Summary of Examination of the QLink ClearWave on Anxiety Levels of Students in a Public School Setting[1]

Introduction
A study was conducted by David A. Eichler, Ph.D., Holos Unversity, to examine the effects of QLink ClearWave on anxiety levels of students and teachers in a public school setting within an existing EMF environment.

Methods
Subjects included 184 students (93 male, 91 female) with an average age of 12 from eight sixth-grade level classes at a public middle school in Northeast Kansas. In order to be included as a subject in the study, individuals had to complete each of the two baseline surveys and each of the nine intervention surveys. A total of 91 students met this criteria.

The dependent measure utilized in this study was the State-Trait Anxiety Inventory for Children (Spielberger, 1973) which is a standardized survey designed specifically for 4th to 6th grade children to assess state and trait anxiety levels. Each item on the State-Trait Anxiety Inventory for Children is a 3-point rating scale: a 3 indicates a high level of anxiety, while a 1 indicates the absence of anxiety. Thus, scores on both the S-Anxiety and T-Anxiety subscales can range from a minimum of 20 to a maximum score of 60 *State anxiety* scores refer to the level of anxiety an individual experiences at the given point in time when the STAIC survey is completed, while *trait anxiety* scores refer to the level of anxiety an individual experiences in general.

The independent measure used in the study were the QLink ClearWave devices. The active and inactive (sham) units were identical in appearance. Students were exposed to the ClearWave device (active or sham) only when in the classroom, approximately five hours each school day.

The study utilized a double-blind repeated-measures control group design. The teachers and students, as well as David Eichler, were unaware of whether they were in a group with active or inactive devices.

Each classroom was equipped with a 27-inch color television, a VCR, a computer, monitor and printer for the teacher, two or three computers/monitors and a printer for the students to use, and an overhead projector. Electromagnetic field readings were taken using a TriField meter. Exposure levels varied depending on location. (See Table I)

Table I. EMF Exposure Levels within the Classroom (in milligauss)

DESIGNATED AREA				
Student Seating Area	Teacher's Station Area	Computer/Monitor/ Printer Area	Overhead Projector	Televison and VCR
0 to 1 mG	< 1 mG to 25-50mG	5 - 50 mG	3 mG to over 100 mG	< 1 mG

Results

Intervention Data

A between-subject treatment effect test indicated a statistically significant difference between treatment and control conditions for state anxiety scores at a 94% confidence level, $\underline{F}$(1)=3.67, $\underline{p}$=.059. While the same test did not indicate a statistically significant difference between treatment and control conditions for trait anxiety scores, $\underline{F}$(1)=.077, $\underline{p}$=.782)

In addition, state anxiety average scores decreased by 3.0 average points for the active QLink group compared to only 1.9 points for the inactive control group.

Conclusions

The study concluded:

 "With the increased focus on outcomes using standardized testing in public education, a device that helps reduce anxiety may assist individuals who, in particular, experience performance anxiety on such tests. Reduction in anxiety may affect one's perceptions of their environment, thereby reducing feelings of hostility, depression, frustration, isolation, etc.

It is possible that prolonged exposure to SRT devices in schools may produce a cascading series of events that may help to lessen these feelings, thereby reducing overall levels of violence (including less severe acts, for example fighting or bullying).

It is also possible that the SRT device may impact the ability for information to be more successfully processed and/or assimilated into the student's overall educational schema.   If this holds to be true, students may be more likely to successfully concentrate on presented material within the curriculum, resulting in achieving mastery over the material in a more expeditious fashion.

While this study did yield a significant effect of an SRT device on reduction of state-levels of anxiety, a larger contextual question exists.   Do such decreases have a meaningful impact on the student's well being (social validity) and, if so, in which dimensions (academic, interpersonal, emotional, biological…)?

Nevertheless, this data does provide reasonable promise that SRT devices, such as the Clarus QLink ClearWave, may indeed afford some degree of benefit to individuals with regard to anxiety reduction."

References

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