

RJR CONFIDENTIAL

**HIGHLIGHTS
BIOBEHAVIORAL RESEARCH DIVISION**

*"Learning, undigested by thought, is labor lost;
thought, unassisted by learning, is perilous." (Confucius)*

AUGUST 10, 1992

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Note to Biobehavioral Division Highlighters!

Please compare what you wrote for these highlights to what has remained. You'll see that the entries are much more terse, each contains a short explanation of what the item is about, and each ends with a summary of recent results or status.

That is the preferred style that we should strive for from now on. If you want to add more material for my information, that's ok. But please separate it from what you want to go forward as a highlight.

To those who wrote a highlight, but don't see it here - I regarded what was there as information for me but not conforming to the format described above - i.e. no explanatory sentence, no results, no status.

A handwritten signature in cursive script, appearing to be 'J. L. H.', is located in the middle-left portion of the page.

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DATE: August 10, 1992

BIOBEHAVIORAL RESEARCH DIVISION

NICOTINE RESEARCH

Nicotine RSM Study - Perception of Draw -

An objective of the nicotine RSM study was to determine how "tar", nicotine and draft influenced consumers' perceptual responses. Review of perception of draw data revealed that design products were perceived as having higher drafts than the controls (commercial products). This was surprising since the design was centered around one of the control products.

Review of mainstream smoke chemistry, including nicotine, carbonyl compounds, and ammonia, gave no insight. However, there were two differences between the design and the control products: design products were not top-dressed and contained REST processed tobaccos. Perception of draw has been related previously to chemosensory properties, e.g. irritation, but not specifically linked to flavors, such as those in top-dressings. Smokers' perceptions of draw may be related to perceptions of harshness and flavors.

Contacts: DLC Kay (5423), MT Morgan (5419)

SUPPORT TO XB

Nicotine-evoked responses in the pigeon olfactory model -

A report: Jennings RA, Walker JC, Morgan WT, Guy TD, Modification of olfactory nerve response to nicotine by levulinic acid, BIOBMM 91-027, was completed.

Mixtures of levulinic acid and nicotine elicited greater responses than nicotine alone, but pre-treatment of the nasal cavity with levulinic acid decreased responses to nicotine. All stimulations were via the vapor phase. Our current hypothesis is that mucus acidification, through partial protonation, decreased nicotine's stimulatory effectiveness for olfactory receptor

neurons.

Contacts: JC Walker (2200)

Nicotine Response Study -

The objective of the nicotine response study is to explore the relationship between absorbed nicotine and satisfaction in FFLT cigarette smokers. Cigarettes with similar "tar" yield, but varying nicotine yields are used. Both objective (EEG, heart rate, expired air CO, smoking behavior [puff profiles and breathing], serum nicotine) and subjective (thermometer, DFC [Desire for Cigarette], body mapping, and self-reports [anxiety, mental alertness, and muscular tension]) are being taken. Of a target total of 192 sessions, 134 have so-far been conducted.

Contact: WS Pritchard (4388), JH Robinson (4976), RA Davis (4978)

SUPPORT TO ETS

Nonsmokers' Responses to ETS -

Little is known about the responses of nonsmokers to ETS at intensities in the range of those found in actual smoking environments. This information is needed to respond to statements about the impact of ETS on nonsmokers, particularly in the workplace.

Dr. Jim Walker and Mr. Bob Hege worked with an outside contractor to automate all instructions to subjects in an upcoming experiment. In it, non-smokers' responses to an 8-hour ETS exposure will be compared to those to the control condition of clean air.

Orientation of subjects will begin on August 17, and the experiment will commence on August 24.

Contacts: D Bombick (5899), JC Walker (2200), B Hege (4219),

Rebuttal of AHA, ACS, ALA Coalition Statements on ETS -

It is important to rebut recent statements by the American Heart Association (AHA) concerning the alleged health effects of ETS.

Dr. Jim Walker, Mr. Tom Steichen and Dr. Carr Smith forwarded a draft Letter to the Editor to Dr. A. W. Hayes that is intended

for publication in the same issue of Circulation which will contain the Coalition "report" on alleged cardiovascular effects of ETS.

Upon internal approval, the Letter will be submitted for publication.

Contacts: C Smith (AVOCA 919 482 2133), JC Walker (2200), T Steichen (4084), AW Hayes (5870)

Alarie Testing of Smoke Components -

ETS Division-sponsored research on respiratory depression in mice (Alarie testing) as a response to pure ETS components was jointly supervised by Scientific Affairs, Inhalation Toxicology and Biobehavioral Research. The work was carried out at Bushy Run Research Center in Pittsburgh, PA. Concentrations required to depress mouse respiratory rates far exceed those needed for perceptual effects in humans, but have some value as predictors of relative irritancy in humans. Internal reports describing results for 3-picoline, 4-vinylpyridine, 3-pyridine carboxaldehyde, 3-cyanopyridine and 2-vinylpyridine (all nicotine pyrolysis products) were completed (BIOBMM's 91-014 through 91-018). No further contract Alarie testing is planned.

Contacts: JC Walker (2200), A Mosberg (5801), M Ogden (5787)

Japanese Spousal Study -

Few studies of the smoking status of women have been done in the Orient. Hirayama (1981) reported a higher risk of lung cancer among non-smoking wives of Japanese male smokers. Dr. C. Proctor (Covington and Burling), working with Drs. E. Yano and J. Kagawa, proposed a two-part study of Japanese married women to assess the rate of misclassification of true smokers as non-smokers. The first part of the study was completed during 1991. The second part of the study involves a sub-set (ca. 100) of the women who participated in part one. Among other measures to be made is salivary cotinine. These data will be used to confirm previous measures. Our laboratory will analyze the saliva samples for cotinine by RIA. Dr. Yano hand-carried frozen saliva samples from Tokyo to RJRT on August 3. Analysis will be completed mid-to-late September, 1992.

Contacts: RA Davis (4978), MF Stiles (2651)