

**Multimodal Approach to the Promotion of Evidence-Based Practice in the Assessment
of Anxiety Disorders**

Diogo Araújo DeSousa

Doctoral Dissertation advised by Prof. Dr. Silvia Helena Koller and
coadvised by Prof. Dr. Giovanni Abrahão Salum

Federal University of Rio Grande do Sul
Institute of Psychology
Post-Graduate Program in Psychology
Porto Alegre – RS, Brazil, May 2016

Aos meus pais, Moacir e Suely, pelo eterno
amor e suporte.

À ansiedade e ao medo que, na medida certa,
impulsionaram um jovem a se preparar e
vencer os desafios de uma jornada acadêmica.

AGRADECIMENTOS

A Deus, que ouviu tantas preces durante esses anos de aprendizado em terras gaúchas. Pelo amparo espiritual, meu guia dos momentos simples aos mais desafiadores.

Aos meus pais, Moacir e Suely, que sempre me ofereceram as melhores condições de vida de que um filho pode precisar. Pelo incentivo a estudar sempre mais e por todo o amor e suporte. Ao meu irmão, Rafael, que me acompanha em nossa jornada rumo à vida adulta, dividindo o futuro da família Araújo de Sousa.

Aos meus grandes velhos amigos, que sustentaram o apoio fraterno e fizeram florescer a amizade mesmo com tantos quilômetros de distância. Por nossa amizade, muito obrigado, Txi, Rafinha, Daniel, Ataídes, Helder, Henrique, Gui, Marcelinho, Rafa, e todos os outros grandes amigos com quem tenho o prazer de contar. A Txi, obrigado por ter durante dois anos compartilhado a vida comigo sob o mesmo teto, aturando as loucuras e rotinas de um estudante de doutorado, fazendo eu me sentir em casa sempre que voltava da universidade, espantando a solidão e zerando jogos. Melhor melhor amigo não há. Aos demais, não preciso dizer muito mais que “AMICS, e assim será”.

Aos amigos que fiz em terras gaúchas, e que carregarei comigo para sempre. Ao G9, que, mesmo de longe agora nestes anos de doutorado, sempre deu um jeito de estar ‘por perto’. Pela parceria, obrigado a todos vocês. Em especial a André, que, além de grande amigo, tornou-se um gigante parceiro de trabalho e coautor de artigos nesta tese. O que desejar além de “muita luz no nosso caminhar”?

A Cris, o galego que entrou na minha vida justamente nesses últimos meses turbulentos que antecedem a defesa de uma tese. Por todo o carinho e apoio que, em tão pouco tempo, já me fazem tão bem.

Aos amigos da família cepiana, que, desde a minha chegada a Porto Alegre, estiveram sempre de mãos estendidas, com sorrisos acolhedores, prontos para amparar no que fosse necessário, da vida acadêmica à vida pessoal. Foram cinco anos em que tantos cruzaram essa família. “Uma vez cepiano, sempre cepiano”. Um obrigado do fundo do peito para cada um de vocês. Tantos, que citar todos os nomes e a importância de cada um na minha trajetória seria escrever uma nova tese. Mas registro aqui um espaço àqueles que cuidaram dos momentos de maior coração apertado, que me fazem lembrar sempre o quanto o doutorado me ensinou não só em termos acadêmicos, mas em aprendizado na prática sobre como lidar com o medo e a ansiedade. A Airi, guria, pelos abraços carinhosos e pelos puxões de orelha. Você sempre será um modelo de profissional para mim. A Evita, por me fazer acreditar no

meu potencial e buscar sempre ir além com nossas conversas. A Jean, grande amigão, por todo o estímulo e por dividir comigo as angústias de ser doutorando. A Lu Thomé, pela parceria nos convites acadêmicos, que contigo e com nossos amigos se tornavam tão leves.

Ainda frutos da família cepiana, agradecimentos especiais ao IC, quer dizer, a Anderson, por uma parceria que começou lá atrás no mestrado e que perdura hoje como uma baita amizade pro que der e vier. Pela companhia, pelos trabalhos juntos, pelos jogos, pelos conselhos, e até mesmo pela suposta influência para o lado negro da força. A Su, amiga, conselheira, parceira de trabalhos, companheira de viagens, entusiasta de pizzarias, lanchonetes e afins. A você, bola, meu muito obrigado todos os dias, de coração. A Clá, que embarcou comigo lá atrás no início de um mestrado, há cinco anos, e sempre cuidou tão bem de mim. É mágica a sua capacidade de perceber a necessidade do outro, mesmo antes de ele pedir, e estender o braço para ajudar. Eu não poderia ter encontrado uma parceira melhor para terminar comigo essa caminhada com um ano de antecedência do previsto! A Mi, por me ensinar, em uma conversa de uma hora, mais do que eu aprendo um dia inteiro lendo artigos científicos. Pelos sorrisos, abraços, filmes indianos, ombros para chorar. Por ser essa vizinha maravilhosa que você foi me ajudando na reta final do doutorado. A Vini, que surgiu nos meus últimos meses em Poa, por ter cumprido tão bem a missão de me fazer companhia, pelos jogos, discussões acaloradas, seriados e risadas. A todos vocês, meus queridos amigos, não caberia nas páginas desta tese a gratidão que vocês merecem. Juro que tentei, mas não há mesmo palavras para expressar a importância de vocês nesses anos de doutorado.

Aos meus queridos ICs. Sem vocês certamente este trabalho não estaria pronto. Que orgulho eu tenho de ver cada um de vocês brilhando nas suas áreas como alunos-destaque, profissionais competentes, e até mestranda! Aninha, Kim, Lu e Thayná, quantas coletas, quantos trabalhos. Especialmente a Lu, peço desculpas por quantas vezes te sobrecarreguei, mas ressalto o orgulho de ver que sempre cumpriu suas tarefas com primor. A Felipe, o obrigado é especial, mas não reforçarei você muito por aqui, porque esse esquema amizade-IC tem funcionamento próprio. Só saiba que sou muito grato por Tiago ter me apresentado àquele estudante de ensino médio que queria fazer psicologia. Não fazia ideia naquele momento de que eu tinha sido apresentado ao cara que hoje seria quem você é: Brodaço. A Rachel, minha querida intercambista escocesa, para quem fui indicado como mentor, sem nem direito saber o que isso significava! Obrigado por aturar o seu mentor desastrado, pelo suporte que deu às coletas, e por ser hoje uma amiga transcontinental para a vida.

E a família cepiana não termina enquanto o agradecimento mais do que especial não for dado a duas figuras ilustres: Silvia Koller e Circe Petersen. Chefas queridas, mãezonas e

grandes mentoras. A ti, Chefa, muito obrigado por ter aberto os braços para mim em 2010, lá no Congresso da SBP em Curitiba. Foi o momento em que eu soube que podia me aventurar e ir para Poa. Desde lá, pelos dois anos do mestrado e os três do doutorado, a certeza de que eu estava amparado na vida acadêmica pela tua magia de bruxa sempre esteve comigo. E pelo visto funcionou! A ti, Circe, por me ensinar tanto com sua mega experiência clínica e de vida, e por acreditar no baiano que entrou no CEP-Rua para ser seu auxiliar de pesquisa e se tornou teu discípulo nos estudos sobre ansiedade.

Aos colegas e amigos do PROTAIA, pelo acolhimento e por todas as oportunidades. Sem dúvida, o Hospital de Clínicas de Porto Alegre tem muita sorte de ter um grupo tão variado de profissionais de tamanha excelência! Ou, melhor ainda, agora dois grupos, com a Seção de Afeto Negativo e Processos Sociais caminhando a passos largos. Aqui, o meu agradecimento aos colegas ICs, mestrandos e doutorandos com quem tive o prazer de trabalhar. Dentre os tantos, Natan, Luiza, Arthur, Rudi, Natasha, Maurício, Ana, Rachel, e todo o pessoal! Com toque especial, um big obrigado para a professora Gisele, pelos sorrisos, pelas revisões, pela atenção, pelas discussões, e por ter acolhido o “intruso” do PPG de Psicologia no seu grupo e nas suas pesquisas.

Com direito a parágrafo próprio, minha gratidão a você, Giovanni, tão grande quanto todas as coisas que me ensinou (e todos os trabalhos e puxões de orelha também). Meu co-orientador é certamente o melhor co-orientador de todos, com uma baita de uma significância estatística e um tamanho de efeito gigante. O que você me ensinou neste anos é incalculável. Por isto serei eternamente grato. E o quão recompensador não era, ao final de umas vinte versões e pedidos de revisão, te ouvir dizendo que “agora tá bom” ou “pode submeter”. Muito obrigado, meu caro, por ser quem eu precisei que você fosse para me conduzir nos estudos. E tudo isso com um toque de “cuidarei dos meus protegidos” que quem te conhece sabe apreciar. Se um dia eu chegar perto do profissional e mentor que você é, já terei zerado a vida acadêmica umas duas vezes, no level hard.

Aos professores do PPG em Psicologia da UFRGS, por compartilharem seus conhecimentos e experiências para contribuir com a formação dos pós-graduandos desse programa. Especialmente à professora Clarissa, por ter aceitado com tamanha boa vontade ser novamente a relatora do meu trabalho. Desde o mestrado que tenho como certo que não encontraria uma relatora com quem me sentisse tão à vontade e que tivesse me ajudado tanto quanto você me ajudou. Peço desculpas pelo enjoo, mas te digo que se precisasse a convidaria mais umas dez vezes para ser minha relatora, pois não consigo cogitar escolha mais acertada.

Aos demais membros da banca: professor Maycoln e professor Rohde. Muito obrigado por aceitarem ler este trabalho, desde o projeto até esta versão final, e por compartilhar o conhecimento de vocês para auxiliar na minha formação. Obrigado, professor Maycoln, por ser esse parceiro cepiano desde o mestrado, ensinando-me como me tornar um bom pesquisador psicólogo no campo da psicopatologia no Brasil. Obrigado, professor Rohde, por encontrar um espaço na sua agenda, sempre superlotada, para oferecer suas contribuições a este trabalho. Afirmo com toda a segurança que a satisfação que terei com esta banca de peso será tão grande ou mesmo maior que a satisfação que tenho agora em ver o trabalho concluído. Vocês dois são modelos de pesquisadores e profissionais para mim, e tenham a certeza de que a escolha foi feita a dedo, e sem second thoughts.

Tal qual no mestrado, não posso deixar de agradecer ao Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq). Sem o auxílio financeiro desta importante instituição, o nordestino que veio até o Sul completar seus estudos de pós-graduação teria voltado para sua terra assim que chegaram as primeiras contas de fim do mês.

A todos os participantes dos estudos que compõem esta tese. A vocês que dividiram conosco suas angústias e medos para a realização deste trabalho. Vocês são a razão pela qual valeram a pena os anos debruçado sobre artigos, instrumentos, dados, e toda a parafernália necessária para que hoje eu pudesse defender o doutorado. A relevância científica de um estudo só tem sentido quando acompanhada da sua relevância social. O meu muito obrigado, com a esperança de que tenhamos feito uma diferença positiva para a vida de cada um de vocês, assim como vocês fizeram para o meu trabalho e e minha vida.

Por fim, deixo o registro do meu agradecimento a todos que, aqui mencionados ou não (nunca tive a melhor das memórias), estiveram comigo nesta jornada por um doutorado em um programa CAPES 7. Um “Muito obrigado!” e até a próxima.

“Fear of danger is ten thousand times more terrifying than danger itself, when apparent to the eyes; and we find the burden of anxiety greater, by much, than the evil which we are anxious about.”

(Robinson Crusoe, in Robinson Crusoe, by Daniel Defoe)

“Every decision you make is a product of fear... You married your wife because you were scared of dying alone. You had children because you’re scared you won’t leave behind anything important. You go to doctors because you’re scared of dying... Need I go on?”

(The Scarecrow, in Batman: Arkham Asylum, by Paul Dini)

“You have plenty of courage, I am sure,” answered Oz. ‘All you need is confidence in yourself. There is no living thing that is not afraid when it faces danger. The true courage is in facing danger when you are afraid, and that kind of courage you have in plenty.’”

(Oz, in The Wizard of Oz, by L. Frank Baum)

SUMMARY

ABSTRACT	14
RESUMO	15
CHAPTER I. INTRODUCTION	16
CHAPTER II. STUDY 1: PSYCHOMETRIC PROPERTIES OF THE DIMENSIONAL ANXIETY SCALES FOR DSM-5 IN A BRAZILIAN COMMUNITY SAMPLE	21
Methods	24
Participants and Procedures	24
Instruments	24
Data Analysis	25
Results.....	28
Descriptive Statistics	28
Factor Structure	28
Measurement Invariance	30
Internal Consistency and Composite Reliability	30
Test-retest Reliability	30
Convergent and Divergent Validity	32
Category Thresholds and Item Response Theory Parameters.....	33
Discussion.....	37
References.....	41
CHAPTER III. STUDY 2: THE YOUTH ANXIETY MEASURE FOR DSM-5 (YAM-5)...	44
Method	49
Face Validity Checks	49
Suitability and Reliability of the YAM-5.....	49
Results.....	51
Initial Face Validity Check by Research Experts.....	51
Construction of the Final Version of the Questionnaire	59
Second Face Validity Check by Clinicians	60
Suitability and Reliability of the YAM-5.....	63
Discussion.....	67
References.....	70
CHAPTER IV. STUDY 3: ASSESSMENT OF ANXIETY SEVERITY AND IMPAIRMENT IN COMMUNITY AND CLINICAL CONTEXTS.....	74

Method	77
Participants and Procedures	77
Instruments	78
Data Analysis	79
Results.....	81
Factor Structure and Composite Reliability	81
Distribution of the OASIS Scores	81
Discriminant Validity for Community and Clinical Samples	81
Discriminant Validity for Various Levels of Anxiety Disorders Severity.....	83
Test-retest Reliability	83
Item Response Theory Analyses	83
Discussion.....	87
References.....	90
CHAPTER V. STUDY 4: SCREEN FOR CHILD ANXIETY RELATED EMOTIONAL DISORDERS: ARE SUBSCALE SCORES RELIABLE? A BIFACTOR MODEL ANALYSIS	93
Method.....	96
Participants and Procedures	96
Instrument.....	96
Data Analysis	97
Results.....	99
Discussion.....	103
References.....	105
CHAPTER VI. STUDY 5: COMMUNITY TRIAL OF THE FRIENDS FOR LIFE PREVENTION PROGRAM WITH CHILDREN AT RISK FOR INTERNALIZING DISORDERS	107
Methods	110
Participants and Procedures	110
Intervention (The FRIENDS for Life Program).....	111
Measures.....	112
Data Analysis	113
Results.....	114
Discussion.....	116
References.....	120

CHAPTER VII. BOOK CHAPTER: ESCALAS DE AVALIAÇÃO DE SINTOMAS DE ANSIEDADE NA INFÂNCIA E ADOLESCÊNCIA: SCARED, SCAS-BRASIL E CASI	125
Screen For Child Anxiety Related Emotional Disorders	126
Versões	126
Descrição do Instrumento.....	126
Público-Alvo	128
Aplicação.....	128
Interpretação das Pontuações	128
Parâmetros Psicométricos da Versão Original e da Versão em Português	129
Escala Spence De Ansiedade Infantil	130
Versões	130
Descrição do Instrumento.....	131
Público-Alvo	132
Aplicação.....	132
Interpretação das Pontuações	132
Parâmetros Psicométricos da Versão Original e da Versão em Português	132
Childhood Anxiety Sensitivity Index	134
Versões	134
Descrição do Instrumento.....	135
Público-Alvo	135
Aplicação.....	135
Interpretação das Pontuações	135
Parâmetros Psicométricos da Versão Original e da Versão em Português	135
Fatores que Afetam a Pontuação das Escalas	136
Considerações Finais	136
Formas de Aquisição	137
Referências.....	138
CHAPTER VIII. DISCUSSION AND CONCLUSION	140
REFERENCES	144

LIST OF TABLES

CHAPTER II. STUDY 1: PSYCHOMETRIC PROPERTIES OF THE DIMENSIONAL ANXIETY SCALES FOR DSM-5 IN A BRAZILIAN COMMUNITY SAMPLE

Table 1. Descriptive statistics of the Dimensional Anxiety Scales and other self-report measures	28
Table 2. Fit indices of the Dimensional Anxiety Scales unidimensional models tested by means of Confirmatory Factor Analysis (CFA) and Multigroup CFA	29
Table 3. Confirmatory Factor Analysis (CFA) factor loadings and Category Thresholds (Difficulty/Severity) of the Dimensional Anxiety Scales items	31
Table 4. Reliability coefficients of the Dimensional Anxiety Scales unidimensional models: Cronbach's α for internal consistency; Raykov's Ω for model-based composite reliability; and Intraclass Correlation Coefficient (ICC) for test-retest reliability	33
Table 5. Pearson correlations between convergent and divergent validity instruments	33

CHAPTER III. STUDY 2: THE YOUTH ANXIETY MEASURE FOR DSM-5 (YAM-5)

Table 1. Results of the face validity check of the initial pool of 74 YAM-5 items as performed by the international panel of research experts (N = 44) on childhood anxiety disorders	51
Table 2. Results of the face validity check of the final 28 YAM-5-I items as performed by the clinicians as well as reliability estimates (item-total correlations and Cronbach's alpha coefficients) for various anxiety disorders subscales and the total scale as obtained in a sample of adolescents (N = 132)	61
Table 3. Results of the face validity check of the final 22 YAM-5-II items as performed by the clinicians as well as reliability estimates (item-total correlations and Cronbach's alpha coefficients) for various phobias subscales and the total scale as obtained in a sample of adolescents (N = 132)	64

CHAPTER IV. STUDY 3: ASSESSMENT OF ANXIETY SEVERITY AND IMPAIRMENT IN COMMUNITY AND CLINICAL CONTEXTS

Table 1. Demographics and Descriptive Analyzes for the Community and Clinical Samples	78
Table 2. Results of the Confirmatory Factor Analysis and Item Response Theory Analysis of the Overall Anxiety Severity and Impairment Scale (OASIS)	82
Table 3. Discriminant validity analyses of the OASIS scores between: (1) clinical versus community samples; (2) mild/moderate clinical group versus marked/severe clinical group..	83

CHAPTER V. STUDY 4: SCREEN FOR CHILD ANXIETY RELATED EMOTIONAL DISORDERS: ARE SUBSCALE SCORES RELIABLE? A BIFACTOR MODEL ANALYSIS

Table 1. Fit indices for the Screen for Child Anxiety Related Emotional Disorders (SCARED) models tested by means of Confirmatory Factor Analysis	99
Table 2. Factor loadings (and standard errors), explained common variance, and reliability coefficients for the Screen for Child Anxiety Related Emotional Disorders models	101

CHAPTER VI. STUDY 5: COMMUNITY TRIAL OF THE FRIENDS FOR LIFE PREVENTION PROGRAM WITH CHILDREN AT RISK FOR INTERNALIZING DISORDERS

Table 1. Characterization of the sample	111
Table 2. Paired-sample t-tests comparing pre- and post-treatment anxiety and depression ...	113
Table 3. Predictors of response to treatment (measured by the primary outcome: comparison of pre- and post-treatment SCARED scores)	115

CHAPTER VII. BOOK CHAPTER: ESCALAS DE AVALIAÇÃO DE SINTOMAS DE ANSIEDADE NA INFÂNCIA E ADOLESCÊNCIA: SCARED, SCAS-BRASIL E CASI

Quadro 10.5.1. Instruções, exemplos de itens e itens pertencentes a cada fator da SCARED e da SCAS	127
Tabela 10.5.1. Escore total da SCAS-Brasil por subgrupos clínicos com diferentes níveis de gravidade (CGI) e grupo de comparação comunitário	133

LIST OF FIGURES

CHAPTER II. STUDY 1: PSYCHOMETRIC PROPERTIES OF THE DIMENSIONAL ANXIETY SCALES FOR DSM-5 IN A BRAZILIAN COMMUNITY SAMPLE

Figure 1. Item response curves (IRCs) of the Social Anxiety Disorder Dimensional Scale (SAD-D)	34
Figure 2. Item response curves (IRCs) of the Panic Disorder Dimensional Scale (PD-D)	35
Figure 3. Test Information Function (TIF) curves of the Dimensional Anxiety Scales	35

CHAPTER IV. STUDY 3: ASSESSMENT OF ANXIETY SEVERITY AND IMPAIRMENT IN COMMUNITY AND CLINICAL CONTEXTS

Figure 1. Test Information Function of the Overall Anxiety Severity and Impairment Scale (OASIS) total score	84
Figure 2. Item Information Curves of the Overall Anxiety Severity and Impairment Scale (OASIS) items	84
Figure 3. Item Characteristic Curves of the Overall Anxiety Severity and Impairment Scale (OASIS) items	85
Figure 4. Histograms comparing the Overall Anxiety Severity and Impairment Scale (OASIS) on distributional properties of its raw summed and IRT-based scores	86

CHAPTER VI. STUDY 5: COMMUNITY TRIAL OF THE FRIENDS FOR LIFE PREVENTION PROGRAM WITH CHILDREN AT RISK FOR INTERNALIZING DISORDERS

Figure 1. Severity of pre-treatment anxiety as predictor of response to treatment	115
---	-----

ABSTRACT

This Dissertation is composed of five studies and a book chapter about a variety of research designs and methodologies aiming to promote evidence-based practice in the assessment of anxiety disorders. This multimodal approach encompasses works related to six guidelines. First, Theoretical Updating and Upgrading: Study 1 investigates the psychometric properties of the DSM-5 Dimensional Anxiety Scales in Brazil. Second, International Collaboration: Study 2 reports on the development of the Youth Anxiety Measure for DSM-5, a project uniting fifty researchers, from all five continents. Third, Harm Assessment: Study 3 describes the use of the Overall Anxiety Severity and Impairment Scale to measure anxiety-related impairment in community and clinical settings, complementing the mere assessment of frequency and intensity of symptoms. Fourth, Mathematical and Statistical Refinement: Study 4 investigates the reliability of the subscale scores in the Screen for Child Anxiety Related Emotional Disorders through the use of a bifactor model confirmatory factor analysis. Fifth, Evidence from Intervention: Study 5 tests the effectiveness of the Friends for Life prevention program with children at risk for internalizing disorders, using two well-established childhood anxiety measures. Sixth, Spreading of Science: the Book Chapter describes three scales for assessing anxiety symptoms in childhood and adolescence and is published in a comprehensive and didactic manual about assessment instruments in mental health disseminated among students, researchers, clinicians and practitioners in the mental health field. Altogether, the works covering these six guidelines (THEMIS statement) constitute a multimodal approach to the promotion of evidence-based practice in the assessment of anxiety disorders.

Keywords: anxiety; assessment; anxiety disorders; evidence-based practice.

RESUMO

Esta tese é composta por cinco estudos e um capítulo de livro acerca de variados delineamentos e metodologias de pesquisa com o objetivo de promover práticas baseadas em evidências na avaliação de transtornos de ansiedade. Essa abordagem multimodal engloba trabalhos relacionados a seis diretrizes. Primeiro, Atualização Teórica: o Estudo 1 investiga as propriedades psicométricas das Escalas Dimensionais de Ansiedade do DSM-5 no Brasil. Segundo, Colaboração Internacional: o Estudo 2 relata o desenvolvimento da Medida de Ansiedade na Juventude para o DSM-5, um projeto unindo cinquenta pesquisadores, de todos os cinco continentes. Terceiro, Avaliação de Prejuízos: o Estudo 3 descreve o uso da Escala Geral de Gravidade e Prejuízo da Ansiedade para a mensuração de prejuízos relacionados à ansiedade em contextos comunitário e clínico, complementando a mera avaliação de frequência e intensidade de sintomas. Quarto, Refinamento Matemático e Estatístico: o Estudo 4 investiga a confiabilidade dos escores das subescalas da Screen for Child Anxiety Related Emotional Disorders por meio do uso de uma análise fatorial confirmatória com modelo bifator. Quinto, Evidências de Intervenções: o Estudo 5 testa a efetividade do programa de prevenção Friends for Life com crianças em risco para o desenvolvimento de transtornos internalizantes, por meio do uso de duas medidas bem-estabelecidas de ansiedade na infância. Sexto, Divulgação da Ciência: o capítulo de livro descreve três escalas para a avaliação de sintomas de ansiedade na infância e adolescência e está publicado em um manual abrangente e didático acerca de instrumentos de avaliação em saúde mental, disseminado entre estudantes, pesquisadores, clínicos e profissionais da área da saúde mental. Em conjunto, os trabalhos cobrindo essas seis diretrizes (*THEMIS statement*) constituem uma abordagem multimodal para a promoção de práticas baseadas em evidência na avaliação de transtornos de ansiedade.

Palavras-chave: ansiedade; avaliação; transtornos de ansiedade; prática baseada em evidências.

– CHAPTER I –

INTRODUCTION

Anxiety and fear are natural conditions to human life. They encompass affective, behavioral, cognitive, physiological, and neurological features responsible for preparing to danger and threatening situations by modulating the individual's perception of the environment, eliciting specific responses and leading to certain types of action (Clark & Beck, 2012; Craske et al., 2009). Anxiety is a future-oriented emotional state, characterized by symptoms of physical tension, apprehension associated with not being able to control or predict a potential adverse event, and a shift in the attentional focus to the adverse event or to the emotional responses that it elicits. Fear is an immediate alarm response to a present or imminent adverse event, characterized by strong physiological excitement and a tendency to escape or avoidance behavior (Barlow & Durand, 2008; Craske et al., 2009).

Despite being natural human emotions, in some cases, individuals experience persistent anxiety and fear, with high intensity and not proportional to the eliciting event or in situations in which they are not adaptive. When this experience also causes significant distress and impairment in the individual's normal functioning, an anxiety disorder is characterized (Barlow & Durand, 2008; Craske et al., 2009). Anxiety disorders are the most common group of psychiatric disorders (Hollander & Simeon, 2008; Kessler, Chiu, Demler, Merikangas, & Walters, 2005), with a prevalence of 5.6% to 18.1% in general population, depending on the age range and the country (Baumeister & Härter, 2007), and are associated with chronicity throughout the lifespan when not treated (Kessler et al., 2005).

Given these characteristics, valid and reliable instruments to the assessment of anxiety disorders are highly needed. Evidence-based practice in psychology demands that clinical tasks such as the assessment of anxiety symptomatology are fulfilled with instruments integrating the best available research evidence. The importance of evidence-based practice in psychology is reflected in the promotion of effective psychological practice and enhancement of public health with the use of empirically supported principles of psychological assessment and intervention (American Psychological Association, 2005). As multifaceted phenomena, anxiety disorders are assessed by various different approaches and instruments (Craske et al., 2009). Therefore, promoting evidence-based practice in the assessment of anxiety disorders requires efforts from a multimodal perspective. Clinicians, researchers, and other practitioners must consider the scientific results about these assessment instruments drawn from research in

the laboratory and field settings relying on a variety of designs and methodologies (American Psychological Association, 2005). They can then guarantee consistent and reliable data to professionals in the fields of anxiety research and treatment and, as the ultimate goal, benefits to the individuals that suffer from the consequences of anxiety disorders.

Stating the importance of reviewing evidence from scientific research, in 2013 the American Psychiatric Association published the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The DSM-5 presents up-to-date evidence-based diagnostic criteria defining a wide variety of mental disorders currently studied around the globe (American Psychiatric Association, 2013). Regarding the assessment of symptomatology of these disorders, the current edition of the DSM emphasizes the use of dimensional measures to complement categorical diagnoses, to which all previous editions were limited. Because of that, the DSM-5 Anxiety, OC Spectrum, Post-traumatic, and Dissociative Disorder Work Group developed a series of dimensional scales intended to providing a continuous description of anxiety disorders and scores of frequency and intensity of symptoms (LeBeau, Glenn, Hanover, Beesdo-Baum, Wittchen, & Craske, 2012). The Dimensional Anxiety Scales are a series of five brief 10-item questionnaires that exemplifies the **theoretical updating and upgrading** endeavors in the field of evidence-based assessment of anxiety disorders. In this Dissertation, to foment the theoretical updating and upgrading brought by the DSM-5 in Brazil, the Study 1, reported in Chapter II, investigated the psychometric properties of the Dimensional Anxiety Scales in a large Brazilian community sample. The study was designed to offer Brazilian researchers and practitioners a valid and reliable alternative to assess anxiety symptomatology according to theoretically updated evidence.

The development of the Dimensional Anxiety Scales also illustrates a catalytic strategy of promotion of evidence-based practice in the assessment of anxiety disorders: **international collaboration**. The DSM-5 Anxiety, OC Spectrum, Post-traumatic, and Dissociative Disorder Work Group was composed of researchers from various parts of the world sharing knowledge about their research to achieve a common goal. Nonetheless, since these scales were developed mainly for use with adults and tested with adult populations (e.g., Beesdo-Baum et al., 2012; LeBeau et al., 2012; Möller, Majdandžić, Craske, & Bögels, 2014), youth anxiety required a similar update. Therefore, members of the International Child and Adolescent Anxiety Assessment Expert Group (ICAAAEG) worked together on the development of the Youth Anxiety Measure for DSM-5. In this Dissertation, to exemplify advances on evidence-based practice in the assessment of anxiety disorders brought by

international collaboration efforts, the Study 2, reported in Chapter III, describes the development of the Youth Anxiety Measure, an instrument developed to assess anxiety symptomatology in childhood and adolescence from a dimensional perspective in line with DSM-5 criteria. The study united the collaboration from fifty experts on childhood anxiety, members of the ICAAAEG, from all five continents.

Both the Dimensional Anxiety Scales and the Youth Anxiety Measure focus on the ratings of frequency and intensity of anxiety symptoms. Nonetheless, DSM-5 diagnostic criteria for all anxiety disorders consider the presence of anxiety-related impairment and distress as necessary for the diagnosis of the mental disorder. Because of this feature, the German version of the Dimensional Anxiety Scales (Beesdo-Baum et al., 2012) tested expanding the questionnaires to 12 items by adding two extra items to assess anxiety-related impairment and distress. Psychometric properties of the 12-item version were comparable to the 10-item one (Beesdo-Baum et al., 2012). In spite of that, the final version of the scales presented with the manual publication suppressed the two extra items and maintained the original 10-item template for all scales. Therefore, even when applying these updated measures, it is still necessary to have another specific instrument to include the assessment of anxiety-related impairment. Functional impairment caused by anxiety symptoms is as clinically important as the frequency and intensity of the symptoms (Campbell-Sills et al., 2009; Norman, Hami-Cissell, Means-Christensen, & Stein, 2006), which is reflected in the consideration of impairment (**harm assessment**) for the diagnosis of an anxiety disorder according to DSM-5 criteria. In this Dissertation, to provide a tool for the purpose of harm assessment related to anxiety symptomatology, the Study 3, reported in Chapter IV, investigated the adequacy of the Overall Anxiety Severity and Impairment Scale (OASIS; Norman et al., 2006) as a measure of anxiety-related severity and impairment in Brazilian population, in community and in clinical settings. The study was designed to offer Brazilian researchers and practitioners a brief 5-item measure that considers harm assessment within the context of evidence-based measurement of anxiety disorders.

The three previously described studies share characteristics of psychometric studies examining the adequacy of measurement instruments. Psychometrics relies heavily on mathematical and statistical tools for investigating the validity and reliability of the instruments. It is true that some types of psychometric characteristics are based on more theoretical assumptions, such as content validity (Pasquali, 2009), but most of the evidence presented in psychometric investigations come from statistical analyses (Pasquali, 2009; Primi, 2010). Therefore **mathematical and statistical refinement** seems to be a guideline as

important as theoretical updating and upgrading to promote evidence-based practice in the assessment of anxiety disorders. In this Dissertation, to test the possibilities of advances in scientific evidence that emerge from statistical refinement, the Study 4, reported in Chapter V, investigated the utility of subscale scores for the self-report version of the Screen for Child Anxiety Related Emotional Disorders (SCARED) in a bifactor model analysis. The SCARED (Birmaher et al., 1997, 1999) is one of the most used scales to measure anxiety symptoms in childhood around the world. Largely recognized as a valid and reliable instrument, the SCARED was conceptualized as having five factors, tested and supported by traditional methods in statistics. Therefore, the scale is scored simultaneously as five subscale scores and a summed up total score of anxiety. However, this approach generates interpretation ambiguity since it does not separate the specific contributions of each domain or subscale from the general factor. The study addresses this research question examining the measurement of the latent psychological construct of anxiety at different levels of the construct hierarchy by using a bifactor model analysis, i.e., a refined statistical model not yet tested for the SCARED.

One of the primary goals involved in the development and investigation of adequacy of anxiety assessment instruments is to provide tools to identify mentally-ill subjects or individuals at risk for developing mental disorders. Results of psychological and psychiatric assessments facilitated by these instruments underlie the referral of the subjects to a suitable treatment by clinicians and other practitioners. Anxiety assessment instruments are then used for another purpose: evaluating the effectiveness of the intervention and response to treatment in terms of improvements in mental health achieved during and after the intervention. Evidence-based practice in the assessment of anxiety disorders must, therefore, include instruments that have proven their utility in intervention and treatment studies. Seeking for **evidence from intervention** is a fruitful approach to promote evidence-based practice. In this Dissertation, to demonstrate how evidence from intervention can further attest the suitability of an anxiety assessment instrument, the Study 5, reported in Chapter VI, tested the effectiveness of the Friends for Life program using two measures of childhood anxiety: the SCARED and the Spence Children's Anxiety Scale (SCAS; Spence, 1997, 1998). The study was designed to test the effectiveness of the Friends for Life as a manualized prevention protocol applied to children at risk for the development of internalizing disorders (Barrett, Farrell, Ollendick, & Dadds, 2006). If both measures of anxiety indicate similar results of effectiveness and consistent moderators of response to treatment, the evidence from

intervention supports the use of these measures for evidence-based practice in the assessment of anxiety disorders.

In summary, evidence-based practice in the assessment of anxiety disorders can be drawn from scientific research that follows theoretical updates and upgrades, conducted by internationally joint efforts, including not only assessment of frequency and intensity of symptoms but also related impairment, tested by means of refined mathematical and statistical methods, and applied in intervention programs. Nonetheless, to achieve the ultimate goal of spreading benefits to the individuals that suffer from the consequences of anxiety disorders, this effort needs to go beyond the research and academic world, and be translated into everyday practice. In Brazil, spreading scientific knowledge through articles published in international journals, most of the times written in English, is unfeasible. Most private colleges and universities do not have free access to online scientific databases, and practitioners many times do not comprehend the English language. The **spreading of science** in these cases is largely operationalized by professors through classes and other speeches, in national and regional conferences and other scientific events, and through books, handbooks, and other manuals written in Brazilian-Portuguese as teaching material to be used in colleges and universities and by clinicians and practitioners on their daily routine. In this Dissertation, to illustrate a project of dissemination of evidence-based research and findings to a broader community of Brazilian practitioners, Chapter VII reproduces a Book Chapter that describes in didactic detail how to use three evidence-supported scales for assessing anxiety symptoms in childhood and adolescence. The book chapter was designed as part of a published comprehensive and didactic manual about assessment instruments in mental health to be more easily disseminated among students, clinicians and practitioners in the mental health field, expecting that this helps translating advances in scientific research into everyday practice.

Considering the six aforementioned research designs and strategies, the final objective of the present Doctoral Dissertation is to present a multimodal approach to the promotion of evidence-based practice in the assessment of anxiety disorders. This approach comprises the previously described **bold** guidelines. After the presentation of each study, in Chapter VIII, we congregate and discuss findings to reach an overall conclusion about the proposed multimodal approach as a plan of action to promote evidence-based practice in the assessment of anxiety disorders. The guidelines that compose the proposal can be easily recalled as an acronym summarizing Theoretical updating and upgrading; Harm assessment; Evidence from intervention; Mathematical and statistical refinement; International collaboration; and Spreading of science: the **THEMIS statement**.

– CHAPTER II –

STUDY 1

**PSYCHOMETRIC PROPERTIES OF THE DIMENSIONAL ANXIETY SCALES FOR
DSM-5 IN A BRAZILIAN COMMUNITY SAMPLE**

The authors of this study are Diogo DeSousa, André Moreno, Flávia Osório, José Alexandre Crippa, Richard LeBeau, Gisele Manfro, Giovanni Salum, and Silvia Koller. This study was submitted as an original article to the International Journal of Methods in Psychiatric Research and is currently under review.

Abstract

The DSM-5 highlights the use of dimensional assessments of mental health as a supplement to categorical diagnoses. This study investigated the psychometric properties of the DSM-5 Dimensional Anxiety Scales in a Brazilian large community sample. Dimensional scales for generalized anxiety disorder, social anxiety disorder, panic disorder, agoraphobia, and specific phobia were administered to 930 adults aged 18 to 70, 64.2% female. Psychometric properties investigated were: unidimensionality; measurement invariance; internal consistency; composite reliability; test-retest reliability; convergent and divergent validity; category thresholds and item response theory parameters. Analyses revealed unidimensionality for all scales except for specific phobia. Measurement invariance, high internal consistency and composite reliability, and convergent and divergent validity were demonstrated. Test-retest reliability was high for all scales but generalized anxiety disorder. Item-based analyses evidenced that none of the items was very easy to endorse and that the scales offered more information about subjects with high severity estimates of anxiety. The DSM-5 Dimensional Anxiety Scales are a valid and reliable alternative to assess anxiety symptomatology in community settings, although further evaluation is needed, especially for specific phobia. The scales seem to be more useful for characterizing dimensionality of symptoms for subclinical or clinical cases than for little or mildly anxious subjects.

Keywords: Anxiety; Anxiety Disorders; Psychometrics; Dimensional Anxiety Scales; DSM.

– CHAPTER III –

STUDY 2

**THE YOUTH ANXIETY MEASURE FOR DSM-5 (YAM-5): DEVELOPMENT OF A
NEW SCALE FOR ASSESSING ANXIETY DISORDERS SYMPTOMS OF
CHILDREN AND ADOLESCENTS IN TERMS OF THE CONTEMPORARY
PSYCHIATRIC CLASSIFICATION SYSTEM**

The authors of this study are Peter Muris (Maastricht University, The Netherlands), Ellin Simon, Hester Lijphart, and Arjan Bos (Open University, The Netherlands), William Hale III (Utrecht University, The Netherlands), Kelly Schmeitz (Virenze-RIAGG Maastricht, The Netherlands), and the other members of the International Child and Adolescent Anxiety Assessment Expert Group (ICAAAEG). Besides the previously cited authors, the ICAAAEG consists of Anne Marie Albano (Columbia University, USA), Yair Bar-Haim (Tel Aviv University, Israel), Katja Beesdo-Baum (Technical University of Dresden, Germany), Deborah Beidel (University of Central Florida, USA), Patrick Bender (University of Copenhagen, Denmark), Jessica Borelli (Pomona College, USA), Suzanne Broeren (Erasmus University Rotterdam, The Netherlands), Sam Cartwright-Hatton (University of Sussex, UK), Michelle Craske (University of California, Los Angeles, USA), Erika Crawford (Temple University, USA), Cathy Creswell (University of Reading, UK), Diogo DeSousa (Federal University of Rio Grande do Sul, Brazil), Helen Dodd (University of Reading, UK), Thalia Eley (King's College London, UK), Barbara Hoff (University of Copenhagen, Denmark), Jennifer Hudson (Macquarie University, Australia), Eva de Hullu (Open University, The Netherlands), Lara Farrell (Griffith University, Australia), Andy Field (University of Sussex, UK), Lorraine Fliek (Maastricht University, The Netherlands), Luis Joaquin Garcia-Lopez (University of Jaen, Spain), Amie Grills (Boston University, USA), Julie Hadwin (University of Southampton, UK), Sanne Hogendoorn (De Bascule, The Netherlands), Jorg Huijding (Utrecht University, The Netherlands), Shin-ichi Ishikawa (Doshisha University, Japan), Philip Kendall (Temple University, USA), Susanne Knappe (Technical University of Dresden, Germany), Einar Leikanger (Norwegian University of Science and Technology, Norway), Kathryn Lester (King's College London, UK), Helene Loxton (University of Stellenbosch, South Africa), Lauren McLellan (Macquarie University, Australia), Cor Meesters (Maastricht University, The Netherlands), Maaïke Nauta (University of Groningen, The Netherlands), Thomas Ollendick (Virginia Tech University, USA), Ana Pereira (University of Lisbon, Portugal), Armando Pina (Arizona State University, USA), Ron Rapee

(Macquarie University, Australia), Avi Sadeh (Tel Aviv University, Israel), Susan Spence (Griffith University, Australia), Eric Storch (University of South Florida, USA), Leonie Vreeke (Utrecht University, The Netherlands), Polly Waite (University of Reading, UK), and Lidewij Wolters (De Bascule, The Netherlands). A copy of the manuscript is presented here for the purpose of the Dissertation composition, acknowledging the first authorship of Peter Muris.

Abstract

The Youth Anxiety Measure for DSM-5 (YAM-5) is a new questionnaire for assessing anxiety disorders symptoms in children and adolescents in terms of the contemporary classification system. International panels of childhood anxiety researchers and clinicians were used to construe a scale consisting of two parts: part one consists of 28 items and measures the major anxiety disorders including separation anxiety disorder, selective mutism, social anxiety disorder, panic disorder, and generalized anxiety disorder, whereas part two contains 22 items and is concerned with the specific phobias and (given its overlap with situational phobias) agoraphobia. In general, the face validity of the new scale was found to be good: most of its items were successfully linked to the intended anxiety disorders. Notable exceptions were selective mutism items, which were frequently considered as symptoms of social anxiety disorder, and a number of specific phobia items especially of the natural environment, situational and other type, which were regularly assigned to the wrong category. A first test of the YAM-5 in a sample of non-clinical adolescents ($N = 132$) indicated that the measure was easy to complete by the youngsters. Further, the internal consistency reliability appeared to be satisfactory for both parts as well as for most of the subscales. The YAM-5 seems to hold promise as a tool for assessing youth's levels of anxiety disorders symptoms.

Keywords: Youth Anxiety Measure for DSM-5; anxiety disorders symptoms; children and adolescents.

– CHAPTER IV –

STUDY 3

**ASSESSMENT OF ANXIETY SEVERITY AND IMPAIRMENT IN COMMUNITY
AND CLINICAL CONTEXTS**

The authors of this study are Diogo DeSousa, André Moreno, Felipe Vilanova, Flávia Osório, José Alexandre Crippa, Rachel Montagner, Rudineia Toazza, Gisele Manfro, Giovanni Salum, and Silvia Koller. This study is in preparation for submission as an original article to Psychological Assessment after the Dissertation presentation.

Abstract

The aim of the study was to investigate the adequacy of the Overall Anxiety Severity and Impairment Scale (OASIS) as a measure of anxiety-related severity and impairment in Brazilian population. Adequacy of the OASIS was investigated in terms of: factor structure and composite reliability; distribution of scores; discriminant validity differentiating community and clinically anxious subjects; discriminant validity differentiating various levels of anxiety disorders severity; test-retest reliability; and item-response theory (IRT) statistics. Participants were 142 adults composing a community sample (64.8% female; ages 18 to 58, $M_{age} = 24.64$, $SD = 7.91$) and 22 adults composing a clinical sample (90.9% female; ages 28 to 67, $M_{age} = 48.73$, $SD = 12.62$). Results indicate a single-factor structure to the OASIS, with good psychometric properties in all areas investigated, especially for discriminant validity and test-retest reliability. Nonetheless IRT results indicate that the OASIS best captures information on the right spectrum of the latent trait, so assessment of subjects with low levels of anxiety can be hindered. The OASIS offers an alternative to Brazilian researchers and practitioners of a cost-effective and brief tool to the assessment of severity of anxiety symptoms and anxiety-related impairment, in community and clinical settings.

Keywords: anxiety; anxiety disorders; impairment; Overall Anxiety Severity and Impairment Scale; psychometrics

– CHAPTER V –

STUDY 4

**SCREEN FOR CHILD ANXIETY RELATED EMOTIONAL DISORDERS: ARE
SUBSCALE SCORES RELIABLE? A BIFACTOR MODEL ANALYSIS**

The authors of this study are Diogo DeSousa, Murilo Zibetti, Clarissa Trentini, Silvia Koller, Gisele Manfro, and Giovanni Salum. This study was submitted as an original article to Journal of Anxiety Disorders and accepted for publication on October 21st, 2014. Full reference is: DeSousa, D. A., Zibetti, M. R., Trentini, C. M., Koller, S. H., Manfro, G. G., & Salum, G. A. (2014). Screen for Child Anxiety Related Emotional Disorders: Are subscale scores reliable? A bifactor model analysis. *Journal of Anxiety Disorders*, 28(8), 966-970. doi:10.1016/j.janxdis.2014.10.002. A copy of the article manuscript is presented here for the purpose of the Dissertation composition, acknowledging the copyright of Journal of Anxiety Disorders.

Abstract

The aim of this study was to investigate the utility of creating and scoring subscales for the self-report version of the Screen for Child Anxiety Related Emotional Disorders (SCARED) by examining whether subscale scores provide reliable information after accounting for a general anxiety factor in a bifactor model analysis. A total of 2,420 children aged 9 to 18 answered the SCARED in their schools. Results suggested adequate fit of the bifactor model. The SCARED score variance was hardly influenced by the specific domains after controlling for the common variance in the general factor. The explained common variance (ECV) for the general factor was large (63.96%). After accounting for the general total score ($\omega_h = .83$), subscale scores provided very little reliable information (ω_h ranged from .005 to .04). Practitioners that use the SCARED should be careful when scoring and interpreting the instrument subscales since there is more common variance to them than specific variance.

Keywords: Screen for Child Anxiety Related Emotional Disorders; factor structure; bifactor model; anxiety; psychometrics

– CHAPTER VI –

STUDY 5

**COMMUNITY TRIAL OF THE FRIENDS FOR LIFE PREVENTION PROGRAM
WITH CHILDREN AT RISK FOR INTERNALIZING DISORDERS**

The authors of this study are Diogo DeSousa, Felipe Vilanova, Kimberly Ecker, Julia Gallegos, Paula Barrett, Silvia Koller, Arlete Salcides, & Circe Petersen. This study was submitted as an original article to *Child Psychiatry and Human Development* and is currently under review.

Abstract

The aim of this study was to investigate the effectiveness of the FRIENDS for Life program in the prevention format with children at risk for internalizing disorders living in countryside areas. The study also examined the association between response to treatment and a series of individual variables. Participants were 111 children aged 7 to 12 years old ($M = 9.33$; $SD = 1.58$), 55% boys. The intervention was delivered in 10 sessions by trained teachers supervised by a clinical psychologist, in groups of six to twelve children each. There was a significant reduction in anxiety and depressive symptoms after the intervention, with a small effect size. The only predictor that demonstrated significant association with response to treatment was the severity of pre-treatment anxiety. Our results support the effectiveness of the FRIENDS for Life program in the prevention format in a new culture and a non-privileged context.

Keywords: Community Trial; FRIENDS for Life; Prevention; Children; Internalizing Disorders

– CHAPTER VII –

BOOK CHAPTER

‘ESCALAS DE AVALIAÇÃO DE SINTOMAS DE ANSIEDADE NA INFÂNCIA E ADOLESCÊNCIA: SCARED, SCAS-BRASIL E CASI’

The authors of this book chapter are Diogo DeSousa, Luciano Isolan, and Gisele Manfro. This book chapter was published in Brazilian-Portuguese in the book ‘Instrumentos de Avaliação em Saúde Mental’, edited by Clarice Gorenstein, Yuan-Pang Wang, and Ines Hungerbühler in 2016. Full reference is: DeSousa, D. A., Isolan, L., & Manfro, G. G. (2016). Instrumentos de avaliação de uso na infância e adolescência – Escalas de avaliação de sintomas de ansiedade. In C. Gorenstein, Y. Wang, & I. Hungerbühler (Eds.). *Instrumentos de Avaliação em Saúde Mental* (pp. 345-352). Porto Alegre, RS: ARTMED. A copy of the book chapter manuscript is presented here, in Brazilian-Portuguese, for the purpose of the Dissertation composition, acknowledging the copyright of Artmed Editora LTDA.

– CHAPTER VIII –

DISCUSSION AND CONCLUSION

This Doctoral Dissertation presented six studies that comprise a multimodal approach to the promotion of evidence-based practice in the assessment of anxiety disorders. The strategies in which each study was conceived include: Theoretical updating and upgrading; Harm assessment; Evidence from intervention; Mathematical and statistical refinement; International collaboration; and Spreading of science. When gathered, results presented in this Dissertation support the THEMIS statement as an effective plan of action to promote evidence-based practice in the assessment of anxiety disorders.

Each study has also advanced knowledge on the broader field of anxiety research. Besides offering evidence-based instruments to the assessment of anxiety disorders, results of Studies 1, 2, and 3 tackled theoretical and methodological issues on the field. For instance, in Study 1, results about the fit of the unidimensional models of the Dimensional Anxiety Scales suggested a strong local dependency between items related to behavioral responses for all scales. According to these data, it seems that avoidance and escape behavior are strictly connected in the configuration of anxiety disorders, and that they co-occur more strongly than with the remaining symptoms of anxiety assessed by the scales. This result strengthens the theoretical premise of avoidance as a specific criterion for each anxiety disorder, separately from cognitive and affective symptoms criteria, according to the DSM-5 (American Psychiatric Association, 2013).

Item-response theory (IRT) results from Studies 1 and 3 found similar evidence regarding test information curves of the Dimensional Anxiety Scales and the Overall Anxiety Severity and Impairment Scale (OASIS). These instruments were more informative about subjects who presented anxiety levels above the mean estimated latent traits. For subjects with low levels of the estimated latent traits, the scores seemed underrepresentative. These results suggest that anxiety scales developed to measure presence or absence of symptomatology might be better suited for differentiating subjects within the spectrum of high level of anxiety symptoms, but not for subjects with low levels of anxiety. Our data therefore warn practitioners that the Dimensional Anxiety Scales and the OASIS (or other similar instruments) seem more useful for characterizing dimensionality of symptoms in subclinical or clinical cases than in little or mildly anxious subjects.

The process of development of the Youth Anxiety Measure for DSM-5 reported in Study 2 operationalized the conceptions of evidence-based practice proposed by the task force of the American Psychological Association. The definition of evidence-based practice in psychology requires “the integration of the best available research with clinical expertise” (American Psychological Association, 2005, p. 5), which was operationalized by the two international panels of experts in Study 2, one consisting of childhood anxiety researchers and one consisting of clinicians working with this type of psychopathology in daily practice. Furthermore, the measure was also tested with young adolescents to evaluate their comprehension of the scale after experts’ judgment, respecting the assumption that evidence-based practice in psychology must consider “the context of patient characteristics, culture, and preferences” (American Psychological Association, 2005, p. 5).

Results of Study 2 pointed out the difficulty in discerning some anxiety symptoms for differential diagnoses among disorders through the use of questionnaires (Cameron, 1985). For instance, data showed that agoraphobia items were extremely difficult to discern from situational phobias in terms of item content. For the field of assessment of anxiety disorders, these results indicate that the key principle of the DSM of attesting a specific anxiety disorder diagnosis in terms of fear or anxiety content (as expressed by the core symptoms of each disorder) cannot be fully addressed solely by the use of questionnaires. The use of standardized diagnostic interviews is still essential to establish the anxiety disorder diagnosis(s) (Silverman & Ollendick, 2005).

Also in terms of clinical practice, the IRT analyses results in Study 3 comparing IRT-based scores and raw summed scores may have practical implications for the future of scoring of psychometric instruments. The different discrimination and difficulty parameters and information curves of each item suggest that the field would benefit from future technological advances providing coded computerized versions of the psychometric instruments that offered clinicians IRT-based scores after completing the questionnaire. Given financial constraints, it may not seem feasible in most clinical settings currently, especially in Brazilian Unified Health System, but this advance would help practitioners gather more informative results about the patients’ anxiety symptoms severity and anxiety-related impairment.

Results of Study 4 applying statistically refined methods of psychometric analyses exemplify a possibility for future studies to conceive revised versions of pluridimensional instruments to the assessment of anxiety disorders that measured reliably subscale scores more related to specific dimensions of anxiety assessment than to a general anxiety trait. This

strategy has already been successfully applied to broader psychiatric instruments such as the Revised Child Anxiety and Depression Scale-Short Version (Ebesutani et al., 2012).

Results of Study 5 supported the effectiveness of the Cognitive Behavioral Therapy protocol tested with children at risk for internalizing disorders. The effectiveness and moderator results were consistent across both measures of anxiety used, which strengthens the evidence of adequacy of the measures. The moderator analysis results demonstrated that the only significant moderator of response to treatment was the pre-treatment anxiety level, i.e., children who presented higher pre-treatment anxiety symptoms had higher rates of improvement. Although the ‘room for improvement’ hypothesis suggested in the study seems a quite plausible explanation for the result, findings from Studies 1 and 3 of the present Dissertation might raise an alternative hypothesis: both Dimensional Anxiety Scales and OASIS were more informative about subjects who presented anxiety levels above the mean estimated latent traits. If the same is valid for the measures used in Study 5 (i.e., SCARED and SCAS), it seems possible that the moderation analysis results were influenced, at least partially, by limitations of some present anxiety measures offering information on subjects with low levels of anxiety symptomatology.

The present Dissertation has some limitations that need to be acknowledged. First, the theoretical update and upgrade operationalized in the studies here was limited to DSM-5 endeavors. However, the DSM itself presents important theoretical limitations. Current understanding of mental disorders is urging for larger progress in terms of integrating of neuroscience findings and psychopathology assessment (Cuthbert, 2014). Because of that, other updated systems, such as the Research Domain Criteria initiative (Insel et al., 2010), should always be considered when fomenting theoretical update and upgrade in the field of assessment of anxiety disorders. Both perspectives are complementary and need to be addressed jointly to advance neuroscience research into psychiatric disorders (Casey et al., 2013). Second, other features highlighted in the principles of evidence-based practice are not covered yet in the THEMIS statement. For instance, the need to “articulate and explicate the role of patient values in treatment decision making, including a consideration of the role of ethnicity, race, culture, language, gender, sexual orientation, religion, age, and disability status, and the issue of treatment acceptability and consumer choice” (American Psychological Association, 2005, p. 4). Future studies should focus on applied research combining the THEMIS guidelines and patient-orientated practice. Third, crucial gaps are still present among the guidelines in the multimodal approach proposed here. For instance, the

effort to spread scientific knowledge through the publication of the Book Chapter reported in Chapter VII did not consider the new findings from Study 4 discouraging the use of SCARED subscale scores. That happened because the book chapter was written before the article of the SCARED bifactor model was published. It is indeed of common knowledge that articles, especially when published online, are one of the fastest ways to spread scientific findings, and certainly faster than books. However, education in most colleges and universities in Brazil are still heavily based in books, especially in private institutions, or articles in Brazilian-Portuguese language, which limits the information we can spread more easily. Future work on the field of assessment of anxiety disorders should seek for new manners to spread scientific knowledge more easily among Brazilian practitioners and clinicians, in order to promote evidence-based practice for the individuals in need of mental health care.

Despite these limitations, the studies that compose the present Dissertation are also based on the assumption that good-quality evidence-based instruments provide a standardized and trustworthy apparatus to assess the indicators of a construct, latent factor, or underlying mental process (Primi, 2010). Moreover, the field of assessment of anxiety disorders goes beyond the use of instruments and measures. The assessment, in general, and the development of instruments, in particular, offers researchers and clinicians the possibility of objectifying and operationalizing constructs and theories (Pasquali, 2009; Primi, 2010). They deal with the conversion of the theoretical concepts of anxiety disorders into observable elements and require the use of scientific method to provide evidence from a variety of study designs. Therefore the studies that compose the present Dissertation also collaborated to the development of the constructs of anxiety, fear, and anxiety disorders. In conclusion, the progress and continuous monitoring of evidence-based practice in the assessment of anxiety disorders provide theoretical and empirical support for the development of the constructs and for the prevention and treatment of these very prevalent and impairing mental disorders. For that matter, the multimodal approach summarized in the THEMIS statement proposed in the present Dissertation seem useful as a set of guidelines to the promotion of evidence-based practice in the assessment of anxiety disorders.

REFERENCES

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- American Psychological Association (2005, July 1). *Report of the 2005 Presidential Task Force on Evidence-Based Practice. Policy Statement on Evidence-Based Practice in Psychology*. Retrieved from <http://www.apa.org/practice/guidelines/evidence-based-statement.aspx>.
- Barlow, D. H., & Durand, V. M. (2008). *Psicopatologia: Uma abordagem integrada* (4th ed.). São Paulo: Cengage Learning.
- Barrett, P. M., Farrell, L. J., Ollendick, T. H., & Dadds, M. (2006). Long-term outcomes of an Australian universal prevention trial of anxiety and depression symptoms in children and youth: an evaluation of the Friends program. *Journal of Clinical Child & Adolescent Psychology, 35*, 403-411.
- Baumeister, H., & Härter, M. (2007). Prevalence of mental disorders based on general population surveys. *Social Psychiatry and Psychiatric Epidemiology, 42*(7), 537-546.
- Beesdo-Baum, K., Klotsche, J., Knappe, S., Craske, M. G., LeBeau, R. T., Hoyer, J., . . . Wittchen, H. (2012). Psychometric properties of the dimensional anxiety scales for DSM-5 in an unselected sample of German treatment seeking patients. *Depression and Anxiety, 29*(12), 1014-1024.
- Birmaher, B., Brent, D. A., Chiappetta, L., Bridge, J., Monga, S., & Baugher, M. (1999). Psychometric properties of the Screen for Child Anxiety Related Emotional Disorders (SCARED): a replication study. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 1230-1236.
- Birmaher, B., Khetarpal, S., Brend, D., Cully, M., Balach, L., Kaufman, J. et al. (1997) The Screen for Child Anxiety Related Emotional Disorders (SCARED): scale construction and psychometric characteristics. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*, 545-553.
- Cameron, O. G. (1985). The differential diagnosis of anxiety. Psychiatric and medical disorders. *The Psychiatric Clinics of North America, 8*(1), 3-23.
- Campbell-Sills, L., Norman, S. B., Craske MG, Sullivan G, Lang AJ, Chavira DA, . . . Stein, M. B. (2009). Validation of a brief measure of anxiety-related severity and impairment: the Overall Anxiety Severity and Impairment Scale (OASIS). *Journal of Affective Disorders, 112*(1-3), 92-101.

- Casey, B. J., Craddock, N., Cuthbert, B. N., Hyman, S. E., Lee, F. S., & Ressler, K. J. (2013). DSM-5 and RDoC: progress in psychiatry research? *Nature Reviews Neuroscience*, *14*, 810–814.
- Clark, D. A., & Beck, A. T. (2012). *Terapia cognitiva para os transtornos de ansiedade: Ciência e prática*. Porto Alegre: Artmed.
- Craske, M. G., Rauch, S. L., Ursano, R., Prenoveau, J., Pine, D. S., & Zinbarg, R. E. (2009). What is an anxiety disorder? *Depression and Anxiety*, *26*(12), 1066-1085.
- Cuthbert, B. N. (2014). The RDoC framework: facilitating transition from ICD/DSM to dimensional approaches that integrate neuroscience and psychopathology. *World Psychiatry*, *13*(1), 28–35.
- Ebesutani, C., Reise, S. P., Chorpita, B. F., Ale, C., Regan, J., Young, J., Higa-McMillan, C., & Weisz, J. R. (2012). The Revised Child Anxiety and Depression Scale-Short Version: scale reduction via exploratory bifactor modeling of the broad anxiety factor. *Psychological Assessment*, *24*(4), 833-845.
- Hollander, E. H. & Simeon, D. (2008). Anxiety disorders. In: R. E. Hales, S. C. Yudofsky, & G. O. Gabbard (Eds.) *The American Psychiatric Publishing textbook of psychiatry* (5th ed). Washington: American Psychiatric Publishing.
- Insel, T., Cuthbert, B., Garvey, M., Heinssen, R., Pine, D. S., Quinn, K., Sanislow, C., & Wang, P. (2010). Research Domain Criteria (RDoC): Toward a New Classification Framework for Research on Mental Disorders. *The American Journal of Psychiatry*, *167*(7), 748-751.
- Kessler, R. C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*(6), 617-627.
- LeBeau, R. T., Glenn, D. E., Hanover, L. N., Beesdo-Baum, K., Wittchen, H., & Craske, M. G. (2012). A dimensional approach to measuring anxiety for DSM-5. *International Journal of Methods in Psychiatric Research*, *21*(4), 258-272.
- Möller, E. L., Majdandžić, M., Craske, M. G., & Bögels, S. M. (2014). Dimensional assessment of anxiety disorders in parents and children for DSM-5. *International Journal of Methods in Psychiatric Research*, *23*(3), 331-344.
- Norman, S. B., Cissell, S. H., Means-Christensen, A. J., & Stein, M. B. (2006). Development and validation of an overall anxiety severity and impairment scale (OASIS). *Depression and Anxiety*, *23*(4), 245-249.
- Pasquali, L. (2009). *Psicometria. Revista da Escola de Enfermagem da USP*, *43*(spe), 992-999.

- Primi, R. (2010). Avaliação psicológica no Brasil: Fundamentos, situação atual e direções para o futuro. *Psicologia: Teoria e Pesquisa*, 26(spe), 25-35.
- Silverman, W. K. & Ollendick, T. H. (2005) Evidence-based assessment of anxiety and its disorders in children and adolescents. *Journal of Clinical Child & Adolescent Psychology*, 34, 380–411.
- Spence, S. H. (1997). Structure of anxiety symptoms among children: a confirmatory factor-analytic study. *Journal of Abnormal Psychology*, 106, 280-297.
- Spence, S. H. (1998). A measure of anxiety symptoms among children. *Behaviour Research and Therapy*, 36, 545-566.

APPENDIX

APPENDIX A

Termo de Consentimento Livre e Esclarecido

Pesquisa: Mensuração de Construtos Dimensionais para o DSM5 em População Brasileira:
Adaptação Transcultural e Propriedades Psicométricas das Dimensional Anxiety Scales

**UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL
TERMO DE CONSENTIMENTO LIVRE E ESCLARECIDO**

DADOS DE IDENTIFICAÇÃO DO PARTICIPANTE

1. PARTICIPANTE:
 SEXO: DATA NASCIMENTO:/...../.....
 CIDADE: TELEFONE: (.....)..... EMAIL:

DADOS SOBRE A PESQUISA

1. Título: Mensuração de Construtos Dimensionais para o DSM-5 em População Brasileira:
Adaptação Transcultural e Propriedades Psicométricas das *Dimensional Anxiety Scales*

2. Pesquisadora responsável: Dra. Silvia Helena Koller (Professora do Instituto de Psicologia da Universidade Federal do Rio Grande do Sul)

Pesquisador executante: Diogo DeSousa (Doutorando do Programa de Pós-Graduação em Psicologia da Universidade Federal do Rio Grande do Sul)

3. Avaliação do risco da pesquisa: MÍNIMO BAIXO MÉDIO MAIOR

4. Duração da pesquisa: A duração total deste projeto é prevista para dois anos, mas a sua participação será requisitada uma ou no máximo duas vezes para responder aos questionários e, em alguns casos, a uma entrevista.

5. Justificativa e objetivo: Estudos indicam que os transtornos de ansiedade estão entre os mais comuns na população em geral. Se um indivíduo sofre com sintomas de ansiedade e não é devidamente diagnosticado e tratado, esses problemas podem se manter e gerar diversos prejuízos no seu cotidiano. No entanto, se os sintomas de ansiedade forem devidamente avaliados, os tratamentos disponíveis apresentam melhoras significativas. Assim, instrumentos científicos para a avaliação da ansiedade que sejam reconhecidos internacionalmente, como as *Dimensional Anxiety Scales*, podem ajudar a identificar essas questões, contribuindo para o diagnóstico e para programas de prevenção e tratamento. O objetivo dessa pesquisa é traduzir e adaptar as *Dimensional Anxiety Scales* para que elas possam ser utilizadas no Brasil.

6. Procedimentos: Caso concorde em participar da pesquisa, você será convidado a preencher alguns questionários acerca de sintomas de ansiedade. Seu preenchimento dura em torno de 30 minutos. Em alguns casos, você será também convidado a responder a uma entrevista sobre sintomas de ansiedade.

7. Riscos e inconveniências: Os procedimentos dessa pesquisa têm risco mínimo. Possíveis inconveniências podem incluir cansaço pelo preenchimento dos questionários ou possivelmente a sensação de ansiedade associada a alguma pergunta do questionário. Para minimizar ainda mais esses possíveis efeitos, os questionários são curtos e todos os avaliadores que os aplicarão receberam treinamento especializado em avaliação psicológica.

8. Potenciais benefícios: Ao participar da pesquisa, você terá alguns benefícios em potencial. Entre eles, ao final da pesquisa, caso deseje, você obterá maiores informações sobre os transtornos de ansiedade – o que são, sintomas comuns, formas de preveni-los e tratá-los. Além disso, se tiver interesse ou se suas respostas aos questionários sugerirem altos níveis de ansiedade, você será informado sobre encaminhamentos para a rede de saúde para avaliar a necessidade de tratamento.

Como participante da pesquisa, você terá assegurados os seguintes direitos:

a) **Garantia do uso dos dados coletados apenas para o objetivo deste estudo;**

b) **Sigilo e privacidade:** As informações que você dará (os questionários preenchidos) serão mantidas em lugar seguro e os participantes não serão identificados. A identificação só poderá ser realizada pelo pessoal envolvido diretamente com o projeto. Caso o material venha a ser utilizado para publicação científica ou atividades didáticas, não serão utilizados nomes que possam identificá-lo;

c) **Direito a informação:** Em qualquer momento do estudo você poderá obter mais informações com a Profa. Dra. **Silvia Koller** ou com o pesquisador Me. **Diogo DeSousa** pelo telefone (0XX51) 3308-5150, que estarão aptos a esclarecer suas dúvidas. Você poderá solicitar informações de qualquer conhecimento significativo descoberto durante este projeto.

d) **Direito de informação sobre aspectos éticos da pesquisa:** Se você tiver alguma consideração ou dúvida sobre a ética da pesquisa, entre em contato com o Comitê de Ética em Pesquisa do Instituto de Psicologia da Universidade Federal do Rio Grande do Sul pelo telefone (0XX51) 3308-5698

e) **Despesas e compensações:** Não há despesas pessoais, ou seja, você não será cobrado em nenhum momento pela participação. Também não há pagamento financeiro pela participação.

f) **Direito a não participar ou interromper sua participação no estudo:** Você tem liberdade para se recusar a participar ou retirar seu consentimento em qualquer momento da pesquisa, sem penalização alguma e sem prejuízo para você.

g) **Garantia de assistência:** Você será devidamente informado acerca de encaminhamento para locais de assistência à saúde (unidades básicas de saúde, clínicas-escola e clínicas particulares) caso assim deseje ou caso suas respostas aos questionários ou à entrevista sugerirem altos níveis de ansiedade para avaliar a necessidade ou não de tratamento.

Acredito ter sido suficientemente informado a respeito das informações que li ou que foram lidas para mim, descrevendo o estudo: “Mensuração de Construtos Dimensionais para o DSM-5 em População Brasileira: Adaptação Transcultural e Propriedades Psicométricas das *Dimensional Anxiety Scales*”. Concordo voluntariamente com a minha participação e poderei retirar o meu consentimento a qualquer momento, antes ou durante o mesmo, sem penalidades ou prejuízo.

Assinatura do participante

Data ____/____/____

Assinatura do responsável pelo estudo

Data ____/____/____

Esse termo possui duas vias de igual teor (idênticas). Uma para posse do participante e outra para os pesquisadores (a ser devolvida assinada pelo participante)

APPENDIX B

Comprovação de Aceite do Comitê de Ética para Realização da Pesquisa

Pesquisa: Mensuração de Construtos Dimensionais para o DSM5 em População Brasileira: Adaptação Transcultural e Propriedades Psicométricas das Dimensional Anxiety Scales

15/04/2016

Plataforma Brasil

Saúde



Sílvia Helena Koller - Pesquisador | V3.0

Sua sessão expira em: 36min 44

Cadastros

DETALHAR PROJETO DE PESQUISA

— DADOS DA VERSÃO DO PROJETO DE PESQUISA

Título da Pesquisa: Mensuração de Construtos Dimensionais para o DSM-5 em População Brasileira: Adaptação Transcultural e Propriedades Psicométricas das Dimensional Anxiety Scales
Pesquisador Responsável: Sílvia Helena Koller
Área Temática:
Versão: 1
CAAE: 17712013.5.0000.5334
Submetido em: 02/09/2013
Instituição Proponente: Instituto de Psicologia - UFRGS
Situação da Versão do Projeto: Aprovado
Localização atual da Versão do Projeto: Pesquisador Responsável
Patrocinador Principal: Financiamento Próprio

Comprovante de Recepção: PB_COMPROVANTE_RECEPCAO_177120

— DOCUMENTOS DO PROJETO DE PESQUISA

- ↳ Versão Atual Aprovada (PO) - Versão 1
 - ↳ Projeto Original (PO) - Versão 1
 - ↳ Currículo dos Assistentes
 - ↳ Documentos do Projeto
 - ↳ Folha de Rosto - Submissão 1
 - ↳ Informações Básicas do Projeto - Subm
 - ↳ Parecer Anterior - Submissão 1
 - ↳ Projeto Detalhado / Brochura Investigad
 - ↳ TCLE / Termos de Assentimento / Justif
 - ↳ Apreciação 1 - Instituto de Psicologia - UFR
 - ↳ Projeto Completo

Tipo de Documento	Situação	Arquivo	Postagem	Ações

— LISTA DE CENTROS PARTICIPANTES E COPARTICIPANTES

Apreciação [?]	CAAE [?]	Pesquisador Responsável [?]	Comitê de Ética [?]	Instituição [?]	Situação [?]	Tipo [?]	R.C [?]

— HISTÓRICO DE TRÂMITES

Apreciação	Data/Hora	Tipo Trâmite	Versão	Perfil	Origem	Destino	Informações
PO	10/10/2013 05:56:54	Parecer liberado			Instituto de Psicologia - UFRGS		Projeto sem pendencias.
PO	10/10/2013 05:56:21	Parecer do Colegiado Editado			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	
PO	10/10/2013 05:55:48	Parecer do Colegiado emitido			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	
PO	08/10/2013 23:49:30	Parecer do relator emitido			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	
PO	06/10/2013 21:32:46	Aceitação de Elaboração de Relatoria			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	
PO	23/09/2013 11:06:12	Confirmação de Indicação de Relatoria			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	
PO	10/09/2013 16:26:29	Indicação de Relatoria			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	
PO	10/09/2013 16:24:50	Aceitação do PP			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	
PO	02/09/2013 11:57:36	Submetido para avaliação do CEP			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	
PO	31/05/2013 11:54:54	Rejeição do PP			Instituto de Psicologia - UFRGS	Instituto de Psicologia - UFRGS	Prezados pesquisadores, Percebemos a falta do parecer. >>> Ver mais >>

Ocorrência 1 a 10 de 11 registro(s)