Light Treatment and Biological Rhythms

Bulletin of the Society for Light Treatment and Biological Rhythms

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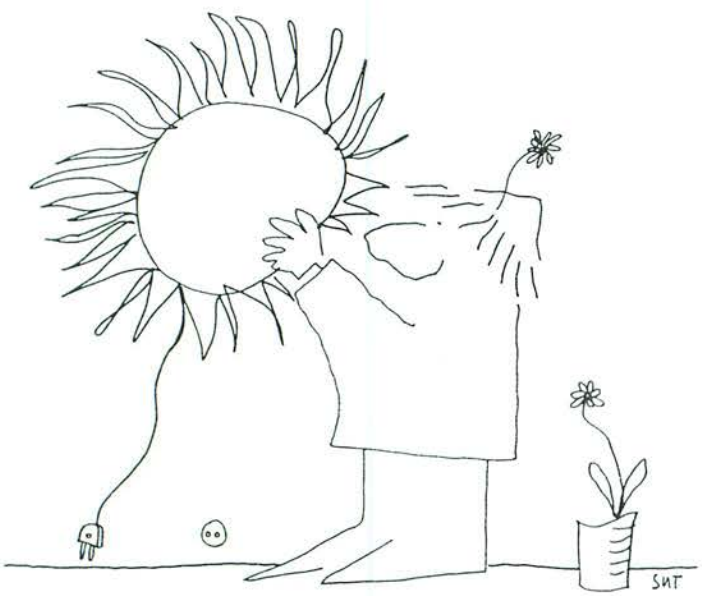
1993 ANNUAL MEETING PLANS SET FOR SAN DIEGO

A brochure, registration materials and abstract submission form for the SLTBR 1993 annual meeting were mailed to all members in February.

The meeting, scheduled for 19-20 June on the campus of the University of California, San Diego, School of Medicine, will include scientific presentations on recent research in chronobiologic sleep and mood disorders in oral and poster format, a continuing education program featuring a pragmatic overview of light therapy and its applications, as well as the annual business meeting and banquet. The Program Committee has applied for Category 1 CME certification for the educational segments of the meeting and is seeking similar credit for psychologists. As in the past, SLTBR Corporate Members have been invited to exhibit their products at the meeting.

SLTBR members active in research are encouraged to participate in the meeting presentations. Please complete the abstract submission form and return it with your abstract to the SLTBR office **before 16 April**. The expanded requirements for abstract format were helpful last year in creating a submission standard for publication of meeting abstracts. They have been included in the form for 1993 and members are asked to take care in meeting these requirements. Meeting registration must accompany the abstract submission. The Program Committee will review abstracts and respond with session assignments by 14 May.



Cartoon by SUT in "L'Alsace"; collection of the Editor.

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Bulletin of the Society for Light Treatment and Biological Rhythms

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Unsolicited manuscripts, letters to the editor, and Bulletin Board announcements should be submitted to Dr. Anna Wirz-Justice, Editor, Psychiatric University Clinic, Wilhelm-Klein-Strasse 27, CH-4025 Basel, Switzerland. Please submit one double-spaced hard copy and a diskette file (Macintosh: Ms-Word, MacWrite; IBM: WordPerfect as Textfile); BITNET: WIRZ@URZ.UNIBAS.CH. Manuscripts and diskettes will not be returned. We reserve the right to edit and condense letters to the editor.

This publication is provided to SLTBR members as an entitlement for part of their dues. Annual subscription rate for non-members is $15.00. Single copies are available at $2.50 for members; $3.50 for non-members. For subscription and membership information, please write to SLTBR at the address below.

Meeting packets with travel information, meeting schedule and other information will be mailed to registrants shortly following the 28 May general registration deadline. Please note the hotel arrangements in the meeting brochure. The Radisson Hotel La Jolla has made available a block of rooms at a special meeting rate for reservations made prior to 18 May. The hotel also has complimentary shuttle service to and from the airport. The meeting site is within walking distance of the hotel.

In the past, our annual banquet has provided meeting participants the opportunity to visit in a relaxed atmosphere and enjoy an excellent dinner. This year's poolside buffet banquet on 19 June at the Radisson Hotel will continue this tradition. Hors d'oeuvres and dinner will feature Mexican cuisine, including main dishes of beef, chicken and seafood. A banquet reservation section has been included in the meeting registration form.

We hope that you will invite your non-member colleagues to attend the meeting. Additional registration forms can be obtained from the SLTBR executive office by calling 503-694-2404. Non-member registration fee includes dues for the 1993 membership year. For 1992 members who have not yet renewed their membership, a renewal category is included on the registration form.

MEMO FROM THE PRESIDENT

The first months of 1993 have seen the continued growth of the Society to a total of 443 members, and we earnestly hope that colleagues whose membership has lapsed will promptly renew. Our *Public Information Packet* has seen ever-widening distribution, with more than 2500 requests since fall 1992, largely in response to recent press coverage by *Consumer Reports on Health, American Journal of Nursing, Prevention, Modern Maturity, Lifetime Health Letter* (University of Texas), *Glamour, Alaska Magazine* and — sign of things to come? — *Vegetarian Times*. Our revised *SAD Assessment Tools Packet* has been requested by more than 80 clinicians and research centers. The impact of our initiatives with FDA, our input to DSM-IV on diagnostic criteria for "seasonal pattern", our joint task force with the American Sleep Disorders Society on the Use of Light Therapy for Sleep Disorders, and our work toward ever-refined and specific consensus guidelines for clinical practice and commercialization of lighting technology rest on the active participation of the entire membership. We must all work to create and maintain SLTBR's position as the main locus of expertise in this field.

The Board of Directors has been increasingly concerned about the content and scope of advertising claims by some of its corporate members — a small minority — as well as non-member lighting firms. These have included misleading claims concerning lighting systems which have not been adequately evaluated in controlled trials for efficacy, safety, and side effects. There have also been claims for very dim light as well as for light more intense than has been evaluated in research trials. Standard treatment modes have been challenged in some commercial literature as portending danger to ocular structures, or magnifying side effects, based on misreadings of the research literature. Lighting apparatus has even been claimed as a potential transmitter of the virus causing AIDS, in justification of a no-return policy.

Also disturbing — in at least three cases — is the notation of SLTBR membership in advertising materials and on corporate letterhead, without the accompanying statement — as required by our policy [*LTBR* (1992) 5:2] — that "SLTBR does not endorse any particular product or company." Advertising has also included unauthorized

offers of distribution of copyrighted articles, and has extensively quoted the literature verbatim without permission of the authors. A troubling twist has been direct quotation from SLTBR's own copyrighted *Public Information Packet* and from *LTBR* — in advertising by both members and non-members of the Society — without our permission, but with citation, again implying our endorsement of the product, disclaimers notwithstanding. Advertisers should not cite or quote Society publications without specific approval from the executive office.

The Society is communicating with manufacturers and distributors whose problematic advertising has come to our attention, and we are enjoining them to be responsive to our concerns. We assume these problems will be resolved promptly, and in a collegial manner, and indeed we have received fully cooperative responses from several of the companies we have had to contact. Advertisers should not rely on our feedback for defining acceptable limits in their promotional materials, but rather should independently establish the obvious responsible and ethical standards, and if there is confusion, they should seek appropriate consultants from within the profession.

The Board urges all members who receive questionable advertising promptly to send copies to the SLTBR executive office, in order to assure a comprehensive review. (Mailing address: *Marty McCullough, Executive Director, SLTBR, P.O. Box 478, Wilsonville, OR 97070; fax 503-694-2404.*) Authors whose work has been quoted or cited inappropriately are strongly urged to contact advertisers directly, and either to offer corrections or deny permission for such use of their names and their work. They should not assume that all such problems can or will be covered by SLTBR review; it would be helpful also to send copies of such correspondence to the executive office.

The Board is also discussing developing inclusion criteria for its geographic listings of practitioner-members in its *Public Information Packet*. In the past, any Regular, Associate, or Corresponding Member who indicated that light therapy was available in his or her practice has been listed. One proposal under discussion would restrict such listings to mental health professionals at the M.D. (Psychiatry, Neurology, Internal Medicine), Ph.D. (Psychology), and M.S.W. (Psychiatric Social Work) levels who have attended at least one continuing education course on light therapy at SLTBR, APA, or APSS annual meetings. The degree-granting institution and year of degree would also be listed. Because this matter is under current discussion, I hope that concerned members will inform the Board of their position on this proposal, and present any alternatives. Again, please send comments and suggestions to the executive office, where your letter will be copied and distributed to all Board members. Particularly incisive letters may be recommended for publication in *LTBR*.

In light of SLTBR's current dynamic stage of program and policy development, the Board has asked the officers of the Society to extend their terms for another year, through the 1994 annual meeting. All have agreed. The officers include: Michael Terman, Ph.D., President; Anna Wirz-Justice, Ph.D., President-Elect; Thomas A. Wehr, M.D., Vice President; and Robert L. Sack, M.D., Secretary/Treasurer.

The Society warmly welcomes Gary Barnum, Esq., of Portland, Oregon, as our legal adviser, and we thank William Bricker, Esq., of New York, for his generous service during our first four years.

M.T.

FEDERAL-INDUSTRIAL RELATIONS COMMITTEE UPDATE

FDA reclassification petition

The Circadian Lighting Association (CLA) is continuing to work with the Food and Drug Administration (FDA) with regard to the requirements to petition for reclassification of bright light boxes from Class III to Class II. An illness of an FDA official in charge of the petition, and the Bush-Clinton transition have slowed down the FDA response to the light therapy data CLA presented to them last November. The FDA response will help guide CLA in developing a formal petition for reclassification. Although only about 8% of petitions are successful, the FDA seems to have an interest in facilitating this one. However, even under the best of circumstances, a petition is a major undertaking and may take as long as a year and a half to be approved.

As far as we know, the FDA has not sent any further letters to manufacturers or distributors of light devices.

Prescriptions for light therapy?

Dr. Mark Bauer's letter in the last issue [*LTBR* (1992) 5:18) which urged the FDA to allow bright light therapy

only by prescription from a trained professional prompted a couple of letters against requiring a prescription.

Daniel Kripke, M.D., SLTBR member from the University of California at San Diego, argues against a prescription requirement.

"When patients treat themselves, they would be wise to seek physician supervision, but that is not the fault of the lighting devices. . . . What is FDA going to do, regulate sunlight if I tell a patient to take a walk? Do I need to write a prescription? Of course, you can do yourself harm with light boxes, as with sugar, salt, water, coffee, tea, MSG, etc., but that does not mean we need to make sugar available only by prescription. You can trigger mania with sleep deprivation and air travel as well as with bright light. Are we going to require prescriptions for airline tickets and alarm clocks?"

Dr. Kripke's response is reminiscent of Dr. Richard Wurtman's article, "Jogging and Light Therapy" [*LTBR* (1990) *2(4)*: 8], in which he drew the analogy between light therapy devices and running shoes.

A consumer wrote in favor of light boxes being available with or without a prescription. She believes the stigma and cost attached to seeing a "shrink" would cause many people to go without treatment. She also notes that those with prescriptive power often do not have knowledge of SAD and light treatment. On the other hand, if light boxes were also available by prescription, insurance companies could reimburse the user and/or the user could write the expense off on taxes.

In my article in the last issue, I intended to write "Prescription . . . by a trained professional," not ". . . by a psychiatrist." Neither Mark Bauer nor I feel that prescriptions for light devices should be limited to psychiatrists. If prescription of light devices is mandated, who is qualified to write these prescriptions? Should some kind of minimal training be required? We again encourage your input on these issues as well as the general issue of whether prescriptions should be required.

Canadian regulation of light therapy devices

The Canadian equivalent of the FDA, the Health Protection Branch (HBP) of Health and Welfare, has a less stringent approval process than the FDA. The light therapy devices fall loosely into a category of medical devices that requires some proof of safety and efficacy, although the only standards for safety have to do with ultraviolet and other spectral emissions. There are no stringent criteria for efficacy, and these devices do **not** fall into the category where they must have pre-marketing approval, as is required for medication. Should the HBP receive a complaint about, for example, advertising claims that a device treats a medical condition, they would investigate and request proof from the manufacturer as to the safety and efficacy of the device in question.

Raymond Lam, M.D., F.R.C.P.(C), of the University of British Columbia, has joined the Federal-Industrial Relations Committee to help us keep abreast of developments in Canada.

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DOES LIGHT TREATMENT WORK? IS LIGHT TREATMENT A PLACEBO?

These are two very different questions. There is no doubt that light treatment "works," in that it can eliminate or reduce the symptoms of SAD. There is controversy, however, over whether light treatment is a placebo, or to be specific, whether light treatment works better than a placebo. Placebo effects are a component of all treatments. They enhance the treatment. Placebos, even on their own, can eliminate or reduce symptoms, and effects can last for weeks or months. In this sense placebo effects are "real". Placebo response rates can be very high, as high as 90%. Thus, a high response rate for a treatment, such as a light visor or a light box, does not, in itself, prove that the treatment is better than a placebo. To date, no light visor or light hat has yet been shown to work better than a placebo. There is also controversy over whether traditional light boxes have been shown to work better than a placebo. The only way to determine whether any treatment (light, drug, surgery, etc.) for any disorder is better than a placebo is to compare it to a placebo in a properly designed and executed study. The problem, especially for light treatment studies, is that the experts do not agree on what constitutes a proper placebo treatment. Therefore, it may be years before there is a consensus about whether light treatment is more than a placebo.

Some manufacturers and researchers have claimed that various new light devices are "effective" based on high response rates or comparison of response rates with those produced by more traditional light boxes. This is an unorthodox use of the work "effective". Traditionally in

medicine the word "effective" is reserved for treatments that have been shown to be *more* effective than placebos.

Patients should not be overly concerned over whether any light treatment device they are using is entirely a placebo. As long as the treatment works for them, it is worthwhile. Scientists, however, must continue to try to tease apart placebo effects from specific treatment effects, in order to learn more about the causes of SAD and to develop new treatments.

For a further description of placebo effects see: Eastman, C.I. (1990) What the placebo literature can tell us about light therapy for SAD. Psychopharmacol. Bull. *26*: 495-504.

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THE SEASONAL PATTERN ASSESSMENT QUESTIONNAIRE (*SPAQ*): SOME COMMENTS

The *SPAQ* is a curious psychometric instrument. It was developed as a rough screening tool for seasonal affective disorder and has been extremely useful (Rosenthal et al., 1987). The key questions are related to whether mood, social contact, sleep, energy, appetite, and weight change throughout the year and a) the extent of these seasonal changes (which gives the socalled Global Seasonality Score or GSS), b) in which months the items are worst (pattern of seasonality), and c) whether the seasonal changes are a problem. We have extended this questionnaire to include seasonality of sleep and eating behavior (the "Swiss" *SPAQ+*).

Rapidly established as the *sine qua non* in all studies investigating seasonality, the methodology and assumptions underlying the questionnaire have been surprisingly little tested. The *SPAQ* works remarkably well as a screening tool. Yet perhaps the temptation has grown to consider using it for diagnostic purposes, which was not the intent of the authors. This information about test-retest reliability of the Global Seasonality Score (GSS) may act as a reminder of the role of the *SPAQ* in future studies, not to rely on these values for diagnosis of SAD without a careful interview. Test-retest of the *SPAQ* a year apart but in the same summer season gives a quite reasonable result (N=20, r=.79) (Thompson, 1989), and the Australian data presented here of tests taken a week apart indicate even better reliability (N=65, r=.87). However, test-retest reliability 17 months apart (spring vs. summer) in the second Australian sample is lower (N=255, r=.58). We briefly report data for test-retest reliability in winter vs. summer, which is also lower.

In a study of 55 healthy women of a wide age range (19-80, mean 47 $\pm$ 18y) selected for their jobs (outdoors or indoors), the *SPAQ+* was administered in winter and in summer (M.D. Thesis, S. Recker). The correlation of the GSS for the N=48 paired *SPAQ+* completed in both seasons was r=.65.

Using the GSS criteria for winter pattern of symptoms (Kasper et al., 1989), 6 women could be classified SAD when investigated in winter and 6 SAD when investigated in summer (of these only 3 were the same). Eleven persons fulfilled the S-SAD criteria in the winter questionnaire and 6 in summer (of these only 2 were the same). When the categories of SAD and S-SAD were combined as "seasonals" (since no interview was carried out to confirm a diagnosis), the occurrence of "seasonals" was 31% in winter (N=54) and 25% in summer (N=48). The correlation of the GSS in winter and in summer for these categories was as follows:

SAD-winter/SAD-summer	Rho= .57
S-SAD-winter/S-SAD-summer	Rho= .09
SAD + S-SAD = "seasonals"winter/summer	Rho= .44

The low reliability in the less severe group of S-SAD from season to season predicates caution in the use of the "soft" diagnostic category for more than global estimates.

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SPAQ RELIABILITY IN AN AUSTRALIAN TWIN SAMPLE

A two-phase study of SAD has recently been completed in Australia. One aim of the study was to conduct a reliability analysis of a modified and extended version of the original *SPAQ* (Wirz-Justice). The temporal reliability of four major variables of the *SPAQ+* was assessed: 1) Global Seasonality Score (GSS), 2) "are seasonal changes a problem?", 3) SAD screening and 4) "When do you feel worst?" (the responses to this item were, in our version, given in seasons rather than months).

In September 1990, a questionnaire containing the *SPAQ+* was mailed to 498 pairs of adult female twins (accessed through the Australian Twin Registry). The sample was haphazardly distributed across the regions of Australia. In February 1992, 297 of the 526 Ss analyzed in 1990 were recontacted with a second questionnaire again containing the *SPAQ+*. Because of the particular interests of the study, this follow-up group was selected to contain proportionately more extremely high-seasonal and extremely low-seasonal individuals than would be expected in a random sample for assessing the reliability of the *SPAQ+* over a 17 month period across seasons.

The 1992 questionnaire also contained the *Eysenk Personality Questionnaire* (*EPQ*; Eysenck and Eysenck, 1968). The distributions of the *EPQ* scales provided a measure of the 1992 sample as being representative of a) Australian twins and b) the broader population. Previous research on the Australian Twin Registry (Martin and Jardine, 1986) and on the broader Australian population (Eysenck, et al., 1980) found *EPQ* distributions not significantly different from the sample of this study.

Global Seasonality Score

The Pearson correlation co-efficient of GSS scores across 1990 and 1992 was .58 ($N=255$, $p < .0005$). Given the enriched sample, this figure might be slightly elevated compared to a sample which was not weighted to the extremes.

"Are seasonal changes a problem?"

Table 1 contains a cross-tabulation of the 1990 and 1992 responses to the Yes/No *SPAQ* item "Are these variations/changes over a one year period a problem for you?" (CHANGEPROB). Although there is clearly a relationship between CHANGEPROB responses in 1990 and 1992 [chi-square (1) = 54.68, $p < .0001$), it is noteworthy that of the 49 Ss who reported that seasonal changes were a problem in 1990, 22 (44.9%) no longer did so in 1992.

Table 1: Contingency table crosstabulating responses to CHANGEPROB across the two phases of the study.

		1992		
		Yes	**No**	**Total**
1990	**Yes**	27	22	49
	No	19	182	201
	Total	46	204	250

SAD screening

Previously employed screening criteria for SAD (Kasper et al., 1989) were used to create the crosstabulation shown in Table 2. Perhaps the most important finding arising here is that, of the 20 Ss screened as SAD in 1990, 12 (41.4%) were not so screened in 1992. Indeed, four of these Ss (13.8%) did not fall into the screening category for sub-SAD in 1992 (Chi-square analysis of Table 2 was not possible because of an expected cell frequency of less than 5).

Table 2: Crosstabulation across time of SAD screening

		1992 Syndrome			
		Absent	**Sub-SAD**	**SAD**	**Total**
1990	**Absent**	111	39	10	160
Syndrome	**Sub-SAD**	18	40	6	64
	SAD	4	8	17	29
	TOTAL	133	87	33	253

Worst time of year

A degree of unreliability across time was apparent in the pattern of Ss' seasonality. Of the 143 respondents who nominated winter as their worst time of year in 1990, 40 (28.0%) no longer did so in 1992. Considering only the Ss screened as SAD in 1990, five of 18 winter-SADs (27.8%) no longer nominated winter as the most difficult season.

In conclusion, while the *SPAQ+* seems to produce a reasonable estimate of seasonality, the findings of this study suggest some limits to the temporal reliability of this screening instrument.

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AN ASSESSMENT OF *SPAQ* AND *SPAQ+* RELIABILITY

We have been using, in a number of studies, a modified and extended version of the original Seasonal Pattern Assessment Questionnaire (Rosenthal et al., 1987). The modified *SPAQ+*, adapted for use in Switzerland by Wirz-Justice (personal communication, 1988), includes additional questions which we consider useful in the context of our research. The Swiss *SPAQ+* was translated from the original German into English for our purposes. In the process of translation, the wording of the common questions posed, the wording of a number of items used to calculate the Global Seasonality Score (GSS) and to categorize individuals as having SAD or S-SAD, and the precise wording of the response categories changed from those found in the original *SPAQ*. In addition, the order of the items differed and the additional items which intervene in the original *SPAQ* between the questions concerning degree of changes with the seasons and the question about whether these are perceived as a problem, did not intervene in the *SPAQ+*.

These differences, while seemingly minor, were of concern as we wanted to be able to compare our findings with those from reports using the original *SPAQ*. We therefore decided to conduct a reliability trial in which individuals completed both instruments separated by a minimum period of one week. The aims of this study were 1) to determine if GSS scores were comparable using the two instruments, and 2) the degree of test-retest reliability of GSS. A secondary aim was to examine the seasonality scores of Australians living in Melbourne (37° 50'S, 145°E).

Method

An incidental sample of 65 adults, mainly post-graduate students, medical receptionists and secretaries was used. The mean age of the subjects was 37.4 years with a range of 21 to 67 years; 80% were female. Subjects completed the six questions concerning changes with the seasons, the question about whether this was perceived as a problem and the question regarding the degree of the problem following the exact format of the original *SPAQ*. They also completed the equivalent parts from the translated *SPAQ+*. (Copies of the translated *SPAQ+* are available from the authors). Subjects were requested to complete one of the instruments and, following a minimum period of one week, to complete the other instrument. If asked, they were informed that the study was concerned with the reliability of the instrument. Half of the subjects completed the *SPAQ* first and the other half the *SPAQ+* first.

Results and discussion

No significant difference was found between GSS scores obtained on the *SPAQ* or the *SPAQ+*, $t(64) = -1.71$, $p > .05$. The order in which subjects completed the questionnaires had no significant effect on their scores. A strong correlation was also found between GSS scores obtained using the two versions of the *SPAQ*, $r(63) = .87$, $p < .0001$. The mean *SPAQ* score of 6.9 ± 3.9 was similar to, and did not differ significantly from, values obtained from population samples in the literature (Kasper et al., 1989; Rosen et al., 1990; Terman et al., 1989).

Following Bartko and Kasper (1989), SAD was defined as having a GSS exceeding 9 and indicating that these seasonal changes were at least a moderate problem. Using these criteria, 5 subjects (7.7%) were defined as SAD using the *SPAQ*. Subsyndromal SAD (S-SAD) was defined as 1) having a GSS exceeding 9 and reporting no or a mild problem, or 2) having a GSS of 8 or 9 and reporting at least a moderate problem. Using these criteria, 14 subjects (21.5%) could be classified as S-SAD using the *SPAQ*. Of the 65 subjects, 59 were classified the same using both instruments.

In summary, despite the changes in wording and item order, the *SPAQ+* was interchangeable with the original *SPAQ* in this sample at least as far as the seasonality questions are concerned. Good test-retest reliability was found for GSS. Finally, a sample, albeit non-representative, of Australians obtained comparable GSS scores to those reported in larger U.S. population surveys.

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PHOTIC PHASE SHIFTING IN HAMSTERS: MORE THAN MEETS THE EYE

Rosenthal (1991) has asked that those dealing with light and rhythms in animals become more involved in SLTBR and that they present their work at SLTBR meetings. Time and money limit the number of meetings that many of us can attend, but in support of and in agreement with Rosenthal's plea for more interchange between clinical and laboratory based researchers, here follows an account of some recent experiments on *non*-photic effects on rhythms in hamsters.

Non-photic phase shifting might seem of marginal import for those concerned with manipulating mood and rhythmicity by light. In the purest non-photic experiment, an animal is kept in total darkness (DD), so that even if it changes its posture in the presence of the phase shifting stimulus, there can be no changed input to the eye. Experiments in DD have established, at least in hamsters and mice, that phase shifting and entrainment by events such as periodic access to running wheels is possible (Reebs and Mrosovsky, 1989; Edgar and Dement, 1991). Not only is non-photic phase shifting possible, but the effects can be strong. In hamsters advances of 2-3 h to a 3-h long pulse of running in novel wheel (Mrosovsky et al., 1989) are of the same order as those obtained with saturating light pulses at the height of the photic phase response curve (PRC). Not only are non-photic effects strong, they also can modify the effect of light on the circadian system.

A remarkable instance of such an interaction is the work with scorpions in the Fleissners' laboratory at Frankfurt (regrettably not published in full, but for brief accounts see Hohmann et al., 1990; Mrosovsky et al., 1989). The Frankfurt group found that the PRC obtained when scorpions were given a light pulse depended on their behavior. If the scorpions became active during the light pulse, then the PRC was generally similar to the non-photic PRC in hamsters, that is, it had a large advance portion in the middle of the subjective day. If the scorpions remained calm during the light pulse, then the PRC resembled the classic photic PRC with the advance portion in the late subjective night.

Some readers of *LTBR* may not be too excited about scorpions — calm ones at least. But it has also been shown with mammals that the behavior during a light pulse can determine the effect of the pulse on the circadian system. A neglected instance is reported by Ferraro and colleagues (1990). They kept hamsters in photoperiods short enough to cause regression of the testes. For some animals, however, it was arranged that whenever they ran in their wheels, which they do normally in the subjective night (i.e. the photosensitive phase), a light came on. Remarkably, feedback illumination of this sort did not block regression, even though the same durations and patterns of illumination administered to yoked controls did prevent regression. Somehow, making the illumination contingent on the animal running rendered it less effective.

After discussing this paper in laboratory meetings in Toronto, we decided to ask if being active in the presence of light influenced not only photoperiodic but also phase-shifting responses. We knew that merely confining hamsters to a novel wheel induced most of them to run. The experiment was simple: a light pulse of 15-20

minutes was given in the late subjective night. Some hamsters were left in their home cages, others received the light pulse after having been placed in the novel running wheels. Martin Ralph ran the first experiment in his laboratory; his results were confirmed in my laboratory with a different strain of hamsters and procedures that differed in other minor ways. We found that the phase-advancing effect of light was substantially reduced by being active in the novel wheel. The data are in Ralph and Mrosovsky (1992). Figure 1 adds data from a similar experiment.

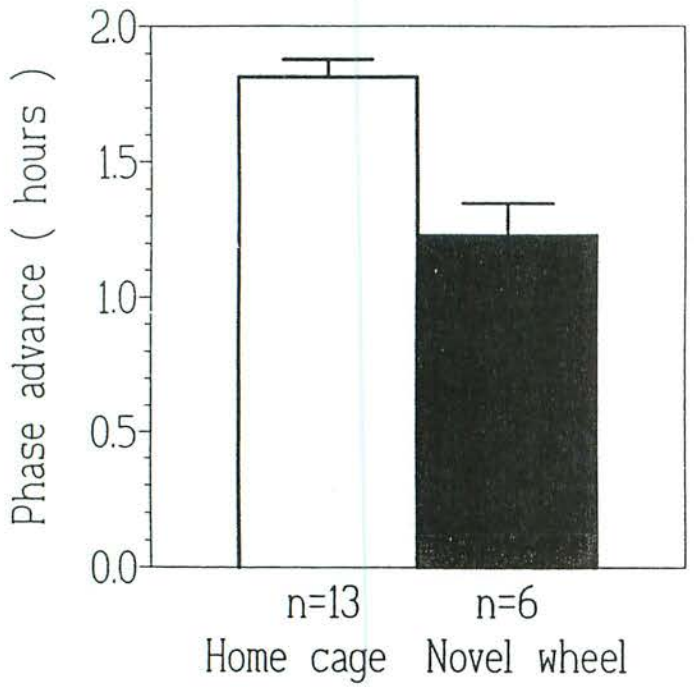

Figure 1: Means and SEM of phase shifts of activity rhythms of hamsters produced by 20 minute light pulses. The pulses started between circadian time (CT) 17.9 and 18.7; activity onset = CT 12 by definition. Running in the novel wheels in the dark at this circadian time does not produce phase delays sufficient to account for the decreased advances seen in the light pulsed animals in the novel wheels. The animals were free-running in constant darkness; illumination during the light pulse was approximately 50 lux; note that the phase advances produced by this pulse are not maximal for hamsters. All animals left in their home cages averaged < 10 revolutions/minute during the pulse, and most ran considerably less (mean < 1). All animals confined to novel wheels averaged > 10 revolutions/minute during the pulse, and most ran much more (mean > 24). Methods are similar to those of Experiment 2 in Ralph and Mrosovsky (1992).

In mammals there are pathways from the eye to the suprachiasmatic nucleus (SCN). There are neurones in the SCN that respond tonically to illumination, and c-fos expression in the SCN is induced by phase shifting light pulses. An implicit assumption in this body of work is that activation at the appropriate time of day of the retino-hypothalamic pathways and their target neurones should produce phase shifts. Attenuation of phase shifting by running in a wheel (or a correlated variable) implies that there may be more to photic phase shifting than meets the eye.

But perhaps before accepting this, it should be asked whether the animals running in a novel wheel were somehow receiving less light than those in their home cage. A number of points argue against this. 1) When the hamster runs in a wheel, it holds its head up and its eyes are open. The walls of these novel wheels are transparent plastic. If anything, it should be receiving more, not less light than in the home cage. 2) Arousal is associated with pupillary dilation; there is no reason to suppose that pupils are contracted, though it's hard actually to see the pupils when the animal runs. 3) When hamsters run, they seldom blink; blinking seems more associated with intermittent bouts of grooming. There is nothing obvious to suggest that the retina is receiving less light. It appears rather that the effect of light on the circadian system can be modified by behavioral state.

What are the limits of such phenomena, and are they of any interest to those working with light therapy? It is too early to tell, as so few investigations have been done. The importance of previous experience in such tests, and the role of running *per se* remain to be investigated, as do other phases of the cycle. An important limitation may concern the intensity of the light. In the experiments reported (Ralph and Mrosovsky, 1992), illumination during the pulse was only about 10 lux. In the additional data shown in Fig. 1 herein, the light was about 50 lux. This is the highest intensity at which I have seen the effect. In preliminary experiments that were not exactly comparable, wheel running did not blunt photic phase shifting at ca. 100 lux. It would not be surprising if the ability of activity to attenuate a phase shift was absent when intense saturating pulses were used.

Exactly the same could be said of glutamate receptor blockers and light pulses. The ability of MK 801 to block light pulses is not evident at all intensities, but is clearest at low light levels (Colwell et al., 1990). It is interesting to note that at certain doses MK 801 makes rats and hamsters hyperactive (Tricklebank et al., 1989; M.H. Hastings, personal communication). Not all attenuating effects of NMDA receptor blockers can be accounted for by increased activity, because in some experiments hyperactivity has been excluded (Vindlacheruvu et al., 1992), and there is also relevant *in vitro* work on MK 801.

But if simply running in a wheel reduces the phase shifting effects of light, then it is legitimate to ask whether a drug that has the same effect might be doing this in part by arousing and activating the animal.

The interactions between non-photic and photic inputs have implications for research design, and theories of circadian systems. Whether they have any relevance for practitioners of light therapy, it is too early to tell. We will not know until more attention is given to measuring and reporting on the behavioral state of people during light therapy. Perhaps some of the variance in response would become explicable.

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A PSYCHIATRIST'S COMMENT

Mrosovsky's review on non-photic effects on circadian rhythms in rodents and scorpions gives cause to once again stress the importance of up-to-date competent surveys of biological basic research topics for those who work in the field of clinical psychiatry.

Kurt Schneider's conclusion in his essay on *Problems of Veterinary Psychiatry* (1955) still prevails: "What could veterinary psychiatrists possibly be taught by human psychiatrists: Nothing of practical value. . . ." Thus great credit is due to Mrosovsky. In the reverse case, important impulses for psychiatric research have come from biology. The concept of SAD and light therapy would not have been realized without such a transfer of ideas.

This view corresponds with our own experience. Without my background in basic research (on arthropods) in Günther Fleissner's laboratory in Frankfurt (Koehler and Fleissner, 1976) and the continued close interaction, we would hardly have started our first experiments on light therapy and SAD as early as 1984. At this time most German-speaking psychiatrists were rather skeptical concerning this new, non-pharmacological method of treatment.

Another stimulus derived from basic zoological research (with scorpions!) led to our studies on the effects of "activity pulses" on the circadian system of shift workers and SAD patients. Starting from our previous results which have shown altered phase relationships between the rhythm of core temperature and the rhythm of sleep and wakefulness in SAD patients, and taking into account the Fleissner scorpion research, as described above by Mrosovsky, we have been treating SAD patients over the last two winters with an "activity Zeitgeber" consisting of 2 hours of regular physical activity every morning. This leads to an improvement of depressed mood and in a phase advance shift of the core temperature minimum (Köhler et al., 1993). This phase shifting effect of physical activity in SAD patients corresponds to our results in shift workers who show faster phase adjustments after pulses of physical exercise (Schmidt et al., 1990).

Why is there — in spite of these encouraging experiences — still such a wide gap between clinical psychiatry and biological basic research? The main difference is to be found in the difficulty of exact rating of affective psychopathology, compared to the preciseness in the recordings of most physiological parameters. As a

consequence, more attention should be given to the development of better rating instruments.

Another main obstacle derives from the special responsibility of a psychiatrist towards his patients, who are emotionally dependent on him/her. This impedes quite a lot of potential experimental settings which could be done more easily with healthy or physically ill persons. The difficulties resulting from the lack of satisfying animal models of mental diseases are obvious. In my opinion, more efforts should be taken in this direction if we intend not only to treat our patients, but to win a better understanding of the underlying pathophysiological disease mechanisms. [*Ed's. note:* See A. Rosenwasser's review of animal models of depression in *LTBR* (1992) *4*: 35-39.]

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MEETING REVIEW

Wenner-Gren International Symposium

A Wenner-Gren International Symposium on *Light and Biological Rhythms in Man* was organized by Lennart Wetterberg, Johan Beck-Friis and David Ottoson in Stockholm, September 10-13, 1992. About 150 researchers and medical students attended the symposium. The opening special lecture entitled *Biological Rhythms: From Gene Expression to Behavior* was presented by Joseph S. Takahashi (U.S.). He described the newly discovered biological "clock genes" which govern genetically regulated rhythms in the organism. The sum of this clock mechanism is called chronome and contains all information about time and time structure which governs biological rhythms.

Roger Wibom from Sweden talked about the physics of light and the complicated matter of measurements of light exposure. He proposed the use of luminance (candela/m^2) as a more reliable measurement than lux and the use of indirect light in light treatment.

George Brainard (U.S.) presented data that illuminances as low as 5 lux of monochromatic green light or 100 lux of broad band white light can produce significant suppression of melatonin levels in healthy subjects. Regarding the ocular mechanism that mediates the nonvisual effect of light, he reported that 1) gaze behavior can significantly alter the amount of light reaching the retina, 2) aging can affect the transduction of different wavelengths of light through the human lens, 3) near ultraviolet light stimulates visual responses in young persons, 4) pupillary dilation changes the amount of light suppression of melatonin, and 5) the entire retinal field participates in regulation of melatonin secretion. He also discussed the effects of different wavelengths on winter depression with green light having the effect most comparable to that of white light. The specific photoreceptors and photopigments which mediate the biological and therapeutic effects of light in the human retina are not known.

The physiology and biochemistry of the rhythm generating system was covered by Michael Menaker, Steven Reppert, Art Yuwiler, Russ Reiter (U.S.), Paul Pévet (France) and Franco Franchini (Italy). There are three main models explaining how light impulses are transported to the circadian clock: the hour-glass model, the hypothesis of Bunning from 1932 and Pittendrigh's hypothesis from 1972. These hypotheses can now be tested in a more sophisticated way. The suprachiasmatic nuclei seem to be the main circadian pacemaker but it is still not known whether one or more other oscillators are involved. The important role of the pineal and melatonin as a part of the rhythm generating system was discussed, and David Klein presented new findings about the gene regulating the enzyme HIOMT, important for the production of melatonin. This gene is located on the autosomal arm of the X-chromosone.

The effect of light exposure on the rhythm generating system was presented by Helena Illnerová (Czecho-slovakia), James Waterhouse and Josephine Arendt (U.K.), and Richard Kronauer and Alfred Lewy (U.S.). To really find the unmasked effect of light on rhythms is complicated, even with the use of a constant routine protocol (Anna Wirz-Justice, Switzerland). Lewy and Arendt also discussed the beneficial effect of orally given melatonin in totally blind persons and in the treatment of

jet lag. Daniel Kripke (U.S.) presented new data confirming an earlier report that dim light in the night could normalize menstruation cycle length in women with irregular and long cycles.

The last day of the symposium concentrated mainly on the light treatment of disorders with rhythmic disturbances. Charmane Eastman (U.S.) presented her results in a placebo controlled study. She has found no significant difference in therapeutic effect between active light treatment and placebo treatment (*Ed's. note*: See related article p. 30 in this issue of *LTBR)*. She is continuing the study in a larger group of patients. She also reviewed her chronobiological work with astronauts in space. Odd Lingjærde (Norway) compared light treatment with moclobemide (Aurorix) and drug placebo in winter depressive patients. Light treatment had a significantly more rapid effect than drug or placebo. The difference between the active and the placebo drug effect was small. The conclusion regarding the placebo issue was that the placebo effect is quite high in light treatment as it is in drug treatment of depressive states but that there seems to be a genuine additional effect of light per se. The placebo effect is also of importance and has to be handled in a positive way to help the depressed patient. Barbara Parry (U.S.) discussed her interesting results of light treatment of premenstrual syndrome and Johan Beck-Friis (Sweden) discussed diagnostic and psychodynamic implications advocating winter depression to be a depression with mainly asthenic features. Michael Terman (U.S.) summed up the present state of light treatment for SAD.

This Wenner-Gren symposium showed that the knowledge of light and its effect on biological rhythms is rapidly growing and will be of great importance in diagnostic and therapeutic work in the future. The proceedings will be available this year in a book published by the Wenner-Gren Foundation in cooperation with Pergamon Press.

The symposium was followed by a week's Erasmus course with the same theme and with some of the speakers of the symposium as teachers. About 50 researchers and medical students from Europe and the United States followed the course. One afternoon was devoted to mathematical and statistical models. Lars Mörkrid (Norway) discussed time domain methods, frequency domain methods and modern time series analysis.

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STUDIES OF SAD AND LIGHT TREATMENT IN NORWAY

With its very northerly position, Norway is well suited for studies of the effects of seasonal daylight variations. In Tromsø in the far north at 69°, where the northernmost university in the world is situated, the sun does not rise above the horizon for about two months in the winter (the "murky days"), whereas there is a corresponding two month long "midnight sun period" in summer. Even in Oslo, at 60° northern latitude, the seasonal variation in daylight is very marked.

While staying at the University of Tromsø from 1972 to 1984, I soon got acquainted with the very common phenomenon of winter insomnia north of the Arctic Circle. This type of insomnia, which is characterized by difficulties falling asleep in the evening, usually lasts for the whole dark period. My collaborators and I found that this "midwinter insomnia" reacted very favorably to benzodiazepine hypnotics, but not to placebo (Lingjærde et al., 1981, 1983). A later preliminary study indicated that morning light treatment was also effective (Lingjærde et al., 1985).

Patients suffering from midwinter insomnia typically are not depressed, only tired due to lack of sleep. Midwinter insomnia thus seems to be different from SAD, first described in 1984 (Rosenthal et al., 1984), although both conditions obviously are triggered by lack of adequate daylight and both seem to improve with morning light treatment. Studies bearing on this question have later been carried out in Tromsø by my former collaborator Trond Bratlid, but the results have not yet been published.

The first study on SAD in Norway was an epidemiological one with the main aim of elucidating any possible association between prevalence and latitude, using the questionnaire method developed by Potkin et al. (1986). In accordance with the results of Potkin and collaborators in the U.S., we found that the prevalence of SAD-like complaints were about two times more common in the northern than in the southern part of Norway (Lingjærde et al., 1986). So far, no definite data on the absolute prevalence of SAD in Norway are available. However, in a preliminary study with the *Seasonal Pattern Assessment Questionnaire* (*SPAQ*) among 70 unselected employees at our hospital in Oslo, the prevalence of SAD was found to be about 11% (using the criteria of Global Seasonality Score of at least 10 and a Complaint Score of at least 2). Thus, SAD also seems to be a rather common disorder in southern Norway.

To further characterize patients suffering from winter-SAD in our area, my collaborator Ted Reichborn-Kjennerud and I recruited possible SAD sufferers through mass media advertising in the fall of 1991. After a first screening with *SPAQ*, we personally interviewed 128 persons, most of whom were found to suffer from SAD and/or DSM-III-R Mood Disorder, Seasonal Pattern; the rest could be diagnosed as subsyndromal SAD. The main characteristics of this group were in good accordance with other published SAD materials: there were 80.5% females, mean age was 44 years, mean age of debut 24 years, and about 90% reported at least one of the "atypical" symptoms of hypersomnia, hyperphagia and carbohydrate craving. Only 9.4% could be retrospectively diagnosed as RDC Bipolar II, and 2.3% as Bipolar I, whereas another 14.8% had been hyperthymic in summer. There was a significant association between elation in summer (comprising mania, hypomania and hyperthymia) and the number of atypical symptoms in winter. However, this may possibly be an age effect, since both elation in summer and atypical symptoms in winter were more prevalent in younger patients.

An unexpected finding was that 16.4% stated a preference for fatty food (alone, or combined with carbohydrate craving) in winter. However, about the same prevalence of fatty food preference was found in our unselected group of employees, so this phenomenon may be more typical of a high latitude than of SAD as such. A detailed report and discussion of our findings in this SAD/subsyndromal SAD group has been submitted for publication (Lingjærde and Reichborn-Kjennerud, 1993). Ongoing work with our SAD group includes studies of personality structure and cognitive functions, biological variables like plasma amino acids, platelet MAO activity, thyroid hormonal state and treatment.

Since drug treatment has been little explored in winter depression and may be more practical — and perhaps more effective — than light treatment in some patients, we searched the literature for clues as to drugs that might be more effective than the traditional tricyclic antidepressants in winter depression. After the enthusiastic report of rapid effect of tranylcypromine by Dilsaver and Jackle (1990), Ahmed Haggag and I decided to do a pilot study with the selective, reversible MAO-A inhibitor moclobemide (Aurorix "Roche"). Five women with typical winter depression were given moclobemide 400 mg daily, starting in February 1991, and all showed rapid improvement during the four week treatment period (Lingjærde and Haggag, 1992).

This encouraging result prompted us to plan a larger treatment study in the 1991/92 season in which our intention was to randomize SAD patients on light treatment, moclobemide and placebo tablets. However, it turned out to be impossible to obtain a satisfactory randomization, mainly because many patients only wanted light treatment. More patients were therefore given light treatment than drugs, and a direct comparison of the light-treated and drug-treated patients has to be done with due reservation. Preliminary results were presented at the CINP congress in Nice, June-July 1992. The two most interesting findings emerged from the light treatment study (Lingjærde et al., 1993, *submitted*). First, we obtained approximately the same immediate improvement as has been reported from other groups in spite of our low dose of light: 1500 lux (white, fluorescent light) for 2 hours in the morning for 6 days. We used an extended Montgomery-Asberg Depression Rating Scale for assessment of change, and the mean reduction in total score was about 50% one week after start of treatment. Second, most of our patients remained improved for the rest of the season. Only 5 of the 40 patients were given a second light course due to relapse, and another 5 were changed to drug treatment due to an unsatisfactory effect of light. This is in marked contrast to the rather uniform rapid relapse that has been described especially in the U.S. We can offer no satisfactory explanation of this discrepancy, but wonder whether part of the explanation may lie in our high latitude (where a low light intensity may still mean a marked relative improvement in light conditions), and whether there may be a "therapeutic window" effect in light treatment, too strong light giving an unsatisfactory long term effect. The question is discussed further in the report to be published.

The drug vs placebo study also produced some unexpected findings (Lingjærde et al., *in preparation*). First, the effect of moclobemide was disappointing, being scarcely better than that of placebo. It should be taken into account, however, that the maximum dose of moclobemide in our study was only 400 mg daily; recent experience with this drug indicates that a much higher dose is often required for a satisfactory antidepressant effect. Second, we found that the improvement on placebo, expressed as per cent reduction in total extended MADRS score at 3 weeks, showed a highly significant negative regression with age. Thus, patients below 45 years showed nearly the same improvement after 3 weeks as patients treated with light (which did not show any age-related effect), whether treated with moclobemide or placebo. In contrast, patients above 45 years showed practically no improvement on placebo, but a moderate improvement on moclobemide. It

would be of considerable interest to have a closer look at a possible age-related placebo effect in studies that have compared bright light with different kinds of control treatment such as dim light.

In the present winter season, we have not done any further trials with drugs, but have concentrated on light treatment. Since our results with 1500 lux for two hours every morning for six days were so encouraging, we (Ted Reichborn-Kjennerud, Jon Reichelt and I) now treat half of the patients with 1500 lux for only one hour daily and the other half for two hours. The results have not yet been analyzed, but the preliminary impression is that the results are comparable in the two groups.

The observant reader has certainly noticed that this survey of SAD and light treatment studies in Norway has only included studies in which the author has been engaged. This is simply due to the somewhat sad fact that so few Norwegian investigators have shown much interest in this field so far. I sincerely hope that this will change in the future so that a broader spectrum of studies and investigators can be presented in the next survey of SAD research from our country.

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LIGHT IN THE NORTH: RHYTHM, SAD AND LIGHT THERAPY RESEARCH IN FINLAND

The Nordic position of Finland makes it an interesting place for light research. As the latitude of Washington corresponds roughly to that of Southern Italy, so does that of Finland correspond to Alaska. The winter, starting slowly in September, is ever darkening, rainy and slushy in the southern parts of Finland. In highest Lapland the sun disappears for several months during mid-winter. In central Finland the sun shines for only a few hours but is low above the horizon — hardly a tempting place for people coming from countries farther south! After Christmas, there is hope for the coming spring with the sun moving higher over the horizon and a permanent cover of white snow dramatically increasing the total amount of reflected light. Spring and summer are the best times of the year and people enjoy the light and pleasant summer weather as much as they can. The almost continuous sunshine and bright nights disturb diurnal sleep/wake patterns, and may energize depressives to commit suicide more often than at other times of the year (Nayha 1982, 1983, 1984, 1986). According to calculated curves (Kern, 1992), sunrise at the peak of summer in the far north gives the poorest timing signal and the species studied free-run at 66 degrees N. for an extended period around the summer solstice. From this description you might expect that most people in Finland would be SAD, but happily this is not the case!

Research in biological rhythms

Light and rhythm disorder research has been established in a few University cities. Collaborative research at the University of Oulu, not very far from Polar Circle has resulted, for example, in practical methods for salivary melatonin measurements, which has proved to be useful in field research (Vakkuri et al., 1984, Vakkuri, 1985). Salivary melatonin measurements are sensitive to a number of external influences, for example, one should not drink coffee before sampling, or brush teeth. The publications

from Oulu are mostly connected with gynaecology; the relationships of many hormones with melatonin have been studied (Kauppila et al.,1987; Kivela et al., 1990), and include for example an interesting study on circadian and seasonal variation of preovulatory follicular fluid melatonin concentration (Ronnberg et al. 1990). These data suggest that melatonin could potentially interfere with the regulation of reproduction in humans at the follicular level.

In Central Finland, both the University of Jyvaskyla and the University of Kuopio are engaged in SAD or melatonin research. In Kuopio, Dr. J. Laitinen, who worked from 1987-1990 at NIMH, is now working primarily on melatonin receptors. His methods have proved to be very useful in field research of salivary melatonin and he has been cooperating in many diverse research projects in Helsinki, for example, with the Institute of Occupational Health studying circadian rhythm disturbances in flight attendants. The four day, 10 time zone flights from Helsinki to LA and the return from Seattle to Helsinki have been selected as a suitable route for psychological evaluations and salivary melatonin and cortisol measurements. Analyses of 2-hourly hormone samples in 35 female flight attendants exhibited a clear circadian rhythm two days before the flight, with acrophase at 3:03 a.m. for melatonin and 9:08 a.m. for cortisol. On day four in the USA, the melatonin rhythm had delayed 5 h 59 min and the cortisol rhythm 5 h 29 min. Four days after return to Helsinki the melatonin rhythm was still 1 h 35 min delayed. This indicates that 5 days recovery time at the home base is, on the average, necessary for recovery if a 4-day round flight across 10 time zones lasts for four days or less (Harma et al., 1990, 1993; Partonen et al., 1992; Suvanto et al., 1993).

Bright light therapy and SAD research

SAD research is ongoing in light therapy clinics in a number of places including Helsinki, Turku, Tampere, Jyvaskyla, and Kuopio. This work usually involves clinical settings, and light boxes or light therapy rooms providing 2'000 lux general illumination. In the Department of Psychology, Jyvaskyla University, light therapy began with designing and ordering some 15 light boxes, which are given for home use, normally for 2-4 weeks in different experimental designs. The subjects are screened by a modified *SPAQ* in telephone interview after newspaper advertising. Light treatment has given very good and statistically significant results in two week trials (unpublished data, P. Tuppurainen).

One project we have just started is a trial to adjust circadian rhythms in ordinary school children with sleep difficulties of assumed phase delay. The aim is to try to shift their biological clock to an earlier normal wake up time by using light boxes at home in the morning. There are many parents who would hope that their tired children would wake up happy and alert for school and go earlier to bed in the evening.

In order to get firm background information for any large scale health operations, there is a need for reliable estimates of the magnitude of the problem and for different ways to treat it. For this reason we started, in cooperation with the National Agency for Welfare and Health in Helsinki, an epidemiological study of SAD prevalence in Finland that involved 2015 telephone interviews (C.Hagfors, K.Koskela and J.Tikkanen, *in preparation*).

The form contained a *SPAQ* with some additional questions to preserve compatibility with American data. In addition, the *CES-D*, a short 20-item epidemiological depression scale was also included. This scale was constructed in 1977 in NIMH by L.S. Radloff before SAD was described, but contains some clearly SAD-items. The aim was to estimate normal, S-SAD and SAD group means on the *CES-D* scale in order to study roughly how large a proportion of depressed patients so classified belonged to the SAD group. We also wanted to compare the mean depression value in Finns with US studies.

The incidence of seasonality was slightly lower than in the Washington area study (Kasper et al.,1989). In a sample representative according to employment statistics (N=2015, aged 18-64 years) the Global Seasonality Score averaged 5.26 ± 3.6, and seasonal changes were a problem for 15.4%. Of these, 12.4 % could be classified as S-SAD and 3.4% as SAD. By generalizing percentages to the entire population 18 years and older, it was estimated that we have some 130,000 SAD and 470,000 S-SAD subjects in Finland. The *CES-D* data provided very similar but slightly lower mean depression value for a representative Finnish population than that found in the U.S.

A new "light sensitivity" scale was also isolated from the *SPAQ* data by adding some new items to weather sensitivity questions. This scale might help to differentiate those subjects who actually respond to light treatment. Details will be reported later.

Some practical implications

It is obvious, that several channels for SAD diagnostics should be considered. Because there are few light therapy centers, they treat and diagnose only a small number of

patients per year. Most patients simply do not want to spend days or a week in hospital for diagnostic purposes and they probably prefer to buy their own light boxes. In order to provide light therapy for the 130,000 subjects estimated to suffer from SAD in Finland, it would mean that alternative channels must be created to reach them all.

One possibility could be to use our relatively large number of health spa institutions to provide a trial week for light therapy in addition to their normal services. The other possibility would be to use general health organizations for *SPAQ*-type preliminary screening tests to guide those with symptoms to the appropriate psychiatric diagnostic service. Additionally, an adequate treatment period with light boxes could be initiated for SAD patients with the possibility of full reimbursement when the light boxes are returned. A further possibility would be to increase the amount of light available in the workplace for these individuals. To save energy, the light could be cut out by a light sensor once the external light became bright enough. By using a combination of all these methods it would be theoretically possible to help the majority of SAD sufferers within the next few years.

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SLTBR BIBLIOGRAPHY PROJECT BEGINS

At the generous initiative of the San Diego group, we are pleased to announce an important new project aimed at a systematic compilation of the thousands of literature references dealing with light treatment and biological rhythms. As the first phase of the project, Drs. Daniel F. Kripke, Sonia Ancoli-Israel, Jeffrey A. Elliott and Henry Klemfuss have collated about 3000 references in standard bibliographic format, each indexed according to author and topics. This pool of information could prove a boon to colleagues and students introducing themselves to our field, as well as to established researchers and clinicians. The bibliography was assembled using *Reference Manager* software, and it should be possible to merge the diskette file into various personal systems.

Light Treatment and Biological Rhythms: An Indexed Bibliography, first edition, is available from the executive office in either hard copy (approximately 250 pages) or diskette (5 1/4 inch high density format) on a prepaid basis. For your ordering convenience, we have included an order form in this issue of *LTBR*. We have priced these materials as closely as possible to our estimated production and mailing expenses and we urge everyone to obtain a copy and offer comments and suggestions toward revision. The San Diego group plans to access both *MEDLINE* and *SUBIDEX* entries for future updates. In addition, we need to know where you have identified important missing citations, whether to your own work or others'. Your feedback will be critical for determining the long-term utility of the project, and the degree to which SLTBR should commit its resources for expanding and updating the data base.

PERSONAL INVENTORY FOR DEPRESSION AND SAD

The *Personal Inventory for Depression and SAD* (*PIDS*) is a new questionnaire designed for potential survey, screening, or doctor's office pre-consultation use. It was developed by Michael Terman, Ph.D., and Janet B.W. Williams, D.S.W. In Part 1, the respondent identifies criterion items for DSM-IV Major Depressive Disorder [format derived from the *Prime-MD Clinician Evaluation Guide* (*CEG*), developed by Robert L. Spitzer, M.D., and Williams]. In Parts 2 and 3, the respondent completes core items from the *Seasonal Pattern Assessment Questionnaire* (*SPAQ*), developed by Norman E. Rosenthal, M.D., Gary J. Bradt, and Thomas A. Wehr, M.D. These data yield the Global Seasonality Score and monthly distribution of symptoms. Part 4 assesses the scope of atypical neurovegetative symptoms of SAD. A scoring algorithm and interpretation guide assist the researcher or clinician with a provisional diagnosis, prior to direct interview evaluation.

In a separate self-assessment version (*PIDS-SA*), the respondents themselves tally the scores for each section, and read an interpretation guide outlining variations in depressive syndromes and seasonal pattern. Self-diagnosis per se is avoided. Rather, problematic response patterns are identified, with guidance toward clinical consultation. Modes of possible treatment (medication, psychotherapy, light therapy) are mentioned but not specifically evaluated, in order not to bias the patient in clinical consultation.

Both the *PIDS* and *PIDS-SA* are available for preliminary testing at research centers, and the authors solicit colleagues' feedback toward modifications and improvement of future editions. At this time neither instrument is available for unrestricted public use or use in

individual clinical practice. Researchers may obtain masters for reproduction, by request on institutional letterhead to: *Winter Depression Program, NYS Psychiatric Institute, Unit 50, 722 West 168th Street, New York, NY 10032.*

CONSUMER REPORTS ON HEALTH (CRH)

"The Winter of Your Discontent?" [*CRH*, February 1993, 5(2):15-16] is a carefully-researched article by assistant editor Rick Blount. Based on an exhaustive literature review, *CRH* authoritatively outlines the syndrome and its treatment options. It is significant that a publication of Consumer's Union concludes that "most researchers believe that the devices are as safe as they are effective." They quote Dr. Frederick Goodwin's conclusion, first published in *LTBR* (*1992 5*:4-7), that "In 10 years of using light boxes in thousands of patients, the number of serious side effects reported has been vanishingly small." They discuss design considerations for bright light boxes, but do not make brand-name recommendations. Short of FDA endorsement, all SLTBR members should probably have this issue of *CRH* on hand, for consultation by patients, institutional administrators, wary colleagues, *et alia*. Single copies are available for $3 each. Order from: *Circulation Director, Consumer Reports on Health, 101 Truman Avenue, Yonkers, NY 10703-1057.*

PARAMETERS FOR SLTBR MEDIA REFERRALS

Public inquiries have been particularly heavy this winter due to the broad spectrum of publications which mention SLTBR as an information source. Several publications, whose readers account for the bulk of our recent mail, published only our address with either erroneous details about our society's activities or no information at all. The resulting level of requests, unaccompanied by payment for our information packet, has severely strained our allocated budget for this activity and has created frustration for many people who feel they were given the impression that SLTBR provides free and/or individual advice for SAD sufferers.

While we welcome public inquiry to SLTBR as an avenue to foster education about light treatment, we feel that it is a disservice for the publication, its readers, and our society when incomplete or potentially misleading information about our activities is provided. In order to avoid this situation in the future, we ask that all SLTBR members, who give interviews for publication and who wish to recommend inclusion of the society as an information source, refer the writer to the SLTBR executive office (503-694-2404) for clarification of referral content. Reference to our society must include our telephone number and the indication that we provide an information packet at a prepaid charge of $7.00.