References and Resources on Mentorship

A. Discussed in today’s presentation


6. Martin A: Just Do It! Pointers to get your work published in the academic literature (...and why you should, no pressure) JAACAP Connect 2014; 1(2): 20-23

B. Other useful resources

http://accelerate.ucsf.edu/training/mdp-announcement

http://www.brighamandwomens.org/medical_professionals/career/cfdd/MentoringToolkit/default.aspx

• I found this one particularly helpful. See also:


http://www.brighamandwomens.org/medical_professionals/career/cfdd/fmlp/defult.aspx

http://www.med.umn.edu/medical-school-faculty/faculty-affairs/mentoring/

http://faculty.medicine.iu.edu/mentoring/index.html

https://mentoringresources.ictr.wisc.edu/
Ignition Sequence: On Mentorship

ANDRÉS MARTIN, M.D., M.P.H.

Mentorship may be best understood by considering what it is not. It is not education, instruction, training, or supervision, nor is it professional or personal tutelage, advice, or guidance. It is not friendship, career counseling, or individual psychotherapy. Rather, mentorship incorporates elements of each and is more than the mere sum of such parts. Mentorship is a potentially vital component of successful careers, particularly during their early phases. At those nascent and impressionable stages, mentorship can provide the crucial thrust to strategically redirect an individual’s career, when not to altogether launch it—ignition is at its very core. But mentorship can and often is a longer term process that lasts well beyond its beginnings, yielding different returns over time. Ignition leads not only to liftoff: it seeks to have its payload achieve a unique orbit; so unique, in fact, that predicting its exact arc is rarely feasible at the outset.

Part of what makes the process so stimulating for all involved is the realization that a new and different future is being jointly crafted along the way.

The term mentorship derives from the Indo-European root *men-* meaning to think: mentorship can be first understood as a means to clearer thinking. But disembodied thought does not constitute mentorship; a meaningful relationship must lie at its core. In keeping with this view, the word more directly derives from Greek mythology, in which Mentor served as the guardian and teacher to Odysseus’s son Telemachus. As trusted counselor and surrogate, Mentor helped during Odysseus’s absence in the upbringing and transition into adulthood of his son. Along such mythic lines, old mentors everywhere can be viewed as having undertaken the responsibility (whether acknowledged or not) of seeing their young charges through a safe developmental transition. The Greek imagery is apt, but it seems to place an unwarranted emphasis on age differentials and the predetermined gradient along which knowledge and wisdom invariably flow, rather than the more fluid and often arbitrary lines that distinguish mentorship’s provider from recipient—the teacher from the taught.

As is the case with other aspects of medical training (supervision and teaching readily come to mind), mentorship takes place frequently, but the specifics of the process are seldom articulated explicitly. Mentorship is thus open to the vulnerabilities of an apprenticeship model predicated on the “see one, do one, teach one” philosophy, particularly the notion that a potential candidate may constitutionally “have what it takes”—or not. Although it is true that there are individuals uniquely gifted for mentorship, mentors are more often made than born. Alternatively stated, mentorship should not be construed as a random process relying on innate talent or the fortuitous finding of the right relationship. To the contrary, it should be conceptualized as an orderly process, as the necessary sequence underlying a successful launch. This article attempts to delineate some of those active elements—and insofar as identifiable, potentially replicable—that may lead to more enriching mentorship experiences, as well as

If you treat an individual as he is, he will remain as he is. But if you treat him as if he were what he ought to be and could be, he will become what he ought to be and could be.

—Johann Wolfgang von Goethe

*Wilhelm Meister’s Apprenticeship* VIII-4
to a medical culture increasingly socialized into the values of mentorship as integral to its mission.

IGNITION SEQUENCE: AN ACTIVE, SPECIFIC, AND ENGAGED PROCESS

Mentorship is an active undertaking, and one that can as easily start with the traditional arrangement of a senior mentor seeking out and finding a junior partner, as with a reverse scenario. In fact, roles may have shifted in this direction since Mentor's days, because it is now routine for students to seek out a clinic, a laboratory, or the advice of a respected faculty member, then enter into a working mentorship as an unexpected side benefit. As a structured example of this approach, and in tacit acknowledgment of the need for active mentorship as crucial for independent scientific thought, the National Institutes of Health have provided funding support for Mentored Career Development Awards in diverse medical specialties, including child and adolescent psychiatry. Other organized examples include institutions periodically setting up or endorsing opportunities wherein mentored relationships may be explored and hopefully struck (resident and medical student awards conferred by the American Academy of Child and Adolescent Psychiatry are a case in point).

Most sustained mentored relationships are forged in less structured (and usually unfunded) ways. Empirical research (Ragins and Cotton, 1999) has shown that informal mentoring relationships (those developed on the basis of mutual identification) lead to greater benefits for protégés than do formal arrangements (those based on assignments by a program coordinator guided by application forms). The implications are clear: Mentorship may be eased through recruitment by assertive mentors or the organization or sanction of outside sources, wherein mentored relationships may be explored and hopefully struck (residential and medical student awards). The onus of making mentorship work does not exclusively (perhaps not even primarily) lie on a mentor's shoulders. Such relationships are more often made than found, and the ability to seek out a mentor, just as to sustain and benefit from the ensuing exchanges, is one of the critical qualities of the successful mentee; as pithily stated by Schrubbe (2004), “once the student is ready, the teacher will appear.” (It should be noted that in parallel with a literature that has focused almost exclusively on mentors, “mentor” as a verb did not appear in Webster’s until 1983, whereas “mentee,” used in current parlance as a common substitute for protégé, “has yet to achieve Websterian legitimacy” [Hazzard, 1999]).

MISSION LAUNCH: GETTING STARTED

Mentorship is a labor of love, its success as likely to depend on the labor as on the love parts of the equation. Taken seriously, mentorship is a time- and labor-intensive undertaking. Once an initial connection and working bond have been established, much of the process relies on its specifics. Duration and frequency, place and format can be infinitely varied; in fact, the Internet has made physical meetings less critical. Indeed, it is less physical proximity than meaningful intellectual, personal, and emotional connections that count most.

Like ignition, mentorship cannot take place in a vacuum, and it is usually around a specific piece of work that combustion first occurs. The work itself can range from the inchoate (a mere idea) through various stages of gelling (the draft of a grant proposal) to the complete (a published paper). Moreover, “work” implies not simply finished products, or research or scholarly ones at that: clinical and teaching skills are just as amenable to the process. Whatever the idea, project, or specific question at hand, legitimate engagement is at the very core of mentorship: Critiquing a mentee’s work in a challenging yet caring fashion is a fundamental way of taking his or her individuality seriously. Bland comments, however flattering, are ultimately not helpful and risk being harmful insofar as they can confer an unwarranted sense of competence. Openly critical, negative, or even hostile remarks can obviously do much harm, although they may be more readily recognized as destructive and thus more easily dismissed than unwarranted praise.

As guardian or overseer of the mentee’s developmental transition, a mentor is implicitly charged with a profound trust. With such power comes much responsibility. First, a mentor must serve as a role model, as an individual worthy of respect and emulation. However,

being a role model is serendipitous: there is no training program, appointment panel or certificate. That you have been a role model for a young colleague can come as a surprise, either flattering or alarming, depending on your conscience. To paraphrase John Lennon, being a role model is what happens when you are busy doing other things. Mentorship differs from role modeling in that the mentor is actively engaged in an explicit two-way relationship with the junior colleague—a relationship that evolves over time and can be terminated by either party. (Paice et al., 2002, p. 709)
Second, a mentor should work closely with his or her charge at identifying the paths best (or worst) suited for that individual. Providing guidance along the manuscript submission or employment application mazes (and their inevitable disappointments) and suggesting directions worthy of future time and energy investment or divestment all are concrete steps to pursue. Third, effective mentors should be comfortable with their own ignorance and allow their charges to see them struggle with uncertainty as they seek to find answers (Dunnington, 1996).

Finally, facilitating the path identified for the mentee is central to the mentor’s job description. Facilitation includes not only supporting appropriate funding, suggesting program opportunities, or facilitating critical introductions and meetings but also creating a mutual environment of positive and high, yet realistic, expectations.

The general advice to give to a mentor is rather different from that directed to a reviewer of a book or grant proposal. Whereas there the focus should lie on the content or the science alone and never be addressed ad hominem, in mentorship, the focus must by necessity also reside on the individual’s development: Let theories and projects come, go, evolve, or be dismissed if they must, but let the student not be dismissed or lost in the process. Mentorship requires focus and care hovering in balance over two separate domains: that of the other’s work and that of the other.

ATTAINING ORBIT: ONE SIZE DOES NOT FIT ALL

“Other” is a deliberate word choice here, highlighting the importance of self-revelation and mutual exchange toward a fruitful partnership. Mentee and mentor should learn about equal amounts from each other: for the former to learn about the latter’s trajectory may prove critical and provide a natural template to emulate. More important, perhaps, it can reveal the evolving nature of personal and professional growth. Cast into an Eriksonian framework, the developmental task of the mentor may be seen as one of generativity versus stagnation, in a deliberate and future-oriented way, of electing to harness the potential of another over one’s personal goals.

The potential to be harnessed here is not that of a random another—it is that of this and of no other individual. This leads back to the overriding charge to know the person, not only the work. Similar to the way in which an editor can both push and support a writer (by giving challenging assignments in the first place, by helping shed unnecessary passages in the second), a mentor should push as much as support a mentee. Pushing may be easier; higher hurdles are never hard to find, and helping people go where their strengths and passions take them is always a joyful endeavor. This is not the case when shedding unnecessary passages or when advising against a given project, career choice, or life direction. This may be what makes mentorship so different from cheerleading (integral as cheerleading may be to good mentorship). At times mentoring is no fun, and hard decisions may become necessary. The only way in which any such advice may be incorporated usefully is within the context of a real, trusting, and caring relationship.

Just as a mentee may have to learn to give up some aspect of a project (or some cherished part of an internal ego ideal), a mentor must be well grounded enough to dismiss the notion of equifinality, which implies that some universal yardstick exists through which to evaluate the success of different mentees (“scientific independence” in the form of grant funding being perhaps the most commonly acknowledged). Mentorship is a highly customized process—it’s responsible conduct lies in knowing that the end of a given road cannot be the same for the mentee; helping each to become his or her individual best is the ultimate goal. Nevertheless, it is understandable how mentorship can become an invitation to live vicariously—to conflate a mentee’s goals and aspirations with one’s own.

UNTETHERED WEIGHTLESSNESS: IDEALIZATION, ROLE TRANSITION, INTERNALIZATION

Idealization is arguably the common denominator underlying mentorship. A mentee, after all, elects a mentor (or a clinic or laboratory) that is viewed with some degree of admiration. The mentee may infuse the mentor with qualities of greatness, even if not all of them are strictly speaking based on fact. No matter—the power of idealization has long been respected outside the halls of psychiatry, with the Hippocratic Oath having put a pedestal of parental height for the mentor: “I honor as my father the man who teaches me the art.” The attributes of an idealized parent can be easily infused onto a mentor, especially during long-term partnerships (Duffy, in press).
Mentors in turn do not take on just anyone as their mentee; if anything, they elect those who remind them of themselves on some level, perhaps a younger, brighter, more aggressive, or promising model of who they once were. Thus, the mentor similarly indulges in idealization, for at its core, mentorship provides a means through which to identify, coax, and ultimately ignite the often dormant potential of another. A mentor can see what is best in a mentee and help propel it forth, often seeing this potential well before the mentee can, sometimes even as the latter’s self-doubts continue.

Identification of one’s traits in the other is as integral to mentorship as is idealization. Mentorship is more than a mutual admiration club, however; mentorship is a complex process of growth in which directionality can develop from the categorical (mentor to mentee) into a longer phase of diffuse and subtle role reversal (who is it that is mentoring whom?) In those fortunate instances in which mentorship is sustained over long periods of time, the role reversal may literally concretize, with the erstwhile mentee having to take over some of the mentor’s needs and obligations, professional as well as personal (Cohen, 1986). Parental analogies resonate here: Just as a child may have to one day bury a parent, mentored relationships can lead to the very last moments—and beyond, as one of the mentee’s newfound tasks may be to carry forth the mentor’s legacy and teachings. The welcome responsibility of transmission may arise almost at the inception of the relationship, but the finality of death (or of retirement or transfer to a distant location) can make it all the more pressing and precious.

ENDING THE MISSION: LANDING GEAR

There are as many ways to end mentorship as there are to begin it. What begins as an academic partnership may gradually evolve into a friendship based on mutual respect and appreciation (Schrubbe, 2004). Not all successful partnerships end at the grave, are lifelong, or even necessarily lengthy. A careful landing may be the appropriate end point for an effective launch. Sometimes “great chapters” in the book of one’s life are sufficient. Brief mentorship that is potent can have enduring effects or lead to critical turning points. Formally arranged mentorship arrangements typically last between 6 months and 1 year (Kram, 1985); informal ones between 3 and 6 years (Murray, 1991). More than duration, internalization can be seen as providing a useful metric for the success of the experience: Those individuals capable of invoking and making use of the other (whether spontaneously or through active effort) have been effectively mentored. A natural corollary is that in the process, they themselves have become mentors to others and the cycle and its transmission of values have effectively moved forth.

HOUSTON, WE HAVE A PROBLEM: MENTORSHIP WOES

Upon first signing up to the task, mentors should remember that no matter how talented, their charges may be quite vulnerable early on. They would do well to recall how vulnerable they themselves once were, and recognize, with more awe than fear, that their influence can be enormous, but not de facto for the better. The ultimate goal of mentorship, as of a rocket’s ignition sequence, is to facilitate successful liftoff. In both instances, stakes and anticipation are high and can easily slip into bad outcomes. There are the catastrophic but rare ones—the explosion on the launch pad or, in the case of mentorship, the exploitation (professional or intimate) under the guise of care or the plagiarism of original ideas. More common, however, are other forms of malfunction: the ignition that fizzles, the mentorship that fades, the anticlimactic and passive ending that happens, in the words of T.S. Eliot, “Not with a bang but with a whimper.”

Not all relationships work, and a mentee may have to try on several mentors to find a proper fit. Some instances of mentorship ignite but never lift off, yet others outlive their utility and are best finished actively. (The 1970 Nobel laureate Julius Axelrod expressed this sentiment about his mentor, Bernard Brodie: “the best thing that happened [to me] was working with Brodie, the second best was leaving him.”) There remain those instances that can and do work but dissolve prematurely through neglect, and it is here that a mentor may need to be most active. Just like making the relationship work in the first place may be primarily a mentee’s task, ensuring that it not fade may fall more directly on a mentor’s plate: the promptly returned call, the carefully reviewed manuscript, the attention to unintended slights or narcissistic injuries are some of the ways to deliver on this responsibility. In the tacit pact between mentor and mentee, failure by the former to follow through can
be tantamount to rejection by a parent and just as painful; failure by the latter may be not only hurtful, but, even worse, dissuade an individual from offering him- or herself as a mentor to others in the future. Mixed-gender mentoring relationships pose a particular set of challenges—and opportunities—that highlight the high stakes involved in the overall process:

Therefore, persons in positions of leadership at academic health centers, visionaries for whom achievement of gender equality at all faculty levels is a top priority to assure institutional preeminence … must invest heavily now to support effective mentors for the women who can be expected to comprise at least half of their faculty in the future … (Hazzard, 1999, p. 1467)

Mentorship is not for the faint of heart and can have painful and difficult phases. Let these not dissuade us from rising to meet its challenges.

The initiative, assertiveness, and talent of a younger generation are rare commodities that we can ill afford to waste. Mentorship provides a unique framework to ensure that we do not.

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http://www.elsevier.com/locate/permissionusematerial
Foreword

Pipeline Promise

The future ain’t what it used to be.

—Yogi Berra

Training in child and adolescent psychiatry has traditionally been cast in an apprenticeship mold, one in which the “see one, do one, teach one” formula has been a guiding and accepted ethos. It has revolved around the three core elements of didactic instruction, clinical immersion, and individual supervision. Its major aim has been to place practitioners into the workforce who are capable of providing sorely needed services, while remaining attuned to larger systems issues necessary for the smooth collaboration with schools and other stakeholders. Over the past few decades this approach has delivered on these goals and produced the nearly 10,000 specialists currently active in America. Furthermore, it has trained countless others who have since returned to their countries of origin to adapt the specialty to local needs. By setting uniform standards for education and board certification, training programs have played a critical role in sculpting the specialty and the professional identity of those dedicated to it.

Important and welcome as these accomplishments are, a self-critical and honest appraisal suggests that we have not been as successful as we should have been. Specifically, we continue to face limitations in recruitment and retention, and our workforce is much smaller than current and projected needs would demand. Perhaps most concerning when looking ahead, we may have lagged in adapting to changes in biomedical research as aggressively as we could have. It seems imperative that we do so now if we are to make major inroads in the understanding and treatment of the major mental disorders of childhood.

The challenges that we face in recruitment are largely shared with general psychiatry training, our “parent” or “feeder” specialty. Fortunately for all, the choice of psychiatry as a specialty has steadily crept up among recently graduating cohorts, and child and adolescent training has become increasingly popular and sought after. Shifting attitudes around mental illness and a gradual erosion in biased perceptions of psychiatry have brought the discipline closer to the medical mainstream, and excitement around applying new technologies to understanding and treating psychopathology...
have attracted more talented students into our fold. While we can feel optimistic about these trends, they remain modest and far from a sufficient solution.

The “casualties” that we have routinely come to see in those graduates who drift away from child and adolescent work toward more general psychiatric practice may have less to do with market pressures or clinical demands than with the late development of an “add-on” identity as a professional dedicated to working with youth. The unique challenges attendant to working with children and families can understandably lead some recent graduates to shift back to the more familiar and secure grounding of treating adults: a regression, so to speak, to earlier developmental stages. The risk may be most pronounced for trainees involved in research. In fact, a resident contemplating investigation may simply forego the additional 2 years of child and adolescent training to delve straight into the lab, thus leaving the ranks of developmental psychopathology with one fewer potential physician-investigator.

There will always be an inevitable lag between research advances and their application to clinical practice. It may well be that the most efficient remedy for this inescapable reality is in the education of a new cadre of practitioners proficient in self-directed learning, conversant in research and methodology, and above all, flexible in the face of a rapidly changing scientific landscape. The child psychiatry that will be practiced a few years hence will have even less to do with the one we practice today than this one has with that of our forebears a few decades ago. Just as we marvel today at the evocative clinical descriptions of Winnicott and other seminal founders, and hard pressed as we are to imagine their child psychiatry practiced without psychotropics, our trainees may all too soon look back from their genomic maps, brain images, and electronic medical records to the quaint old days of 2007. We should relish the opportunity to be one-upped: to look forward to our myths being debunked and our limitations overcome by our students. We should not cower under the threat of our obsolescence: we should embrace our past and our present selves, but remain committed to a brighter future.

This issue of the Clinics distills the best of today’s child and adolescent psychiatry training. It includes novel approaches to teaching specific skills, to monitoring progress and to remedying deficiencies. It provides roadmaps not only for the way we train today, but for how we may come to adapt education in the years to come. I am grateful to Chris Varley for organizing this issue and for bringing together its exceptional cast of contributing authors.

Like them, we should all take pleasure in recognizing ourselves in our trainees. But we should perhaps be even more excited and hopeful when seeing in them something new and hitherto unknown, something difficult to understand and incorporate into our practice and professional sense of self. Trainees should push the limits and boundaries of our comfort zones.
Training should not only reflect and keep up with advances in our field—it should help define and propel them.

We must shift our emphasis away from shepherding our trainees from one requirement or rotation safely onto the next. If we are to deliver on the latent promise of our discipline, we must train a new generation capable of redefining it. Our educational mission should be less about guiding and monitoring our pilgrims’ progress than about aggressively promoting our pipeline’s promise.

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From Too Little Too Late to Early and Often: Child Psychiatry Education During Medical School (and Before and After)

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“…we need to make a serious investment in training a new generation of real experts in the science and art of psychopathology. Otherwise, we high-tech scientists may wake up in 10 years and discover that we face a silent spring. Applying technology without the companionship of wise clinicians with specific expertise in psychopathology will be a lonely, sterile, and perhaps fruitless enterprise.”

—Nancy C. Andreasen [1]

Too little too late: the status quo

The shortage of specialists in child and adolescent psychiatry necessary to meet current and projected clinical demands has been recognized for more than a decade. In the United States, the American Academy of Child and Adolescent Psychiatry (AACAP) Task Force on Work Force Needs has examined some of the reasons underlying this state of affairs and proposed viable solutions to remedy it. Some of the reasons identified include inadequate support for child and adolescent psychiatry in academic institutions, limited graduate medical education funding, lower clinical revenues under...
a managed care environment, and a devalued image of the profession. By the group’s conservative estimates, even if funding and recruitment were to remain stable at the current levels, there would be 4312 fewer child and adolescent psychiatrists by the year 2020 than needed to maintain the (already suboptimal) 1995 use levels [2]. The AACAP went as far as declaring in 2001 that recruitment into child and adolescent psychiatry would be its top priority for the next decade. Reflecting this commitment, two related articles in this issue of the Clinics by key leaders within the AACAP address innovative ways to enhance recruitment [3] and to create innovative portals of entry [4] into the profession.

Many of the efforts to enhance recruitment to date have focused on improving graduate medical education in the specialty. Paradigmatic of this approach was the creation in 1986 of Triple Board Residency Programs by the American Board of Psychiatry and Neurology. Similarly, curriculum requirement changes have been proposed to the Residency Review Committee (RRC) that are aimed at facilitating entry into the subspecialty. Welcome as these and other efforts have been in the United States and abroad, it has become clear that our recruitment efforts should start much earlier. If we are to recruit not only a greater number but also the best possible quality of physicians into our field, we must make concerted efforts to attract them into it early in their medical education.

In addition to the clinical shortage, the number of specialists involved in academic activities and research in pediatric mental health remains limited. The percentage of United States physicians engaged in patient-oriented research has declined steadily, from 4.2% in 1984 to 1.8% in 1999 [5,6]. Various reasons have been posited for this decline, including an increasing portion of students with a large academic debt, an increase in the amount of time required to prepare for a research career, and the perception by physicians that they may not be competitive with PhDs [7–11].

For psychiatry in general and for child and adolescent psychiatry in particular, the decreasing number of physician-scientists is especially problematic. Viewed in the light of challenges such as the public health costs of mental illness and addiction and opportunities to use scientific advances to improve prevention, early intervention, and treatment of psychiatric disorders, the need for psychiatrist-researchers is particularly urgent. In addition to the common concerns about personal economic disincentives and long duration of training, medical students and psychiatry residents face limitations in the availability of appropriate research education and training programs.

In 2001, the National Institute of Mental Health (NIMH), then under the leadership of Steven Hyman, asked the Institute of Medicine to convene an expert committee to study research training during psychiatric residency. The committee concluded that more intensive and better residency-based training is needed to solidify the research career interests of junior psychiatrists. After careful examination of the charge, the committee outlined
several specific recommendations and identified obstacles to research training. The recommendations are summarized in the 2003 report “Research Training in Psychiatry Residency: Strategies for Reform” [12]. The report was highly critical of the currently available programs to enhance research training opportunities during psychiatric residencies.

In this article we propose developmentally informed remedies to these challenges. All of the initiatives described in it have been implemented to various degrees at our institution, and several are already being replicated or expanded through strategic partnerships across the country. We are fortunate to work in an environment in which child and adolescent psychiatry is visible and well represented, but we are aware that many of the settings in which education and recruitment needs are most pressing may not have the range of our resources. With this in mind, we encourage readers to see the programs described as models that may be implemented in whole or in parts or adapted freely, depending on local needs and resources. We view our different programs as seamlessly interconnected with one other but present them as separate entities to facilitate the incorporation of different components into local realities.

One final caveat is our exclusive focus throughout this article on child and adolescent psychiatry. Although this choice has been a deliberate one, we believe that several of these initiatives may be relevant to other disciplines involved in pediatric mental health (developmental behavior pediatrics, psychology, social work, nursing, and special education come readily to mind). We are realists and are aware that many, if not most, of the targeted medical students are not likely to pursue careers in child and adolescent psychiatry. Despite this, we believe that other positive outcomes can be expected, such as increasing the relevant knowledge base among future practitioners in other disciplines, attuning them to the mental health needs of their patients, their families, and the population at large, and providing clinical research skills generalizable to other areas of inquiry. Finally, the process is one way of providing a welcome alternative to negative socialization experiences that are generally based on outdated views of our discipline which historically have hurt our recruitment efforts and public perception [13].

Early and often: proposed developmentally informed remedies

The initiatives that we describe are developmentally informed because they are specifically tailored for different phases of training. We begin by presenting programmatic efforts during medical school. In addition to describing them by year of training, we have divided them broadly into curricular (required) and extracurricular (optional) categories. Table 1 summarizes the different venues that we have used to increase exposure to child and adolescent psychiatry within the medical school experience at Yale. The curricular and extracurricular sections are followed by a third one that
describes undergraduate and postgraduate initiatives to maximize recruitment, particularly that of clinician-scientists dedicated to pediatric mental health research.

Curricular initiatives

There currently is no uniform list of learning objectives for national medical school accreditation; instead, the individual objectives are left up to the individual schools. The Liaison Committee on Medical Education of the American Medical Association provides broad educational objectives and general requirements but does not provide specific or subject-based learning objectives (http://www.lcme.org/functions2005oct.pdf). Instead, the objectives listed for the United States Medical Licensing Examination (USMLE) board come closest to providing a nationally accepted standard. In light of this, familiarity with USMLE requirements is instrumental to the development of any curricular initiative in medical school, particularly because medical students are often keenly aware of the USMLE requirements.

Table 1
Opportunities for child psychiatry involvement in medical education

<table>
<thead>
<tr>
<th>Medical school year</th>
<th>Curricular</th>
<th>Extracurricular</th>
</tr>
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<tbody>
<tr>
<td>Preclinical</td>
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<tr>
<td>First</td>
<td>Child and adolescent development in the practice of medicine</td>
<td>Mentorship program initial year: clinical exposure, mentor assigned, monthly seminars</td>
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<td>Interview skills: school-aged children</td>
<td>Summer research projects, including funded opportunities (eg, AACAP’s Jean Spurlock award)</td>
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<tr>
<td>Second</td>
<td>Child and adolescent psychopathology within psychiatry preclinical module</td>
<td>Mentorship program ongoing involvement or leadership year (recruit first-year students, organize seminar series)</td>
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<tr>
<td></td>
<td>Interview skills: standardized patients (eg, breaking difficult news)</td>
<td></td>
</tr>
<tr>
<td>Clinical</td>
<td>Core psychiatry clerkship: child and adolescent inpatient, outpatient, emergency department, and consultation-liaison placements</td>
<td>Mentorship program ongoing involvement or broader leadership year (interface with AACAP and mentorship national network)</td>
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<tr>
<td>Third</td>
<td>Child and adolescent psychopathology within psychiatry clinical module</td>
<td>Attendance at AACAP annual meeting</td>
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<td>Interface with pediatric clerkship (eg, psychiatric palliative care seminar)</td>
<td>Research projects or writing opportunities</td>
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<td>Psych cinema or other venues for media interface and informal gatherings</td>
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<tr>
<td>Fourth (± Fifth)</td>
<td>Elective rotations (including at other institutions)</td>
<td>Explore postgraduate training options in child and adolescent psychiatry, including in traditional, triple board, or integrated programs</td>
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<tr>
<td></td>
<td>Completion (and possible publication) of thesis work</td>
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Box 1 presents content areas relevant to child and adolescent psychiatry, divided according to preclinical and clinical years (Steps 1 and 2, respectively).

At the Yale University School of Medicine we have been able to encompass all of these content areas through initiatives that are spread out across the first 3 years of the curriculum. These offerings are available to all students, regardless of their eventual career interests. We believe in the critical importance of educating future medical professionals in child psychiatry even if they do not pursue careers in the field. Giving future physicians a better understanding of developmental and pediatric mental health principles and an appreciation and understanding of what child psychiatrists actually do is a worthwhile effort unto itself. Interested students also can have a more self-directed experience in their fourth year, either through elective rotations (including at other institutions) or through participation in research, often conducive to the Yale medical school thesis requirement described below.

First year

The initial class-wide introduction to child and adolescent psychiatry comes in the spring semester of the first year, through “Child and Adolescent Development in the Practice of Medicine” (CAD), a course that has been in existence for more than two decades. CAD explicitly deals with normal development and specifically emphasizes its social, cognitive, and emotional aspects. It seeks to heighten student awareness of how different phases of development intersect with the clinical practice of medicine. Students learn about different schools of thought on development and about cognitive, language, motor, social, sexual, and interpersonal milestones, from birth through senescence. The course recognizes that it can be challenging for rookie medical students to understand the importance of these normative processes in a clinical vacuum and addresses this challenge by putting normal processes within the context of what happens when they become derailed. With this in mind, the course is constructed as a complement of traditional lectures delivered in the first hour and clinical applications of that developmental phase in the second hour. The schedule for the 16-hour course for the 2006 academic year is presented in Table 2.

The specifics of this schedule are not likely to be easily generalizable to other medical schools, because it has been crafted partially around our own colleagues’ areas of expertise (eg, prenatal cocaine exposure [14,15], novel gene-finding techniques [16], and disorders that involve disrupted signaling pathways [17]). We choose to include the schedule as a specific example of our approach and to highlight some of the underlying themes guiding it. We believe that in contrast to the specifics of the curriculum, the following general principles can be generalizable and inform adaptations to local ecologies and faculty areas of expertise.

Early exposure. When it occurs at all, exposure to child and adolescent psychiatry typically takes place in medical school during the clinical years.
Box 1. Content areas relevant to child and adolescent psychiatry covered in the United States Medical Licensure Examination (USMLE)

**Step 1: Basic sciences:** gender, ethnic, and behavioral considerations that affect disease treatment and prevention, including psychosocial, cultural, occupational, and environmental

- Progression through the life cycle, including birth through senescence
  - Cognitive, language, motor skills, and social and interpersonal development
  - Sexual development (eg, puberty, menopause)
  - Influence of developmental stage on physician-patient interview
- Psychological and social factors that influence patient behavior
  - Personality traits or coping style, including coping mechanisms
  - Psychodynamic and behavioral factors, related past experience
  - Family and cultural factors, including socioeconomic status, ethnicity, and gender
  - Adaptive and maladaptive behavioral responses to stress and illness (eg, drug-seeking behavior, sleep deprivation)
  - Interactions between the patient and the physician or the health care system (eg, transference)
  - Patient adherence, including general and adolescent

- Patient interviewing, consultation, and interactions with the family
  - Establishing and maintaining rapport
  - Data gathering
  - Approaches to patient education
  - Enticing patients to make lifestyle changes
  - Communicating bad news
  - Difficult interviews (eg, anxious or angry patients)
  - Multicultural ethnic characteristics

- Medical ethics, jurisprudence, and professional behavior
  - Consent and informed consent to treatment
  - Physician-patient relationships (eg, ethical conduct, confidentiality)
  - Death and dying
  - Birth-related issues
  - Issues related to patient participation in research
  - Interactions with other health professionals (eg, referral)
  - Sexuality and the profession; other boundary issues
Ethics of managed care
Organization and cost of health care delivery

Step 2: Clinical sciences: mental disorders

- Health and health maintenance
  Early identification and intervention (eg, suicide potential, depression, alcohol/substance abuse, family involvement in schizophrenia)
- Mechanisms of disease
  Biologic markers of mental disorders and mental retardation syndromes
  Intended/unintended effects of therapeutic interventions, including effects of drugs on neurotransmitters
- Diagnosis
  Mental disorders usually first diagnosed in infancy, childhood, or adolescence (eg, mental retardation, communication disorders, pervasive developmental disorders, attention deficit hyperactivity disorder, disruptive disorders, tic disorders, elimination disorders)
  Substance-related disorders (eg, alcohol and other substances)
  Schizophrenia and other psychotic disorders
  Mood disorders (eg, bipolar disorders, major unipolar depressive disorders, dysthymic disorder, mood disorder caused by a general medical condition, medication-induced mood disorder)
  Anxiety disorders (eg, panic disorder, phobia, obsessive-compulsive disorder, posttraumatic stress disorder, generalized anxiety disorder, acute stress disorder, separation anxiety disorder, anxiety caused by a general medical condition, substance-induced anxiety disorder)
  Somatoform disorders (eg, factitious disorder, somatization disorder, pain disorder, conversion disorder, hypochondriasis)
  Other disorders/conditions (eg, sexual and gender identity disorders, personality disorders, child, spouse, elder abuse, eating disorders, adjustment disorders, dissociative disorders, psychological factors that affect medical conditions)
- Principles of management (with emphasis on topics covered in section on diagnosis)
  Pharmacotherapy only
  Management decision (treatment/diagnosis steps)
  Treatment only

Adapted from the USMLE website: http://www.usmle.org/.
We believe that this timing is too late for any substantial change in knowledge, socialization, or career trajectory changes to occur. The most important principle that we espouse throughout all of our initiatives is that of reversing this trend by exposing students to our field as early as possible. To this end, we are fortunate to have the curriculum-sanctioned platform of CAD and encourage others to seek out spots in their preclinical curricula in which similar exposure may take place in a systematic and routine fashion, even if not through as lengthy, organized, or full-fledged a course.

**Differentiation from, and collaboration with, general psychiatry and pediatrics.** Faculty members from general psychiatry and pediatrics are more likely to have regular contact with students during their preclinical years. It behooves child and adolescent psychiatry faculty committed to education reform to establish bridges and working relationships with these colleagues and to contribute to a shared teaching mission. Our colleagues in these disciplines are likely to be welcoming and encouraging of our participation, but unless we let ourselves be known as available and interested, we may not be asked to participate. An assertive yet collegial approach is one way of increasing the visibility of our field within the preclinical years. As a specific

<table>
<thead>
<tr>
<th>Session</th>
<th>Lecture</th>
<th>Clinical correlation (and select references)</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Introduction to the course: development across the life cycle; overview of major stages and approaches; relevance to the practice of medicine</td>
<td>Autism and its early detection [43, 44, 46]</td>
</tr>
<tr>
<td>2</td>
<td>Pregnancy, infancy, and toddlerhood</td>
<td>Research on early-life strains: in utero cocaine exposure and puerperal depression as paradigms [14, 15]</td>
</tr>
<tr>
<td>3</td>
<td>Preschool and school age</td>
<td>Daycare, divorce, adoption [47]</td>
</tr>
<tr>
<td>4</td>
<td>Adolescence and beyond</td>
<td>Genetics of neurodevelopmental and childhood psychiatric disorders; obsessive-compulsive disorder [16, 48]</td>
</tr>
<tr>
<td>5</td>
<td>Molecular mechanisms underlying learning and memory</td>
<td>Fragile X, Prader Willi, and disorders involving disrupted signaling pathways (eg, neurofibromatosis) [17]</td>
</tr>
<tr>
<td>6</td>
<td>Putting clinical cases together: formulation and integration: attention, mood, and somatoform disorders</td>
<td>Trauma across the life cycle [49]</td>
</tr>
<tr>
<td>7</td>
<td>Psychosocial aspects of chronic and terminal illness</td>
<td>Death and dying in childhood; pediatric palliative care [50]</td>
</tr>
<tr>
<td>8</td>
<td><em>Kid Flicks</em>: a video-based review of course highlights and omissions</td>
<td><em>Kid Flicks</em>, Part 2 [20]</td>
</tr>
</tbody>
</table>

Optional Small group patient interviews
case in point, session 7 of the CAD curriculum (chronic and terminal illness, death and pediatric palliative care) deals with issues that could as easily ‘belong’ to pediatrics.

Balancing normal and derailed development. Despite the intuitive appeal to do so, our early efforts to teach normal development in the preclinical years and leave pathology to the clinical years did not meet with much success. Students often complained about normal development being self-evident at best and irrelevant to their future as physicians at worst. More importantly, however, these comments, which may well have been outliers, provided a general sense that normal development and psychopathology were not organically connected, which left our preclinical and clinical efforts dislocated from each other. With this feedback and experience in mind, we have moved to introducing clinical applications and correlations from the outset. This approach has had the additional and welcome effect of engaging students with the patient contact that they are so intrigued about and impatient for. As an example, social referencing and stranger anxiety are abstract concepts that can be hard to grasp. However, by presenting them in the context of children with autism who have not reached these milestones normally, the terms and their critical importance become more apparent and relevant.

Balancing the ‘hard’ and ‘soft’ sides of child psychiatry. We are well aware of how common preconceived notions or misinformation about psychiatry in general—and child and adolescent psychiatry in particular—continue to be, even among as sophisticated and educated a group of students. Given this reality, we see an ambassadorial mission as integral to CAD and other early exposures to our field. One of the most ingrained and recalcitrant misconceptions deals with the soft, nonmedical, or unscientific nature of the field. We explicitly exploit these prejudicial views by presenting some of the more advanced and cutting edge areas of our research portfolio as part of the lecture series (see the clinical correlation references in Table 2). By doing so we not only have helped dispel myths and inform students about ongoing areas of research but also usually ended up recruiting students into these efforts along the way. Concretely, many of the students who produced theses with us were initially recruited during their exposure to child psychiatry in CAD. Conversely, students immersed in the book- and lab-heavy preclinical years have come to deeply appreciate the softer and clinically textured parts of the course—sections that rely on exposing them to clinical encounters across the lifespan and different interview styles, techniques, and ways of coherently organizing clinical data.

Live interviews, formulation, and integration. As an optional offering of the course, students are invited to the inpatient unit to attend patient interviews as small groups of four or five. We have opted for this approach over earlier
efforts to conduct live interviews in front of the entire class. The latter approach was logistically complex, and children’s and families’ responses were often hard to predict or adapt to. By contrast, the self-selected small groups allow for a more intimate and clinically intensive experience, give students a legitimate sense of being in a real clinical situation, and allow for the application, in real time, of another core aspect of the course, namely its emphasis on clinical formulation and integration. Two of the last sessions in the course (6 and 8) are devoted to providing students with ways of approaching clinical complexity in an organized fashion. We do so by briefly reviewing different approaches to formulation, such as the biopsychosocial model [18], the 4 Ps (Predisposing, Precipitating, Perpetuating and Protective factors), or the Four Perspectives model (diagnosis, dimension, behavior, and life story [19]). We first embed these different approaches within a medical, nonpsychiatric example (eg, lung cancer) and only then follow with specific examples of psychopathology. We also focus as much on formulation as on integration—on the ability to capture the big picture or gestalt of a patient [20]. In addition to teaching specific information and skills in child and adolescent psychiatry, we believe that these sessions are useful and well received because they are generalizable to other clinical areas and because they help students bind their natural anxiety around dealing with clinical complexity and uncertainty. As we explain in the course notes for the relevant session:

Synthesizing complex and at times contradictory information into a cohesive whole that makes sense is one of the challenges of everyday clinical medical practice. Doing so takes knowledge, skill, time, and practice. The purpose of these clinical correlations is to introduce students to this way of thinking, and to make them familiar with some ways of approaching the task in a systematic fashion. The goal today will not be to make the ‘right’ diagnosis or treatment plan: we are well aware that these are knowledge blocks that will come later. Rather, the emphasis will be on honing observation skills, and in the context of the available information and an explicit reference framework, facilitate clinical thinking and the connecting of some of the dots seen thus far, in both this course and others. The term formulation has a specific psychiatric connotation, but can be applied (as we hope you will agree) across a wide range of disorders and clinical conditions.

The role of digital video and desktop editing. Videotaped materials are not particularly new tools in teaching development and psychopathology; they have been recognized and put to good use by others [21]. More recent and pertinent perhaps is the ease and widespread availability of desktop editing. Like others, we have come to rely heavily on this tool and find it to be engaging for students and didactically effective [22]. One common model that we use is digitally recording an interview or play session with a child after obtaining the appropriate consents. A medical student (typically
a third-year student in his or her clinical rotation) is present for the interview with a senior clinician and actively helps conduct it. After the session, the medical student takes the camera and tape, reviews it, and is given the task of ‘playing movie director’ (ie, editing the material from its 20 or 50 minutes down to a manageable clip of 3–5 minutes). Students are encouraged to find the story that they find compelling within the tape, suggest section titles, reorder segments if helpful to facilitate flow and coherence, and generally use their imagination in the process. Some students edit the tapes themselves; for students who are more skittish around computers, they may provide the timing and order for the clips, with the desktop editing done by the faculty member. The key issue is the active involvement of students in creating the clips: from conducting the interview, to editing the tape, to presenting it to the team. Assuming that the separate assent and consent forms have been secured from the child and family, these clips can be used for educational purposes in other teaching settings. We have come to rely heavily on these video clips for teaching in the CAD (and other) courses. We currently have an extensive enough library to devote the final 2 hours of the course to a “Kid Flicks” series, which is an opportunity to review course highlights (and omissions) through the well-received medium of video.

Second year

Unlike the first year, there is no time specifically set aside for a course centrally taught by child psychiatry in the second year. Instead, we have sought out opportunities within courses taught by general psychiatry, pediatrics, or relevant to the practice of medicine more generally, in which our skill set and particular expertise could be put to good use. Some of the openings have been natural ones. For example, we teach three classes on child-specific psychopathology within the “Mechanisms of Disease” module dedicated to psychiatry (attention deficit hyperactivity disorder and learning disabilities, Tourette’s syndrome and pediatric obsessive-compulsive disorder, and pervasive developmental disorders). By contrast, other opportunities have been created rather than found. For example, we have partnered with pediatrics in teaching an interview skills module for school-aged children and with internal medicine in coaching students through workshops on breaking difficult news using standardized (actor) adult patients. In both instances, even if the subject matter or the age in question doesn’t fall neatly within our realm, our approach adds unique features and has been valued by students. It allows for ongoing exposure to child psychiatry and child psychiatrists rather than for a more isolated and discontinuous experience. Issues relevant to medical students in which the child psychiatry perspective has been especially welcome include greater familiarity with developmental principles, the appreciation and management of boundaries in medicine, or the challenges of balancing privacy and confidentiality while remaining legitimate and real in the clinical setting—what has been aptly dubbed the “HIPAA versus Hippocrates” tension [23].
Third year

During their first clinical year, students are immersed in the different hospital wards. Their core psychiatry clerkship is 6 weeks long and incorporates a diverse range of teaching placements, among which child psychiatry understandably represents a minority. In past years students often faced the difficult choice of having to opt for an adult or a child placement, which gave pause even to students potentially interested in pursuing child psychiatry. (“How could I graduate from medical school not having seen an adult with schizophrenia or alcoholism?”) Fortunately, changes in the medical school curriculum made effective in July 2005 have restructured the core clerkship into two 3-week-long blocks, one on acute psychiatry (ie, inpatient or emergency room settings), the other on the interface with medicine (ie, consultation liaison). This curricular reorganization has included the input of child psychiatry faculty and allows students to have clinical rotations in adult and child psychiatry settings. It has not made them have to decide between meeting educational objectives and pursuing particular interests. It should be noted that the core rotation also includes continuous (6-week) components: a traditional lecture series and assignments to write-up and interview tutors. Fellows in training have been particularly engaged and effective as write-up or interview tutors, which allows for further exposure to practicing child and adolescent psychiatrists and helps trainees hone their own teaching and mentorship skills.

Fourth year

Although not all students pursue either of the options described in this section with a child and adolescent psychiatry focus, they are included under curricular initiatives because all students at Yale have time allotted to elective rotations and all must complete a thesis to graduate.

Elective rotations. The fourth year has no formal child psychiatry component, although interested students and students considering a possible career in the field often do a month-long elective rotation. In addition to the local placements that they may (or not) have rotated through in their third year psychiatry clerkships, students can pursue these elective rotations elsewhere. In essence, we have developed an informal, although thriving, exchange program. Our students have performed rotations nationally and internationally (the intramural program at NIMH has been a particularly good fit for our students, and we routinely host eight to ten exchange students per year, half of them typically from abroad).

The medical school thesis requirement at Yale: a historical tradition and a conducive environment. Yale University School of Medicine has an extraordinary record of producing academic physician scientists and leaders. We believe that this track record partly results from the 166-year-old tradition of each Yale medical student completing an MD thesis based on
original research before graduation, a tradition that is widely supported by our faculty and students and coordinated by the Office of Student Research. The Yale curriculum provides an ideal milieu for encouraging research training by students because the curriculum differs in important ways from traditional medical school curricula as follows: (1) the number of scheduled class hours is less than that at other medical schools in the United States (on average 72%), (2) the lack of competition fostered by ungraded examinations in basic science courses is unique, and (3) historically, the Yale MD thesis tradition has been unique, although several other schools recently initiated a similar requirement.

The School of Medicine has well-established, nationally recognized programs focused on patient-oriented clinical research, primarily at a postgraduate level. These programs include the Robert Wood Johnson Clinical Scholars Program (one of four national programs), the Investigative Medicine Program (a unique PhD program for clinicians), and initiatives associated with our NIH-supported General Clinical Research Center (which is funded through 2010). A major goal of the initiatives at the Yale Child Study Center (YCSC) herein described is to extend—in a coordinated and flexible manner—the opportunities provided by these postdoctoral programs to outstanding Yale medical students to work on childhood psychiatric disorders.

Currently, approximately 50% of Yale medical students elect to spend an additional (fifth) year of medical school devoted in full or in major part to research. This high rate of participation in 1-year pull-out programs (including the Doris Duke Clinical Research Fellowship at Yale and Yale endowed fellowships) reflects the great interest in research among Yale students.

The YCSC has established a disproportionately strong tradition of mentored theses and research opportunities for Yale medical students. Over the past 10 years (during which records have been electronically maintained and more easily accessible for query), Child Study Center faculty have served as primary research mentors for 27 medical school theses. With a median class size of 100 students per year, this amounts to almost 3 theses per year (median, 2; range, 0–8), remarkable statistics given the size of the Center as one of the smallest departments within the Yale School of Medicine. Not only has the quantity of these theses been noteworthy; their quality has been likewise singular. For example, between 2002 and 2005 alone, six YCSC-mentored theses were recipients of prestigious research prizes, and several theses have led to publication in peer-reviewed journals [24–33].

In summary, the Yale MD thesis requirement builds on existing strengths by better integrating medical students into the well-established research training programs available at Yale in general and at the YCSC in particular. Our goals are to attract the brightest medical students into careers in clinical and translational research in child psychiatry, to imbue them with a spirit of discovery and the application of new knowledge for the benefit of their patients, to inspire them to characterize and solve important problems, to teach them to work within complex research teams, and to support
their professional development as future physician-scientists while at Yale and beyond.

**Extracurricular initiatives**

Most medical schools across the country have student interest groups in psychiatry, and Yale is no exception. For more than a decade, the Yale Medical Student Psychiatry Association has held regular meetings, invited guest lectures, sponsored pizza and movie nights, and established a network to connect students with mentors and like-minded peers. In addition to this established and popular initiative, we describe a more recently minted one that is specific to child and adolescent psychiatry.

**The Donald J. Cohen/Klingenstein mentorship program for medical students at Yale**

In recognition of the critical shortage of child psychiatrists available to meet national needs for clinical care, research, and education and being well aware of the fact that average medical students have minimal exposure to child psychiatry during their years of training, a program designed to increase exposure to the field was organized at the YCSC in 2002. Named after the late Donald J. Cohen (1940–2001; director of the YCSC from 1983–2001), the program was funded through the generosity of the Klingenstein Third Generation Foundation, a nonprofit organization with a commitment to children’s mental health causes, of whose executive board Dr. Cohen had long been an active member.

In 2002, one of us (JFL) was invited by the Foundation to initiate a medical student program that would honor the late Donald Cohen. Two of us (MHB, JFL) developed this fellowship working with the faculty of the YCSC. Christopher Young, then a postdoctoral research fellow at Yale, was also instrumental. This fellowship program focuses on allowing first-year medical students to work directly with child psychiatric patients and serve as the direct interface between their families and their health care providers under the supervision of the treating professional. The program has attracted approximately 15 to 20 first-year Yale Medical Students each year since it was formally inaugurated in the fall of 2002.

During its first 3 years in existence, the program became a remarkable success. Sixty-five first- and second-year Yale medical students participated between 2002 and 2004 (for an 11% class participation average). Students were paired with 23 full- or part-time faculty members (most of them child psychiatrists but also some child psychologists, developmental pediatricians, and educators). Despite the lack of financial support for their efforts, mentors became actively engaged, seeing their involvement with medical students as a priority within their teaching activities. The energy and fresh intelligence of these students was a powerful incentive for the participation of full-time and clinical faculty members. Students became involved in a wide range of activities under the close one-on-one mentorship of senior
clinicians. Activities ranged from the long-term follow-up and frontline clinical involvement with a single child and family to multiple clinical encounters with a diverse range of psychiatrically impaired children and adolescents to starting research projects relevant to children’s mental health, spanning from basic bench science, clinical, and epidemiologic studies all the way to policy proposals. Complementing these individual working relationships, students met monthly for dinner discussions of clinical cases or research initiatives. Discussions were led and organized by students and attended (more so than moderated) by senior faculty members, including the authors and Dr. Samuel Ritvo (Yale Medical School, Class of 1948).

To date, the program has consisted of the three main elements of direct clinical experience, a monthly seminar, and exposure to ongoing research programs at the YCSC.

Direct clinical experience. Clinical relationships with patients and their families have been a priority and mainstay of the program. This direct clinical experience is the main selling point of the fellowship program, because Yale offers little by way of direct clinical responsibilities during the first 2 years of classes. Yale is not alone in having relatively few opportunities for students to become involved in the long-term clinical follow-up of patients. The key role of clinical immersion in the program has been emphasized when recruiting new mentors and selecting returning ones. Some students follow individual patients, do home and school visits, and participate directly in the care of the patients (under immediate supervision). They are also available by telephone to act as a liaison. Other students participate in the life of the inpatient or other clinical units by meeting patients and their families and sitting in on systematic evaluations, in-depth interviews, and clinical team discussions.

Monthly seminar. The monthly seminars consist of case presentations led by a medical student and facilitated by the program directors and the student’s mentor. Dinner is served, and after the case presentations an open discussion typically addresses emotionally charged aspects of the case, including questions about specific interactions with the child, diagnoses, and therapies used in the child’s treatment. Although the presentations are not intended to be explicitly didactic, they address the state-of-the-art with regard to assessment and treatment for specific disorders. The seminars are organized by the second-year student leaders and are designed to be a learning opportunity for all students, regardless of their previous knowledge or experience.

Independently of what students take away from clinical experiences and monthly meetings, the relationship that they develop with their mentor (or mentors) is critical. Students often rate the mentorship relationships per se as one of the more valuable parts of the program. The underlying philosophy and specific details of our approach to mentorship have been reviewed elsewhere [34], but it is worth noting at this juncture that its elements can be
exportable, generalizable, and adaptable and are generally cost-effective. As a case in point, variations on the basic elements of the program (namely, mentored relationships and small group gatherings) have been adapted successfully into national [35] and international [36] mentorship programs that take place during annual meetings.

**Research education extension of the program.** Based on the 22 evaluation reports received at the end of the past academic year, Yale students gave the program an overall score of 8.7 out of a possible 10, with no student rating it lower than an 8. The most commonly cited area for improvement by students was a request to increase their exposure early to the research opportunities available at the YCSC. This request was addressed partly through the following initiatives.

**Summer electives.** Most students begin research work during the summer after their first year. For example, during the summer of 2004, 73 (of 96) first-year medical students remained in New Haven to work with faculty members on a wide variety of projects. Many students continue their research work in the afternoons, evenings, and weekends during the second year of medical school, and there is an additional 8-week block available for student research during the summer before beginning the third year. Additional 3-month blocks are available in late-third to mid-fourth years for completion of research work. A total of 6 to 9 months is currently available for research by each Yale student during 4 years at medical school. By emphasizing in the CAD course and in the monthly dinner presentations some of the available labs and areas of study in the YCSC, interested students have been increasingly able to forge partnerships and identify research mentors early in their training. In the best of circumstances, this has led to ongoing research involvement throughout their 4 (or 5) years and to a thesis project and published papers related to it.

**Yearlong research fellowships.** Yale encourages its students to consider a fifth year of medical school to devote exclusively to research. This Student Research Fellowship Program is facilitated by charging no tuition for the extra year and providing a limited number of stipends that can be paid to students. In recent years, 16 to 20 students have been supported on a stipend level of $20,772 to $27,100 per year. These stipends have been available on a competitive basis and have been mostly specific to disease or specialty, depending on the relevant funding sources (eg, National Cancer Institute, National Institute for Diabetes and Kidney Disease). All stipends are paid directly to the students and are considered taxable income. Although to date there have been no fellowship slots specifically earmarked for research in child psychiatry, students have expressed interest. We anticipate that the Cohen/ Klingenstein Third Generation Foundation Program and the increased visibility of child psychiatry research as part of the preclinical curriculum combined will lead to further interest in such fifth-year opportunities.
Securing dedicated funding. All programs currently require a competitive application. Summer research stipends are awarded primarily to students between the first and second years. Short-term stipends are awarded for specific blocks (1–3 months) during the academic year when full-time research is performed. These projects are supported by various organizations (NIH, Howard Hughes Program, private donors, and departmental and university funds.) Currently, a limited number of stipends are available from the Office of Student Research to support first-year summer research opportunities, but there is none for the subsequent programs, which are often critical toward developing the full potential of a first-year research experience. At the time of this writing we have submitted a research infrastructure grant (R25) to NIMH. If funded, this mechanism would provide supplemental (summer research) or currently not available (short-term or year-long) funds specifically earmarked for medical student research in child psychiatry.

A solid presence of YCSC-backed medical student research projects has been bolstered substantially by the availability of resources and opportunities. However, it is important to note that many past and currently ongoing experiences have happened in the absence of any dedicated funding support for research education in the area of pediatric mental disorders. Our hope is that through the expansion and formalization of dedicated funding streams, we may be able to expand this heretofore effective model. Two examples may serve to clarify this point. First, one of the residents in our integrated research pathway (described below) completed original research in the genetics of neuropsychiatric disorders of childhood during his fifth year of medical school [32]. As a Yale student, he was fortunate to secure fifth-year funding because of the happenstance overlap of his area of interest (genetics) with available funding sources. Rather than having funding constrained by the focus of existing sources, however, we want to ensure the availability of a similar mechanism regardless of the student’s specific area of interest within child psychiatry. Second, four students recently involved in ongoing research activities at the YCSC have done so in the absence of Yale funding. In three of those four cases, students have been granted funding through the Jean Spurlock Fellowship for Minority Medical Students sponsored by the AACAP. Delighted as we are to see the involvement of underrepresented students in our research efforts, we would like to offer similar opportunities to all medical students, regardless of their minority status.

The Klingenstein Third Generation Foundation/American Academy of Child and Adolescent Psychiatry medical student mentorship network

As a consequence of the success of the mentorship program at Yale, and in consultation with the leadership of the AACAP, the Klingenstein Third Generation Foundation invited applications in the fall of 2004 for similar programs to be set up across the country. Eighteen institutions were invited to apply. Out of 13 applying institutions, 5 were selected (Harvard, Johns Hopkins, Mount Sinai, Stanford, and the University of California, Davis).
The Klingenstein Third Generation Foundation also allocated additional funds for the AACAP to organize a task force to assess the efficacy of this network. The AACAP established a subcommittee for the Klingenstein Programs on Mentorship, a part of the Committee for Medical Students, Residents and Early Career Psychiatrists. Led by one of us (AM), the subcommittee is charged with coordinating the AACAP’s effort to organize and evaluate these and similar medical student initiatives across the country.

At a minimum, we are confident that we will be able to describe the trajectory of students involved in the mentorship programs, with special attention paid to how many students eventually pursue careers in child psychiatry in general and research activities in particular. The evaluation also will provide better understanding of the opportunities, challenges, and loci for improvement for each program and for the network as a whole. To evaluate specifically how many of the Klingenstein Third Generation Foundation participants pursue academic careers as independent physician-scientists, Dr. James Hudziak of the University of Vermont (and a member of the original Institute of Medicine Panel) has agreed to serve as an external advisor.

Postgraduate and undergraduate initiatives

Two self-evident truths about education are that it can never start too early or ever be considered complete. We have turned these tautologies into concrete opportunities on either side of the medical school trajectory and present them briefly in reverse chronologic order. We strongly believe that all of these initiatives (ie, premed, med, postmed), whether used piece-meal or in toto by students, are fundamentally interconnected and ultimately serve shared goals.

Postgraduate initiatives: The Albert J. Solnit Integrated Child and Adult Psychiatry Research Pathway

In the summer of 2002, one of us (JFL) was asked by Marilyn Benoit, then President of the AACAP, to chair a task force on curricular reform in the research training of child psychiatrists. The initial membership included Eugene Beresin (Harvard), Steven Cuffe (University of South Carolina), John March (Duke), Randy Ross (University of Colorado), Hans Steiner (Stanford), and Sydney Weissman (Northwestern). This task force developed the rough outline of the integrated research pathway that is currently in place at Yale and the University of Colorado. Added impetus was provided when NIMH Director Thomas Insel named one of us (JFL) in the fall of 2003 to serve as the Co-Chair of NIMH’s National Psychiatry Training Council. This council was formed to implement the recommendations of the Institute of Medicine’s committee report [12], which was highly critical of the existing research training opportunities within psychiatric residency programs. John Greden, Chair of the Department of Psychiatry at The University of Michigan, served as the other Co-Chair of this NIMH
Council. In the course of the next 2 years, two of us (JFL, MHE) served as the Co-Chairs of the Model Programs Task force of this council. This task force had regular conference calls and focused on areas of subspecialty training—including substance abuse and geriatric psychiatry—and child and adolescent psychiatry. During this same period, one of us (MHE) also served as the Chair of the Accreditation Council for Graduate Medical Education’s (ACGME) RRC for Psychiatry and was a Director for the American Board of Psychiatry and Neurology (ABPN).

The integrated research pathway is a direct result of the deliberations of this task force and the NIMH Council and is modeled on the Triple Board Program and the American Board of Internal Medicine’s Research Pathway. It meets all current ACGME requirements for adult psychiatry and child and adolescent psychiatry.

The integrated research pathway was formally endorsed by the Executive Council of the AACAP in the fall of 2004 and in the summer of 2005 by the American Board of Psychiatry and Neurology. There are currently 13 participants in the integrated research pathway (6 at Yale and 7 at the University of Colorado). To date, each of the three Yale cohorts has recruited one of its two students from the Yale School of Medicine, emphasizing the developmental aspect of the initiatives described, in that each of the students had participated in some or all of the activities outlined—curricular and extracurricular. The University of Illinois at Chicago and Johns Hopkins are likely to implement their own integrated research training programs in the near future.

At Yale, this program was named to honor the memory of the late Albert J. Solnit, a world-renowned pioneer in child psychiatry who served from 1966 to 1983 as the third Director of the YCSC. As a neuroanatomist, pediatrician, child psychiatrist, and psychoanalyst, Al’s breadth and impact were enormous. Under his leadership, the YCSC became internationally recognized for its multidisciplinary programs of clinical and basic research, community outreach, and social policy. His effective leadership has been instrumental in encouraging physicians to listen to patients and their families and encouraging educators, judges, health care providers, and parents to work together to support the best interests of children and families.

The YCSC integrated research training program is funded by the generous support of a group of anonymous donors, start-up funds from the Yale University School of Medicine, and a longstanding NIH-funded Institutional Research Training Program (T32MH018268-21) directed by one of us (JFL). Two of us (DES, AM) direct the child and adolescent clinical components of this program in conjunction with the Director of Residency Training for the Department of Psychiatry at Yale (RB).

The integrated research training pathway is a 6-year research program within an integrated pairing of the established and accredited adult and child psychiatry training programs at Yale (please refer to Box 2 for a program overview and http://info.med.yale.edu/chldstdy/training/adultchild.html for
### Box 2. Program overview: the Albert J. Solnit Integrated Child and Adult Psychiatry Research Pathway

#### PG-1 internship year

<table>
<thead>
<tr>
<th>Inpatient adult psychiatry</th>
<th>General pediatrics</th>
<th>Child and adult neurology</th>
<th>Inpatient child psychiatry</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 months</td>
<td>6 months</td>
<td>2 months</td>
<td>1 month</td>
</tr>
</tbody>
</table>

- 1st month: Q4 call on inpatient months
- 5 calls in each of 2nd & 3rd month

#### PG-2 basic skills year

<table>
<thead>
<tr>
<th>Inpatient child psychiatry</th>
<th>Outpatient child (1.5 days/wk) and adult (1.5 days/wk) psych, didactics/seminars (0.5 day/wk), and research (1 day/wk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 months</td>
<td>10 months call-free</td>
</tr>
</tbody>
</table>

**Long-term psychotherapy program and pediatric continuity experience**

- 8 from-home evening/weekend calls
- 10 months call-free

#### PG-3 intensive services year

<table>
<thead>
<tr>
<th>Inpatient adult psychiatry</th>
<th>Inpatient adult psychiatry</th>
<th>Child &amp; adult consultation/liaison psych</th>
<th>Emergency Child psychiatry community services selective services</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 months</td>
<td>3 months</td>
<td>1 month</td>
<td>1 month</td>
</tr>
</tbody>
</table>

**Long-term psychotherapy program & pediatric continuity experience & research seminar**

- Approximately 20–25 calls throughout the year

#### PG-4 outpatient services year

Outpatient child (2 days/wk) and adult (2 days/wk) psych, and research (1 day/wk) 12 months
This program is designed to integrate training in research and clinical psychiatry for physicians who are seriously pursuing careers in academic child and adolescent psychiatry research. Similar to the American Board of Internal Medicine’s research pathway (www.abim.org/subspec/pathway), the integrated program adapts the currently available core clinical training in adult psychiatry and child and adolescent psychiatry to the needs of individuals committed to research careers.

Over 6 years, the integrated research pathway provides core clinical training in adult psychiatry and child and adolescent psychiatry, which would otherwise be available only as sequential training experiences in separate training programs. Early participation in successful research programs is another key ingredient, and the integrated research pathway includes a strong pediatrics primary care component during its first postgraduate year.

The core features of the integrated research pathway include the following components:

**Early identity formation.** A key ingredient involves direct experience in caring for children and families throughout the training experience. There is also a commitment to early identity formation as an independent physician-scientist.

**Mentorship and career development.** Trainees are assigned a research faculty mentor from their basic skills-1 (PGY-1) year onward. Their mentors are accomplished investigators with a sustained record of competitive research funding and active research programs. Mentors have a major responsibility for supervising the trainee, providing assessment and constructive feedback, documenting the trainee’s research progress and performance, and assisting with career development and application for a mentored career development (K) award. Participants work closely with their research mentor and residency training director to design an appropriate sequence of clinical training and research education and experience.

**Integrative program structure.** The program integrates research with clinical training and child and adolescent clinical training with adult training by structuring these experiences concurrently and using shared group learning and faculty supervision to foster integration. Unlike traditional training
models in psychiatry, research and child psychiatry training begin early and continue throughout the residency.

**Optimal focus on child psychiatry.** Wherever possible, child psychiatry rotations are substituted for adult psychiatry, as permitted by ACGME and American Board of Psychiatry and Neurology requirements for adult and child and adolescent psychiatry. For example, pediatric medicine is scheduled as the required primary care medicine rotation.

**Foundation of core clinical training.** The integrated program provides a full range of inpatient and outpatient experiences that support the acquisition of fundamental clinical skills in adult and child psychiatry. Residents achieve competencies in all six areas identified by ACGME: medical knowledge, patient care, practice-based learning, interpersonal and communication skills, systems-based practice, and professionalism. This strong clinical foundation serves as the base for evidence-based clinical practice and the development of advanced research skills for independent investigation.

**Evidence-based perspective.** The principles and practice of evidence-based medicine anchor the curriculum and training experiences in adult and child psychiatry. Regularly scheduled evidence-based medicine seminars build skills in evidence-based clinical practice.

**Early research immersion.** Early, intensive immersion in child psychiatry research during the PGY-2 year fosters early professional identity development as a child and adolescent psychiatry researcher and is expected to reduce attrition from long-term commitment to a research career.

**Formal research training.** Optimally, training in the integrated research pathway should include coursework leading to a PhD or master’s degree, if this degree was not already acquired or as determined by a trainee’s learning needs assessment. Supported, concurrent formal research training is available through the investigative medicine program at Yale (http://info.med.yale.edu/invmed/) and the Yale Department of Epidemiology and Public Health (http://publichealth.yale.edu/). This training begins in the basic skills PGY-2 year.

**Comprehensive research experience.** The integrated research pathway provides a research experience that is comprehensive in terms of time, formal curriculum, responsible conduct of science, mentorship, structured evaluation, and feedback. These components are essential for professional growth and development. Over the course of training, integrated research pathway trainees are guided through progressive, supervised research experiences, from critical appraisal of the literature, literature reviews, and secondary data analyses through increasingly complex research projects, independent study design, and grant-writing, culminating in the submission of an application for a career development award in the PGY-6 year.

**Debt repayment.** Scheduled research time of at least 80% in the basic skills year (PGY-2) qualifies trainees for the NIH loan repayment program. Thus far, one of our applicants has been successful in applying for this significant financial benefit.
Finally, the Residency Review Committee of the ACGME is exploring ways of maximizing the flexibility for other such programs to meet training requirements. For all programs, the securing of funding remains a major challenge to address to ensure their long-term survival.

**Undergraduate initiatives**

Not satisfied with the first year of medical school as being early enough to start recruitment and exposure to child and adolescent psychiatry, we have made major efforts on a new frontier: college students. Three different courses are currently taught at Yale College by YCSC faculty, and plans are underway to expand similar offerings.

**Love and attachment (James F. Leckman, MD, and Linda Mayes, MD).** The first of these classes is also required for the participants in the integrated training program during their basic skills (PGY-2) year. It is taught by two members of the YCSC faculty and focuses on evolutionary theory and its relevance to normal development and psychopathology [37]. At the level of subjective experience and behavior, the early phases of romantic love and early parental love share much in common and often lead to the same outcome—the formation of intimate interpersonal ties [38–40]. An examination of shared elements provides a useful vantage point for considering the evolution and neurobiology of love and its range of normal and psychopathologic outcomes. The syllabus of this course selectively reviews portions of the ethologic and psychological literature for romantic love and the early parental love before turning to an examination of the available neurobiologic data on central nervous system salience and reward pathways and their role in the initiation of pair bonds and early parental behavior [41,42]. This focus is followed by a consideration of various forms of psychopathology, including autistic disorder, obsessive-compulsive disorder, and drug dependence. Intrinsic to this course is the point of view that it is likely that certain adaptive “sets” of human mental states and behaviors are evolutionarily conserved and that this conservation is reflected in our genetic makeup, the functional neurobiology of our brains, our behavior during related developmental epochs, and our vulnerability to certain forms of psychopathology.

**Child development and language, literacy, and play (Nancy Close, PhD, and Carla Horwitz, PhD).** This course combines reading of selected material with supervised participant-observer experience in infant programs, a daycare and kindergarten center, or a family day-care program. Regularly scheduled seminar discussions emphasize theory and practice. An assumption of the course is that it is not possible to understand children—their behavior and development—without understanding their parents and the relationship between child and parents. The focus is on infancy and early childhood. Enrollment is limited to juniors and seniors. A second semester
course reviews the development of curricula for preschool children—3-, 4-, and 5-year-old children—in light of current research and child development theory. A third semester examines the complicated role that play has in the development of language and literacy skills among preschool-aged children. Topics include social-emotional, cross-cultural, cognitive, and communicative aspects of play.

*Autism and associated developmental disorders: seminar and practicum (Fred Volkmar, MD, and Ami Klin, PhD).* This course consists of weekly seminars on major topics in the etiology, diagnosis, treatment, and natural history of childhood autism and other severe disorders of early onset. Topics also include mental retardation, behavioral disorders, and childhood psychosis. A second semester provides an advanced study of the evaluation of individual children with autism and associated disorders, experience in the design of curricula, and work with individual children and groups of children with autism and similar disorders.

Apart from the recurrent theme of early exposure to the field and the specific opportunities within it, these courses have had additional and unexpected benefits. For example, the recruitment of undergraduate students in computer science and robotics into the autism laboratories has led into some of the YCSC’s more creative lines of scientific inquiry: eye tracking in the early identification of autism [43,44] and clinical application of humanoid robotics to novel social training and face-processing interventions [45]. The recruitment and training of child and adolescent psychiatrists is far from the only outcome that we should be looking for. Attracting outsiders into our fold to forge novel and unexpected bridges has major potential to advance the scientific base of our discipline.

*Coda: not forgetting volunteers and research assistants.* We have made additional efforts to educate undergraduate students from other institutions besides Yale over the summer. To this end, we are offering a weekly, lunch-time, case-based overview course of child psychiatry to undergraduates volunteering or working as research assistants in the child and adult psychiatry departments. This seminar series provides an opportunity to educate future child psychologists, psychiatrists, social workers, and pediatricians even earlier in their career trajectory. It will help foster their identity formation and help them interact with more like-minded peers, students, residents, and our senior faculty.

**Acknowledgments**

This article is dedicated to the memories of Donald J. Cohen (1940–2001) and Albert J. Solnit (1920–2002), visionary leaders devoted to education in
child and adolescent psychiatry after whom two of the programs here described have been named.

References


Does Early Mentorship in Child and Adolescent Psychiatry Make a Difference? The Klingenstein Third-Generation Foundation Medical Student Fellowship Program

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Robert Horst, M.D., James J. Hudziak, M.D., Jeffrey Hunt, M.D.
Shashank V. Joshi, M.D., Robert Li Kitts, M.D., Justine Larson, M.D.
James Leckman, M.D., John O’Brien, M.D., Elizabeth Lowenhaupt, M.D.
David Pruitt, M.D., Erin Malloy, M.D., Andres Martin, M.D.
Ashley Partner, B.A., Richard Sarles, M.D., Linmarie Sikich, M.D.
Lloyd Wells, M.D., Alexander Kolevzon, M.D.

Objective: There is a critical shortage of child and adolescent psychiatrists in the United States. Increased exposure, through mentorship, clinical experiences, and research opportunities, may increase the number of medical students selecting child and adolescent psychiatry (CAP) as a career choice.

Method: Between 2008 and 2011, 241 first-year participants of a program to increase exposure to CAP, funded by the Klingenstein Third-Generation Foundation (KTGF) at 10 medical schools completed baseline surveys assessing their opinions of and experiences in CAP, and 115 second-year participants completed follow-up surveys to reflect 1 year of experience in the KTGF Program.

Results: Students reported significantly increased positive perception of mentorship for career and research guidance, along with perceived increased knowledge and understanding of CAP.

Conclusions: Results suggest that the KTGF Program positively influenced participating medical students, although future studies are needed to determine whether these changes will translate into more medical students entering the field of CAP.


There is a critical shortage of child and adolescent psychiatrists in the United States. Detailed estimates from the 1980s and 1990s placed the supply of child and adolescent psychiatrists at 10%–45% of the level required to meet the mental health needs of U.S. youth (1–4). The field of Child and Adolescent Psychiatry (CAP) has sought innovative solutions to address this shortage, yet many of these solutions are directed at graduating students who already have an interest in psychiatry (5, 6). Another approach focuses on medical students, who may not have decided on a career path. The Klingenstein Third-Generation Foundation (KTGF) Medical Student Fellowship Program (MSFP) is an example of such a program (for details, see http://ktgf.org/msp_description.html). Although psychiatric interest groups are present in many medical schools, the KTGF/
MSFP focuses primarily on CAP and has grown to include 10 medical schools and a total of 647 medical-student participants nationally since its initiation in 2002. The KTGF/MSFP was established with the short-term goals of providing medical students with: 1) early clinical experiences in CAP; and 2) mentoring from child and adolescent psychiatrists. The long-term goal has been to recruit more medical students into CAP to meet more adequately the growing numbers and needs of children affected by mental illness.

Although each MSFP site operates independently and is given freedom to design its own curriculum, all programs share in common the two goals of providing fellows with a clinical experience in CAP and a CAP mentor. Opportunities for clinical experiences vary across a wide array of settings within CAP; these include outpatient, inpatient, consultation-liaison, therapeutic nursery, community-based clinics, subspecialty clinics, and clinical research settings.

Results presented here represent Phase 1 of the programs’ evaluation: assessing outcomes after 1 year of student participation in the KTGF/MSFP, from 2008–2011. In this Phase 1 evaluation, we compared students’ attitudes, experiences, and interest in CAP before and after participation in the MSFP for the year. Phase 2 will examine the longitudinal impact of the program, specifically, whether participation in the KTGF/MSFP is associated with a greater likelihood of students’ matching into CAP. These data are not currently available because the majority of participants are not yet eligible to begin training in CAP.

Method

Baseline surveys were distributed by e-mail, using Survey Monkey, an online survey tool, to all students who were identified by site coordinators as beginning the KTGF/MSTP in 2008, 2009, or 2010. These surveys were completed within 60 days of beginning the MSFP. Follow-up surveys were then completed 1 year later (2009–2011) by the same individuals. Surveys were collected anonymously, and we can therefore only compare pre- and post-survey responses for the group as a whole. Survey questions were designed to assess a variety of outcomes, including students’ attitudes, experiences, and interest in CAP, as well as the importance of mentorship to achieve career goals.

Students were asked at baseline and follow-up about their level of interest, on a scale from No Interest (rated 1) to Enormous Interest (rated 7), in each of the following: desire to become a pediatrician, an adult psychiatrist, a child and adolescent psychiatrist, or to engage in CAP research. Students were asked to rate the importance of mentorship for career guidance, research guidance, and as a way to learn medicine. Using a scale from No Knowledge Or Understanding (rated 1) to Solid Knowledge And Understanding (rated 7), students were also asked about their level of knowledge and understanding of key concepts in CAP, including child development, pediatric psychosocial issues, and strategies in working with children.

We were especially interested in learning whether specific factors were more influential in students’ perception of CAP as a possible career. Using a 3-point scale, from Negatively Influenced (rated 1) to No Influence (rated 2), to Positively Influenced (rated 3), we queried various factors, including lifestyle, stigma, patient interaction, emotional stress, scientific foundation, availability of funding, intellectual stimulation, earning potential, prestige, ability to help patients, presence of the physical aspects of medicine, and advancements in the field. Finally, several open-ended questions were posed to explore other potential factors that encourage or discourage students from careers in CAP. We also explored whether participation in the KTGF/MSFP was associated with an increase in clinical encounters with children with mental health issues, an increase in lectures in CAP, and an increase in exposure to child and adolescent psychiatrists.

SPSS Software, Version 18.1, was used for analysis. Given that all surveys were anonymous, responses from only first-year students were used as baseline data and only from second-year students as follow-up data. This assured that any change from baseline to follow-up represented 1 year of program participation. The Mann-Whitney U test was used to analyze the ranked cross-sectional variables; baseline and follow-up samples were treated as independent. An alpha level of 0.05 was used to determine statistical significance.

Results

Baseline and follow-up surveys were sent to a total of 359 students; 241 first-year KTGF participants completed the baseline survey between 2008 and 2010; 115 second-year KTGF participants completed the follow-up survey between 2009 and 2011. All 10 schools were represented in data from both surveys.

When queried at baseline as to why they joined the KTGF/MSFP, 81% reported seeking an early clinical experience; 68% wanted to learn how to interact with children; and 63% stated that they were specifically interested in CAP.

There was no significant change between baseline and follow-up responses in the level of interest in becoming a child and adolescent psychiatrist, a pediatrician, a general psychiatrist, or engaging in CAP research. However, after
program participation, students noted increased positive perception of a number of factors that influence the possibility of choosing CAP as a potential career (see Table 1).

Students reported increased positive perception of the value of mentorship for research guidance ($p < 0.05$) and an increased positive perception of mentorship for career guidance ($p < 0.05$). There was no significant change in opinion about the value of mentorship in learning medicine.

Over 1 year of participation, the KTGF/MSFP also provided students with significantly increased exposure to the field of CAP. Students reported nearly a doubling of the number of encounters with children and adolescents with mental health issues, as compared with their baseline level of experience (11 versus 6 encounters). They also reported a similar increase in the number of lectures about CAP, as compared with their baseline experience (5 versus 3 lectures). Finally, participation in the KTGF/MSFP was associated with increased exposure to child and adolescent psychiatrists, as compared with baseline (4 versus 2 providers).

**Discussion**

Specialty-specific extracurricular programs have been used by a variety of medical specialties to attract medical students to specific fields (7, 8). These programs have had varying degrees of success, and, to our knowledge, the KTGF/MSFP is the first such program specifically designed for CAP and organized at a national level. Results from data collected through pre- and 1-year post-participation surveys suggest that the KTGF/MSFP has been effective in a number of areas.

Although the surveys were not able to demonstrate a significant increase in interest in choosing CAP as a career, it is too early in the program’s history to be able to assess how many participants will ultimately enter CAP. Students were clearly influenced by their mentorship experience and early clinical exposure to shift their perceptions and knowledge of the field in positive directions. Students became aware that mentorship was an important means to gain career advice and research guidance. This result was consistent with previous studies that have shown mentorship to be paramount in eventual career selection (9, 10).

Moreover, whatever career choice students may ultimately pursue, increased knowledge and understanding of CAP suggests that the MSFP experience may well benefit their care of patients. MSFP participants may be more likely to recognize and refer children in their practices with mental health problems to appropriate resources. These predictions

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TABLE 1. Mean Effects of 1 Year’s Experience in KTGF on Student Perceptions

<table>
<thead>
<tr>
<th>Factors that could influence the choice to enter CAP</th>
<th>Baseline</th>
<th>Follow-Up</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Negative Impact; 2: No Impact; 3: Positive Impact</td>
<td>Baseline</td>
<td>Follow-Up</td>
<td>p</td>
</tr>
<tr>
<td>Stigma</td>
<td>1.96</td>
<td>1.95</td>
<td>0.83</td>
</tr>
<tr>
<td>Patient interactions</td>
<td>2.84</td>
<td>2.93</td>
<td>0.08</td>
</tr>
<tr>
<td>Ability to help patients</td>
<td>2.86</td>
<td>2.95</td>
<td>0.03</td>
</tr>
<tr>
<td>Prestige of CAP</td>
<td>1.97</td>
<td>1.99</td>
<td>0.55</td>
</tr>
<tr>
<td>Emotional stress</td>
<td>1.88</td>
<td>1.98</td>
<td>0.19</td>
</tr>
<tr>
<td>Aspect of physical medicine</td>
<td>1.98</td>
<td>1.96</td>
<td>0.79</td>
</tr>
<tr>
<td>Intellectual aspect</td>
<td>2.79</td>
<td>2.77</td>
<td>0.72</td>
</tr>
<tr>
<td>Funding sources</td>
<td>2.01</td>
<td>2.10</td>
<td>0.00</td>
</tr>
<tr>
<td>Scientific foundation</td>
<td>2.09</td>
<td>0211</td>
<td>0.71</td>
</tr>
<tr>
<td>Earning potential</td>
<td>2.03</td>
<td>2.09</td>
<td>0.21</td>
</tr>
<tr>
<td>Lifestyle</td>
<td>2.54</td>
<td>2.60</td>
<td>0.42</td>
</tr>
<tr>
<td>Advancements in the field of CAP</td>
<td>2.28</td>
<td>2.45</td>
<td>0.02</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01.
are especially likely for those students who remain in the MSFP for 3 or 4 years of their medical school experience and do not select CAP training as their career choice. Improved student knowledge and attitudes about childhood mental disorders should motivate other schools to support an MSFP insofar as it may contribute to the academic growth of students, irrespective of final career choice.

Several limitations of this study should be considered. First, the surveys were anonymous, and we were unable to track individual students’ trajectory of change over the year. This limitation was addressed by the inclusion of only first-year and second-year MSFP participants for analysis. Second, response bias may exist because the survey was distributed to all 359 participants in the program, and only 241 first-year students completed the baseline survey, and 115 second-year students completed the follow-up response. The response bias might suggest that those students who responded had stronger opinions about the program, whether positive or negative, and may have felt more compelled to complete their evaluation than students who were less involved. Third, selection bias also may have influenced the results. Students who volunteered to participate in the KTGF/MSFP may have been more interested in CAP at baseline, so their attitudes and knowledge about CAP may not have been representative of a randomly-selected sample of medical students. Nevertheless, despite the cross-sectional study design, the significant changes in perception noted over time are genuine. Fourth, the nature of our survey instrument and the duration of measurement may have been insufficient to detect meaningful changes in some parameters. In particular, follow-up surveys were distributed to students who were mainly in their second year of medical school, a time before career decisions are typically solidified. Finally, these data do not provide any information on the likelihood that increased interest in or understanding of CAP will ultimately lead to CAP as a career choice. Follow-up analyses of match data will address this question in the future.

Results of this study suggest that the KTGF/MSFP may be a successful model to positively shift attitudes and perceptions about childhood mental disorders and CAP in medical students. Such a shift should benefit the future care of all children with mental disorders, regardless of which career path the students choose. Exposure to CAP early in medical school may also help reduce stigma associated with childhood psychiatric illness and potentially attract more medical students to careers in CAP. Future work will focus on tracking the longitudinal career course of KTGF/MSFP participants to determine whether these positive outcomes translate into more child and adolescent psychiatrists entering the field.

References

World of Wordcraft: On Scientific Editing

Andrés Martin

Abstract
Objective The author reflects on lessons in becoming and being a psychiatry journal editor.
Methods The author describes his transition from a writer to an editor and his development as an editor.
Results Editors need to consider the originality, novelty, methodological rigor of manuscripts, as well as their prose and ethical integrity.
Conclusion The author hopes that others undertake the role of editor.

Keywords Scientific editing · Editor’s task · Peer Review

How I Came to Be an Editor

There are two typos of people in this world: those who can edit, and those who can’t.
— Jarod Kintz

I did not grow up with the dream of becoming an editor. I stumbled into the craft not quite aware of its existence. I had fancied myself a writer-to-be, but reality intervened; I discovered that I did not particularly enjoy writing, nor did I have the patience to keep at it in pursuit of whatever talent may have been waiting to be unlocked. But whatever I felt about writing, I was certainly a grateful, engaged, and loyal reader. Through editing, I found myself with a front-row seat to writing, as well as immediacy in access to words and their possibilities. Editing permitted me unfettered writing: words without the burden of stringing them together. I found out that thriving on daily proximity to words was a necessary precondition to becoming an editor, but far from sufficient. Absent other crucial elements, editing could devolve into no more than a glorified fetishization of language.

I suppose my case is not entirely unusual, insofar as for many editors, the vocation was a serendipitous discovery along some other line of pursuit. Becoming a writer or a scientist is aspirational; these are lifelong quests in a way that editing usually is not. Writers and scientists invent and build up from raw materials; editors are talent scouts with a mission to discover.

Which is not to say that inventiveness and creativity are not necessary tools in the editor’s kit: editors discover, but they also focus, sharpen, mold, attract, entice, nudge, prioritize, refine, and redefine. Above all, editors can be creative, inventive, and indeed, playful in setting a course for their journey of discovery.

The Editor’s Task

Discoveries arrive at an editor’s desk in two main forms: unsolicited and solicited submissions.

There is something inherently passive in waiting for manuscripts to arrive at one’s door. As a sole stance, watchful waiting could threaten the viability of a publication’s pipeline. As a righting balance, editors solicit specific types of work and actively craft their publications. Even as the contents of edited books and monographs are typically solicited, so the editor of a peer-reviewed journal can establish a balance...
Manuscripts can be solicited in order to enrich a given aspect within a journal’s scope, usually when fewer submissions in a particular area of interest are received than expected. But they can also be invited in order to open up a new topic area or submission format, or to set a new priority, one that may have hitherto been deemed to fall outside that journal’s purview.

Unsolicited manuscripts remain a journal editor’s daily fare, even if at times they come in waves of feast or famine. They provide the editor with a first decision point: whether to reject a submission unreviewed. The peer review process is a precious resource that cannot be used indiscriminately. The summary rejection is a first sieve that should let through only those papers that are, potentially, a good fit. Through these rapid decisions, authors may feel slighted, perhaps not taken seriously enough, but they are reminded in admittedly brief decision letters that poor fit rather than poor content is generally at play. Some authors aren’t pleased, but others react well because they know prompt rejection can be a blessing in disguise, in that it frees authors to find a new home for their work, rather than tying it down in a review process with only a negligible chance of success.

Assuming that the fit is good and the content promising, the editor submits the paper to peer review, typically to two or three colleagues with expertise on the topic. Additional reviewers can be assigned based on special circumstances, such as methodological or statistical complexity. Peer review software platforms (such as Editorial Manager or Manuscript Central) can facilitate the editor’s task of assigning manuscripts to the appropriate reviewers, based on personal matches on topics of interest and areas of expertise. Convenient and helpful as these tools can be, the majority of assignments are still made in the more traditional manner of getting to know reviewers over time and developing a core group of “go-to” referees. The more productive and trustworthy eventually become natural candidates for the editorial board, which in turn, forms a core support for the editor and helps guide longer-term journal policy.

An editor’s main intellectual task begins once the critiques from the referees arrive. At that point, the editor has to do more than simply average the reviews in order to reach a consensus on a manuscript’s merits. The decision to encourage authors to revise and resubmit, to continue pursuing a manuscript, and to eventually publish it, is certainly informed by reviewer input, but ultimately depends on an editor taking an active editorial stance and making a clear decision about whether the work will meet the minimum essential criteria. And what are those criteria? Published works should be new, true, clear, and ethical.

The first two are the most ambiguous. Scientific journals should lead a field more than they should follow it. Therefore, the novelty of a finding, idea, or method described in a paper is given high priority, especially when it has practical, applicable implications. At the same time, scientific progress is predicated on the replication and development of findings, building on the work of others, so novelty is a rather relative concept. Few authors tread down truly unexplored tracks for the first time. Editors need to understand this: they need to be able to detect originality and promise in a world full of claims to novelty. This also means knowing what has come before.

“True” is another relative term. Science, in general, and scientific editing, in particular, is better suited to negate false claims than to affirm positive ones. As editors, we look for the “true” not just in the results section, but more closely when we assess the methodological rigor of an article and its internal and external validity in order to determine whether its findings are indeed justified.

“New” and “true” are important values in the scientific literature, but almost every original article submitted will claim to have these in abundance: an editor’s job, therefore, is to mix a subjective judgment of these values with the objectivities of science.

And then, there are the less ambiguous criteria. Who has not encountered a brilliantly new and true work mired in unreadable prose that could have been generated from a bad writing computer program? It is not just a matter of making sure that results can be disseminated; clarity is essential to the integrity of the science. The clarity of exposition needs to be ensured en route to publication, often with the help of behind-the-scene copyeditors. At this time of rapid scientific globalization, clarity in writing poses special challenges for non-native speakers of English, the de facto lingua franca of science.

And finally, editors have an overriding responsibility to ensure the ethical integrity of their publications. This broader philosophical charge gets played out for each and every submission, wherein aspects such as authorship criteria or disclosure of competing interests have become fairly routinized by now, but vigilance to plagiarism or improper attention to human subjects (among other offenses) is still sadly necessary.

**Editing as a Contact Sport**

Only kings, presidents, editors, and people with tape-worms have the right to use the editorial ‘we.’
—— Mark Twain

Editors are not necessarily loved or popular figures, and scientific editing is often viewed as a lonely, ascetic, and cerebral pursuit lacking human interaction. And while there is some truth to the image of the isolated editor spending
caffeinated hours alone in front of a computer screen, the caricature goes only so far. In fact, key aspects of editing are not only highly social, but entail rather rough and tumble contact at that. Participating in the peer review process and diving in between referees and authors is not a hands-off, isolated experience—nor is soliciting articles that may sometimes be rejected.

Editors can feel the points of friction in their discipline when they are approached or outright pressured to be inclusive and equitable to its various constituencies, even if these constituencies do not all contribute in the same way to the academic vanguard of the field. Editors of scientific journals affiliated with a parent society (as opposed to those periodicals directly owned by a publisher) are especially liable to experience guild politics in this way. It is a fine line an editor walks. An editor needs to be responsive to a readership’s more immediate and pressing needs, while ensuring the publication’s long-term scientific vitality and preeminence. But editorial independence is a cornerstone of scientific relevance, as it ensures an editor’s ability to make decisions and set priorities autonomously, without undue influence of a parent society.

It is not only the influence of a parent society to which an editor needs to attend; society at large can also seek accountability from a publication or its editor. Establishing working relations with media outlets can help get the word out about relevant and timely findings. A proactive media approach in a measured and accurate way that is consistent with best practices in journalism. A proactive media approach can go a long way towards preventing the need for later damage control, should findings be reported inaccurately or out of context. By virtue of its inherently public presence, a scientific periodical (and by extension, its editor) can become the “face” of a discipline, and as such, a convenient target of public opinion and concern. An editor learns to sail these perilous waters, obtaining input and support from members in the editorial board, parent society, publisher, media outlets, and/or legal advisors, as the situation may warrant. An editor would do well to remember that not every public or media inquiry deserves a reply.

By contrast, every manuscript submission does require a formal response, and crafting effective decision letters is as much caring for the person receiving them as for the underlying scientific process. A decision letter needs to convey that an editor has taken a submission seriously and weighed it fairly. According to the four “t” model, the decision letter should show that a tenacious and tough-minded individual has done the job. The third “t” is necessary as well: an editor needs to be tenderhearted. Authors have shared a precious piece of themselves and come to an editor in a position of vulnerability—particularly young or first-time authors, but also those whose careers still hang on the next publication. Rejection, no matter how perfectly justified and commonplace in scholarly publishing, is invariably disappointing.

As it should be clear by now, editors may expect to be bruised and suffer some pain along the way of their tenure—which is why their toolkit needs one final “t”, that of being thick-skinned. Insults from people who feel hurt, angry retorts from people who have been rejected, condemnation from people whose perspectives are not represented in the journal for whatever reason: these are all part of the social contact an editor can expect.

**Why I Edit and What I Edit For**

With the authority to confer major responsibility… one cannot reasonably complain that one lacks the power to effect change. To the contrary, one has the capacity to make a profound difference, provided one selects individuals who are strong enough to lead, wise enough to listen, and willing enough to subordinate individual ambition to collective advancement.

— Richard Levin, The Work of the University

At the end of the day, editing is about communication. It is about sharing, with as broad a group as possible, what is new and exciting in a given field. It is about ensuring the integrity of what we communicate in a published material. It is about showcasing the priorities and direction for a discipline, realizing that what may seem today to be distant material with scant practical applicability may well become tomorrow’s mainstream.

Editing may be a contact sport, but above all it is a team sport. Dividing the workload brings a healthy diversity of views and expertise to the table, so that no single individual becomes solely responsible for the profound responsibility of setting direction and priorities for a field. Other editors may be able to do this job alone, but not me. I could not do it, and I would not want to do it without the help of the superb group of respected and trusted colleagues I have surrounded myself with.

I would also take myself out of the running were I not able to look ahead, to think of those who will succeed my team and me, and to be able to dedicate significant time and energy to mentoring and developing a next generation of editors.

I stumbled into editing, but my hope is that others may gravitate towards it in a more directed and deliberate way, and even that some of my younger peers may in fact wish to grow
up to become editors. As a field, we have been successful in developing clinician-educators and clinician-scientists. It is my fervent hope that we may be well on our way to doing as much for a new phenotype of clinician-editors. It is an affiliation I am proud to call my own. Good scientific editing is a public service, and as such, a priority we are obligated to nurture in coming generations.

Implications for Educators
- To encourage participation in the scientific editing process, educators should foster in their trainees not only writing and submitting, but peer reviewing as well.
- Involvement in newsletters or publications specifically designed by and for trainees can provide a less daunting point of entry into scientific writing and editing.
- Guest editing part of a journal (such as a book review section, or a trainee corner) can provide an initial hands-on experience into scientific editing.
- Academic curricula should address reading, writing, reviewing, and publishing in the scientific literature—including relevant ethical considerations such as plagiarism and conflict of interest.

Implications for Academic Leaders
- Good scientific editing is a public service, and as such, a priority we are obligated to nurture in coming generations.
- The clinician-editor “phenotype” should be fostered as another line of professional development, alongside those of clinician-scholar or clinician-educator.
- Scientific editing should be appreciated, fostered and incentivized, including through training opportunities, and by “counting” editorial board positions toward academic promotion.

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You are not alone in coming to the realization that writing is hard work. Don’t believe anyone who says otherwise, but also don’t let it dissuade you from giving it a shot. You may not know it, and someone early in his or her career may not believe it, but the fact is that someone wants to read your work, and there is a home for it. Only one thing is for certain: if you don’t get started and give it a real try, then your work will never be published. Writing is hard work, but it is also a skill you can learn and one that gets better with practice and time. I hope to persuade you that there are steps you can take to make the process more efficient, more hopeful, more likely to succeed, and, if nothing else, more bearable.

Have a Good Story to Tell

Whether you are writing up completed research, sharing an interesting clinical observation, or reviewing a book for the first time, there is no substitute for having good content and a compelling story. But what makes a story worth reading? As it pertains to the scientific literature, there are four main considerations: Is it new, true, clear, and ethical?

Producing something truly new may seem foreboding. Novelty may lie in a fresh hypothesis or a singular idea, but keep in mind that the novelty of a manuscript may also be that it is a good replication: nothing to be ashamed of there – science is based on the reproducibility of findings. How a submission is new will vary, but what makes the novelty important, as opposed to merely novel, is that it must pass the ultimate litmus test: it must push us forward.

In science, much of what is true comes from models (statistical models, models based on population samples, etc.), which are always approximations of truth, and are best at relegating untrue ideas to the dustbin. One model for truth in science is “validity,” both internal (Do the methods hold up and are they able to do what they claim?), and external (Do findings apply outside of the sample they are based on? Are they generalizable?). But even if you are not conducting a study where conventional models of validity are applicable, you can still ask a similar question: How do you know that what you are saying is true and that it is true outside of the story you are telling? This can be a matter of the integrity of your citations (How well are you basing your claims on empirical evidence, and how strong are the empirical claims themselves?), or of understanding the limits of your story (as with, for example, a case study).

Clarity is straightforward: Can your story, no matter how good, be conveyed in a manner that will be understood by your reader? Strive to be straightforward, simple, and direct; don’t “eschew obfuscation” when you can “avoid confusion” instead. Become a peer reviewer: editors will get to know you, and you will become a better critic of your own work. As a better critic, you will preempt and beat others to finding the weaknesses in your manuscripts and correcting them. Indeed, explicitly pointing out the limitations of your study will only strengthen your submission, and few things will prepare you for the task as well as serving as a reviewer.

Ethical principles are important enough to deserve separate mention.

Always Adhere to Ethical Principles

Ethical principles are not cautionary tales intended for unsavory and disreputable characters, and, as such, easily dismissed. They are core values that we must adhere to at all times, but which can be easily overlooked and infringed upon. Prevention is worth more than cure, which is why institutional review boards (IRBs) are so important. Make sure that you are well versed in the ethical principles of research and publication. You are responsible for knowing, understanding, and abiding by these standards. There are far too many aspects and nuances to numerate and attend to here, but they are practically summarized elsewhere (see resources listed below). A few core principles are key: treat patients and family as you would like to be treated (this includes using thoughtful and sensitive language when referring to them. Always use person-first language: ‘the child with autism,’ rather than ‘the autistic child’); don’t do or say anything that feels uncomfortable and that you cannot own up to with
Academic writing is rarely a solo act. It is usually a fruitful collaboration. If you are not part of a team, identify one that suits your needs. This could mean becoming part of a larger research group and taking the lead in writing a specific project, or writing something on your own and asking for input from a respected colleague. When approaching someone to look over your work, always “play up” – ask for the advice of someone more senior or experienced than you, someone who will take the time to engage with you and your writing and critique it thoughtfully, and someone who will help push your work forward and not just rubberstamp it. Ask for help, and not just in areas where you consider yourself inadequately prepared (statistics is a common weakness), but also where you may already feel confident. Writing in collaboration or under close supervision is where the mentorship rubber meets the road. Embrace the challenge posed by your mentor’s red ink.

Think Like an Editor
Most early rejections are based on a summary assessment of an article’s abstract. With some luck, the initial evaluation gets as far as the Method and Results. At least early in the peer review process, it is rare for an editor to spend much time going over the Introduction or Discussion sections. And yet, most authors spend the bulk of their writing time refining and making their arguments in these areas. The practical corollary is simple: don’t let your abstract be an afterthought. From the beginning, pay close attention to the 250 words of your abstract, polish them as you go along, and make sure they do justice to the overall article. An effective abstract should open the door for your paper to be sent out for peer review. It is your ‘elevator pitch,’ and with so much of your submission’s fate riding on it, it cannot be overlooked. You should not underestimate the inherent difficulty in writing so succinctly. Blaise Pascal alerted us to the challenge back in 1656: “I would have written a shorter letter, but I did not have the time.”

Present Your Work in an Engaging Way
Scholarly writing need not be sleep-inducing. This statement is not intended to encourage frivolous prose or cute-sy affectations. Rather, it is an invitation to be proactive, direct, and bold in approaching academic journals.

For starters, make good use of your salutation. Cover letters are generally underappreciated or overlooked altogether – a bureaucratic box to be checked – but prospective authors should not pass up the opportunity to make a good first impression. A brief letter that makes the case for your submission belonging in this particular journal can go a long way. If a submission is not a periodical’s ‘usual fare,’ consider approaching the editor in advance and making an inquiry – or a pitch. Editors are human, and as such, approachable. You may find that your idea is in fact of interest and welcome, or you may be steered in a more promising direction and avoid wasted effort.

Don’t irritate the editor or dismiss the obvious: read the instructions for authors and prepare your submission accordingly. When in doubt, ask the editorial office for clarification. Simple oversights and typos may be inconsequential to the overall science in question, but superficial sloppiness raises concerns about a study’s underlying integrity and attention to detail. Missing pieces or overlooked requirements can delay processing of your manuscript. Be wary of spell-check and rely instead on a careful read by a keen-eyed colleague (or three) before pressing the ‘submit’ button. Don’t let simple formalities doom your hard-earned efforts.

Do Not Despair if English Is Not Your Native Language
Practically speaking, English has become the universal language of scientific writing. This should not dissuade would-be authors from contributing to periodicals in their native languages, nor pose a significant hurdle to most speakers of English as a second language. The charge is not to write great prose so much as to write understandably and clearly. Can a reader outside of your specific field of interest understand what you are trying to convey? Is there a fluent English speaker on your team, or someone else you can approach to go over your draft? There are a number of professional ‘polishing’ services available online to improve the written quality of scientific submissions. These may be a useful resource, but one that should be used sparingly, and perhaps are most helpful late in the submission process, after the scientific bar has been cleared.
Learn From Rejections – Especially Quick Ones

Rejection is an inevitable byproduct of the submission process. Having no rejections is no badge of honor. In fact, having few rejections is likely to mean one of two things (neither one to be emulated): submitting insufficiently or submitting to less desirable outlets.

If you receive a decision letter inviting you to revise and resubmit, celebrate the occasion, for you are well on your way. There is an art to responding to reviewers’ comments, and since you are already halfway to publication, you don’t want to miss out on the opportunity by responding inadequately. Most comments from peer reviewers are likely to be helpful, and if properly incorporated, will strengthen your work. Responding to a reviewer does not mean that you always have to concur; you can respectfully disagree with a given point, so long as you can make an objective case to justify your decision. Be polite, civil, and transparent. Don’t become argumentative or defensive – stick to substance and facts.

If your manuscript is rejected following peer review, resist the temptation to resubmit the paper, unchanged, to another journal. It is all too easy to do so in the electronic age, but you are missing out on an opportunity for growth. Your initial impulse may be to argue with the decision, to state that your work was not properly understood or appreciated. Even if that is the case, it is still best to give yourself some distance and a few days before going back to the decision letter, at which time you can start objectively considering the feedback and incorporating pertinent aspects of it to improve your work before moving on to the next journal. Bear in mind that ours is a relatively small field and your manuscript may end up being assessed by the same reviewer at another journal. For this reason, and for the opportunity to improve on your submission, don’t dismiss potentially valuable feedback just because it is part of a rejection letter.

A quick rejection letter should also be welcome: an indication that you are engaged in the process and looking for the right venue for your submission. When a manuscript is rejected outright, before being sent out for peer review, the reason is likely one of fit rather than content. We are fortunate to have thousands of medical journals available at our electronic fingertips and identifying the right one can pose no small challenge. An objective approach is to consult not only with electronic libraries, but their very human and universally helpful librarians as well. Newly available online services offer journal profiles, statistics, and reviews to help you identify potential matches for your submission. In making use of the many resources available, you can narrow your list down to relevant journals based on topic and scope, and ranked according to impact factor (IF), turnaround time, and other metrics that may be relevant to your goals. Senior colleagues can then help you refine that list, especially if they are experienced and successful in their own submission efforts. As a rule of thumb, try to submit slightly ‘above’ your target: you may gain access to a more visible or prestigious venue, or come away with useful feedback to incorporate. It is true that aiming for the sure target may yield fewer rejection slips, but it will not challenge and advance your efforts sufficiently.

Balance Ambition With Realism

IF and similar metrics should not be the main guiding principle in deciding where to submit your work. Determine your optimal target readership and pitch accordingly. This may lead to a more modest publication, but one better suited to your goals. Think globally and set high expectations for your work, but don’t dismiss more proximal venues that may be more appropriate. Regional publications may not have the cachet you had hoped for but may be better conduits to put the information into the hands of those who can most benefit from it. Particularly if you are early in your career trajectory, it is important to determine how long your curriculum, your promotion, or you yourself can wait to be published. A modest publication early in your career can prove pivotal, insofar as it can imbue you with a sense of possibility: seeing your name in print can validate your efforts and spur you on to the next level.

Never Take Rejection Personally

As authors, we place our work—and a certain amount of personal vulnerability—in the hands of an editor and the ‘black box’ of the editorial process. At some fundamental level, it is hard not to take rejection personally. And yet soldier on we must. Good editorial practice aims for objective and supportive feedback with no personal attacks or ad hominem comments slipping through to decision letters. That having been said, as an editor, I have been humbled on more than one occasion when an author has brought to my attention comments that did not adhere to these guidelines. As a result, I have redoubled my efforts to ensure editorial etiquette and minimize these unfortunate occurrences. In the process I gained respect for those authors and their direct, constructive, and proactive approach to the values of the peer review process itself.

There Are Alternative Doors Into a Journal

Keep writing: writing begets writing. Not every submission
sion needs to fit the mold of a classic scientific paper. In fact, there are often many pathways into a journal, some of which are especially relevant to novice authors. Letters to the editor can give voice to a new observation or engage with the substance of an earlier publication in a thoughtful way. Book reviews distill the essence of a new resource and place it into a larger intellectual context. There may be venues like this, JAACAP Connect, where you can hone ideas and writing skills, as well as clinical essays (such as those in JAACAP's Clinical Perspectives), and sometimes editorials and reviews. If you have read this far, this piece serves to exemplify that writing for a newsletter or bulletin can serve an educational function—and help its author remain limber in the writing domain. And do not forget that becoming a peer reviewer not only allows you to participate in one of the most important facets in scientific publications and to practice critical skills, but introduces you to journal editors, journal styles, and often excellent writing.

**Just Do It!**
Life is filled with compelling reasons to procrastinate. I know of what I speak: guilty as charged. Seek to be polished, not perfect. The perfect is the enemy of the good. You have a story to tell and someone out there wants to hear it. So get started and down to business. Roll up your sleeves. Just do it!

**Selected Resources for Would-Be Authors, Reviewers, and Editors**
1. This five-part series of short, practical articles published in the Archives of Pediatrics and Adolescent Medicine covers the critical aspects necessary to get a scholarly article into print.

2. **Resources addressing ethical aspects of scholarly publication.**

3. **General resources.**

4. **For would-be editors.**

**About the Author:**
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