

Through Math Anxiety class

She helps conquer the mighty mathematical equation

By KATHY PARRISH

At 44, Sheila Tobias is studying calculus. It's a big step for an admitted "math avoider" who put numbers be-

hind her after eleventh grade algebra. "It's certainly something I never thought I'd do," says the former college administrator who recently published a book for math avoiders called "Overcoming Math Anxiety."

"I even have to have a blackboard in my office now; that's a typical mathematics need."

Ms. Tobias—like many people—stopped struggling with fractions and equations in high school. She graduated Phi Beta Kappa from Radcliffe College and earned two advanced degrees from Columbia University without tackling math again.

"I think it has to do with the mythology of the mind. People think they have to choose between math and English; they feel they can't do both," the Washington D.C. consultant told a group of Oakland University faculty members this week. She was in Avon Township to promote the university's new evening diploma program designed to help math drop-outs become competent in soft calculus and basic statistics in less than a year.

A founding member of the National Organization of Women (NOW) who is best known for her work in women's studies and efforts to achieve educational and job equity for women and minorities.

A major thrust of her work is that math anxiety plays a big part in occupational discrimination. She contends fear of math keeps many people—especially women—out of courses needed to enter many fields.

"Mathematics is a very special discipline. It has reserved to itself the association with genius," says Ms. Tobias, whose theories have received some criticism from mathematicians.

"It seemed to me if we could break that stereotype we could have it all. If we could get women through math with success and get mathematicians to accept women we could almost end the struggle."

Ms. Tobias began studying math anxiety when she was associate provost at Wesleyan University in the early 1970s. Her work, which she calls her "Northwest Passage," began as a study of occupational segregation.

"I began to focus on math avoidance as the key to occupational segregation," she explained. "For the last six years I've been trying to examine rea-

sons for math avoidance and intervene."

She says female students tend to drop math after their junior-year in school — just as she did in 1953. "The experience women have seems to come to some point in the tenth grade; that seems to be a bad year, though some get scared in fifth grade."

Then when young women go on to college, they are excluded from many fields because four years of math are required to get in.

Her book discusses reasons for fear

of numbers, including the possibility that women are discouraged from taking math. "One problem is that teachers are women and are math avoiders. You don't need math to become an elementary school teacher," she says.

To conquer math anxiety, she advocates a clinic like she helped found at Wesleyan, where psychologists, counselors and math instructors help rid students of irrational fear of math and rebuild self-esteem. Within three years, enrollment in elementary math tripled and many undergrads changed their

majors to math, she says.

"Anxiety is an experience and once it's there it feels terrible," adds the slim consultant, who speaks from personal knowledge. "Panic occurs when you feel helpless and people who don't understand math feel helpless."

"There's the expectation that you're not going to do well, so you quit."

Math clinics, which now number 75 across the country, offer students a chance to discuss their feelings about math. They also provide an opportunity to take classes in algebra and calculus

in a non-threatening atmosphere.

"We help students tune into their feelings and try to change their feelings."

She said one problem is fear of making mistakes, something that is just part of the educational process. She used to be like that, but now finds her mistakes "fascinating."

Ms. Tobias has been challenged by mathematicians who don't buy her theories. "For people outside a discipline to throw brickbats is considered a challenge," she says.

Y sponsors open house

The Farmington Area YMCA staff hosts an open house from 6:15-8:30 p.m. Sunday, Sept. 23, in Mercy Center to familiarize guests with the parent and child programs the Y offers this season.

"These programs provide time together for father or mother and their sons or daughters through bi-monthly small group meetings," said Dave Seefeld, the Y's new program director. "In addition, we scheduled periodic all-day or weekend activities, such as camps, parades, or banquets."

Guests at the open house can use the gym or pool without charge from 8:15-7:15 p.m.

On hand will be representatives from all the parent and child programs, free literature, pop and popcorn.

The Y offers five programs for the parent and child.

Indian Guides is for fathers with sons between 5-10 years. Indian Princess is for fathers with daughters between 5-10 years.

Trailblazers is for fathers with sons older than 10, and Trailmates for fathers with daughters older than 10.

"We also can make arrangements to meet the needs of single parent families," Seefeld said. "Just give us a call at 553-4020."

Mercy Center is located on 11 Mile Road, east of Middlebelt Road. Guests are asked to enter Gate 4 and to use the green door.

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