The Science of You
The Factors That Shape Your Personality

EDITORS Stephen Koepp, Neil Fine
DESIGNER Sharon Okamoto
PHOTO EDITOR Dot McMahon
WRITERS David Bjerklie, Laura Blue, Michael Q. Bullerdtick, John Cloud, Henry Kellerman, Jeffrey Kluger, Michael D. Lemonick, Belinda Luscombe, Alice Park, Joel Stein, Maia Szalavitz, Sherry Turkle, Bryan Walsh
COPY EDITOR David Olivenbaum
REPORTERS Ellen Shapiro, Jenisha Watts
EDITORIAL PRODUCTION Lionel P. Vargas

TIME HOME ENTERTAINMENT
PUBLISHER Jim Childs
VICE PRESIDENT, BRAND AND DIGITAL STRATEGY Steven Sandonato
EXECUTIVE DIRECTOR, MARKETING SERVICES Carol Pittard
EXECUTIVE DIRECTOR, RETAIL AND SPECIAL SALES Tom Mifsud
EXECUTIVE PUBLISHING DIRECTOR Joy Butts
DIRECTOR, BOOKAZINE DEVELOPMENT AND MARKETING Laura Adam
FINANCE DIRECTOR Glenn Buonocore
ASSOCIATE PUBLISHING DIRECTOR Megan Pearlman
ASSISTANT GENERAL COUNSEL Helen Wan
ASSISTANT DIRECTOR, SPECIAL SALES Ilene Schreider
DESIGN AND PREPRESS MANAGER Anne-Michelle Gallero
BRAND MANAGER Michela Wilde
ASSOCIATE PRODUCTION MANAGER Kimberly Marshall
ASSOCIATE BRAND MANAGER Isata Yansaneh
ASSOCIATE PREPRESS MANAGER Alex Voznesenskiy

EDITORIAL DIRECTOR Stephen Koepp

Special Thanks to:
Katherine Barnet, Jeremy Biloon, Susan Chodakiewicz, Rose Circrincione,
Jacqueline Fitzgerald, Christine Font, Jenna Goldberg, Hillary Hirsch, David Kahn,
Amy Mangus, Amy Migliaccio, Nina Mistry, Dave Rozzelle, Ricardo Santiago,
Adriana Tierno, Vanessa Wu, TIME Imaging

Copyright © 2013 Time Home Entertainment Inc.
Published by TIME Books, an imprint of Time Home Entertainment Inc.
135 West 50th Street • New York, NY 10020
All rights reserved. No part of this book may be reproduced in any form or by any electronic or mechanical
means, including information storage and retrieval systems, without permission in writing from the
publisher, except by a reviewer, who may quote brief passages in a review. TIME and the Red Border design
are protected through trademark registration in the United States and in the foreign countries where
TIME magazine circulates.
Library of Congress Control Number: 2012955296

We welcome your comments and suggestions about TIME Books. Please write to us at:
TIME Books, Attention: Book Editors, P.O. Box 10016, Des Moines, IA 50316-1016.
If you would like to order any of our hardcover Collector's Edition books, please call us at 1-800-327-6388,
Monday through Friday, 7 a.m. to 8 p.m., or Saturday, 7 a.m. to 6 p.m., Central Time.

Some of the articles in this book previously appeared in TIME or on TIME.com.
Once Upon a Screen

If we let our youngest kids get too attached to those mesmerizing devices, they may have a hard time growing attached to each other later.

By Sherry Turkle

Children watch their parents play with shiny objects all day. While breast-feeding, mothers hold the shiny objects up to their ear. When fathers take their toddlers to the park, those shiny objects hoard so much adult attention that the children, at best, grow jealous and, at worst, go unattended (playground accidents are up).

As soon as children are old enough to know what they want, they angle to get their hands on those shiny objects too. And it is rare that their parents rebuff them. The “passback” has become one of the defining moves of our age—that exasperated handoff from the front seat of the car to the cranky toddler in the rear.

Children of all cultures have always lusted after the objects of grown-up desire. And so shiny objects make their way not only into back seats but also into playpens and cribs and onto playgrounds. Often, our phones and pads, tablets and computers take the place of their blocks and dolls and books. We can understand why children are as drawn to these screens as we are. The screens are mesmerizing. They offer an infinite array of worlds and an immediate connection to other people. Not just fun, they are also legitimate tools of artistic creation and educational worth. They are compelling.

Screens make children three magical promises that seem like gifts from the fairies. You will always be heard. You can put your attention wherever you want it to be. And you will never have to be alone. From the youngest age there is a social-media account that will welcome you. From the youngest age there is a place where you can be an authority, even an authority who can berate and bully. And there is never, ever a moment when you have to quiet yourself and listen only to your inner voice.

We are embarking on a giant experiment in which our children are the human subjects. There is much that is exciting and thrilling here. But these objects take children away from many things that we know from generations of experience are most nurturant for them. In the first instance, children are taken away from the human face and voice, because people are tempted to let the shiny screens read to children, amuse children, play games with children. And they take children away from each other. They allow them to have experiences (texting, i-chatting, indeed talking to online characters) that offer the illusion of companionship without the demands of friendship, including the responsibilities of friendship. So there is bullying and harassment when you thought you had a friend. Indeed, relationships built in a weightless cyberspace can be badly misconstrued, particularly for children who are often surprised by
hostility where they thought they had alliances. And there is often quick, false intimacy that seems like relationship without risk because you can always disconnect or leave the "chat."

No matter how intriguing or interesting, online connections are not substitutes for the complexities and nuances of face-to-face conversations. Yet one can become so accustomed to what the online world offers—the chance to edit oneself, to present oneself as one wishes—that other kinds of contact feel intimidating. And indeed, many plugged-in children grow up to fear conversation. In my research I often ask children, "What's wrong with conversation?" By about the time they are 10 years old, they can articulate their qualms. To paraphrase: it takes place in real time, and you can't control what you are going to say.

And they do have a point. Of course, particularly for a maturing child, that's also what is so profoundly right with conversation. Children use conversation to practice strategies for dealing with others. Just as important, they use conversation to learn that in real life, practice never leads to perfection. Problem is, perfect is the goal in too many online simulations, and children who have come of age in those worlds may very well be wary in the domain of human relationships where control is not the point.

Imagine an 8-year-old boy in a park, his back against a large tree. He is totally engrossed in his small tablet computer, a recent present. He plays a treasure-hunt game that connects him with a network of other online gamers all over the world. The boy bites his lip in concentration as his fingers move ceaselessly. He doesn't look up. Although he is connected in the game, in the park he is very much alone. Worse, he is unavailable to the invitations of any other child there, to have a catch, maybe, or climb the monkey bars. How will he learn to accept one of those introductions—or make one himself? How will he figure out how to ask questions of other children and listen to their answers?

Actually, he's missing out on even more than that. Children use conversations with one another to learn how to have conversations with themselves. And that capacity for self-reflection is the bedrock of successful child development. The magnetic power of the screen discourages that exploration; the screen jams that inner voice by offering continual interactivity or continual connection. Unlike time spent with a book, when one's mind can wander and there is no constraint put on reflection, the experience of online apps and games brings children back to the task at hand. That 8-year-old engrossed in his treasure hunt? He has gained mastery over a rule-based game, but there is a loss. He didn't get to hang from his knees on a jungle gym, contemplating the abstract patterns in the upside-down winter sky.

Whereas screen activity tends to rev kids up, the concrete worlds of modeling clay and paints and building blocks slow them down. The particular tangibility
An 8-year-old engrossed in an online treasure hunt has mastered a rule-based game. But he didn’t get to **hang from his knees** on a jungle gym, contemplating the upside-down winter sky.

on the screen concerns digital connectivity’s third seductive promise: you will never have to be alone. A new generation of adults has grown up afraid to be alone. At red lights and supermarket checkouts, they can’t stop themselves from reaching reflexively for a device. Our screen-obsessed lives seem to have left too many of us with a need for constant connection—and a simmering panic at the prospect of ever not being plugged in. Our devices actually encourage a misleading sense of connection, as our never-aloneness is populated with acquaintances who aren’t really there at all. And yet we are evolving into a culture that is forgetting every other way to fill downtime besides our screens.

Solitude is where we find ourselves so that we can reach out to have relationships in which we genuinely recognize other people. Those who are unable to be by themselves are liable to behave as if other people were spare parts to support their fragile psyches. Strong friendships of mutual respect blossom from a learned capacity to thrive in a healthy solitude.

In our still-recent infatuation with our mobile devices, we seem to think that if we are connected, we’ll never be lonely. But in fact the truth is quite the opposite. If all we do is compulsively connect, we will be more lonely. And if we don’t teach our children to be alone, they will only know how to be lonely.

Sherry Turkle is a psychologist, professor at MIT, and author, most recently, of Alone Together: Why We Expect More From Technology and Less From Each Other. This essay originally appeared on the website Edge.org.