What this session means for every psychologist

84th Legislative Session in Review

What this session means for every psychologist

www.texaspsyc.org
Connecting ALL Psychologists to

Trust Sponsored Professional Liability Insurance

Coverage at every stage of your career... And no association membership required to apply!

Move your coverage to The Trust. It’s easy!

Simply apply and provide us with proof of current coverage. We’ll do the rest.

- No gap in coverage (seamless transition)
- No costly tail (we pick up past years)
- 10% discount for switching coverage

Questions or concerns?
Call us at 1-877-637-9700

For Psychologists By Psychologists

www.trustinsurance.com • 1-877-637-9700

* Insurance provided by ACE American Insurance Company, Philadelphia, PA and in some jurisdictions, other insurance companies within the ACE Group. The product information above is a summary only. The insurance policy actually issued contains the terms and conditions of the contract. All products may not be available in all states. Surplus lines insurance sold only through licensed surplus lines producers. Administered by Trust Risk Management Services, Inc. ACE USA is the U.S.-based retail operating division of the ACE Group, a global leader in insurance and reinsurance, serving a diverse group of clients. Headed by ACE Limited (NYSE: ACE), a component of the S&P 500 stock index, the ACE Group conducts its business on a worldwide basis with operating subsidiaries in more than 50 countries. Additional information can be found at www.acegroup.com/us.
Table of Contents

From the President:
Standing for Psychology ............................................1
James H. Bray, Ph.D.

From the Executive Director:
2015 Legislative Session in Review ......................... 3
David White, CAE

The Behavioral Science of Repetitive Behavior Disorders:
Conceptualization, Treatment, and Barriers to Dissemination .......................... 8
David C. Houghton, M.S.

Children, Sleep, and Emotion Regulation: What Do We Know and Where Should We Go? ..............................14
Candice A. Alfano, Ph.D.
Simon Lau, B.S.

Because You Have Been There ...................................... 17
Angela Cool, Ph.D.
Texas Psychological Foundation President

All article references can be found at www.texaspsyc.org.

Don’t forget, you can always view updates and changes about the profession and practice of psychology at www.texaspsyc.org

Find/Follow us on:

@TXPsychAssoc facebook.com/TPAFans www.linkedin.com
Texas Psychological Association
Take a look at your psychology license. It represents the culmination of years of study and effort that allows you to practice your chosen profession. It feels good to realize how your hard work resulted in your ability to be a psychologist and help those who are in need of our services. Now imagine that your license is disappearing or being reduced in size and scope—how does this feel? For the past year, the Texas Psychological Association has been working on your behalf to insure that your license is protected and not reduced in scope of practice.

Each time the Texas Legislature meets there are opportunities to expand our scope of practice. However, other groups want to chip away at our scope of practice and limit what we as psychologists are allowed to do in our profession. Only TPA works to protect your license. However, we can’t do it without your help; we need you to STAND FOR PSYCHOLOGY. We need to remember that only psychologists stand for our profession and discipline and using the TPA to stand for other important social issues does not necessarily garner support from these other groups for psychology.

Importance of political participation. When I started my career I heard senior psychologists talk about how it was important to pay attention to politics—it seemed distant and unrelated to the practice or science of psychology—how I was wrong! Many times when I testified in custody evaluations, my testimony was questioned because I was not a “real doctor.” At that time Texas laws favored physicians over psychologists. When I was invited to participate in the major revision of the Texas Family Code, it was an opportunity to change the law to insure that psychologists were part of the Code.

When the renewal of my NIH grant was delayed because the U.S. Congress did not pass a budget on time, political influences came home again. Our budget was temporarily cut and we had to reduce our staff. These experiences made a clear impression—what our politicians do directly impacts the science and practice of psychology. When talking with politicians it is important to remember that they are more impressed with personal stories and the impact on their constituents, rather than hard data and facts. You present your data with stories and they will be remembered much more than numbers.

TPA Legislative Successes. During the 2015 legislative session there was unprecedented focus on mental health issues. Governor Greg Abbot proclaimed that May 2015 is Mental Health Month. His proclamation stated, “Good mental health is essential to our well-being. Every year, as many as one in five adults struggle with mental illness. These illnesses strike Texans from all walks of life, regardless of age, race, gender, religion or socioeconomic status. Many experiencing mental illness also battle alcohol and substance abuse. Fortunately, an increased understanding of mental illness has brought new hope...And recovery does not happen in isolation. It requires a significant number of licensed health care providers, including psychologists..., all of whom use their training and clinical skills to diagnose and treat patients.”

Due in part to a Legislative report that documented the significant mental health shortages throughout Texas (HB 1023), the Members of the House and Senate crafted many bills to address these shortages. TPA used this opportunity to propose legislation to address these shortages by allowing psychologists to use their full scopes of practice. TPA proposed a bill to allow appropriately trained psychologists to prescribe psychotropic medications, but this was not passed. Representative Garnet Coleman and Senator Kevin Eltife passed a bill to allow licensed psychologists to delegate and extend their services by using psychology interns to provide services (HB 1924). It engendered little opposition and passed by wide margins—TPA succeeds!

This was our argument about extending services to psychology interns. Before psychologists can complete their training and be licensed for independent practice, they must complete a one-year pre-doctoral internship under the supervision of a licensed psychologist. This bill uses the American Psychological Association standards for definition of pre-doctoral
internships. There is a real shortage of internship slots for psychologists to complete their degrees—in 2015 18% of doctoral students were unable to find an internship position and therefore have to delay completing their degree by another year. The internship shortage started a number of years ago when Medicare billing rules were changed. Enacting Rep. Coleman’s HB 1924, which allows interns to be psychology extenders for licensed psychologists and be reimbursed for their services, like other medical providers, will help alleviate this crisis and may result in more internship placements.

As noted in the mental health workforce shortages report, there are simply not enough psychologists and other mental health professionals to meet the current and future needs of our residents. Psychologists are more likely to live and practice where they do their internship. It should be noted that psychology interns have 3 to 5 years of training, which is more training than master’s-level providers, such as LPCs and social workers, who are reimbursed for their services. On average psychologists incur $120,000 in debt to obtain their doctoral degrees. Being able to bill for interns’ services will likely result in an increase in their pay, and may help decrease their overall debt.

Given these arguments, the Texas Legislature also passed two bills to help psychologists practice and deal with large debt from graduate school. First, the Legislature rescinded the $200 tax you pay each year over and above your license fee—that right—your license is now $200 less because of TPA’s legislative work (HB 7). Second, the Legislature passed a bill that provides loan repayment of up to $80,000 for psychologists who are willing to work in state approved underserved areas (SB 239).

Protecting your psychology license. There were a number of bills filed that would infringe or limit psychologists’ scope of practice. TPA worked hard to defeat these bills or modify them to be acceptable to our practice. A bill that would change how child custody evaluations are conducted and the requirements for being able to conduct child custody evaluations was a central focus (HB 1449). We were able to work with the authors of the bill to make sure that psychologists are not required to have additional training and that all such requirements would be overseen by the Texas State Board of Examiners of Psychologists. TPA also stopped bills that would allow certified Applied Behavior Analysts to be regulated by the Texas Medical Board (HB 2703). In addition, we stopped a bill that would allow occupational therapists and physician assistants to be defined as mental health providers in Texas (HB 1998).

Please see Executive Director David White’s article (page 3) that explains each of these bills and their implications in more detail.

TPA needs your help to accomplish our political agenda—you can have great influence by getting involved. Let me hear from you—engage—get involved—this is YOUR TPA. Contact me anytime: jbray@bcm.edu.
From the Executive Director

2015 Legislative Session in Review

David White, CAE

The bar was set high for the 2015 Legislative session. In 2013 TPA was able to get some key legislation passed and also became a true mental health legislation resource for many legislators. We entered into the 2015 session with the goal to keep the momentum going – TPA wanted to solidify itself as a household name to legislators. And how did we do? As one TPA member described this past session, “We didn’t just hit a homerun, we hit a grand slam.”

We had a very aggressive legislative agenda, which means we were offering up several key pieces of legislation, and also working with our elected representatives on legislation that we opposed. Regardless of the role we played, offense or defense, psychology was at the table on most mental health legislation this session. We spent hundreds of hours at the Capitol. We sat down with legislators and negotiated bills. We met with several professional groups who wanted our support for their bills. We testified in support and in opposition of bills, and when it was all said and done, we accomplished more during the 2015 legislative session than we ever have in the past. What follows is a recap of some of our activities.

TPA’s Major Legislative Initiatives:

**HB 1924 (Passed)**


This was TPA’s primary bill this session, and it will be a landmark piece of legislation for TPA for many years to come. HB 1924 allows licensed psychologists to supervise predoctoral interns. This supervision is not new for psychologists, as for many years it has been a requirement that license psychologists supervise predoctoral students. However, the important element in this legislation is the ability for psychologists to bill for interns’ services, and it defines interns as a group that will be supervised.

Current law allows psychologists to bill for services that are delegated to provisionally licensed psychologists or early career psychologists. Now interns are included.

With the passage of HB 1924, your practice act currently states (new language underlined):

A psychologist licensed under this chapter may delegate to a provisionally licensed psychologist, a newly licensed psychologist who is not eligible for managed care panels, a person who holds a temporary license issued under Section 501.263, a person enrolled in a formal internship as provided by board rules, and a person who satisfies Section 501.255(a) and is in the process of acquiring the supervised experience required by Section 501.252(b)(2) any psychological test or service that a reasonable and prudent psychologist could delegate within the scope of sound psychological judgment if the psychologist determines that:

1. the test or service can be properly and safely performed by the person;
2. the person does not represent to the public that the person is authorized to practice psychology; and
3. the test or service will be performed in the customary manner and in compliance with any other law.

Now the important aspect of the law is the section that deals with billing for their services. The current law continues to read:

b) The delegating psychologist remains responsible for the psychological test or service performed by the person to whom the test or service is delegated, and the test or service is considered to be delivered by the delegating psychologist for billing purposes, including bills submitted to third-party payors. The person must inform each patient on whom the test or service is performed that the person is being supervised by a licensed psychologist.

c) The board may determine whether:

1. a psychological test or service may be properly and safely delegated under this section; and
2. a delegated act constitutes the practice of psychology under this chapter.

(d) A person who is a licensed psychologist and to whom another
ED comments: As you can see, this is, and will be for a very long time, an important bill for the psychology profession. Often a major piece of legislation like this requires two to three sessions before it will pass. However, with a lot of hard work by TPA's Board of Trustees and TPA's Grassroots and Legislative Committees, this bill was passed and signed into law the first year we introduced it. This piece of legislation will open up a tremendous opportunity for psychologists to employ students in their practice, and we strongly encourage all TPA members to learn how to modify your practice to employ a predoctoral intern. I will be conducting a workshop at TPA's convention that recaps the legislative session and the logistics of employing a student in your practice.

HB 1449 (Passed)


As happens in so many situations, there might be a piece of legislation that only affects a handful of licensed psychologists, but has implications for the entire profession. In such cases, TPA becomes imminently involved in the outcome of such legislation. Such is the case with HB 1449, which deals with mental health professionals who conduct child custody evaluations. This bill overhauled the family law code that focused on how the courts deal with child custody matters. The new law requires that a child custody evaluation be provided, rather than the current social study, and defines which mental health professionals are eligible to conduct these evaluations.

Psychologists, as defined in their rules and regulations, are the only mental health professionals who have standards on child custody evaluations. During our negotiations with the bill sponsor, as well as family law attorneys, we shared this fact and it helped solidify our argument that even though this bill laid out standards and procedures on such cases, psychologists are trained at the HIGHEST level and have more experience than any other mental health provider to offer this type of service. As a result, we were able to modify the language so that TSBEP would determine competency and training requirements for psychologists who engage in this type of work, rather than having the attorneys and the family law code define the competency level. TSBEP will adopt these requirements sometime in 2016.

ED comments: While working on this bill I learned that in many areas of the state, child custody determinations are being conducted by sub-doctoral professionals. Conducting child custody evaluations is very important, and I believe the highest mental health professional should engage in this type of work. TPA encourages psychologists to learn about this area and get involved with the courts.

HB 7 (Passed)


The passage of HB 7 will make you smile the biggest! HB 7 is being termed “the largest single tax repeal of the 84th legislative session.” TPA was part of a coalition that introduced legislation to remove your $200 annual professional fee. The following press release from our coalition sums it up:

HB 7 ends the “Professionals Tax,” a $200 annual fee on accountants, architects, attorneys, chiropractors, dentists, engineers, interior designers, investment advisors, landscape architects, land surveyors, optometrists, physicians, property tax consultants, psychologists, real estate brokers, and veterinarians, saving over 600,000 Texas professionals $125,000,000 annually.

ED comments: TPA is proud to have worked alongside these other professionals in repealing this fee. This new law will go into effect September 1, 2015. According to Darrel Spinks, TSBEP Executive Director, since all licensees’ renew their license on their anniversary date, those who renew prior to September 1st must still pay this fee one more cycle, and those who renew after September 1st will no longer have to pay the fee.

HB 1998 (Did not pass)

TPA stands on the premise that psychology is the pinnacle for all non-physician mental health professions, and when that standard is challenged, TPA makes it our highest priority to defend the profession. This was the case with HB 1998. This bill would allow occupational therapists to carve out a niche in the mental health arena by classifying them as mental health professionals. According to occupational therapists, they assist individuals in adjusting behaviors that interfere with effective emotional, social, and intellectual functioning, and improve their clients’ daily lives through person-centered, client-driven activities. As a result, they felt their work has a psychological foundation, and thus they should be classified as a “non-physician mental health provider.” TPA was instrumental in educating the legislature that, even though they provide a very important role in our health care environment, they are not qualified or trained as mental health providers and should not be recognized as such.

ED comments: This bill is a prime example of TPA allocating resources, time, and energy in protecting the psychology profession. Many times TPA is judged on the legislation that is passed, and bills we were instrumental in defending are sometimes overlooked. Many TPA leaders played an important role to assure this bill was defeated, and many thanks go out to them for their dedication and loyalty to TPA.

HB 2703 (Did not pass)

There is a movement around the country to create separate regulatory boards for behavioral
The amount of repayment assistance will be:

- Provide services in a designated mental health professional shortage area, and
- Provide care to Medicaid and CHIP clients; or
- Provide care to persons committed to certain state-operated correctional facilities.

The amount of repayment assistance will be:
- 1st year – 10%
- 2nd year – 15%
- 3rd year – 20%
- 4th year – 25%
- 5th year – 30%

ED Comments:

**SB 37 (Passed)**


A recent report by the Georgetown Public Policy Institute at Georgetown University indicated that 65% of all jobs will require some form of postsecondary education by 2020. Additionally, a recent report from the Employment and Disabilities Institute at the Cornell University School of Industrial and Labor Relations shows the employment rate of working-age persons in Texas who have disabilities was significantly lower that the employment rate of the non-disabled Texans. SB 37 amends the Education Code and requires the Texas Higher Education Coordinating Board to collect and maintain data relating to undergraduate- and graduate-level participation at institutions of higher education. In addition, this bill requires an ongoing study of factors affecting the participation of such persons. TPA worked with several other mental health professions in supporting this legislation.

**SB 239 (Passed)**


A recent report conducted by the Texas Department of State Health Services in 2014 indicated a shortage in mental health professionals in over 200 counties in Texas. As with all the other mental health professionals, there is an inadequate number of licensed psychologists to serve the citizens in this state, and it is especially alarming in the state's rural areas. SB 239 addresses this shortage by incentivizing mental health professionals to stay in Texas. It establishes a program that offers student loan repayment assistance for psychologists and other mental health providers. To be eligible for loan repayment assistance, the psychologists must:

- Provide services in a designated mental health professional shortage area, and
- Provide care to Medicaid and CHIP clients; or
- Provide care to persons committed to certain state-operated correctional facilities.

**ED Comments:** This was an important bill for TPA. This fight is not over. We need your help to educate your legislator on how behavioral analysts are part of the psychology field and therefore should be regulated by TSBEP. PLEASE help TPA by contacting your legislator.

**Additional TPA Legislative Activity During the 84th Legislature:**

**HB 1430 (Passed)**


Current law allows a student to earn a public service endorsement on their high school diploma and transcript in a variety of categories, including areas in health sciences, education, law enforcement, and culinary arts and hospitality. To date, mental health careers were not included in these endorsements. As a result, students might not be aware of the availability of mental health careers. HB 1430 modifies the Education Code, allowing for inclusion of mental health in the public services endorsement. TPA, along with current coalition members, supported this bill and worked together to get it passed.

**HB 197 (Passed)**


We are all aware of the social stigma surrounding the mental health profession. HB 197 is legislation that will help tear down the negative stigma and start promoting the positive aspects of mental health care. This bill makes it easier for Texas college students to connect with mental health services in their communities. It also promotes cultural awareness and acceptance of students who have a mental-health need. Starting on September 1, 2015, all public institutions of higher education must post on their website information about mental health resources available to students, as well as the contact information for the local mental health authority.
HB 574 (Passed)


This legislation deals with the insurance companies that practice “de-listing.” This practice intimidates the health care provider into referring patients only to in-network providers. It is documented that providers who refer to out-of-network providers usually receive a letter from the insurer canceling their contract for not utilizing the network. HB 574 prohibits insurance companies, as a condition of their contractual agreement, from discussing with or communicating in good faith with a patient any information regarding the facilities, both in-house and out-of-house providers, for the treatment of the patient's medical condition.

HB 440 (Passed)


Current law states that public schools must ensure that the physical education curriculum meets the needs of students who have a disability or certain special needs. HB 440 is a victory for mental health advocates, as this legislation clarifies that physical education should be provided to students who have disabilities, including mental and emotional health or intellectual or developmental disabilities.

HB 1878 (Passed)


With the advances in medical science and technology, the delivery of health care has evolved to the point where services, with the advancements in telecommunications and video interfacing, allow the provider to communicate with the patient remotely, without compromising accurate diagnosis. This practice of telemedicine saves time and money for both the patient and the doctor and greatly improves the access to care. HB 1878 amends the Medicaid program allowing telemedicine services to be provided in a school-based setting.

OTHER BILLS OF INTEREST IN THE 84TH LEGISLATURE:

SB 378 (Passed)


This bill provides limited liability to social workers who volunteer for charitable purposes.

SB 1753 (Passed)


This bill amends the Health and Safety Code by requiring hospitals, by September 1, 2019, to require all identification badges of health care providers who are licensed under Title 3 (Health professions) to clearly state their professional titles.

HB 3282 (Did not pass)

Advocates who treat ASD indicate that children who are screened, diagnosed and treated earlier in life need less treatment later in life and have a much better chance of being active, contributing members of society. Earlier diagnosis and treatment can result in decreasing long-term costs for providers, and ultimately the state.

HB 3282 amends the education code to require the Texas Higher Education Coordinating Board to ensure communication and coordination among the autism programs, school districts, and the Department of Assistive and Rehabilitate Services (DARS) regarding best practices for delivering autism spectrum disorders services. In short, the bill requires the coordinating board to maintain a statewide autism database of information regarding the number of children served and evidence-based services.

HB 3282 passed out of the Education Committee but did not pass the House floor.

GUBERNATORIAL VETOS AND ONGOING DEVELOPMENTS:

(The following article was retrieved from The Texas Tribune article Abbot Vetoes Overdose Defense, Emergency Detention Bills)

The Governor vetoed two bills on Monday, including one aimed at encouraging people to call 911 during drug overdoses, even if they are in possession of illegal substances themselves.

That legislation, House Bill 225 by Rep. Ryan Guillen, D-Rio Grande City, had two parts, the first of which provided a defense for those prosecuted for possessing small amounts of drugs while seeking medical help for an overdose victim.

In a veto statement Tuesday, Abbott said HB 225 lacks “adequate protections to prevent its misuse by habitual drug abusers and drug dealers.” He noted his office came up with amendments to address the concern, but they did not make it into the final version of the bill.

Guillen disputed that account Tuesday, saying he had assurances from Abbott's office that no further changes were needed after the House concurred with a Senate amendment backed by the governor.
Both bills had the backing of the power Texas Medical Association. In a statement Tuesday, the head of TMA specifically addressed SB 359, saying the group is "extremely disappointed in Gov. Abbott for vetoing a bill that would have saved lives, provided short-term help for people with mental illness, and actually would have kept some of them out of forced imprisonment.”

“The governor should have reached out to physicians and other medical personnel who provide care in the real world of our emergency rooms before vetoing this legislation,” TMA President Tom Garcia said in a statement. “They would have told him about the patients they encounter who pose a real danger to themselves or to those around them.”


This past month has been a significant one for the profession of psychology and psychologists across the nation. Below is the official letter TPA's Board of Trustees released in response to the APA Hoffman Report on the interrogation and national security issues.

Dear TPA colleagues,

Many of you may have become aware of a recent report describing the conclusions of an investigation into actions by members and staff of the American Psychological Association regarding participation in interrogations for national security issues. It is important that all psychologists, not just members of APA, are aware of this issue, as it may impact public perception of our profession as well as efforts toward advancing our profession (e.g., legislative efforts).

To summarize, in 2014 the American Psychological Association hired the Sidley Austin law firm and attorney David H. Hoffman to conduct an independent investigation into the allegations concerning actions by members of the APA staff and governance with regard to national security and interrogation issues. The full report and background documents are available on the APA website: http://www.apa.org/independent-review/index.aspx. This report and its conclusions represent a disturbing and sad series of events for the APA and profession of psychology. A small group of APA staff and members appear to have engaged in a number of actions that contradicted the APA Ethical Principles and were not in the best interests of our profession. As a result, Dr. Stephen Behnke, APA Ethics Officer, was dismissed from the APA. In addition, Norman Anderson, APA CEO, announced that he will retire at the end of 2015; Michael Honaker, APA Deputy CEO, will retire August 15, 2015, and Rhea Farberman, APA Director of Communications, resigned effective July 31, 2015.

TPA and APA are separate organizations and TPA had nothing to do with the activities described in the report from this investigation. Our current TPA president, Dr. James Bray, was president of APA when these issues were being addressed. Dr. Bray expressed his condemnation of using psychological science for harm and for psychologists participating in torture. As was stated in a 2009 editorial written by Dr. Bray, it is our "fervent hope that the American people—and the world—will not judge all psychologists by the few who were involved in this sorry chapter in our history, but by the tens of thousands of psychologists who spend their professional lives working for the public good.” (www.apa.org/news/press/releases/2009/04/editorial-bray.aspx)

At this time, it is important to reaffirm that the Texas Psychological Association is committed to following our ethical principles and guidelines. We are categorically opposed to the use of psychology for the purposes of harming individuals, and we are disturbed by the report on APA activities in this regard. We are committed to continuing to protect and advance psychology as a profession, and on behalf of TPA membership, we will be working to inform the public to ensure that perceptions of psychology and psychologists are not tarnished by the actions of a few individuals.

We encourage you to read the APA report and draw your own conclusions. Please contact us, jbray@bcm.edu or tpa_dwhite@att.net, if you have comments or concerns or register them on the APA website www.apa.org/independent-review/index.aspx.

James H. Bray, Ph.D., President
David White, Executive Director
TPA Board of Trustees
The Behavioral Science of Repetitive Behavior Disorders: Conceptualization, Treatment, and Barriers to Dissemination

David C. Houghton, M.S.
Texas A&M University, College Station, TX

Abstract
Tics, hair pulling, and skin picking are the characteristic symptoms of obsessive-compulsive related conditions known as Tourette syndrome, Trichotillomania, and Excoriation Disorder. By virtue of their shared characteristics, these conditions are collectively referred to as repetitive behavior disorders. Until recently, understandings of the psychopathology supporting repetitive behaviors were poorly developed, but behavioral researchers undertook significant empirical efforts to develop such models. This led to the development of highly effective behavioral treatments for repetitive behavior disorders. However, dissemination of these treatments has faced significant challenges within the medical and psychological community. The current paper will discuss the development of a behavioral science of repetitive behavior disorders, effective behavioral treatments, and barriers to dissemination. Finally, future directions in this area will be presented.

Repetitive behavior disorders are conditions characterized by recurring, compulsive behaviors that result in significant psychosocial impairment. Body-focused repetitive behaviors such as trichotillomania, skin picking (excoriation), and nail biting (onychophagia) are often viewed colloquially as “bad habits,” but, in severe cases, are associated with significant consequences and develop into body-focused repetitive behavior disorders (BFRBDs). Likewise, tics are repetitive, stereotyped behaviors such as hard eye blinking, sniffing, and body tensing that can become impairing and difficult to control. Persons who display persistent and chronic tics meet criteria for Tic Disorders (TDs), such as Tourette syndrome and Chronic Tic Disorder. TDs and BFRBDs have been conceptualized as Obsessive-Compulsive Related Disorders (Ferrao, Miguel, & Stein, 2009).

Until recently, the scientific community had no empirical conceptualization of repetitive behavior disorders, and even less was known about how to treat them. Early descriptions of BFRBDs suggested that they were caused by negative personality traits, neuroticism, or overzealous parents that emphasized appearance (Adamson, 1913; Wilson, 1876; Zaidens, 1951). Similarly, psychoanalytic accounts of TDs argued that tics resulted from underlying psychic conflicts or repressed sexual and aggressive impulses (Ferenczi, 1921; Kushner, 1999). However, there is little to no empirical support for these claims, and arguments that BFRBDs and TDs were the result of complex psychopathologies, character flaws, and oppositional behavior created adverse effects for affected individuals such as self-blame, stigmatization by others, and ineffective treatments (Kushner, 1999).

As the influence of these models waned, the groundwork of evidence-based models of repetitive behavior disorders was developed over several decades. Basic brain research on TDs highlighted its similarity to other movement disorders (e.g., Parkinson’s disease and Huntington’s chorea), and the prevailing conceptualization of TDs shifted toward the notion that neurological deficits were the primary cause of tic symptoms. This neurobiological model of TDs, first championed by researchers and medical practitioners in the 1970s and 1980s, served to validate the experiences of persons with tics by removing the element of personal responsibility. Moreover, medical interest in TDs led to significant advances in research on epidemiology, genetics, neuroscience, and treatment (Walkup, Mink, & Hollenbeck, 2006). At the same time, behavioral psychologists began successfully applying learning-based treatments to BFRBDs, which bolstered the conceptualization of BFRBDs as operant behaviors that served to decrease internal discomfort and provide tactile stimulation (Friman, Finney, & Christophersen, 1984). BFRBDs such as Trichotillomania were also introduced into formal diagnostic classification systems, where they were conceptualized as disorders of impulse control (American Psychiatric Association, 1987).

However, despite these scientific advances, there were still several key problems facing researchers and practitioners. First, although antipsychotic medications were shown to be effective means of treating TDs (Carpenter, Leckman, Scahill, & McDougle, 1999), they have serious limitations such as unwanted side effects (Scahill et al., 2006), poor treatment adherence (Peterson & Azrin, 1992), varying
degrees of treatment response (Scahill et al., 2006), and the lack of attention toward skills that help persons better manage their tics (Cook & Blacher, 2007). This meant that behavioral management strategies could offer a useful complement to medical approaches. Second, although behavior therapy had shown preliminary evidence of effectiveness in BFRBDs, many of these early clinical trials had serious methodological limitations, such as lack of a control group, lack of standardized treatment protocols, unreliable assessment measures, and poorly defined samples (Woods & Houghton, In Press). There was also little basic scientific research to support behavioral models of BFRBDs. In order to address these problems, behavioral scientists developed evidence-based behavioral models of repetitive behavior disorders and tested behavioral treatment strategies using methodologically rigorous clinical trials.

The current paper will describe such empirical advances that have led to effective behavior therapies for TDs and BFRBDs. In addition, I will discuss barriers to dissemination that prevent more widespread adoption of these approaches. The conclusion will offer future directions for improving access to behavior therapy for repetitive behavior disorders.

The Behavioral Science of Repetitive Behavior Disorders

Tic Disorders. As the neurobiological model of tics proliferated in medical communities, an unfortunate side effect was that behavioral factors were no longer considered important. This neglect was possibly caused by the notion that tics are purely neurological phenomena, and any suggestion that individuals could learn to manage their tics sounded as if we were returning to the days when tics were seen as voluntary. Thus, behavioral psychologists had to develop a convincing line of research that could document how behavioral and contextual factors were important to the basic science and management of tics. By acknowledging that tics have neurobiological causes but are affected by behavioral factors, this research would ultimately lead to a comprehensive biobehavioral conceptualization of TDs. The following section will review important empirical developments that occurred during this process.

One of the first unsolved mysteries of TDs confronted by behavioral scientists was that tics wax and wane in frequency and intensity. Indeed, tics tend to occur in bouts throughout the day and can form long-term patterns of worsening and improving (Peterson & Leckman, 1998). As the medical field had no good explanation for this phenomenon, psychologists examined the influence of contextual variables on tics, with the notion that tics can be influenced by external contingencies and internal factors. Conelea and Woods (2008) reviewed data from case studies, small-n functional analytic studies, and prospective longitudinal analysis to show that psychosocial stressors (e.g., emotion, changes in routine, desire for attention) as well as certain contextual factors (e.g., car rides, being in crowded places) were associated with short-term alterations of tic frequency and intensity. Moreover, evidence has shown that tics are sometimes influenced by specific environmental cues, such as hearing certain words or sounds and exposure to hot temperatures (reviewed by Houghton, Caprriott, Conelea, & Woods, 2014). The results of this research suggested that it is possible to mitigate the occurrence of severe bouts of tics through careful assessment and modification of contextual variables.

In order to manage tics more directly, researchers examined whether it was feasible for individuals to suppress tics under certain conditions. Several studies showed that children can suppress their tics for brief time periods after being instructed to do so, and providing monetary reinforcement made suppression efforts more effective (Himle, Woods, & Bunaciu, 2008; Himle, Woods, Conelea, Bauer, & Rice, 2007; Woods & Himle, 2004). Additionally, evidence indicated that reinforced tic suppression in the presence of specific stimuli can result in specific stimulus control over tics. When children and adolescents were reinforced to suppress their tics in the presence of a purple light, researchers found that tics were reduced in frequency when the light was later re-introduced, despite the fact that they were no longer being reinforced for suppressing tics (Woods, Walther, Bauer, Kemp, & Conelea, 2009).

Finally, as phenomenological reports suggested that persons with TDs experience aversive internal sensations that are relieved upon ticcing (Leckman, Walker, & Cohen, 1993; Miguel et al., 2000; Woods, Piacentini, Himle, & Chang, 2005), behavioral researchers investigated what happened to such sensations, or premonitory urges, when individuals suppress their tics. Using a paradigm in which individuals are intermittently reinforced to suppress their tics and then free to tic at will, two studies showed that premonitory urges increased during tic suppression and decreased during free-to-tic periods (Capritti, Brandt, Turkel, Lee, & Woods, 2014; Himle et al., 2007). Also, an innovative study by Beetsma et al. (2013) found that a simulated premonitory urge produced discomfort and subsequent tic-like behavior in a sample of healthy adults. This research supported the idea that premonitory urges are functionally tied to tic expression and suggested that tic management approaches should target the ability of individuals to suppress their tics in the presence of urges.

Body-Focused Repetitive Behavior Disorders. Prior to the 1970s and 80s, little was known about effective treatment of BFRBDs, but an explosion of behavioral research on BFRBD treatment occurred during this time period. The influential psychologists Nate Azrin and Robert Nunn introduced a radically successful treatment modality known as Habit Reversal Training (Azrin & Nunn, 1973), and other similar behavioral treatments were piloted in single-subject design studies. However, despite their effectiveness (reviewed below), the literature on BFRBD etiology, epidemiology, phenomenology, and impact was extremely underdeveloped. Thus, a resurgence of empirical attention was re-directed toward BFRBDs during the past two decades. The following sections will chronicle important empirical developments that occurred during this time.
First, it was necessary to determine whether BFRBDs could indeed be conceptualized as habitual behaviors. If so, evidence should show that a substantial portion of community samples engages in body-focused repetitive behaviors (BFRBs) somewhat regularly, but that when performed too frequently, these habits become impairing. The evidence largely supported this hypothesis. For instance, when asked if they occasionally engage in a BFRB, college students report rates of 78-90% for skin picking, 34-63% for nail biting, 34-38% for knuckle cracking, 43% for chewing on parts of the mouth, 15% for teeth grinding, and 11-22% for hair pulling (Bohne, Wilhelm, Keuthen, Baer, & Jenike, 2002; Hansen, Tishelman, Hawkins, & Doepke, 1990; Keuthen et al., 2000; Woods, Miltenberger, & Flach, 1996). When a more stringent criterion was applied (i.e., engaging in the behavior 5 times per day), rates dropped considerably, such as 3.2% for hair pulling and 10.1% for nail biting (Woods, Miltenberger, & Flach, 1996). Other evidence has suggested that clinical hair pulling exists in between 1.5-3.4% of adults (Christenson, Pyle, & Mitchell, 1991b), rates of clinical skin picking in between 1-2% (Keuthen, Koran, Aboujaoude, Large, & Serpe, 2010), and rates of clinical nail biting as high as 14.3% (Odenrick & Brattström, 1985). Furthermore, persons who frequently engage in BFRBs experience significant impairment in academic/occupational, social, and psychological domains (Franklin et al., 2008; Tucker, Woods, Flessner, Franklin, & Franklin, 2011; Walther et al., 2014; Woods et al., 2006).

Another relevant question facing behavioral scientists was the function of BFRBDs. Functional analyses performed during early behavioral studies suggested that BFRBs were performed primarily to achieve tactile stimulation and/or avoid aversive cognitive and emotional experiences (Miltenberger, Long, Rapp, Lumley, & Elliott, 1998; Rapp, Miltenberger, Galensky, Ellingson, & Long, 1999). Likewise, phenomenological reports found that many persons with Trichotillomania reported specific urges (or tension) that occur prior to pulling and pleasure or relief during pulling (Franklin et al., 2008; Woods et al., 2006). The notion that BFRBs provide relief and stimulation has been supported by recent dermatological studies of chronic itch, whereby individuals who experience frequent itching show increased neural activity in reward regions of the brain while scratching itches than persons without chronic itching (Mochizuki et al., 2015). Research has also supported the notion that BFRBs serve an emotion regulation purpose. When asked about specific emotional experiences, persons with hair pulling and skin picking report that negative affective states are temporarily diminished during pulling and picking but that pulling and picking tend to ultimately lead to feelings of guilt, sadness, and anger (Diefenbach, Tollin, Meunier, & Worhunsky, 2008; Snorrason, Smári, & Olafsson, 2010). Thus, it was hypothesized that individuals with BFRBs might show maladaptive emotion regulation skills, such that they cannot tolerate internal distress and resort to BFRBs to modulate that distress. Indeed, studies showed that experiential avoidance (i.e., the tendency to avoid or escape from aversive thoughts and emotions) is associated with hair pulling and skin picking severity, and experiential avoidance mediates the relationship between negative emotional experiences and hair pulling severity (Begotka, Woods, & Wetterneck, 2004; Flessner & Woods, 2006; Houghton et al., 2014; Norberg, Wetterneck, Woods, & Conelea, 2007). Thus, the evidence supports the notion that, as with all “bad habits,” BFRBDs have a reinforcing function but punishing consequences, leading researchers to argue that treatments for BFRBDs ought to use techniques that interrupt the reinforcement cycle that maintains symptoms.

Yet, one significant obstacle that made it difficult to interrupt the BFRBD reinforcement cycle was that individuals appeared to engage in certain subtypes of repetitive behavior. It was suggested that there were important phenomenological and functional differences between engaging in BFRBDs passively (i.e., without awareness) and with purpose (i.e., with conscious intent) (Christenson, Mackenzie, & Mitchell, 1991). Researchers labeled these two subtypes of habitual behavior as ‘automatic’ and ‘focused,’ and found that most individuals use each style in separate contexts (Christenson, Pyle, & Mitchell, 1991). Indeed, evidence showed that automatic hair pulling required little or no conscious effort and thus was likely maintained by tactile/sensory reinforcement (Flessner et al., 2007b), whereas focused hair pulling was performed largely for the purpose regulating cognitive and affective states (Begotka et al., 2004; Houghton et al., 2014; Woods, Wetterneck, & Flessner, 2006). Treatments developed subsequent to these findings included techniques designed to target both types of body-focused behaviors.

**Behavioral Treatment of Repetitive Behavior Disorders**

The progress made through the research described above resulted in the development of effective behavioral treatments for repetitive behavior disorders. Similar to effective treatments for Obsessive-Compulsive Disorder, such as exposure and response prevention, these treatments target repetitive behaviors by using techniques designed to block symptom performance and decrease the learned association between urges and symptoms. The following section will describe the elements of these treatments and the evidence supporting their effectiveness.

**Tic Disorders.** The core of effective behavioral treatment approaches for TDs are techniques designed to facilitate inhibition of tics following premonitory urges. The most evidence-based form of such techniques is called Habit Reversal Training (HRT; Azrin & Nunn, 1973), which was designed for repetitive movements such as tics, BFRBDs, and stuttering. HRT for TDs (as well as BFRBDs) consists of three sequentially applied components: awareness training, competing response training, and social support (Woods et al., 2008). Awareness training teaches the client to become aware of the tic and the preceding urge, as many persons with tics (especially children) are not always aware of each tic occurrence and do not always pay close attention to the sensations that occur prior to tics. After providing a detailed
description of the muscles involved in tic production and the urges that come before the tic, the client practices identifying occurrences of the tic and the urge. When the clinician is satisfied that the client is able to predict the occurrence of a tic, he or she begins collaborating with the client to develop a competing response that makes the tic difficult to perform. In competing response training, the goal is to formulate a behavior that directly contradicts the performance of the tic, such that the individual cannot perform the tic while holding the competing response. This competing response must (a) be physically incompatible with the targeted tic, (b) be performable for at least 1 one minute in any context, and (c) not be more noticeable or aversive than the tic itself. Common examples of competing responses include breathing in and out slowly through the mouth to combat a sniffing tic, or pressing the tongue against the roof of the mouth while clenching the teeth for a lip-licking tic. After deciding on an appropriate competing response, the client should practice using the competing response in session. Finally, the caregiver (or another person close to the client) is instructed to provide social support for using the competing response and to remind the client to use the competing response when a tic does occur. Tics are targeted one at a time, with the most bothersome tics being addressed first.

More recently, a comprehensive behavioral intervention for tics (CBIT) was developed (Woods et al., 2008). Although HRT is still the core component of CBIT, the treatment package also contains psychoeducation, a functional analysis and function-based intervention, relaxation training, and a behavioral reward system. Functional analytic techniques are used in order to identify and mitigate situations that tend to exacerbate tics or practices in the home that promote tics (e.g., allowing the child to leave the dinner table when tics become severe). As relaxation training has been shown to help attenuate tics (Turpin & Powell, 1984), strategies aimed at promoting relaxation were included in the package. Finally, a behavioral reward system that reinforces engagement in treatment is an optional addition that can be particularly useful for children who are unmotivated to participate in treatment exercises.

The empirical evidence supporting HRT and CBIT for TDs is very strong. Two reviews collectively identified 35 studies that showed HRT producing clinically significant reductions in tics (Cook & Blacher, 2007; Himle, Woods, Piacentini, & Walkup, 2006). Also, two meta-analyses of HRT also showed that HRT produces effective results and a large effect size (Cohen’s d = 0.78) (Bate, Malouf, Thorsteinsson, & Bhullar, 2011; Wile & Pringsheim, 2013). The effects of confounding variables on treatment have been ruled out, as the efficacy of HRT has shown to be independent of the effects of tic disclosure (Deckersbach, Rauch, Buhllman, & Wilhelm, 2006), increased knowledge and validation gained from psychoeducation (Piacentini et al., 2010), or treatment expectancy (Wilhelm et al., 2003). In testing the efficacy of the CBIT treatment package, two NIH-funded, multi-site, randomized controlled trials were conducted in children and adults with TDs (Piacentini et al., 2010; Wilhelm et al., 2012). CBIT was conducted over eight weekly sessions followed by booster sessions, and psychoeducation and supportive psychotherapy were used as the control conditions. Results showed that CBIT outperformed control treatment, and attrition was low (8% and 11%). Additionally, results were largely maintained at six-9-month follow-up, and effect sizes were equivalent to those found with commonly used psychopharmacological interventions (e.g., Scahill, Leckman, Schultz, Katsovich, & Peterson, 2003). In a recent meta-analysis of eight methodologically rigorous randomized controlled trials (438 participants), including the CBIT trials, McGuire et al. (2014a) found that behavior therapy for TDs has a medium- to large effect size.

Body-Focused Repetitive Behavior Disorders. A great variety of psychosocial treatments have been applied to BFRBDs, but a substantial portion of the published literature on these topics comes in the form of studies of low methodological rigor. Clinicians have offered numerous case studies describing the use techniques such as hypnosis (e.g., Fabbri & Dy, 1974) and psychodynamic therapy (e.g., Nakell, 2015), but there is a dearth of empirical studies to support the use of these techniques.

Nevertheless, there are well-conducted studies to show that behavior therapy is effective for BFRBDs, particularly Trichotillomania and Excoriation Disorder. The most compelling of this evidence comes from studies testing HRT and forms of HRT-based cognitive behavior therapy, but numerous other behavioral techniques have also demonstrated efficacy (e.g., stimulus control, contingency management). For pediatric BFRBDs, there is very limited evidence because few randomized controlled trials have been conducted, but positive evidence exists for behavior therapy for pediatric hair pulling, skin picking, nail biting, cheek biting, and thumb sucking (Woods & Houghton, In Press). Cognitive behavior therapy has also shown efficacy in pediatric hair pulling and nail biting (Ergun, Toprak, & Sisman, 2013; Tolin, Franklin, Diefenbach, Anderson, & Meunier, 2007). The literature on treatment for adult BFRBDs is more developed. An initial meta-analysis of studies on treatment for Trichotillomania by Bloch et al. (2007) found that HRT has a large effect size (1.14) and was superior to selective serotonin reuptake inhibitors (SSRIs). More recently, McGuire et al. (2014b) performed a similar meta-analysis on treatment trials for adult and childhood Trichotillomania and found a large effect size for behavior therapy (1.41) that was also greater than SSRIs. The analysis also showed that ‘mood-enhanced’ behavior therapy trials (which contained affect regulation techniques from cognitive-behavior therapy, acceptance and commitment therapy, and dialectical behavior therapy) showed greater effect sizes than HRT alone. For Excoriation Disorder, a meta-analysis by Galinas and Gagnon (2013) found that behavior therapy (including HRT, cognitive-behavior therapy, and acceptance and commitment therapy) had a large average effect size (1.52) that was larger than that of pharmacological interventions.

Barriers to Dissemination of Behavior Therapy for Repetitive Disorders

Despite the large amount of scientific evidence demonstrating that behavior
therapy is a highly effective treatment option for repetitive behavior disorders, there remain several barriers to that prevent affected individuals from receiving these treatments. It appears that many medical and psychological practitioners are unaware of the growing behavioral science and treatment of repetitive behavior disorders, meaning that affected individuals are sometimes given unproven treatments or are not provided referrals to seek behavior therapy. Moreover, some professionals continue to perpetuate myths and falsehoods about behavior therapy that discourage clinicians from promoting these techniques and clients from receiving them. The following section will discuss these problems.

Research has demonstrated that few individuals with repetitive behavior disorders receive behavior therapy. In a study examining the utilization of behavior therapy for TDs, results showed that between 17.2 and 23.6% of persons with TDs receive some sort of behavioral or cognitive-behavioral therapy (i.e., relaxation training, stress management), but only 4.3-6.5% receive HRT (Woods, Conelea, & Himle, 2010). Rates of behavior therapy engagement are slightly better for Trichotillomania, as between 30.7 and 45.1% of persons receive some type of behavior therapy (i.e., relaxation training and self-monitoring), but only 15.0-19.5% receive HRT (Franklin et al., 2008; Tucker et al., 2006). For Excoriation, similar patterns have been shown, as 26.4% receive behavior therapy, but less than half of those persons receive HRT (Tucker et al., 2011).

One potential reason why individuals with repetitive behavior disorders report receiving inadequate treatment is that many providers continue to provide unproven and ineffective treatments. Indeed, evidence shows that 21% of individuals with TDs receive a non-behavioral form of psychotherapy, despite the fact that there is no other evidence-based psychosocial treatment for tics (Woods, Conelea, & Himle, 2010). Individuals with TDs also engage in a variety of non-evidence-based treatments such as diet alterations (26.5-29.6%), vitamin supplements (13.1-21.7%), biofeedback (7.3-13.9%), hypnosis (2.3-10.5%), and acupuncture (5.3-10.1%) (Woods, Conelea, & Himle, 2010). For BFRBDs, most participants receive medication treatment, despite the fact that most evidence suggests that, other than clomipramine (which has a small effect size), most medications are ineffective at treating BFRBDs (Bloch et al., 2007; McGuire et al., 2014b). The practice of non-evidence-based psychosocial treatment of BFRBDs is also common, as many receive non-behavioral psychotherapy (17.0-19.5%), support groups (7.8-13.4%), and hypnosis (6.3-11.6%) (Franklin et al., 2008; Tucker et al., 2011; Woods et al., 2006).

Another potential factor that might contribute to the under-utilization of behavior therapy is that many providers are not knowledgeable about repetitive behavior disorders. Indeed, persons with TDs report that, other than cost and time commitment, the greatest barrier to receiving treatment is lack of access to a knowledgeable provider (Woods, Conelea, & Himle, 2010). Persons with BFRBDs also report that providers often possess minimal knowledge about their conditions and that treatment most often results in no change to their condition (Franklin et al., 2008; Tucker et al., 2011; Woods et al., 2006). To ascertain the extent of providers’ knowledge about repetitive behaviors, Marks and colleagues administered several surveys to community healthcare professionals. The first study found that physicians and psychologists responded correctly to 77% of items on a survey of general knowledge about TDs (Marcx, Woods, Teng, & Twohig, 2004). The study also found that a majority of providers endorsed the disproved myths that tic suppression results in eventual tic exacerbation (i.e., “tic rebound”) and that talking about tics makes tics worse. Additionally, significantly fewer physicians than psychologists endorsed the notion that psychologists could be involved in treating tics. In the parallel study of providers’ knowledge of Trichotillomania, results showed that providers responded correctly to 61% of general knowledge questions about the disorder (Marcx, Wetterneck, & Woods, 2006). However, contrary to the study of TD providers, a majority of respondents endorsed the notion that psychologists have a role in treatment of Trichotillomania. Despite the fact that many providers were aware of the effectiveness of cognitive-behavior therapy and HRT, many respondents agreed with statements that medications, hypnosis, and psychoanalysis are effective treatment options. Little is known about providers’ knowledge of Excoriation and other BFRBDs, but studies have shown that 90% of psychiatrists and dermatologists were not aware of any psychological resources for patients with chronic skin picking (Jafferany, Stoep, Dumitrescu, & Hornung, 2010a; 2010b).

**Conclusions**

Over the past two decades, behavioral scientists have made significant progress in the evidence-based conceptualization and treatment of repetitive behavior disorders. Indeed, research suggests that HRT-based behavior therapy is just as effective as medicinal treatments for TD and superior to all other treatments for BFRBDs, making them the ‘gold standard’ of psychosocial treatments for repetitive behavior disorders. These advances could be seen as a triumph for the movement toward empirically supported treatments in clinical psychology, as we can confidently state that this form of psychosocial treatment is as good or better than medicinal treatments (which are sometimes viewed as more scientific). However, despite the plethora of evidence supporting the behavioral treatment of TDs and BFRBDs, it seems that widespread implementation of these techniques to healthcare professionals has not yet occurred.

At the Tic Disorders Specialty Clinic at Texas A&M University (www.touretteclinic.tamu.edu), my colleagues and I are some of the only psychological practitioners in the state offering behavior therapy for TDs and BFRBDs. Thus, we receive many calls from persons and families who have exhausted all other treatment options and are considering traveling to see us in College Station. While we are happy to accommodate anyone who can travel to our clinic, we realize that having just several practitioners offering these treatments in a state as large as Texas is unacceptable, even for disorders of low prevalence. Thus, it is
important that we make behavior therapy more widely available for persons with repetitive behavior disorders.

The first step in improving dissemination of behavior therapy for repetitive behavior disorders is educating healthcare professionals. Indeed, proponents of these treatments have published several reviews on professional issues, such as addressing criticisms of behavior therapy for TD (Woods, Conelea, & Walther, 2007) and providing evidence-based guidelines on behavior therapy for pediatric BFRBDS (Woods & Houghton, In Press). Furthermore, patient advocacy groups such as the Tourette Syndrome Association (TSA; www.tsa-usa.org) and The Trichotillomania Learning Center (TLC; www.trich.org) have created expert panels of researchers that conduct periodic workshops for clinicians. TSA also provides follow-up phone-based case consultations (TLC is developing a similar phone-based component). Thus, more psychologists, psychiatrists, social workers, and other mental healthcare specialists are learning and using behavior therapy for repetitive behavior disorders every day. Until there is a clinician trained in behavior therapy within reach of all major population centers, researchers have developed innovative methods for overcoming geographic limitations on obtaining care. Indeed, clinical trials have shown that behavior therapy delivered via videoconference is well tolerated and effective for TDs (Himle et al., 2012; Himle, Olufs, Himle, Tucker, & Woods, 2010; Ricketts, Bauer, Ran, Himle, & Woods, 2014). There are also effective computerized forms of behavior therapy for BFRBDS, such as ‘Stop Pulling’ for Trichotillomania (www.stoppulling.com; Mouton-Odum, Keuthen, Wagener, & Stanley, 2006) and ‘Stop Picking’ for Excoriation (www.stoppicking.com; Flessner, Mouton-Odum, Stocker, & Keuthen, 2007a). A recent randomized controlled trial of stepped care for Trichotillomania found that applying ‘Stop Pulling’ prior to in-person behavior therapy was acceptable and effective (Rogers et al., 2014). Moreover, my lab, in collaboration with researchers in Salt Lake City and Houston, is currently conducting a randomizing controlled trial of a similar computerized technology for delivering behavior therapy for TDs. Thus, these technologies allow more persons with repetitive behavior disorders to gain access to effective behavioral treatment options.

Going forward, it is essential that more psychotherapy practitioners who see clients with repetitive behavior disorders seek training in behavior therapy. Given the fact that workshops and published treatment manuals are available (Woods et al., 2008; Woods & Twohig, 2008), it’s arguably unethical to use unproven psychosocial techniques or withhold information about evidence-based treatment options. Moreover, behavioral clinicians should make use of videoconference technology to make their services available for persons who cannot travel to their clinics. With the help of researchers and clinicians devoted to evidence-based practice, we can ensure that all individuals affected by repetitive behaviors have access to the highest quality of care.
Children, Sleep, and Emotion Regulation: What Do We Know and Where Should We Go?

Candice A. Alfano, Ph.D.
Simon Lau, B.S.
Sleep and Anxiety Center of Houston (SACH)
University of Houston

Anxiety and depressive disorders are some of the most common psychiatric conditions in adults as well as children (Beidel & Alfano, 2011; Kessler et al., 2005). In addition to distressing cognitive and physical symptoms and impairment in everyday functioning, quality of life is lower and mortality rates are higher (Coryell, Noyes, & Clancy, 1982; Wittchen, Carter, Pfister, Montgomery, & Kessler, 2000) in those who show clinical levels of anxiety and depression. The combined societal costs of these disorders, including lost wages and increased health care utilization, are considerable as well, estimated above $120 billion annually. Clearly, our ability to identify those at increased risk earlier in the course of their illness and to develop effective prevention/intervention programs represent primary public health needs.

Along with more typically recognizable symptoms (e.g., negative affect), anxiety and mood disorders also tend to coincide with disrupted sleep. Indeed, some form of sleep disturbance is a diagnostic feature of many affective conditions (APA, 2013). Research conducted over the past decade has also identified inadequate/disturbed sleep to serve as a robust predictor of subsequent emotional problems (Gregory, Eley, O’Connor & Plomin, 2004; Gregory et al., 2005; Gregory & O’Connor, 2002; Ong, Wickramaratne, Min, & Weissman, 2006). This appears to be particularly true of sleep problems that emerge early in life. For example, Gregory and colleagues (2002; 2004) have showed that the presence of sleep problems at age 4 significantly predicts elevated anxiety and depressive symptoms at ages 7 and 15. Ong et al. (2006) examined the rhythmicity (i.e., consistency of sleep habits and schedules) of children’s sleep as a predictor for the development of internalizing disorders. In this 20-year follow-up study, low sleep rhythmicity predicted adolescent-onset mood and anxiety disorders. Gregory et al. (2005) reported that close to half (46%) of the children with persistent sleep problems at ages 5-9 developed an anxiety disorder by age 21. In each study, childhood sleep problems predicted later affective problems/disorders even after accounting for anxiety/mood symptoms in childhood.

Experimental data are equally compelling of bidirectional relationships between sleep and affective outcomes. Adults who are acutely deprived of sleep demonstrate increases in negative affect, reductions in positive affect, and increased levels of anxiety/tension and irritability (Babson, Trainor, Feldner, & Blumenthal, 2010; Dinges et al., 1997; Kahn-Green, Killgore, Kamimori, Balkin, & Killgore, 2007; Sagaspe et al., 2006; Talbot, McGlinchey, Kaplan, Dahl, & Harvey, 2010), core features of anxiety and depression. In anxiety-disordered adults, acute sleep deprivation has been observed to result in increased anxiety and panic the next day (Roy-Byrne, Uhde, & Post, 1986). Robust relationships between sleep loss and decrements in various aspects of emotional processing also have been demonstrated (Dinges et al., 1997; Franzen, Buysse, Dahl, Thompson, & Siegle, 2009; Franzen, Siegle, & Buysse, 2008 Kahn-Green et al., 2007; Sagaspe et al., 2006). For example, greater changes in pupil diameter (i.e., a measure of emotional reactivity) have been found among sleep-deprived participants as compared to rested participants when anticipating and viewing negative emotional images (Franzen et al., 2009).

Sleep and Emotion in Children

Overall, experimental sleep research in adults suggests relationships between sleep and emotional functioning to be rooted in the maladaptive processing of emotion. However, delineating specific mechanisms of risk requires an understanding of these relationships during earlier periods of development, when sleep and emotion regulatory systems are developing. Important differences exist in terms of both sleep and emotion during earlier stages of life. Perhaps most critically, childhood is characterized by an increased need for sleep (particularly deep sleep), which is directly linked with greater brain plasticity and learning (Anders, Sadeh, & Appareddy, 1995; Dang-Vu, Desseilles, Peignoux, & Maquet, 2006). Increased brain plasticity implies that the childhood years offer greater opportunity for intervention. Sleep architecture and timing also continue to change from birth throughout adolescence, paralleling...
rates of brain maturation (Wolfson, 1996). Second, differences in emotion and emotion regulation emerge early in life and represent critical aspects of adaptive and maladaptive development with implications for later mental health (Banerjee, 1997; Eisenberg et al., 2001; Herba, Landau, Russel, Ecker, & Phillips., 2006; Posner & Rothbart, 2000; Rubin, Coplan, Fox, & Calkins., 1995; Sheeber, Allen, Davis, & Sorensen., 2000; Silk, Steinberg, & Morris, 2000). Children experience ongoing changes in the ability to identify and understand their own and others' emotions, as well as strategies for modifying emotions throughout their development (Herba et al., 2006; Posner & Rothbart, 2000).

Unfortunately, experimental sleep research in children is more limited even though dramatic changes in neurobehavioral outcomes (e.g., attention, behavioral inhibition) have been demonstrated following a single hour of sleep restriction (Sadeh, Gruber, & Raviv, 2003). A few studies have reported decreases in positive affect, increases in anxiety, and heightened appraisals of threat following restriction of sleep to only a few hours in adolescent samples (Daggs et al., 2011; Leotta, Carskadon, Acebo, Seifer, & Quinn., 1997; Talbot et al., 2010c). Among preschoolers, elimination of a daytime nap resulted in fewer positive emotions and more negative emotions (Berger, Miler, Seifer, Cares, & Lebourgeois, 2011). Together, these data highlight a need to understand the ways in which sleep and emotion intersect during the period when both sleep pattern and emotional systems are more malleable, and, by extension, when opportunity for prevention/intervention is presumably greatest.

Developmental and Contextual Influences of Children's Sleep

It should be mentioned that, as compared to adults, assessment of sleep in children is a more complex task requiring consideration of numerous factors. Normal developmental changes in sleep requirements, caregiver-dictated bedtime schedules and practices, and cultural norms surrounding sleep (at least partially) dictate the degree to which a child's sleep behaviors may be considered problematic. For example, the sleep problems of preschool-aged children are often closely linked to family routines and parental limit setting (Mindell, Kuhn, Lewin, Meltzer, & Sadeh, 2006). Nighttime fears and occasional nightmares are common in preschool and school-aged childhood and generally considered to be developmentally appropriate. Still, a proportion of children experience persistent nighttime fears that interfere with sleep and family functioning on a more regular basis. For these children, fears may be indicative of an underlying anxiety disorder. Muris and colleagues (2000) found severe nighttime fears to be associated with one or more anxiety disorders in 11% of a community sample of children ages 4-12 years. In another study, increased levels of anxiety at 3 years of age were found to predict bad dreams at age 5 (Simard, Nielsen, Tremblay, Boivin, & Montplaisir, 2008). The latter findings suggest that sleep may be more vulnerable at different developmental periods.

Adolescence also coincides with a range of maturational changes that increase risk for both sleep and affective problems. Earlier school start times and later bed times contribute to at least half of adolescents in the U.S. sleeping up to three hours less during the school week as compared to weekends (National Sleep Foundation, 2006; Baum et al., 2014). A reliable, biologically driven shift in circadian phase toward an eveningness chronotype also occurs with the onset of puberty (Carskadon & Acebo, 2002). Evening chronotypes are at greater risk for various sleep disorders, depression, and suicidality than morningness types (Diaz-Morales, Delgado-Prieto, Escribano-Barreno, Mateo, & Randler, 2012; Selvi et al., 2010). Although discussion of the full range of factors impacting children's sleep is beyond the scope of this article, it bears emphasizing that irrespective of family sleep practices, socio-developmental, or biological changes, the fundamental sleep needs of children are relatively inflexible.

Defining Emotion Regulation

An additional challenge for sleep-emotion research relates to the construct of emotion regulation. Interest in the construct derives from the fact that emotion regulatory deficits are believed to serve as a pathway in the development of internalizing disorders (Suveg et al., 2009; Silk, Steinberg, & Morris, 2000). However, few experimental studies have explicitly examined the effects of sleep on emotion regulatory processes. Instead, most studies have focused on discrete emotions, defined as specific responses to internal or external stimuli involving subjective experiences, peripheral physiology, and/or behaviors. By comparison, emotion regulation refers to the creation or modification of opportunities to experience an emotion, attending to specific features of a stimulus/situation over others, altering thoughts about a situation or feeling, and/or attempting to modify the actual emotion itself (Gross, 1998; 2015). Thus, emotion regulation encompasses a heterogeneous set of actions designed to influence "which emotions we have, when we have them, and how we experience and express them" (Gross, 2002: p. 282). Using this conceptual framework, it is clear that distinction between an emotional response and its regulation is critical for advancing research aimed at disentangling sleep-affective relationships.

Current Research at the Sleep and Anxiety Center of Houston (SACH)

At the Sleep and Anxiety Center of Houston (SACH) at the University of Houston, we are currently conducting an NIMH-funded study (R21 11064340; PI: C. Alfano) aimed at clarifying linkages between inadequate sleep, emotion regulation, and affective risk in children. The overarching goal of this research is to identify specific mechanistic pathways through which sleep disruption creates vulnerability for anxiety and depressive disorders. We focus on school-aged children specifically because this developmental phase not only coincides with dramatic emotional developments, but also precedes adolescence, a period characterized by elevated risk for sleep and affective disorders. Children also begin to make their own decisions about sleep schedules and practices at this time. In addition, whereas previous studies have focused almost exclusively on healthy youth, we are studying an ‘at-risk’ sample of children based on the presence of non-clinical levels of anxiety and mood problems. By including children with subclinical anxiety and depressive
symptoms, we aim to identify specific symptomatic indicators that potentiate the negative effects of sleep loss on emotional outcomes. The ability to link distinct symptoms with less adaptive responses to sleep loss will also help guide early intervention development.

Our study uses an experimental sleep restriction paradigm to identify cognitive, behavioral, and physiologic mechanisms of risk among pre-pubescent children, ages 7 to 11 years. Following comprehensive psychosocial and sleep evaluations (including structured clinical interviews, subjective sleep reports, one-week of actigraphy, and in-home polysomnography), children are randomized to a normal sleep condition or a partially restricted sleep condition for two nights. At both baseline and following the second sleep experimentation night, children complete a battery of novel, developmentally sensitive, emotion-based tasks, allowing us to examine both within and between group differences in subjective and objective measures (i.e., heart rate, vagal tone, skin conductance) of affect, anxiety, and emotion regulation. Because developmental trajectories are characterized by the presence and interaction of multiple risk and protective factors, we are also examining relationships between sleep and emotional outcomes in the context of several identified cognitive and biological predictors of affective risk. These include children’s cognitive response style, chronotype, and objective sleep patterns. It is our hope that data derived from this study will ultimately serve to inform early intervention programs for at-risk youth.

Data collection for this study is ongoing and we are currently recruiting families to participant. To learn more about this study (or any of our ongoing studies), or to refer families, please contact the study coordinator, Dr. Cara Palmer at 713-743-3400 or cara.palmer@times.uh.edu. You can also learn more online at www.uh.edu/SACH.

---

**Summary**

Many children and adults will experience an anxiety or depressive disorder at some point in their lives. If left untreated, debilitating emotional and physical problems can result and quality of life suffers. Research continues to uncover important linkages between affective problems and inadequate sleep in individuals of all ages. Sleep disturbances experienced during childhood especially are a precursor for both anxiety and depression up to several decades later. Sleep may therefore represent a robust early marker of risk and be a critical inflection point for early intervention. Still, specific mechanisms underlying these relationships are not well understood at this time, and greater experimental research is needed. In particular, sleep’s profound effects on emotion are suggestive of alterations in emotional processing that may persist over time. Early intervention programs that focus on sleep may therefore serve to buffer against affective disturbances in those who are otherwise at high risk.
Because You Have Been There.

Texas Psychological Foundation: Promoting the Future of Psychology

Angela Cool, Ph.D.
Texas Psychological Foundation President

You’ve been there as a graduate student—eager to make a difference. You’ve been there as a concerned friend or family member of someone who could benefit from what a doctoral-level psychologist has to offer. And you’ve been there as a psychologist helping your fellow Texans get well. You get it.

I know, I know. If you get one more nonprofit fundraising letter, your head might explode. I feel the same way, too. And this is true even for nonprofit causes that I hold very close to my heart.

And hey, I get it. I’m not a fundraiser by nature, or by profession, but I am deeply proud to be part of the Texas Psychological Foundation. I believe with 100% of my heart, mind, and spirit in our mission of bringing life-changing education, research, and psychological help to those in need. The Texas Psychological Foundation is the foundational entity of the Texas Psychological Association, organized exclusively for charitable, educational, and scientific purposes to promote the future of psychology in Texas, which is only possible with your support. Our mandate is to:

• Stimulate interest and knowledge of psychology to the public;
• Recognize excellence and achievement in graduate training by granting awards, scholarships, and fellowships;
• Encourage the design and development of novel techniques and innovative programs for providing effective psychological services in schools, institutions, industries, and in the community-at-large;
• Promote or fund basic and/or applied research programs in psychology;
• Encourage and support scholarship and publication in the field of psychology; and
• Develop materials and programs for the advancement of professional education in psychology.

Your contributions have helped make the charitable arm of the Texas Psychological Association become the great organization that it is. We are so grateful to you for supporting this cause. We exist to serve you and your loved ones – to educate and provide hope, healing, and recovery.

In these uncertain economic times, TPF counts on your support – now more than ever. Your gift is extremely important to TPF because it provides resources that make an immediate impact. Your gift of
$100, $500, or $1,000 can make all the difference...to our students, our colleagues, and the citizens of Texas. If you'd like, you can specify your gift to a particular scholarship or fund—wherever you choose. Please consider making as generous a gift as you are able.

Our goal is to raise money, but also to have fun! TPF will be hosting the Second Annual Jeopardy Competition and Silent Auction at the 2015 TPA Convention in San Antonio this November. Teams representing universities and colleges across Texas will go head to head Jeopardy style. Winning team members will win cash prizes and be known as the reigning TPA Psychology Jeopardy Champions! Last year’s winning team received full convention registration refunds. Additionally, $1,000 was donated to the winning team’s university for future TPA Convention student registrations.

New this year: we will have a team of brave psychologists taking on the student Jeopardy champs. Come on, support your university, and join the fun!

The silent auction will be held around the perimeter of the room during Jeopardy. Let’s make this year’s silent auction the best ever. Various Local Area Societies will be donating gift baskets to the silent auction and competing to generate the highest bids on their baskets. We also are looking to TPA members for various donations to the auction. Please contact Dr. Jo Vendl for more information on donating items at jyvendl@gmail.com. The holidays will be right around the corner—what a perfect time to pick up those special gifts for your loved ones while supporting the future of psychology.

Become a Friend of TPF today and help us promote psychology in Texas! I would like to thank you for all we have accomplished with your past support, and for your continued help. Your dollars help us to promote psychology and psychologists in the great state of Texas. Your tax-deductible donation is an investment in both our work today and in the future. To make it easier for you, you may use your credit or debit card to make your monthly or one time gift by visiting our web site: http://www.texaspsyc.org/?TPF. Simply click on the Contribute to TPF button on the left side of the page and follow the instructions. When you send in your tax-deductible contribution of $100 or more, you will be listed as a Friend of TPF and add another colorful ribbon to your collection at the 2015 TPA Convention. Your support means so much.

I hope you will join us by making a donation to support this work. Not because of this, yet another fundraising message. But because you know that together, we can truly make a difference. Our goal is to add 100 new Friends of TPF and raise another $10,000 at the 2015 TPA convention. Can you help us? Because you get it.

Mark your calendars and plan to join us for the Second Annual TPF Jeopardy—Battle of the Universities and Silent Auction, Thursday, November 12, 2015. Hope to see you there.

Texas Psychological Foundation is centered on promoting the future of psychology. Much of this support comes in the form of the foundation’s annual awards and grants. Below is a list of the three awards TPF is offering this year. Submission information will be announced soon. Your contributions make these awards and grants possible. Contributing to TPF is contributing to the future of psychology.

Graduate Proposal Award - $1,500
Designed to provide funding for a graduate student’s research proposal related to the broad area of psychotherapy.

Undergraduate Proposal Award - $500
Designed to provide funding for an undergraduate’s research proposal related to the broad area of Community/Public Service.

Roy Scrivner Gay/Lesbian/Bisexual Research Award - $1,500
Provides an annual award for the best student paper on Gay, Lesbian, and Bisexual research issues.
Thank you to our 2015

**Platinum Advocates**

for showing your commitment to being defenders of the profession of psychology.

Laurence Abrams, Ph.D.  
Barbara Abrams, Ed.D.  
Kay Allensworth, Ph.D.  
Corinne Alvarez-Sanders, Ph.D.  
Judith Andrews, Ph.D.  
Paul Andrews, Ph.D.  
Kelly Arnemann, Ph.D.  
Kim Arredondo, Ph.D.  
Kyle Babick, Ph.D.  
Jeff Baker, Ph.D.  
Laurie Baldwin, Ph.D.  
Matthew Baysden, Ph.D.  
Connie Benfield, Ph.D., ABPP  
Tim Branaman, Ph.D.  
James Bray, Ph.D.  
Barry Bullard, Psy.D.  
Mary Burnside, Ph.D.  
Sam Buser, Ph.D.  
Holly Carlson Zhao, Ph.D.  
Jorge Carrillo, Ph.D.  
Cynthia Cavazos-Gonzalez, Ph.D.  
Steven Coats, Ph.D.  
Celeste Conlon, Ph.D.  
Mary Alice Conroy, Ph.D.  
Jim Cox, Ph.D.  
Leslie Crossman, Ph.D.  
Rafael Cuellar, Ph.D.  
Edward Davidson, Ph.D.  
Cynthia de las Fuentes, Ph.D.  
Hildy Dinkins, Psy.D.  
Michael Ditsky, Ph.D.  
Melinda Down, Ph.D.  
Jay Duohon, Ph.D.  
Amy Eichler, Ph.D.  
John Elwood, Psy.D.  
William Erwin, Ph.D.  
Frank Fee, Ph.D.  
Linda Felini-Smith, Ph.D.  
Alan Fisher, Ph.D.  
Christopher Fisher, Ph.D.  
Susan Fletcher, Ph.D.  
Jessica Forshee, Ph.D.  
Richard Fulbright, Ph.D.  
Sheree Gallagher, Psy.D.  
Cynthia Galt, Ph.D.  
Ronald Garber, Ph.D.  
Bonny Gardner, Ph.D.  
Orna Goldwater, Ph.D.  
Jerry Grammer, Ph.D.  
Heyward Green, Psy.D.  
Carol Grothues, Ph.D.  
Kristy Hagar, Ph.D.  
Cheryl Hall, Ph.D.  
Rebecca Hamlin, Ph.D.  
Michelle Hanby, Ph.D.  
Michael Hand, Ph.D.  
Henry Hanna, Ph.D.  
David Hensley, Ph.D.  
Lynn Herr, Ph.D.  
Roderick Hetzel, PhD  
George Hill, Ph.D.  
William Holden, Ph.D.  
Keisha Holley Johnson, Ph.D.  
Robert Hughes, Ph.D.  
Rebecca Johnson, Ph.D.  
Melody Jones, Ph.D.  
Morton Katz, Ph.D.  
Richard Kownacki, Ph.D.  
Sydney Kroll, Psy.D.  
Stacey Lanier, Ph.D.  
Kelsey Latimer, Ph.D.  
Marcia Laviage, Ph.D.  
Garland Lawlis, Ph.D.  
Stephen Loughhead, Ph.D.  
Katherine Loveland, Ph.D.  
Alaire Lowry, Ph.D.  
Ronald Massey, Ph.D.  
Denise McCallon, Ph.D.  
Stephen McCary, Ph.D.  
Joseph McCoy, Ph.D.  
Marsha McDonough, Ph.D.  
Michael McFarland, Ph.D.  
Richard McGraw, Ph.D.  
Robert McLaughlin, Ph.D.  
Jamie McNichol, Psy.D.  
Robert McPherson, Ph.D.  
Robert Meier, Ph.D.  
Brad Michael, Ph.D.  
Jo Mitchell, Ph.D.  
Megan Mooney, Ph.D.  
Marlin Moore, Ph.D.  
Lee Morrison, Ph.D.  
Anne Morton, Ph.D.  
Orion Mosko, Ph.D.  
Renata Nero, Ph.D.  
Lane Ogden, Ph.D.  
Nadine Palau, Psy.D.  
Dean Paret, Ph.D.  
Michael Pelfrey, Ph.D.  
Walter Penk, Ph.D.  
Stephanie Petersen Leachman, Ph.D.  
Dorothy Pettigrew, Psy.D.  
Angela Pfeiffer, Ph.D.  
JoAnn Radeke, Ph.D.  
Martha Ramos Duffer, Ph.D.  
Patrick D. Randolph, Ph.D.  
Michael J. Ratheal, Ed.D.  
Elizabeth Richeson, Ph.D., M.S. PsyPharm  
Diane Roche, Ph.D.  
Jennifer Rockett, Ph.D.  
Allison Sallee, Ph.D.  
Gordon Sauer, Ph.D.  
Roger Saunders, Ph.D.  
Selia Servin-Eischen, Psy.D.  
Robbie Sharp, Ph.D.  
Edward Silverman, Ph.D.  
Gregory Simonson, Ph.D.  
W. Truett Smith, Ph.D.  
Brian Stagner, Ph.D.  
Pete Stavinoha, Ph.D., ABPP  
Alan Stephenson, Ph.D.  
Glenn Sternes, Ph.D.  
Larry Thomas, Ph.D.  
Russel Thompson, Ph.D.  
Adrienne Tinder, Ph.D.  
Thomas Van Hoose, Ph.D.  
Melba Vasquez, Ph.D.  
David Wachtel, Ph.D.  
Charles Walker, Ph.D.  
Beverly Walsh, Ph.D.  
Lisa Weaver, Ph.D.  
Patricia Weger, Ph.D.  
Miguel Ybarra, Ph.D.
When she needs support during her pregnancy, refer her to case management services, a Medicaid benefit for children birth through age 20 and high-risk pregnant women. Case Managers help patients navigate the health system by providing access to medical, dental, behavioral health, educational, and social services related to their health conditions.

Anyone can make a referral.
Call 1-877-THSTEPS or request a new Referral Pad by visiting https://secure.thstepsproducts.com.
2015 Annual Convention

The Future of Psychology Practice in the Era of Health Care Reform

Register online today at www.texaspsyc.org.

11.12.15 - 11.14.15
San Antonio - The Westin Riverwalk