ISTSS Silver Anniversary Meeting

Preliminary Planning Highlights Exciting Opportunities

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The ISTSS will host its Silver Anniversary Meeting at the Westin Peachtree Plaza in Atlanta, Georgia USA November 5-7, 2009. Pre-meeting institutes will be held on November 4, and a special quarter century celebration will be held Saturday, November 8.

In anticipation of the Annual Meeting, *StressPoints* talked with Program Committee Co-Chairs **Candice Monson** and **Mark Miller** of the VA Boston Healthcare System, National Center for PTSD, and Boston University*.*

What is your role in planning the meeting?
We are the Co-Chairs of the Program Committee and working with Patti Resick, the President of ISTSS, and the Sherwood Group, ISTSS' association management company, to plan the 2009 meeting. With Patti we defined the meeting theme "Traumatic Stress Disorders: Towards DSM-V and ICD-11" and found our invited speakers. Our primary responsibility is for the review of all submissions and scheduling of the program. We are currently in the process of reviewing 686 individual abstracts with a team of 18 Deputies and 66 reviewers.

What do you see as some of the highlights of this year's Annual Meeting?
This will be the 25th annual meeting of ISTSS and we are looking forward to celebrating the silver anniversary with a celebration on Saturday evening and special panels led by past presidents of the society devoted to the history and future of the field. We expect the invited addresses by Darrel Regier, David Barlow, and David Spiegel on the definition and conceptualization of PTSD and related disorders to be highlights of the scientific program. We are also excited for the Master Clinician sessions.

What are the master clinician opportunities at this year's Annual Meeting?
We are excited to have five Master Clinicians at this year's meeting! They will demonstrate different approaches to the treatment of PTSD with a common pseudo-patient who experienced combat trauma during his tours in Iraq. Our Master Clinician line-up and the therapy they will showcase includes:

1. Dr. Kate Chard - Cognitive Processing Therapy
2. Dr. Robyn Walser - Acceptance and Commitment Therapy
3. Dr. David Riggs - Prolonged Exposure
4. Dr. Barbara Rothbaum - Virtual Reality
5. Dr. David Barlow - Unified Therapy

Each Master Clinician will offer a conceptualization of the patient and then do a live demonstration of interventions representative of their treatment model. They will also answer audience questions.

What are you most excited about so far for the meeting?
We are particularly looking forward to Darrel Regier's keynote address entitled "Redefining PTSD with empirical data: Implications for DSM-V". Dr. Regier is the Vice-Chair of the DSM-V task force. His talk will provide insight into priorities behind the DSM revision process and a glimpse at the future of how we define and conceptualize problems of posttraumatic adjustment.

We're also very excited about visiting Atlanta and its world-class dining and entertainment venues. We'll be staying at the Westin Peachtree Plaza Hotel, a striking 73 story tower in downtown Atlanta which is walking distance to popular attractions such as the Georgia Aquarium (the world's largest aquarium), the CNN center, and the World of Coca-Cola exhibit.

Visit the www.istss.org to get the most up-to-date information on conference-related topics such as hotel/travel information, and the Online Abstract Database.

Got Photos?
Have you ever taken pictures at an ISTSS meeting? Are you willing to share the photos?

We are developing a slide show for the Annual Meeting to kick off our year-long celebration of ISTSS' Silver Anniversary!

Please send photos by email to paresick@gmail.com. In your email, please try to identify the people, year, and meeting location.

Members on the Move

Dr. Yael Danieli named Distinguished Professor of International Psychology

Dr. Yael Danieli was named Distinguished Professor of International Psychology at the Chicago School of Professional Psychology (CSPP). CSPP is the first university to offer a Ph.D. in International Psychology.
According to CSPP's Academic Affairs Vice President Pat Breen (see http://www.thechicagoschool.edu/content.cfm/detailed_news?NewsID=503143), "Dr. Danieli's responsibilities will be to ensure program quality, currency, and relevance to the needs of the field; to assist faculty in establishing cooperative relationships with experts and resources in the field for the purposes of fieldwork, research, and program advancement, and to support The Chicago School's efforts to establish a national and international reputation in this field."

Dr. Danieli co-founded and directs the Group Project for Holocaust Survivors and Their Children in New York. The first female president of the ISTSS (1988-1989), Dr. Danieli is a long-time leader in the ISTSS and the traumatic stress field. In 2002, she received the ISTSS Lifetime Achievement Award. She serves as ISTSS' Senior Representative to the United Nations, where she currently chairs the Non-Governmental Alliance on Crime Prevention and Criminal Justice.

To read the full announcement from CSPP, visit http://www.thechicagoschool.edu/content.cfm/detailed_news?NewsID=503143.

Dr. Zahava Solomon awarded the Israel Prize for Social Work Research

Dr Zahava Solomon, a past recipient of the ISTSS Robert S. Laufer, PhD Memorial Award for Outstanding Scientific Achievement (1997), received the most prestigious award bestowed by the State of Israel for the highest academic distinction: The Israel Prize for Social Work Research.

Dr Solomon is a professor of Psychiatric Epidemiology and Social Work at Tel Aviv University, Israel. She had served as the Head of the Research Branch (LT. Col. Ret) Mental Health, Medical Corp, IDF. At Tel Aviv University she has had numerous leadership positions including: Dean of Social Work, Dean of Special Programs, and Director of The Adler Research Center. Dr Solomon has published over 300 articles, 60 chapters and 6 books.

The Prize Israel Committee decision states that "Professor Solomon's groundbreaking studies of traumatized war veterans, ex-POWs, Holocaust survivors and terror victims and their families has had a formative effect on outreach, treatment, and rehabilitation provided by the Israeli Defense Forces and The Ministry of Defense. Professor Solomon's studies gave voice to the traumatized plight and raised the public and the establishment awareness and recognition of the traumatized psychosocial needs."

Featured 2008 ISTSS Award Recipient

Richard Meiser-Stedman Received the ISTSS Chaim and Bela Danieli Young Professional Award

At the ISTSS 24th Annual Meeting (November, 2008) in Chicago, ISTSS awarded Richard Meiser-Stedman with the Chaim and Bela Danieli Young Professional Award.

Dr. Meiser-Stedman is a trainee clinical psychologist at the Institute of Psychiatry, Kings College London. Previously he was a Peggy Pollak Research Fellow in Developmental Psychiatry. He has been published in numerous peer-reviewed journals and has presented at more than ten conferences on traumatic stress, including the ISTSS 23rd Annual Conference in Baltimore, Maryland USA.

This award recognizes excellence in traumatic stress service or research by an individual who has completed his or her training within the last five years.

Richard's work to date falls into 3 main areas: investigating cognitive models of ASD and PTSD in children and adolescents; evaluating the validity of the ASD diagnosis in young people; and examining traumatic stress reactions and their predictors in very young (including pre-school) children. His highly cited work has informed new CBT treatments for children, has led to the development of new measures, and has generated important findings with regard to diagnosis.

According to those who nominated him, his findings include several "firsts" which will make significant contributions to the trauma field as a whole. He is now embarked on a clinical psychology training course: combined with his skills and talent as a researcher, this will undoubtedly ensure that he becomes one of the leading clinical researchers of his generation.

Recent award winners include:

2007   Diane Elmore, PhD, MPH
2006   Casey Taft, PhD
2005   Karestan Koenen, PhD
2004   Christine Heim, PhD
2003   Jon D. Elhai, PhD

For a complete list of award winners, visit http://www.istss.org/organization/awardwinners.cfm#danieli.

Do you know of other ISTSS members who have been recognized for significant achievements?

Please send announcements to Editor Anne DePrince at adeprinc@du.edu for the new *Members on the Move* feature.

Trauma and World Literature:
Reflections on "*The Rime of the Ancient Mariner*" by Samuel Taylor Coleridge

Andrew Stone, MD
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The aspect of this well-loved story that speaks most strongly of a trauma narrative is the urgency with which the Mariner is compelled to repeat his tale. Accosting a stranger, he seizes his attention and then holds forth at length on the misfortunes he has encountered and the lessons he has learned. Framed in short, rhythmic stanzas, it has an incantatory power and paints vivid pictures of the events it describes.

The tale is set at a wedding, where a strange figure hails a guest and tells him a long and detailed account of a harrowing sea voyage, despite the guest's protestations:

> It is an ancient Mariner,
> And he stoppeth one of three.
> `By thy long grey beard and glittering eye,
> Now wherefore stopp'st thou me?
>
> The bridegroom's doors are opened wide,
> And I am next of kin;
> The guests are met, the feast is set:
> Mayst hear the merry din.'
>
> He holds him with his skinny hand,
> "There was a ship," quoth he.
> `Hold off! unhand me, grey-beard loon!'
> Eftsoons his hand dropped he.
>
> He holds him with his glittering eye -
> The Wedding-Guest stood still,
> And listens like a three years' child:
> The Mariner hath his will.
>
> The Wedding-Guest sat on a stone:
> He cannot choose but hear;
> And thus spake on that ancient man,
> The bright-eyed Mariner.

The story proceeds to report the circumstances of a disastrous voyage, filled with peril, death and losses, for which the Mariner narrator holds himself personally responsible, because of a single irretrievable act. And it is in the telling of the story that he ultimately finds his only path to redemption, when he is able to find a holy Hermit who will listen to him:

> O shrieve me, shrieve me, holy man!
> The Hermit crossed his brow.
> `Say quick,' quoth he `I bid thee say -
> What manner of man art thou?'
>
> Forthwith this frame of mine was wrenched
> With a woeful agony,
> Which forced me to begin my tale;
> And then it left me free.
>
> Since then, at an uncertain hour,
> That agony returns;
> And till my ghastly tale is told,
> This heart within me burns.
>
> I pass, like night, from land to land;
> I have strange power of speech;
> That moment that his face I see,
> I know the man that must hear me:
> To him my tale I teach.

Coleridge wrote this poem in 1797-98. Its dazzlingly hallucinatory literary qualities aside, it offers us a convincing portrait of a survivor who must tell his story. The Mariner, even though recurrently troubled by the intrusive necessity of repeating the story to a willing listener, has made his own type of peace with the meaning of his experience. Anyone serving as a therapist to survivors of trauma will recognize elements of the Mariner in those wandering souls we encounter in our daily work.

Reference: Coleridge, S.T. (2009). The rime of the ancient mariner. In H.J. Jackson (Ed.), *Samuel Taylor Coleridge: The major works*. New York: Oxford University Press, pp. 48-67.

Passages from literature can capture truths about trauma and its survivors. ISTSS members are invited to share a favorite passage or quote from literature that might not be well known, but which offers insight about the psychological effects of trauma or path of healing.

Send submissions to Harold Kudler or Howard Lipke at HLipke@aol.com.

Visit the ISTSS Amazon Store!

The **ISTSS Amazon Store (http://astore.amazon.com/istss-20)** (also accessible from the ISTSS homepage) features trauma-related books for professionals and the public, as well as fiction, memoirs, and movies with themes related to trauma and healing. The store allows ISTSS members and others to locate useful resources, while helping to support ISTSS.

Bookmark the ISTSS store (http://astore.amazon.com/istss-20) and begin your Amazon shopping! **ISTSS earns a referral fee of 4% to 10%** for items purchased through the site. *Any* Amazon purchase that originates through our store helps to support ISTSS. To find other Amazon items, just click the "Powered by Amazon" button in the upper left corner of the page and continue shopping.

Please send suggestions to Nancy Kassam-Adams at nlkaphd@mail.med.upenn.edu.

Book Corner

Review of *Treating Complex Traumatic Stress Disorders*, edited by Chris Courtois and Julian Ford (Guilford Press, 2009, 488 pages).

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The essence of the book, *Treating Complex Traumatic Stress Disorders*, (http://astore.amazon.com/istss-20/detail/1606230395) edited by Chris Courtois and Julian Ford, is captured by their question, "Does identifying a history of complex psychological trauma and complex reactions . . . make a meaningful difference in clinical conceptualization and assessment, psychological and psychopharmacological treatment, and professional practice management and self-care?" (p. 441), and answered in the affirmative.

Courtois and Ford describe complex psychological traumatic stressors "that (1) are repetitive or prolonged; (2) involve direct harm and/or neglect and abandonment by caregivers or ostensibly responsible adults; (3) occur at developmentally vulnerable times in the victim's life, such as early childhood; and (4) have great potential to compromise severely a child's development" (p. 1). Even though complex trauma is the kind of trauma typically seen by clinicians, its sequelae of emotion dysregulation, dissociation, somatization, and distortions of information processing are not adequately captured by the diagnosis of traditional PTSD. Nor does the PTSD diagnosis reflect complex trauma's frequent comorbidity with Axis I disorders (1/3 to 1/2 of cases), Axis II disorders (1/4 to 1/3 of cases) and dissociative disorders. Therefore, the authors make the case that, in the absence of a diagnostic category that accurately describes the etiology, mechanisms and manifestations of complex psychological trauma, systematic research (and funding) for understanding and intervening with this problem has been seriously limited. This book represents an important attempt to review the work that has been done thus far.

The book is divided into three parts, with Part I providing an overview. Chapters 1 and 2 are central to the book in establishing the conceptualization of complex trauma as well as reviewing relevant neurobiological and developmental research. The argument is made that a caregiver's abuse and/or neglect of a child is important both because it contributes to the presence of specific symptoms and because the developing brain's necessary focus on defensive states inhibits the child's ability to respond to novel situations with curiosity, flexibility and learning. Given the book's emphasis on this notion of developmental trajectories, one glaring omission is a chapter on revictimization – how complex traumatic stressors in childhood actually contribute to the child's vulnerability to subsequent traumatic experiences. An appreciation of the effects of revictimization among childhood trauma survivors can inform research and clinical work even with populations associated with traditional PTSD diagnoses, such as soldiers exposed to combat. Another implication of developmental trajectories is the frequent presence of complex trauma in the histories of perpetrators of abuse.

Other chapters from Part I focus on best practices with children, adolescents and adults (particularly strong chapters),

assessment strategies, and structural dissociation. The importance of cultural competence is justified in part by the framing of trauma as another component of identity, compounded by intergenerational identities for children of trauma survivors or for members of cultural groups with long histories of trauma. Chapters 9 and 10 propose that, to the extent that complex trauma arises out of the context of relationships, it must also be healed within the context of relationships and that vicarious traumatization requires therapists to reflect upon their relationships with themselves. Chapter 9's description of common transference reactions segues nicely into Chapter 10's discussion of common countertransference reactions among therapists with suggestions for self-care including the idea of "working protectively."

Part II reviews individualized treatment perspectives relevant for adult clients. Because these chapters include descriptions of well-known approaches that are applicable to complex trauma but have not necessarily arisen out of the conceptualization provided in Part I, the reader must wait until a concluding chapter to see these connections. Several common themes emerge to a greater or lesser extent in these approaches – the importance of the therapist acting as a secure base; strategies for addressing clients' emotion dysregulation, dissociation, avoidance and somatic symptoms; the necessity for phase-ordered treatment; and the use of mindfulness meditation. Finally, Part III describes systemic and group approaches germane to the trauma survivor, including the use of internal family systems therapy with dissociative clients, couples therapy and group therapy. The discussion of family therapy is somehow remote from the initial conceptualization of complex trauma having typically arisen from interactions within the family – almost as if the initial traumatic stressor is assumed to have been either external to the family or merely witnessed by a family member. In most cases, the resolution of attachment relationships within the family characterized by complex trauma is much more messy and complicated than the perspective presented.

In conclusion, this book is a thorough and comprehensive compilation of perspectives on complex trauma. It is well-written and well-researched and an indispensable guide for any clinician or researcher working with this very challenging population.

A 12-Step Program for Better Power Analyses

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Power analysis should not be conceptualized merely as a method to determine how many participants are needed to achieve a significant result. Instead, the power analysis should be considered as an integral part of the study design, informing and being informed by other aspects of the study design in an iterative fashion until all parts come into harmony, maximizing the intent of the researcher with the rigor of strong methodology. Not only does the sample-size only version of the power analysis place too much emphasis on statistical significance testing, but it makes too many simplistic assumptions to be practical for modern research (e.g., only a single hypothesis is to be tested, only one effect size estimate from another research study exists for your estimate – and it is perfect, and you are using a basic statistical examination of your data).

The purpose of this paper is to provide a rationale for undertaking a more comprehensive power analysis every time you are designing a study and an overview of a 12-step process for conducting a comprehensive power analysis. As ISTSS members are also often involved with studies involving latent modeling, I have also provided an overview of three levels of comprehensiveness for understanding the power of a study analyzed with latent (structural equation) modeling. Although space constraints permit this paper from being comprehensive (as a book would barely be enough), the purpose of the paper is to provide sufficient rationale and reference to serve as a primer for the interested reader.

Conceptual Overview of a Comprehensive Power Analysis

When teaming up with the UCLA Statistical Consulting Lab staff to create a series of lectures on power analysis, the primary issue we all saw through our consultation on power analysis was the cavalier manner with which the power analyses were treated. Grant writers would often come to us the day before a grant was to be submitted in order to figure out their minimum sample size. Worse yet, these researchers would have little clarification of many other issues in their study that both impacted their power analysis and their overall study quality. If you think your studies never have such limits, consider if you meet these abbreviated criteria commonly: (1) the exact statistical analysis is planned for every hypothesis and subhypothesis, including having plans to test the statistical assumptions for each analysis; (2) all of the

hypotheses are grouped into primary, secondary, and exploratory, and which hypotheses can fail to meet significance without major detriment is known; (3) there are three or four effect size estimates for every primary and secondary hypothesis, including subhypotheses; (4) you have estimated the amount of likely missingness and added this to your necessary sample size.

A proper comprehensive power analysis not only allows for an accurate estimate of the necessary sample size, but also provides an excellent opportunity to enhance the planning of your entire research design. The accuracy issue is easy for researchers to understand: no one wants to achieve a *p* value of .058 on their key hypothesis. Nor do researchers want to be so overpowered that a reduction of 50% on patient costs and total time of data collection could have been realized while maintaining sufficient power. On the research design issue, researchers are often surprised to learn that using a repeated-measures ANOVA using all five time points collected could save them *at least* 10% on sample size compared to analyzing their data with a change-score analysis between baseline and endpoint only. Using the twelve steps detailed below can provide researchers the tools to both enhance the accuracy of their power analyses and understand the impact of various design issues on their sample size.

The Twelve-Step Power Analysis

1. Organize a list of all study hypotheses. Begin your power analyses by creating an Excel sheet to track all of the hypotheses and add in relevant information as you work through the 12 steps. For example, see Table 1 (which has more information filled in than would occur during step 1). The hypothesis number is organized with first character indicating P (primary), S (secondary), or E (exploratory). The second character is the hypothesis number (which you may want to restart for secondary and exploratory hypotheses), and the third character is a subhypothesis indicator, as necessary (e.g., P2A). Completing the hypotheses in appropriate language makes it easier to write the statistical analyses and know how to find appropriate ESs in the literature.

2. Determine if a comprehensive power analysis or Monte

Table 1
Hypothesis Organization Table

Hypothesis	Article	ES (d)	ES`	ES SE	ES -90% CI	ES +90% CI	Stat
P1A: Experimental group will have significantly less IL-6 over time compared to control							
P1A	Nicassio 2002	1.53	1.521	0.20511	1.032	1.842	RM ANOVA
P1B: Experimental group will have significantly less sleep latency over time compared to control							
P1B	Nicassio 2002	1.49	1.48051	0.206073	1.284	1.696	RM ANOVA
P2A: Physical Functioning will be a significant predictor of fatigue							
P2A P2A	Nicassio 2002	0.747	0.742242	0.188756	0.558	0.936	Regression
	Irwin Rinetti	0.847	0.841605	0.190485	0.657	1.037	
P2B: Experimental group will have significantly more reduction in pain from baseline to endpoint compared to control							
P2B P2B	Onen	1.25	1.242038	0.199402	1.051	1.449	1 BL 1 Post ANOVA
	Lentz	0.431	0.428255	0.184655	0.246	0.616	

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Carlo power analysis is required. Before committing to a power analysis using techniques outlined below, it is important to understand if your analyses will require a more adaptable approach than permitted by your power analysis software (or, more generally, than any power analysis software). For example, if your analyses require advanced structural equation modeling (such as latent growth curve modeling with different latent classes), atypical statistical analyses (e.g., nonparametric regression), or an advanced approach to a common statistical analysis (e.g., mixed-model ANOVA with piecewise linear regression constraints), then using Monte Carlo simulation, not a simple undertaking, may be the only approach to your power analysis.

Briefly, the Monte Carlo approach allows you to specify your exact analysis, all known effects, levels of missingness and degree of assumption violations, and more. Once the model is created, thousands of randomly generated datasets that meet your specifications are generated for a given sample size (or range of sample sizes). The ability to detect significant effects for various analyses is detailed in the Monte Carlo results.

3. Skim the literature to determine which papers will be best for effect size estimation and if the current budget will allow for sample sizes used in previous literature. If your initial review of the literature shows that studies with only 500 participants or more obtain significance, and your study can only afford 100 participants, it is unlikely that any change to the research design or statistical analyses will cause an 80% improvement in power. Thus, stopping at this point to either rethink your study's focus or change direction altogether could be advisable.
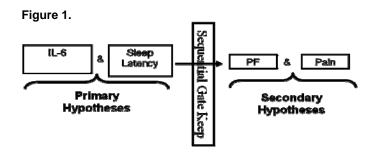
However, anything other than the most obvious deterrent should not end the power analysis process here. Instead, this step should then be used to determine which prior research provides enough information to derive an effect size (ES). Readers not familiar with ESs can begin with Cohen's review [1]. Moreover, those familiar with meta-analysis will know that it provides a veritable plethora of techniques for extracting ESs from almost any amount of information.

4. Determine the goal power level. First, it is important to understand that the power level has a specific definition: assuming the alternative hypothesis is true, what is the probability your study will find a significant result for the alternative hypothesis. Second, note that .80 and .90 are not the only acceptable power levels. When examining the power curves (step 11), it is obvious that the amount of extra participants required to move from a power of .75 to .80 is far less than the amount of participants required to move from .90 to .95. Thus, you may want to examine several points along the power curve, such as .75, .80, .85, and .90.

5. Extract information from previous literature or conduct a pilot study. When extracting ESs from previous research, be sure to find papers that have designs similar to yours in as many key aspects as possible. For example, consider the alignment of research design, similarity of treatment and control conditions, sample characteristics, instruments used, covariates used, and so forth. Moreover, find as many of these studies as you can (though more than five or six is not really needed). Next, even when a paper provides an ES (which is sadly still rare), extract all ESs to the same ES type. If you are planning on comparing mean

differences, consider Cohen's *d*; regression-type analyses are likely best described with eta (*r*). If a paper provides a different ES, there are many formulas to convert from one ES to another. Organize your ESs in your Excel table developed in Step 1 (see Table 1).

6. Determine the alpha level for each hypothesis. One of the keys to maximizing power is to understand that Bonferroni is not your friend. A common reason for using Bonferroni corrections is that these multiplicity adjustments are conservative. Unfortunately, they are not just conservative, they often are inaccurate. Instead, three modern techniques should be considered when establishing familywise alpha for a study: sequential gatekeeping [2], selective alpha weighting [3], and alpha adjustments based on the correlation between outcomes [4, 5].

Sequential gatekeeping (SGK) is a process of clustering groups of hypotheses together in order to protect alpha between the clusters. In Figure 1, two primary hypotheses are clustered and two secondary hypotheses are clustered. An SGK separates these clusters of hypotheses. The purpose of clustering is so that multiplicity control only takes place within clusters. Thus, we only need to control for the multiplicity among the two primary hypotheses and then among the two secondary hypotheses. Although it should not be used, using a simple Bonferroni correction makes it easy to understand the benefit of the SGK: without the SGK each of the four hypotheses would have a corrected alpha of .05 / 4 or .0125. With the SGK, the primary hypotheses are evaluated with an alpha of .05 / 2 = .025, as are the secondary hypotheses. If there were two primary hypotheses and three second hypotheses, these alpha adjustments would be .05 / 2 = .025 and .05 / 3 = .0167, respectively. The reason the SGK works is the rules that must be adhered to during its implementation: all hypotheses to the left of an SGK (see Figure 1) must be significant in order to even test the hypotheses to the right of the SGK. This protection of alpha in the SGK clusters also means that we can have multiple clusters, all the way down to an SGK after every hypothesis. Moreover, SGKs can be used with other forms of multiplicity control described next.

Figure 1.

Selective alpha weighting is the least commonly used of the three multiplicity controls described herein, but the process is quite logical. Why must one evenly split the multiplicity control between two (or more) hypotheses? If one of our most critical hypotheses is also one that is likely to require more participants, we can take some of the alpha adjustment away from this hypothesis and place it on another stronger hypothesis. For example, if we determined that two primary

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hypotheses could be evaluated at an adjusted alpha of .025 each, we instead could evaluate the first at .035 and the second at .015 (these are example numbers – proper formulas need to be consulted based on your studies particulars).

Finally, corrections based on the correlation between outcomes are an important and accurate manner for undertaking multiplicity control. The reason why multiplicity is conducted is to control for the probability of familywise alpha being assessed more than once with independent analyses. Bonferroni adjustments presume that all analyses are completely independent. However, this is an untenable assumption: when do outcome measures in a study have a correlation of .00? The stronger the correlations, the smaller the reduction to alpha required. For example, consider the primary hypotheses in Figure 1. Without their correlation taken into account, a Bonferroni correction would result in an alpha of .025 for each hypothesis. With a correlation of .3 between these two outcomes, the alpha adjustment reduces alpha to only .031; a correlation of .6 provides an alpha of .038 – 50% less of a reduction than the Bonferroni correction.

7. Determine statistical plan for each hypothesis, considering using multiple time points and correlated outcomes to enhance power. Most hypotheses can be assessed in dozens of ways. Whereas our hypotheses should be a strong guide to the selection of which statistical analysis to use, the power analysis should also be considered. For example, parametric statistics that meet their assumptions are almost always more powerful than their nonparametric counterparts. Mean differences over time can be assessed with a bevy of techniques. The least powerful (and one that can rarely meet the assumption of homogeneity of regression) is the change-score analysis, a favorite for many researchers. However, the inclusion of more time points in a mean analysis has a marked impact on the power of an ANOVA-type analysis, presuming the correlation of the dependent variable across the time points is greater than zero. Indeed, the higher the correlation of the dependent variable between these time points, the more powerful the analysis. Table 2 explicates the impact of the number of assessments and correlation of the dependent variable between assessments on the needed sample size per group. A change-score analysis with two-time points and no correlation presumed would require 323 participants per group, whereas an analysis with five time points and a strong correlation of .72 would need fewer participants than I am comfortable reporting! Indeed, this is an important tangent: some power analysis results suggest so few participants are required that the statistical analysis may not work properly. Ultimately, all sample conditions need to be met, including those required by the statistics.

Table 2
Impact of number of assessments and correlation between dependent variable on the needed sample size per group (two groups).

# Assessments	$r = .00$	$r = .729$
2 (change-score)	323	76
3 (RM ANOVA)	81	55
5 (RM ANOVA)	41	36

Note. Necessary sample size per group (alpha = .05, ES is nearly large)

8. Determine if using a single or pooled ES is best, and determine the need for using a standard error of the ES estimate. ESs are the single-most influential aspect of the power analysis: small ESs require many participants for significance, whereas large ESs require fewer participants. Therefore, our confidence about our ES estimate is critically linked to our confidence in our power analysis results. Thus, one should amass the ESs from all relevant studies. Rather than trying to use one of these studies to represent the entire field of appropriate studies, I strongly recommend combining the ESs using meta-analysis. This sounds far more complicated than it is: it usually takes 5-10 minutes when one has the correct software (including widely available macros for SPSS, SAS, and Stata).

Using standard-error based confidence intervals (CIs) for our ESs can provide us with a robust estimate for our power analysis. For example, if we calculate the 90% CI on an ES and use the lower bound as our ES estimate in another power analysis, we know that any sample-specific fluctuations in the actual ES obtained in our study vs. the ES we used in the power analysis can be accommodated. I only use a 90% estimate (vs. 95%), and I don't always ensure my sample size can meet this lower bound of the CI as it is extremely stringent. Nevertheless, examining the CI of a single or pooled ES is a great stress test for a power analysis.

9. Determine if any sample weightings will be applied. Most statistical programs for power analysis presume that each group will have the same sample size. If this is not the case for your study (usually because of research design considerations), be sure to translate your results so that your total sample size is distributed appropriately. As a finding of 100 participants per group is not exactly the same as 50 in group A and 150 in group B, it is best to include differential sample sizes per group in your power analysis if your software permits this approach.

10. Estimate sample size requirements for several levels of power, point estimate and lower bound ES, varied levels of missingness, and various statistical analyses. Essentially, this is the step where you take what you have garnered thus far and begin running the power analyses in your software. As noted, determine the sample size estimates for various scenarios, altering variables such as: ES (point estimate and the lower bound of your CI), power level (.75 to .90 in steps of .05), using various numbers of time points, and so forth. Refer to your program for specific coding instructions. Stata provides a lot of options for power analysis compared to many other competitors. However, other programs specifically designed for power analysis also can be quite comprehensive. Consider your available tools compared to your needs; sometimes new software may be required (or seek a consultant who has this software).

11. Plot the power curves. This is a beneficial step for most researchers given our tendency to prefer graphical presentations of complex data. Importantly, consider the inflection points in the graphs so you will know when adding more participants will have little impact or substantial impact on power.

12. Find the sample size which maximizes power. Consider multiple scenarios, taking into account the power for each hypothesis, the amount of missing data you suspect and will need to add to the power analysis results, ES ranges, alpha control scenarios, and the other key issues for your particular study.

Latent Models: Power Analysis for Structural Equation Modeling

Although techniques exist to test the power of a significance test for specific paths in a latent model, most researchers are concerned about ensuring their model will have enough participants to obtain stable results for the overall model fit statistics. There are three general processes used to determine the needed sample size for latent modeling: simple, moderate, and Monte Carlo (complex). The simplest of these approaches is called the n:Q hypothesis. The n:Q hypothesis states that ten participants should be used for each free parameter in a model. For most confirmatory factor analysis (CFA) models, this is approximately equal to two times the number of manifest variables. Thus, a 20-item CFA will need approximately 400 participants.

Of course, simple rules for anything statistical are precarious, at best. With this in mind, MacCallum et al. [6] derived a process to test the stability of one of the most universal fit statistics: root mean square error of approximation (RMSEA). Their process is certainly more complex than the n:Q hypothesis, and does require researchers to make informed estimates of likely RMSEA values. MacCallum et al.'s paper provides SAS code to calculate your model's needed sample size. Unfortunately, their process presumes that your latent model will use maximum likelihood (ML) estimation and have sufficient multivariate normality. Whereas ML is the most common estimation, obtaining multivariate normality is not common.

For ultimate flexibility, Monte Carlo simulation allows one to determine their needed sample size for virtually all types of latent models. Currently, Mplus is the only program I have seen that undertakes Monte Carlo simulation for latent models, but it does so with remarkably flexibility. It can handle lots of estimation techniques, mixed models, latent class models, growth models, multigroup models, and much more, including combinations of the aforementioned. This process requires comfort with latent models, Mplus coding, and Monte Carlo simulation in general, especially if you deviate much from the processes described in the Mplus manual or their paper on the topic [7].

Conclusions

It is hoped that the techniques described herein help you better understand the interplay between your research design and power analysis, increase the accuracy of your power analyses, and provide you with a host of technical ideas to undertake a complete power analysis from start to finish. Although more reading will be required in order to complete a power analysis, I hope the examples given herein encourage you to undertake more comprehensive power analyses in the future. Starting your power analysis process early in the research design process gives one the most benefit and opportunity to take advantage of the various techniques detailed herein. Moreover, applying the aforementioned power analysis techniques to all of your hypotheses may ultimately lead you to reduce the number of hypotheses under study, focusing on the most defensible areas given your budget and probable findings.

For more reading on power analysis, I strongly recommend almost anything on power analysis from Jacob Cohen. Several of my lectures are online and are chock full of additional references as well, including the UCLA power analysis lectures (http://www.ats.ucla.edu/stat/seminars/ - look under the heading "power analysis") and a series presented to the Quantitative Psychology Department at Kansas University (http://www.quant.ku.edu/resources/presentations.html - the pa lecture and workshop links).

Author Note

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ISTSS in the News

On March 29, **ISTSS Past President and current ISTSS Board Member Dean Kilpatrick** testified before the House Veterans' Affairs Disability Assistance and Memorial Affairs Subcommittee regarding Combat PTSD. Read about the hearing at http://veterans.house.gov/news/PRArticle.aspx?NewsID=375 .

Have you seen ISTSS in the news? Let us know by emailing adeprinc@du.edu.

The Dart Award for Excellence in Coverage of Trauma

The Dart Awards for Excellence in Coverage of Trauma recognize exemplary journalism on the impact of violence, crime, disaster and other traumatic events on individuals, families or communities. The **2009 award winners** have been announced. To learn about the award winners, visit the Dart Web site at http://www.dartcenter.org/dartaward/guidelines.html .

ISTSS 2009 Election: Nominations by Petition Due June 24

Each year ISTSS conducts an election for board members and a president-elect. The ISTSS Nominating Committee, chaired by board member and Past President Stuart Turner, MD MA FRCP FRCPsych, has nominated the individuals listed below.

Additional nominations may be made by petition. For each petition nomination, 16 signatures are required. Individuals may nominate someone by petition by submitting via mail or fax the name of the ISTSS member being nominated, along with the name and original signature of the ISTSS member making the nomination.

A total of at least sixteen original signatures nominating the same ISTSS member must be received at ISTSS Headquarters no later than Wednesday, June 24 for the name of the ISTSS member being nominated to be placed on the ballot. Petitions via e-mail will not be accepted.

ISTSS nominees for President-Elect are:

Marylene Cloitre, PhD
Sandro Galea, MD, DrPH

ISTSS nominees for Board Members are (elect six):

Jean C. Beckham, PhD *
Jonathan I. Bisson, DM
Jon Elhai, PhD
Diane L. Elmore, PhD, MPH
Julian D. Ford, PhD
Yoshiharu Kim, MD, PhD
Harold Kudler, MD
Candice M. Monson, PhD
Nnamdi Pole, PhD
David Wolfe, PhD

* Current Board member running for re-election

Student Section: ISTSS Student Section Holds Electronic Election

Electronic voting is in process for the ISTSS student section election. The ISTSS Board of Directors is looking for student representation by electing a chair and vice-chair of the student section. Each position will hold a two-year term.

The candidates are:
Lynnette Averill
Heidi La Bash
Rachael Swopes
Julia Thompson

How Does Electronic Voting Work?
Applications for the 2009 student section election were solicited on March 16. Electronic voting begins on May 28 and will close June 19.

What stops someone from voting more than once?
After a student member is finished voting, the student will have an opportunity to review selections. Once the voter indicates that voting is finished, returning to the ballot is not possible.

How does it prevent another from voting for me?
The voting system is accessed by using your own personal user ID and password. This information is private.

Will others be able to see how I voted?
 No, others will not be able to view your voting choices.

What if I don't have e-mail?
Mail ballots have been distributed to student members without e-mail addresses.

May I fax my vote?
Only non-North American student members may fax their vote if they cannot vote online.
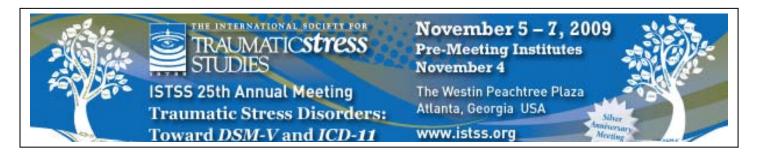
Election results will be announced in July.

ISTSS Student Research Grant

The ISTSS Student Research Grant (SRG) provides two $1,000 grants to ISTSS student members who submit proposals judged to have the greatest potential to contribute to the field of traumatic stress.

Applications must be received before August 15, 2009. Download the form at http://www.istss.org/students/StudentResearchGrantApplication09.pdf.

THE INTERNATIONAL SOCIETY FOR
TRAUMATICstress
STUDIES

**ISTSS 25th Annual Meeting
Traumatic Stress Disorders:
Toward DSM-V and ICD-11**

November 5 – 7, 2009
Pre-Meeting Institutes
November 4

The Westin Peachtree Plaza
Atlanta, Georgia USA

www.istss.org

Silver Anniversary Meeting

Come for the Meeting, Stay for the Celebration!

This November, ISTSS will hold its 25th Silver Anniversary Meeting in Atlanta, Georgia. Themed, **Traumatic Stress Disorders: Toward DSM-V and ICD-11,** the meeting will provide an opportunity to celebrate the society's many contributions to the field of traumatic stress studies and a chance to consider where the field is headed.

Join us at the Westin Peachtree Plaza in Atlanta, Georgia, November 5-7, 2009. Pre-Meeting Institutes will be held November 4.

Registration will be available in July!

Plan to attend the ISTSS Saturday Evening Celebration!
When making your travel and hotel arrangements, be sure to plan to stay overnight Saturday to take part in the 25th Silver Anniversary celebration as ISTSS honors past and current leadership.

Presidential Activities
ISTSS has several other exciting things planned to help celebrate its Silver Anniversary, including:

International Society for Traumatic Stress Studies Over Time
This panel includes presidents from the past who very much are involved in the unfolding of the field.

Issues in the Field of Traumatic Stress Through the Eyes of Previous ISTSS Presidents
This panel will synthesize trends in the field of traumatic stress from the past 25 years.

25th Annual Meeting Keynote Address

Redesigning PTSD with Empirical Data: Implications for DSM-V

Darrel Regier, MD, MPH
Executive Director, American Psychiatric Institute for Research and Education and Director, Division of Research, American Psychiatric Association, Arlington, Virginia, USA

Call for Award Nominations – Deadline June 1, 2009

Each year ISTSS recognizes member achievements through its awards program. The 2009 Awards Committee, chaired by Karestan Koenen, PhD, seeks nominations for this year's awards.

Please note that elected Board members are ineligible to receive Society awards. Ex-officio (non-elected) Board members are eligible to receive awards.

Nominations should include two documents: a one-page statement summarizing the major achievements of the nominee, and the nominee's summarized curriculum vitae. Send information as a Word document attachment in an e-mail to Dr. Koenen at mbuckely@istss.org.

Be sure to state the award for which your nominee should be considered. For a list of all the awards and their descriptions, visit http://www.istss.org/meetings/nominations.cfm.

2009 Travel Grants – Deadline June 17, 2009

A limited number of travel grants will be available in 2009 to support conference attendees coming from developing countries and experiencing financial hardship with fees or travel costs. The travel grants are supported by voluntary contributions from ISTSS members. If you would like to donate to the travel grant fund, or apply to receive a travel grant, visit the http://www.istss.org/meetings/travelgrant.cfm.

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Upcoming Events

June 10-12, 2009
1st Colloque International de Psychotraumatologie et Victimologie
Le trauma: un symptôme de notre civilisation?
Paris - ASIEM
www.psychomediamagazine.fr

June 15-18, 2009
The Norwegian Centre for Violence and Traumatic Stress Studies hosts the
11th European Conference on Traumatic Stress (11th ECOTS)
Oslo, Norway
www.ecots2009.com

June 24 to 26, 2009
X International Congress on Traumatic Stress
Panamericano Hotel & Resort - Buenos Aires, Argentina
 www.psicotrauma.org.ar

June 28 – 30, 2009: International Conference on Trauma in Early Childhood
June 30 – July 1, 2009: Treating the Spectrum of Traumatic Dissociation
July 1-14, 2009: Trauma and Resilience: Theory and Practice from the Israeli
Experience Summer Course
The Israel Center for the Treatment of Psychotrauma, Herzog Hospital in Jerusalem
www.traumaweb.org

July 23-26, 2009
40th Annual ISPNE Conference:
Modern Psychoneuroendocrinology: Interactions with Genes, Health, and Longevity
San Francisco, CA
www.ispne.org

July 30 - August 1, 2009
Changes in AttitudesChanges in Latitudes: *Bridging the Divide between Medical and Behavioral Health*
Marriott Hotel
Colorado Springs, Colorado

Friday, October 9, 2009
Cleveland Clinic's Neurological Institute Upcoming PTSD and Anger & Rage Events
Anger & Rage Symposium
Embassy Suites
Independence, Ohio
www.clevelandclinicmeded.com<UrlBlockedError.aspx

November 5-7, 2009
ISTSS 25th Annual Meeting
with Pre-Meeting Institutes Nov. 4
The Westin Peachtree Plaza
Atlanta, Georgia, USA
www.istss.org

April 8-10, 2010
European Society for Trauma and Dissociation International Conference
Queens University Belfast, Northern Ireland
http://www.estd.2010.org

April 19, 2010
ISTSS Psychotraumatology Meeting
Zürich World Trade Center
Zürich, Switzerland