A LETTER FROM THE DIRECTOR

Dear Friends,

Given the changes in our economy and the increasing importance of science and technology for our competitiveness on the global market, both the U.S. government and the U.S. business community are now emphasizing the importance of a strong work force in the fields of science, technology, engineering and math (STEM). As part of this emphasis, policy makers and scholars want to better understand why certain individuals go into STEM careers.

The National Science Foundation awarded us a grant to study this question by re-contacting the participants from our Michigan Study of Adolescent and Adult Life Transitions (MSALT) project. You were a participant in this study. Thus, this grant gives us the opportunity to follow up with you! We are interested in learning about you as an individual and what you have done over the past twelve years since we last spoke to you.

In this study, we hope to find out a number of things based on the questionnaires we will send to you - things such as what types of jobs you held since you left high school, how much you like your current job. We also want to know how the activities and interests you had as children and youth have influenced the types of jobs, careers, and more general interests you now have.

Additionally, we would like to know why some people return to school for more education and what barriers and opportunities you may have faced since high school in achieving the goals you had at that time. Finally, we want to know how your goals have changed and why. Interestingly, very little research has looked at these kinds of issues. It would be wonderful if we could translate your successes and coping strategies as adults into advice for the next generation.

Your participation in the MSALT study has been instrumental in reforming educational policy and has made significant contributions in our understanding how academic subjects such as math, science, sports and music can impact children’s and adolescents’ development. We hope that we can continue informing educational policies with your help. We are excited for this opportunity to reconnect with you and learn about the person you have become.

Included in this newsletter are results from surveys that you completed at least 10 years ago. We hope that you enjoy reading about things that you said back then. Thank you so much for all your help and participation, we are deeply grateful for you being a part of this study since your elementary school years! You can get more information about what we discovered from this study on our web site.

Sincerely

Jacquelynne S. Eccles, Ph.D.
Project Director

Check Out Our Website!

http://www.rcgd.isr.umich.edu/garp/
What I Want to be When I Grow Up

While you were in your 20’s, we asked you what you were majoring in at college and what kind of career you wanted to have. You gave us many different answers. We found some very interesting sex differences among those of you who had specific majors. Not surprisingly, a higher percentage of males wanted to become engineers than females, whereas a higher percentage of females wanted to go into health-related and mental health fields.

In the upcoming survey, we want to know if you attained your desired degree, major, and occupation. If you did, what helped you? If you changed majors or went into a different career, why? What obstacles did you face in obtaining your goals? These questions are very important in understanding who you became as adults.

National Data Trends

Given that you had provided us with your preferred college majors, we decided to see how your responses compared to current national data. Interestingly, the trends we found in your responses were quite similar to those in found in national data that was collected in 2009!

Nationally, far more young men still are interested in engineering majors than young women. Similarly, young women are more interested in going into either biological sciences or social and behavioral sciences than young men.
College and Occupational Choices

Back in 2000, we asked you many questions about the benefits of being in college and what types of jobs you were now holding. At the time, we asked you what the benefits were of having a college degree.

For some of you, the benefits of a college degree were having the particular major or degree you attained while in school. Furthermore, many of you stated that having a college degree helped you gain general knowledge and critical thinking skills. Finally, many of you said that having a college degree was important in helping you find a job and that it prepared you for your career choices. Currently, we would like to see you for the same now about the benefits of higher education. Did the skills that you acquired while in college helped you in your career? Did you decided to go back to school or receive additional training? Were these experiences helpful? These are all important pieces to the puzzle of who you are!

Around high school, we had also asked you about your occupational aspirations and noticed that there were differences in gender. Males reported wanting to go into math/science fields and protective services compared to females. Interestingly, women were more likely than men aspire to go into business or law. Also, women were more likely want become writers or artists or go into health professional fields.
Previously, we also asked you what types of occupations you currently held and then looked at it according to three specific fields: math/science, biology and business. We also looked at how gender was distributed among these occupations and fields. Interestingly, there were more women in business and biology related fields than men. In contrast, more males went into jobs in math and the sciences than females.

In this next survey, we want to know how many of you stayed in your particular field? What types of factors led to you staying or leaving?

**Predictors of Math, Engineering and Physical Sciences vs. Biological Sciences College Majors**

Are there certain factors that might predict the types of majors you chose in college? Studies that we conducted using answers you have provided suggest the answer is yes. When you were in your twenties, we asked for your college major. We also asked about your skills and general values. In order to determine which people went into different majors, we then used these self-concepts and values to predict your college major.

The two graphs on this page, illustrate some of our findings. The lines on these figures show how strongly particular beliefs and values distinguished between female and males who went into math/engineering/physical science (M/E/PS) majors versus those who went into the biological sciences. Lines on the right of the zero
point predict going into M/E/PS majors; the lines on the left predict going into the biological sciences.

Interestingly, for both women and men, those who were business oriented, valued working with people and were people oriented were more likely to major in biological sciences. In contrast, those who had higher GPAs in high school, who believed they were better at math and science or smarter intellectually compared to their peers were more likely to go into math, physical science or engineering majors. In addition, those men who were more likely to value flexibility were also likely to major in biology.

As we move forward, we would like to know what factors have led you to go into the careers and fields you are currently in. What types of personal or individual characteristics led you to become who you are now?

The Jock, Princess, the Brain: Who did you identify with?¹

Why are clubs, sports, and extracurricular activities important to our development? We found that activity involvement can help adolescents express their identities as well as shape those identities and construct values. Interestingly, we asked you who you identified with most using the film The Breakfast Club when you were in the 10th grade. You were asked who you most related to—the Princess, the Jock, the Brain, the Basket Case, or the Criminal.

Most of you who identified yourselves as “Jocks” were still playing sports two years later in Grade 12. The “Jocks” were also more likely to attend and complete college than non-jocks and reported making more money than any other identity group at age 25. Apparently, considering oneself a “jock” in high school is linked to a variety

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of other good outcomes, provided you were able to continue playing sports throughout high school. The “Jocks” who dropped out of sport participation before 10th and 12th grade reported high levels of depression at grade 12.

Participation in other extracurricular activities as well in high school also predicted positive young adult outcomes. Furthermore, the more varied your participation across different types of extracurricular activities, the more likely you were to complete college and have positive mental health as a young adult. Additionally, those of you who identified as the “Princess”, “Jock” or “Basket case” and also played sports were more likely to go to college than if you did not also play sports. The only case we do not see this trend is for those who identified as the criminal and played sports in high school. There were a fewer number of you who attended college compared to those who did not play sports and identified with this character. Clearly, playing sports is more beneficial for people with some identities than others.

As we move forward, we would like to know if these identities and extracurricular activities influenced your current career choices, leisure activities and well-being as an adult.
The Joys & Challenges of Parenting

Parenting comes with its challenges and its joys. The last time we spoke to you, some of you had become parents yourselves. At that time, we asked you what joys and challenges you have experienced as parents. Many of you talked about the unconditional love that your children provide, as well as the joy, or giving love to your children. Many of you also stressed the joy of watching your children grow up and being able to influence your children.

Naturally, parenting also comes with challenges. The biggest challenge many of you reported was disciplining your children. Other challenges included not having or needing more patience to deal with your children. Another recurring theme was time—time management, lack of time, time to spend with all the children individually, not spending enough time on yourself.

We wonder how the challenges and joys of parenting have changed over the past 12 years. We would also like to know how much influence having a family and being a parent has affected your occupational choices.
Gender, Academics & You

A parent’s confidence in his or her child’s academic ability can impact the child’s confidence in his/her own academic abilities, as well as his or her actual performance. In this study, for example, we found that your parents’ beliefs about your math ability influenced how good you thought you were in math (see the .31 and .21 coefficients in the figure below). Surprisingly, even though the girls got better grades in math than the boys, your parents thought their sons had more natural math talent than their daughters. Interestingly, daughters perceive themselves as not being good at math if their mother thought they were good at English (see the -.19 and -.20 coefficients in the figures below; the size of these coefficients indicate how strong the effect is with the maximum being 1.0; the sign of the number indicates the direction of the effect). This suggests that parent's perceptions of their children's abilities affect the child's interests accordingly. What factors contribute to these initial perceptions? Gender is clearly a major factor. As we connect with you once again, we do wonder what types of factors have influenced your educational and occupational choices, such as your parents, school factors and even your own perceptions of your abilities.

Are teachers’ perceptions of their students’ academic ability based on factors such as sex, social class, or ethnicity?

We also wondered how teachers may influence your academic abilities and what aspects might impact that connection. If so, how accurate are their perceptions of their performance, talent, and effort? Another study explored these questions by surveying 5th grade teachers and their students. Surprisingly, the results showed that the teachers were mostly accurate in most of their assumptions! For example, teachers correctly perceived girls and boys as having similar levels of talent, though girls perform slightly more highly. In addition, teachers accurately perceived students of different socioeconomic status and ethnicities in certain districts. But does this mean that teachers are not influenced by stereotypes at all? Not necessarily. Research shows that though teachers inevitably hold stereotypes about their students, they can disregard them when evaluating students.

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WHERE IS EVERYONE NOW?

To find your new addresses, we used a secure online database. In the past ten years, the vast majority of you have stayed in Michigan! Only about a quarter of you have moved out of state. Those of you who moved out of state, there were a number of other states you moved to. However, there were four main states that you ended up in. Approximately, 5% of you moved to Ohio, 3% of you moved to Florida, 2% moved to California and 1% of you moved to Tennessee. Thank you so much for your continued participation in this study from all around the country!

How did you find me?
You and your parents filled out your contact information on the original CAB surveys, as well as the contact information of somebody who might know where you were if you moved. Recently, through the use of a secure online database that contains information such as the post office’s change of address forms, we were able to use this information to find new addresses for most CAB participants. Your old and new contact information is stored following strict confidentiality standards at our University of Michigan office, and only a few researchers ever have access to it.

MOVING??
Please contact us at reesesurvey@gmail.com or call us at 1-888-764-8060

We asked you in high school, what your dream jobs were by the age of 30, you listed:

- Physician
- Lawyer
- Managers
- Athlete
- Airplane Pilot
- Designer
- Psychologist
FAQs

What has been the impact of the study so far?
Over the years, the information you have provided has formed the basis for recommendations to school districts, health provider organizations, and other policymaking bodies at the local, state, and national level. For example, the results from this study helped convinced policy makers and youth program officials of the need for high quality, easily accessible after school programs for youth.

Your responses as teenagers also showed that you were healthy, optimistic, and committed to your families and communities, contradicting the negative stereotypes of teenagers in the media. You have also helped the education community learn much more about the ways that motivation and other academic beliefs grow and change throughout the school years.

With your help, we will now be able to start to study how your experiences during school relate to your experiences as adults. For example, we will be able to form recommendations to help future students see a clear path from their goals as teenagers towards an eventual career, and to determine which school practices are helpful or harmful in this process. We hope to hear from you soon!

Where can I read about the results?
Ever since the MSALT study started (including the years when you didn’t hear from us!), researchers at the University of Michigan and around the country have been analyzing your responses to better understand the experiences of students in our school system. To date, the MSALT study has led to more than three dozen scientific publications as well as a similar number of presentations at scholarly conferences. Each of these reports has focused on a different topic. To read summaries of selected MSALT articles or to see a full list of publications, please visit http://regd.isr.umich.edu/garp/index.htm.

How long is the study going to last?
The National Science Foundation grants that currently fund the study will last until 2015, but we plan to obtain funding to continue after that time as well. Your participation has helped to create a rare resource, since few studies are able to collect data over so many years. Therefore, your support going forward will enhance the value of the project even further, as well as its impact on the research and policy communities.

Are you sure you want me to continue in the study?
Absolutely, yes! The MSALT study is already rare because not many projects are able to follow students all the way from elementary through high school. The opportunity to learn more about your experiences as adults, with the ability to compare your current and previous responses, makes this project even more unique. Every single response is extremely valuable, and helps us discover and advocate for ways to improve our country’s schools and communities.

Thanks for all your Participation over the years!