacobson's work with an insight to similar experimentation conducted in Russia.

Steinhaus, A. and Norris, J., Teaching Neuromuscular Relaxation. Chicago: George Williams College, 1964 (No longer in print.) This important volume was completed by virtue of an H.E.W. grant (Office of Education Project # 1529) and demonstrates the value of teacher training or re-training for the purpose of promoting neuromuscular relaxation in the public schools. An abstract of this project is found in Quest ("Facts and Theories of Neuromuscular Relaxation." Winter Issue, Dec., 1964 pp. 3-14.).

Steinhaus, A., "Your Muscles See More Than Your Eyes." Journal of Health, Physical Education and Recreation Sept., 1965 pp. 38-40. A good introductory article on proprioception written by the most prominent physical educator in the tension control field.


Wolpe, J., *Psychotherapy by Reciprocal Inhibition*. Stanford, Cal.: Stanford University Press (94305), 1958. $7.50 This is a standard work in the field.

_________, *The Practice of Behavior Therapy*. (2nd Ed.) Elmsford, N.Y.: Maxwell House (Fairview Park, 10523), 1974 $6.50 paper The most common reference for systematic desensitization.

**Selected Audio-Visual Materials**

Basmajian, J. and Stoyva, J., (Eds.) *Biofeedback Techniques in Clinical Practice*. Vol. I N.Y.: BioMonitoring Applications, Inc. (270 Madison Ave., 10016), 1975 This first volume is a collection of ten tapes recorded to bring the listener up-to-date information about ongoing therapies. Some tapes are for actual practice.

**On-The-Spot** (10642 Balboa Blvd., Granada Hills, Calif., 91344) This company has available cassettes recorded at a number of national conferences including AAHPER's 1975 Convention with selections by E.E. Green, M. Edwards and others.

**Films**

University of Iowa (Iowa City, Iowa, 52240 - Audiovisual Center)

#U-40126: **Muscles: Dynamics of Contraction** Rental $10.25
#U-20245 **Muscle: Electrical Activity of Contraction** Rental $4.75
#U-20295 **What Makes Muscles Pull?** Rental $5.40

Bureau of Audio-Visual Instruction (BAVI) University of Wisconsin Extension, Madison, Wis., 53711

#4295 **Muscle Spindle** Rental $8.50

Note: All of the above contain excellent simulations of the intricate workings of the muscles based on photomicrography. They may be used in conjunction with slides made from the pages of *Scientific American* (See Huxley above.)
Supplementary Reference Works


Greenfield, N.S. and Sternbach, R.A., *Handbook of Psychophyiology*. N.Y.: Holt, Rinehart and Winston, Inc. (383 Madison Ave., 10017), 1973. $25.95 Undoubtedly one of the best references for the student of tension control containing an unusually large bibliographical treatment with the work of more than 4,000 people documented. This source could easily be employed as a key source for definitions of those terms which are commonly employed in the tension control field.


Rathbone, J.L., *Relaxation*. Phila.:Lea and Febiger (Washington Square, 19106), 1969. $5.95 The first physical educator to write on the subject of relaxation. Material now somewhat dated but it should be noted since it was an attempt to get educators involved. See also the work of Steinhaus in the physical education field and the following article which brought much attention to the field of education of Dr. Jacobson's work:

Frederick, A.B., "Tension Control in the Physical Education Classroom." *Journal of Health, Physical Education and Recreation*. Sept., 1967. The program described was much inspired by the assistance of Miss Bernardine Lufkin.


See also the following treatment of the mind-body problem:

Bibliographical References

Biofeedback and Self-Control - These volumes represent annual collections of significant works in biofeedback and self-control. Articles are selected from leading journals in psychology, science and medicine by a panel of expert editors one of whom is selected to write an introductory summary. Summarizers have included our own Chairman of the Psychology Division of AAATC, Johann Stoyva, who served as editor for the first two annuals (1970 and 1971). Other prominent members of the Biofeedback Research Society serving as editors have been David Shapiro, Neil E. Miller and Leo V. DiCara. A special "Reader" has also been assembled which contains a collection of articles of interest appearing prior to 1970. These are excellent reference volumes and no library in the tension control field should be without them.

"The Biofeedback Reader" (Biofeedback and Self-Control - An Aldine Reader on the Regulation of Bodily Processes and Consciousness) 1971 $18.95

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Aldine Publishing Co., 529 South Wabash Ave., Chicago, ILL. 60605


Daly, J.A., Communication Apprehension ("Stage Fright"): A Preliminary Bibliography of Research. West Lafayette, Ind.: Purdue University Communication Research Center (47907), n.d. Highly specialized.
This is the best publication on the subject with good cross indexing to make the bibliography most useful. Tension control topics are included.

Kanellakos, D.P. and Lucas, J.S., *The Psychobiology of Transcendental Meditation: A Literature Review*. Menlo Park, Cal.: W.A. Benjamin, Inc., 1974. A very complete review as compared with the current best-seller by Bloomfield et.al. *TM Discovering Inner Energy and Overcoming Stress* (Delacorte Press, 1975) the latter systematically neglecting the cautions of the authors and excluding all studies having negative implications. In a personal note Kanellakos now claims to make other conclusions about his work which are more positive citing the work of Glueck and Stroebel at the Institute of Living in Hartford Connecticut. Nothing of note on the subject of TM has been forthcoming from the Hartford group. The failure of TM people to specify the assignment of the mantra including some analysis of the personality screen employed as well as the formulation of the phonemes employed by initiators makes comparison studies all but impossible. The key to the mantra question might lie in Mahesh's *Maharishi Mahesh Yogi on the Bhagavad-Gita*, Baltimore: Penguin Books, 1969. Nothing else on the subject has appeared except some insightful remarks by Gary Schwartz in the pages of *Psychology Today* (April, 1974 pp. 39-44 "TM Relaxes Some People and Makes Them Feel Better")

An extensive, thirty-one page bibliography is included.

**List of Journals Cited and New Journals**

Most of the information below was obtained in the 15th Edition of *Ulrich's International Periodicals Directory*. Some of the journals represent new and important media for publications in tension control.


Archives of General Psychiatry (1959) Ed. Dr. Daniel X. Freedman. American Medical Assoc. 535 N. Dearborn St., Chicago, Ill. 60610 Monthly $12.00

American Journal of Physiology (1898) American Physiological Society, 9650 Rockville Pike, Bethesda, Md. 20014 Monthly $75.00

Biofeedback and Self-Control (To be published in late 1975 or early 1976) Ed. Dr. Johann Stoyva. Biofeedback Research Society, c/o University of Colorado Medical Center, #202, 4200 E. 9th Ave., Denver, Colorado 80220 Quarterly $15.00 (Free examination copy.)

Electroencephalography and Clinical Neurophysiology ("The EEG Journal") 1949 (Also incorporating Index to Current EEG Literature.) Ed.Ed. Elsevier Scientific Publishing Co., Box 211, Amsterdam, Netherlands. Monthly 150 Florins

Electromyography (1951) Ed. N. Rosselle. E. Nauwelaerts, Ladeuzeplein 2, Louvain, Belgium (Eng. text available) Quarterly $16.50


Journal of Human Movement Studies (1975) Only two issues thus far.
Eds. H.T.A. Whiting and M.G. Whiting Dept. of Physical Education,
University of Leeds, Leeds LS2 9JT, England. Quarterly Note:
Editorial Board includes K.J. Connolly, H.J. Eysenck, J. Paillard,

Perspectives in Biology and Medicine (1957) Ed. Dr. Dwight J. Ingle,
University of Chicago Press, 5801 S. Ellis Ave., Chicago, Ill.,
60637 Quarterly $10.00

Psychiatry (1938) Ed. Dr. Donald L. Burnham, William Alanson White
Psychiatric Foundation, Inc., 1610 Nee Hampshire Ave., N.W.,
Washington, D.C. 20009 Quarterly $12.50

Psychological Bulletin (1904) Ed. Lloyd G. Humphries American
Psychological Assoc., Inc., 1200 17th St. N.W., Washington,
D.C. 20036 Monthly $20.00

Psychological Review (1894) Ed. Charles N. Cofer American Psychological
Assoc., Inc., 1200 17th St. N.W., Washington, D.C. 20036
Bi-Monthly $10.00

Psychology Today (1967) Ed. T. George Harris CRM Inc., Del Mar,
Cal., 92014 Monthly $12.00

Psychophysiology (1964) Ed. Dr. Albert F. Ax Society for Psychophysiological Research, 951 E. Lafayette, Detroit, Mich., 48207
Bi-Monthly $30.00

Psychosomatic Medicine (1938) Ed. Herbert Weiner American Psycho-
somatic Society c/o American Elsevier Publishing Co., 52
Vanderbilt Ave., New York, N.Y., 10017 Bi-Monthly $17.50

Quest (1963) Ed. Dr. Betty Spears, School of Physical Education,
University of Massachusetts, Amherst, Mass., 01002
Publication of the Nat'l. Assoc. for Physical Education of
College Women and National College Physical Education Assoc.
for Men. Quarterly $8.00

Scientific American (1845) Ed. Dennis Flanagan Scientific American,
Inc. 415 Madison Ave., New York, N.Y. 10017 Monthly $10.00
CRITERIA

Although there is much more we must do as an Association prior to the establishment of firm criteria for acceptable research and certification in the tension control field, there are some valuable clues from present research and thinking that should help us in this important task. In order that we speak some common language, I suggest that Greenfield and Sternbach's Handbook of Psychophysiology be employed as a prime reference that should be within easy reach of most members (See p. 7 above). It is apparent that certain words that are commonly employed by workers in the tension control field often have (or refer to) a variety of interpretations. This makes interdisciplinary study extremely difficult and can result in needless semantic inefficiency. I will touch briefly on such difficult words momentarily. Most of them are identified on the montage which has been constructed as a cover for this review. The montage is the work of the Chairman and is not to be construed presently as an instrument of the Association. It is a "Stammbaum" of the tension literature as I see it and rightly, I believe, is inclusive of many areas which have little to do with our prime purposes. I believe such peripheral methods and techniques must be given their day in court.

One clue to what is needed has been supplied by Ronald Melzack whose interesting article in Psychology Today (July, 1975, pp. 18-22+) cautions, "Don't Hold the Party Yet" in reference to biofeedback. This theme is also apparent in the Greenfield-Sternbach Handbook. Melzack's statement that "astonishingly, only a single study has so far provided definitive data" with respect to the biofeedback field (Budzynski et.al., 1973 - See p. 1 above.). The criteria he presents are as follows:

1. Provide data to indicate that the biofeedback procedure is greater than an expected placebo effect.
2. Biofeedback therapy must be of sufficient magnitude and duration to have clinical significance. (The problem of clinical significance vs. statistical significance is further explored by Blanchard and Young - See p. 1 above.)

3. Learning transfer from the laboratory to normal life conditions implies that the training has made some impact upon habit formation. There is a great lesson to be learned here from the practical experience of gymnastic specialists who understand the delicacy of the timing involved in the weaning process in skill learning. The acrobat is accustomed to hear "Take him out of the belt!"

4. Maintenance of follow-up records during the post-treatment period for substantial periods of time. How much time is enough? I believe we should think about this problem.

Blanchard and Young's excellent article reviewing the current evidence in biofeedback (featured as the lead article in the 1974 Aldine annual Biofeedback and Self-Control, pp. 3-39) also include a kind of "power test" for reported research. Their classification of research work includes the following categories:

1. Anecdotal case reports  
2. Systematic case reports  
3. Systematic case studies  
4. Controlled single subject experiments  
5. Single group outcome studies  
6. Controlled group outcome studies

They too have commented upon the uniqueness of the Budzynski et al. study which is in category six thus apparently showing agreement with Melzack. There is another statement by these writers which merits our attention ...

"... it seems possible that the biofeedback procedures may be only elaborate methods for teaching relaxation."

and refer specifically to a paper by Tasto and Shoemaker read at the Seventh annual meeting of the Association for the Advancement of Behavior Therapy. They recommend the following sources to those contemplating research:


**EMG Research** - The best general reference I have found as mentioned above leading to many other specific references is the Greenfield-Sternbach Handbook of Psychophysiology. The following sub-topics under EMG are given which can be employed for the development of standards by an appropriate AAATC committee:


This list represents a minimal account of the factors one might consider in depth in the evaluation of or conduct of research employing EMG apparatus.

**Theoretical** - There are two papers that are particularly enlightening with respect to models one might build for tension control. The Davidson-Schwartz paper soon to be published in Mostofsky's Behavior Control and Modification of Physiological Activity describes a multi-process theory of relaxation methods. The authors present a notated chart using somatic and cognitive variables to describe their theory and for purposes of prediction. At the very least, this approach should help us understand differences in present methodology. For example, there is a tendency for writers to generally lump together techniques associated with Jacobsonian relaxation and autogenic training.
Teichner's article on "stress" presents another sort of model including postulates, corollaries and supporting research of the effect of increased activation on attention and ultimately on performance. He employs the terms, "physical" and "symbolic" in a scheme of relationships accounting for "stress" reactions. Also prominent in Teichner's theory are factors referred to as "tuning," "filtering" and "reversal." He explains such variables in terms of an inverted curve ("U"-shaped) which has implications for both clinical methodology and skill education.

Words, Words, Words

We have begun with words and we'll end with words. There is little doubt that they give us trouble. Any serious reviewer will be struck by the fact that key words in tension control are commonly found on a broad continuum of meaning. Some of the prominent culprits are: (After each word I suggest some conceptual common ground.)

1. Anxiety - Some notion of fear manufactured needlessly by the individual. Emotion.
2. Biofeedback - An information system; not a therapy per se.
3. Emotion - The idea of an integrated response.
4. Hypertension - Unfortunately this has come to mean high blood pressure.
5. Relaxation - The idea of a state of approximately zero tension in muscle. The idea of EMG verification. The opposite of tension.
6. Stress - Although this word is the most ambiguous of all, I suggest that we start out with some notion of the endocrine implication and failing the "endocrine test" that some other, more appropriate term be employed.
7. Tension - A measurable state of the muscle in terms of EMG electrical potentials signaling the onset of muscle contraction. If our use fails the "muscle test" some other term should be utilized.

At the very least, the AAATC should form a small committee on terminology with the goal of formulating acceptable operational definitions.