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Michigan

Spring 2007

University of Michigan College of Engineering

# Environment

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Michigan **Engineering**

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# Alumni

## Alumnus Profile

### Alan Steremberg – the Sky's the Limit

BY MEREDITH BROWNER

**N**OT SURPRISINGLY, THE FORECAST FOR Alan Steremberg (BSE CE '94) looks bright and breezy.

As president and co-founder of Weather Underground, a web-based company that took the online weather industry by storm, providing free, real-time weather information online to millions of users in 50 languages around the world, Steremberg knows more about weather than most people.

"Working with weather for the past 15 years has given me a great understanding of it," Steremberg said, adding with a humorous tone, "and while I'm not quite qualified to be a meteorologist, I do play one on the Internet."

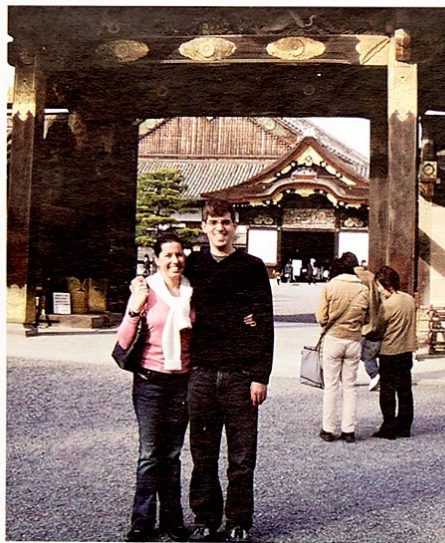
Since Weather Underground's inception in 1995, and its subsequent success, Steremberg has done things in a big way. But he pointed out that one of his first major moves was making his way to the University of Michigan College of Engineering. "The campus is huge," he said. "You feel like you can get lost, which I guess is good and bad. It's kind of self-serve – you get from it what you put into it or make of it."

Steremberg, a third-generation U-M grad, was the first in his family to study engineering. "There were a lot of doctors and lawyers in my family, and when I saw all of the technology offerings at U-M, I realized that I could break the family mold and study something that I had a passion for. And I think the University is the greatest place in the world. It's so diverse, with so many opportunities, you can either make the most of it or sit in your dorm and play Nintendo."

He certainly made the most of the opportunities afforded to him as a student. He also created opportunities for others, founding the Student Mac Programmers project, a student organization that gathered talented students in the U-M community.

Steremberg credits Perry Samson, an Arthur F. Thurnau Professor in the Department of Atmospheric, Oceanic and Space Sciences, with providing a pivotal opportunity. The summer before Steremberg's sophomore year, Samson was looking for students who were interested in writing weather software for his on-campus group, Weather Underground, and Steremberg jumped into the project, which was to create a way to bring weather forecasts to K-12 classrooms. Steremberg's assignment was to build a tool that allowed them to visualize it in a unique way.

Samson said that "in the early '90s, before web pages and HTML became



Alan Steremberg, enjoying the weather with Kelly in Kyoto.

common, we were trying to imagine a way to display weather maps and satellite images using computer tools. Alan joined our project as a sophomore and brought both tremendous programming savvy and enough politeness to not tell me that my plan of attack was flawed. Instead, he created a new plan and, within a remarkably short time, produced a gopher client that I believe was one of the first models of interactive graphics on what was to become the Internet."

The computer program, Blue Skies, gave users the ability to "pull up a map and plot the weather for 100 popular cities," Steremberg said. "When you rolled your mouse over the cities, up popped the current weather conditions."

When he moved on to pursue a master's degree at Stanford, he decided to revisit the program, which eventually became the backbone of Weather Underground.

"I didn't want to get a real job yet, so I freelanced for a startup company to pay the bills," said Steremberg. "Then I decided to call Chris Schwerzler, a friend who had also worked on the initial Weather Underground project." The two of them huddled with five others and transformed Weather Underground into a commercial entity separate from the University.

"Weather Underground is a lot bigger now," Steremberg said. "Now there are more people to manage – about 20 of us – and there's more planning to do. I try to get involved in the development because I enjoy it, but there's not too much time."

Time will become even more precious this June, when he and his wife, Kelly, will be welcoming their first child into the family's San Francisco home.

Asked what he would like to be doing 10 years from now, Steremberg said that he'd like to be running a much bigger Weather Underground. Those who know him say it's a pretty safe prediction that he'll be doing exactly that because, for one with his gifts, the sky's the limit. — E

#### Weather Underground Funds AOSS Scholarship

Weather Underground recently announced it would fund an undergraduate scholarship, to be awarded annually to an Atmospheric, Oceanic and Space Sciences undergraduate of junior standing. The scholarship's objective is to nurture students in atmospheric science who understand the key issues in climate change and can communicate these issues to the general public.

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# ADVANCEMENTS IN TENNIS RACQUET TECHNOLOGY

By Meredith Browner



**R**emember the old bumper stickers that said, "Tennis is My Racquet"? Well, apparently, there's some truth to that.

Certainly, there are a lot of factors that contribute to whether you hit the ball like Roger Federer or Serena Williams—or whether you can hit the ball at all for that matter—but as is the case in most sports, the equipment plays a big part in how well you play the game.

In the past several decades tennis racquets have undergone some significant changes. From the size of the racquet and the materials it's made with, right down to the way it's strung; just about every aspect of the racquet has seen some technological advancement.

Let's talk about size first. Unlike years ago, when there was typically only one racquet size, today, there are four


distinct head size classifications: mid-size (95 square-inches and below); mid-plus (100-107 square-inches); oversized (108-120 square-inches); and super-oversized (122 square-inches or larger). So, what does this mean to the average player? Put simply, the bigger the head size, the larger the "sweet spot", and thus, the better the chances of hitting the ball cleaner and perhaps even farther.

That said, according to John Rapson, Wilson Territory Manager for Michigan and Ohio, these days, head sizes are actually getting smaller.

"Ten years ago," says Rapson, "there were a lot of 135 square-inch racquets. Now, you'd be hard pressed to find one that's over 120." In fact, Rapson says that today, a lot of players are gravitating toward racquets with a 103-110 square-inch head size, as they are less bulky and more aerodynamic.

In addition to head size, the balance point—head-heavy or head-light—and grip size of racquets have also changed.

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Every racquet has three different "sweet spots", but in a general sense, the sweet spot is the area of the string bed that produces the best combination of feel and power.

In general, you should have your racquet restrung as many times a year as you play in a week—even if it doesn't break. That way, you keep the string bed fresh and strong.

> continued from Tennis pg. 24

A head-heavy racquet (which, if held by the shaft would feel heavier toward the face) provides more power on serves and groundstrokes, while a head-light racquet (which would feel lighter toward the face) provides more control. Either balance point can be easily changed to fit a person's style of play.

Like the racquet balance, the grip size (also easily customized) can affect play style, so care should be taken when choosing one to fit your hand and stroke.

"Racquets have become a lot more forgiving," says Mike Graff, ASPTA and Director of Programming and Operations for Baseline Tennis in Michigan. "With larger sweet spots, vibration dampening and technology that affects how the racquet responds to off-center hits, the average player is going to have a much more enjoyable game."

Now, let's talk about materials. Do you remember the tennis racquets from the days of Bobby Riggs, Arthur Ashe and Billie Jean King? Chances are, they were made of wood. That alone caused a number of inconsistency problems—the most common of which was warping. Gradually, manufacturers started designing racquets with metals like aluminum and titanium, and soon after materials like boron, graphite, ceramics and composites were used. While each material had its own advantageous qualities, ultimately consumers gravitated toward ceramics and graphite because they were lightweight, stiff and had excellent vibration reduction.

According to Rapson, while graphites and carbons are still the most widely used materials—Wilson uses a hyper carbon graphite material called [K]arophite Black in most of their

racquets—these days the trend in the marketplace is actually toward a heavier racquet.

"The sub-10 ounce frame is out of vogue," says John. "You have a more stable feel with a heavier racquet, and if you hit the ball off center, it doesn't twist or torque as much as with a lighter one."

In addition to the size and composition of the racquet, the type of string and the way it is strung has a lot to do with what happens when you hit the ball. A lot has changed with regards to strings—namely the fact that the earliest ones were made from cow intestines—but with time and improved technology, manufacturers have been able to create synthetic strings that are designed to produce more spin, power and durability. Generally speaking, tighter strings give you more control when hitting, while looser strings give you more power.

Ironically, with all of the technological advancements in the industry and with so many ways to customize a racquet to fit your game, these days many of the pros play with "off the shelf" racquets. From Federer and the Williams sisters, to Feliciano Lopez and Pete Sampras—who currently plays with a Wilson KPS 88—the same racquets that are making their way to Wimbledon and the U.S. Open are also being used on neighborhood courts and in tennis clubs across the U.S.

So, whether you're a seasoned pro or just getting into the game, with so many high-tech racquets available today you're sure to find a Love Match. 🎾

# LIVINGFIT

*in Bowling Green*

**Senior Class**

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**Let's Get Physical**

Peter's principles on training

**Kid's Play**

5 reasons to play sports

## Success lives next door

Learn from  
Peter Nielsen how  
you can overcome  
life's challenges

### *Lunch*

Healthy  
lunch box  
ideas

### *Depression*

Recognizing  
the signs



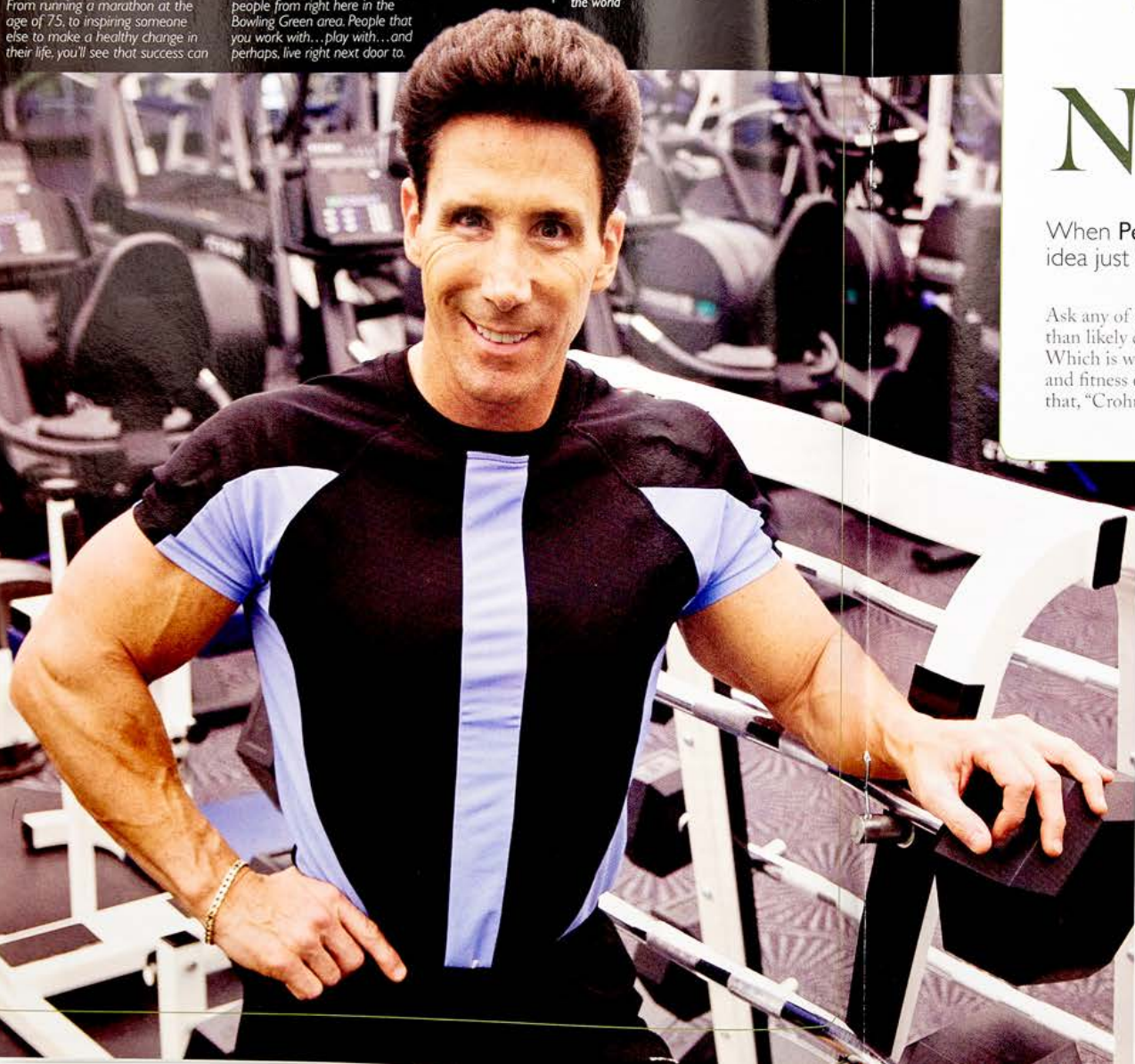
## COVER story

In this series, we'll be bringing you unique, heart-felt stories of how average people accomplish things that are anything but average. From running a marathon at the age of 75, to inspiring someone else to make a healthy change in their life, you'll see that success can

come in many forms. And while our first article features a nationally recognized personality, Peter Nielsen, our subsequent articles will feature people from right here in the Bowling Green area. People that you work with...play with...and perhaps, live right next door to.

## VITALS

**Peter Nielsen**  
Occupation: Author, Health and Fitness Expert  
Age: 47  
Hometown: Brooklyn, NY  
Challenge: Crohn's Disease  
Favorite activity: Spending time with my family  
Inspiration/Goal: "To help make a difference in the lives of people in Bowling Green and all around the world"



Success lives next door with Peter Nielsen

# SUCCESS LIVES NEXT DOOR

by Meredith Browner

When Peter Nielsen was diagnosed with Crohn's Disease, he had no idea just how much it would change his life—or the lives of so many others.

Ask any of the almost 500,000 Americans living with Crohn's Disease and they would more than likely describe their diagnosis as overwhelming, painful, debilitating or even devastating. Which is why it's ironic that when you ask Peter Nielsen—an internationally acclaimed health and fitness expert, author and businessman—his take on living with the disease, he'll tell you that, "Crohn's disease has been a blessing in disguise."

>Crohn's disease is a chronic (ongoing) disorder that causes inflammation of the digestive or gastrointestinal (GI) tract. Although it can involve any area of the GI tract, it most commonly affects the small intestine and/or colon.

With Crohn's disease, the immune system reacts inappropriately, mistaking microbes such as bacteria that are normally found in the intestines for foreign or invading substances and launches an attack. In the

process, the body sends white blood cells into the lining of the intestines where they produce chronic inflammation. These cells then generate harmful products that ultimately lead to ulcerations and bowel injury. When this happens, the patient experiences the symptoms of IBD (Inflammatory bowel disease).

For more information on Crohn's and Colitis visit [www.cffa.org](http://www.cffa.org).

Nielsen didn't feel this way immediately, however. Diagnosed in 1977 at the age of 15—at a time when most people didn't even know how to spell "Crohn's", let alone how to treat it, Nielsen admits that he "felt like a total outcast." "At that age," said Nielsen, "you think you're invincible. Most people get their wake-up call when they are much older. Maybe they have a heart attack, or suffer from cancer—any number of things can happen, but most of us aren't faced with something this big at such a young age. I was angry."

According to Nielsen, he spent several months after his diagnosis having what he refers to as "a good pity party." "I remember," said Peter, "sitting near the Verrazano Bridge over looking Staten Island in New York and asking myself, "Do I really want to live?" At an age when most teens were struggling to find a sense of self and learning how to deal with the social norms of school, sports and dating, Nielsen felt as if he was struggling for his very survival.

"I was so negative," says Peter, "I started isolating myself. My hockey team found a new goalie. My girlfriend broke up with me. It wasn't good—and it wasn't until then that I realized I had to let go and start the healing process."

He had no idea, however, that this process would ultimately become his life's purpose.

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Over the course of the next few years, Nielsen took it upon himself to learn everything he could about his

disease and how to live healthfully with it. He began documenting what he ate—taking note of which foods made him feel stronger, and which ones made him feel sick—and began working out as well. In fact, Nielsen took working out to a new level when he began competing—and winning—in national and international bodybuilding competitions. “It was ironic,” he says, “that here I was in this body that was so far from perfect, yet I was being judged on perfection, symmetry and poise. It was a big motivator for me to get healthy.”

It was then that Peter realized he could harness the passion and focus he had learned from competing, and actually do something good with it. “I thought if I can be the best bodybuilder with the physical challenges that I face, then I can be the best dad, husband, businessman and communicator.”

Listening to his “inner voice”, Nielsen realized that his purpose in life was much greater than him alone. “It became clear to me,” says Peter, “that I was put here as a messenger to help other people who were struggling to make changes in their life.” And that’s exactly what he’s been doing ever since.

Whether through his nationally syndicated television and radio show Peter’s Principles; one of his many books, including his most recent, *Guide to a Healthier Life*; his state-wide school fitness program; his vitamin line; or his personal fitness and nutritional coaching, Nielsen is teaching millions of people to reach deep inside and find the hope, quality, and purpose to their life that may be missing.

“What I do is more than just biceps and triceps or proteins and carbohydrates,” says Nielsen. “It’s about helping people find what really makes them tick. It’s about actions and character, and realizing that you need to be true and honest with yourself. That’s what Peter’s Principles is all about.”

Just ask any number of people whose lives Nielsen has touched, and they’ll agree. From a dying mother of two young children

*It became clear to me, that I was put here as a messenger to help other people who were struggling to make changes in their life.*

Peter Nielsen

who found the hope and the will to live after talking with Peter at her hospital bedside, to an obese teenager who gained the courage to start eating right and exercising with the help of Peter’s “plain, simple and fun” exercise plan, there is no doubt that Peter is making a difference in the lives of so many.

Ironically, if you ask Peter, he’ll tell you that he gets much more from the people he works with than they get from him. “When ordinary people are behind the eight ball, that’s when they do the most extraordinary things,” he says. “And I am humbled that I have the privilege of serving them.”

While his schedule is hectic—he travels or speaks almost every day—Nielsen has no intentions of slowing down. “Sure, there are days that I wish I was selling coconuts on the beach in the Bahamas,” says Peter. “But I know this is my calling. It’s the fire that burns inside of me and keeps me going. I can honestly say that I love my life and what I do, and I thank God every day for giving me this platform in which to do it.”

In addition to his work in the health and fitness arena, Nielsen is also the celebrity spokesperson for the Crohn’s and Colitis Foundation and works tirelessly to help get the most accurate information out to the public about these diseases. +

While Peter Nielsen has achieved local, national and international recognition and success, it never ceases to amaze us at how many equally inspiring success stories are right in our own backyard.

*Our series continues in July as we begin to feature people from the Bowling Green area—perhaps people that live right next door to you.*





An automotive lifestyle magazine for women

# MOTION™

PREMIERE ISSUE  
March/April 2006

**SUMMER  
TRAVEL  
SURVIVAL TIPS**

**A Trip On The Mild Side**

**Drive Time  
Discussions**

**Good Things Come  
In Smaller Packages**

Computerized Car



# DRIVE TIME DISCUSSIONS

Conversations once reserved for the family room are now taking place in the car.

By Meredith Browner

It wasn't over a candlelit dinner that Janet decided to tell her husband she was pregnant – with number five. No, unlike the magical moments one might see on a soap opera or an E.P.T. commercial, Janet opted to break the news in the car – somewhere between the Square Lake Road exit ramp and I-75 in a western Michigan suburb. So, between the roar of the semi's racing by and Eminem's *Shake That* blaring on the radio, she managed to drop the bomb that little Sarah, Benjamin, Charlie and Julia were going to have a new brother or sister.

"I knew my husband was going to be shocked," said Janet, "so I thought it would be best to tell him when it was just the two of us... no kids...no dogs. Unfortunately, the car is the only place we are actually alone."

These days it seems as if more and more of us are using our cars interchangeably with our living rooms or conference rooms to have some of our most intimate and important conversations. Maybe that's because the car is the only place we are able to be alone with our spouses. Or because we simply spend so much time driving – more than 100 hours a year just commuting to and from work, according to the U.S. Census Bureau's American Community Survey. That's more than the average two weeks of vacation time (80 hours) taken by many people during a year. The bottom line is, for a lot of people, it's the only time or place many of us have to hold a conversation.



## CAR TALK ETIQUETTE:

How to keep your driving discussions from becoming dangerous:

When your car becomes a confessional, it's critical to remain calm and in control. Not just for the sake of your sanity, but for the safety of everyone in your car and on the road.

**DO:** resist unloading bad news or big announcements while in the car. The person you're unloading on may feel cornered and contained, especially if you're gridlocked in 90-degree heat. Save the important discussions for a more comfortable and appropriate time and place.

**DON'T:** take your eyes off the road. Contrary to your instinct, this is one time to avoid eye contact. No matter how much you want to connect with or console your backseat passenger, don't continually turn to face them. Keep your eyes on the road so your car will stay on it as well.

**DO:** accept detours. If your child has just come forth with an emotional confession and needs your support, find a safe place to stop and continue the conversation in the back seat. That dentist appointment or soccer game can wait.

**DON'T:** lose your cool. Just because your conversation becomes heated doesn't mean your driving should. Keep your emotions in check and your passengers safe. And if you can't do either, find a place to stop and cool off.

**DO:** prepare yourself. If you know your boyfriend likes to touch on serious topics during drives, be ready for some heavy discussion. Or be ready to ask him to table it for another time.

## SOME CONVERSATIONS NOT TO HAVE IN THE CAR....

- "I'm cheating on you."
- "I'm in love with your best friend."
- "I'm really a man."
- "It's not your baby."
- "You're fired..."
- "Who wants to play truth or dare?"
- "Honey, I'm gay."
- "I want a divorce."
- "Mother is coming to live with us."
- "I have a \$40,000 gambling debt."
- "I'm dropping out of school to go find myself."
- "I'm getting cold feet and don't want to marry you."

Timing constraints aside, sometimes bringing up a difficult topic in the car is just easier than doing so at home. If nothing else but for the fact that in the car, the usual rules of making eye contact don't apply.

Allyson, a lawyer in Ariz., had her first talk about death with her four-year old son while driving. "A teacher at his preschool had recently died from cancer, and he was asking a lot of questions about death," she says. "I couldn't deal with the discussion face to face, so, with him strapped in his car seat in the back, I kept driving around until we finished. I don't know if I could have explained it the same way if we were at home."

Conversations in the car also offer something that's very appealing to a lot of us – a captive audience – whether you're the driver or a passenger.

Liz, a high school teacher and mentor for many inner city kids and teens, is no stranger to car talk. "A lot of difficult conversations take place while driving," she

says. "Even if I'd just spent an hour sitting and talking with my mentee, often, it wasn't until we got in the car for the hour ride back to her house that she would really open up about things," says Liz. I think the fact that she knew she had my undivided attention made it easier for her to talk to me."

Yet, while there are some instances in which having a captive audience is a good thing, there are other times when it just might backfire on you.

Such was the case with Meredith, an advertising executive from Los Angeles, who decided to have the "I think we should just be friends" talk while driving with a guy she'd been dating. The relationship lasted only slightly longer than the five-minute car ride, before said "ex" quickly dropped her off on the curb – four miles from her house.

Despite being confined in a small space, there are also times when people choose to "do their own thing" rather than connect with fellow passengers –especially

if they are traveling with family. Take for instance, Lori, a mother of two from Pleasant Ridge, Mich. Lori was looking forward to catching up with her spouse and kids on a recent car trip, but instead found herself in the passenger seat reading the *New York Times*. "It was unbelievable," said Lori. "My husband had his iPod plugged into his ears to drown out Harry Potter on the VCR behind us – to which our kids were glued," she says, "and I was left to catch up on the Sunday paper. Some family time!"

Yes, buckled in behind the wheel of our crossovers, minivans and SUVs we feel free to bring up some of life's most poignant topics. Whether we're talking about having babies or having sex, going to the grave or going to the altar, the open road seems to be the perfect place for many of us to open up about things that we just might not bring up seated around the kitchen table.