

Youth Suicide Risk Assessment

Marc S. Karver, Ph.D.

Sarah J. Tarquini, M.S.

Christine M. W. Totura, Ph.D.

University of South Florida

Outline

- Youth suicidality: Overview
- Risk and protective factors (Bridge et al., 2006; Ellis et al., 2005; Spirito & Esposito-Smythers, 2006)
- SPRC/AAS recommendations for the assessment of suicidality (Joiner et al., 2007)
- Study of prediction of suicide related behavior (SRB) in youth treatment sample
- Clinical responses to suicidality

An Example



Prevalence Rates

- Suicide is the third leading cause of death in youths in the US between the ages of 15 and 24 (CDC, 2007)
- Many more adolescents contemplate or make a suicide attempt
 - 20% of adolescents had seriously considered making a suicide attempt in the past year, 17% had made some type of suicide plan, 8.5% had made a suicide attempt in the past year (CDC, 2003)
- SAMHSA prevention grant data
 - 24% of youths in one high school reported suicide related behavior (SRB) in the past year

Suicide Assessment

- A clinician working with youths *will* encounter issues associated with suicide
- MHPs have a responsibility upon meeting a youth for discussing exceptions to confidentiality
- It is important that clinicians are prepared to assess suicide risk and respond accordingly

Suicide Assessment

- Priority is assessing level of suicidality risk
- Talk about information from questionnaires
- Appear unhurried and comfortable talking about suicidality
- Responsibility to break confidentiality
- If imminent risk, you cannot leave the youth alone at any time

Suicide Assessment

- Determining whether or not a youth is suicidal is one of the most critical and challenging judgments that clinicians have to make
- MHPs from all disciplines often do not conduct adequate assessments of suicidality (Joiner et al., 2007)
- Dissemination of empirically supported information regarding the assessment of suicidality is crucial
 - Two-thirds of clients are never identified (Firestone & Firestone, 1998)

Risk & Protective Factors

- Assessment should focus on the risk and protective factors that have been identified in the literature
- Risk Factors
 - Traits, attributes, characteristics, or other variables that are associated with an increased risk for suicidal behaviors
- Protective Factors
 - Traits, attributes, characteristics, or other variables that are associated with lessened risk for suicidal behaviors
- Clinical intervention is based on reducing risk factors and enhancing protective factors

Risk & Protective Factors

- Psychiatric diagnosis
- Conduct problems
- Impulsivity
- Family history of suicidality
- Suicidal behavior among acquaintances
- Divorce
- School or work problems
- Parental psychopathology
- Poor state of health
- Sexual or physical abuse
- Imminence of suicidal feelings
- Hopelessness
- SES
- Media coverage of suicides
- Suicidal ideation
- History of previous suicide attempts
- Perceived inadequacy
- Inability to cope with emotions
- Social isolation and withdrawal
- Lack of resources
- Social support (family, friends, MHP)
- Reasons for Living (planning, purpose, values)
- Age
- Gender
- Culture
- Race/Ethnicity
- Sexual orientation issues

Domains of Suicidality

- Researchers have proposed that suicidality is a multidimensional phenomenon, which includes:
 - Suicidal Desire
 - Suicidal Capability
 - Suicidal Intent
 - Protective Factors

Suicidal Desire

- Suicidal Ideation (e.g., a wish to die, no reasons for living)
 - Psychological Pain
 - Feeling Trapped
 - Perceived Burdensomeness
- Although very important, suicidal desire is not, by itself, very predictive of suicidality
 - Common psychological symptom
 - Relatively common in the general population
 - Presence should alert clinicians to explore other domains

Suicidal Capability

- Innate threshold of self-preservation reduced through habituation to pain and fear
 - Attempt History***
 - Exposure to suicide
 - History of or current violence towards others
 - Careless, reckless behavior
 - Frequent thoughts of death
 - Substance Use/Abuse
 - Impulsivity

Suicidal Intent

- The extent to which an individual wants to die
 - Suicide Plan
 - Engagement in Preparatory Behaviors
 - Expressed Intent
- Intent is a crucial component because those who intend to enact a behavior, often complete it

Protective Factors

- Enhance desire to live
 - Social support
 - Family members, friends, MHP
 - “Reasons for Living”
 - Future planning
 - Sense of purpose
 - Values/beliefs

Suicide Risk Formulation: Low to Moderate Risk

DESIRE

+ / -

**PROTECTIVE
FACTORS**

Low Risk

Moderate Risk

High Risk

National Suicide Prevention Lifeline CTS (Joiner et al., 2007)

Suicide Risk Formulation: Moderate to High Risk

DESIRE

+

**CAPABILITY or
INTENT**

+ / -

**PROTECTIVE
FACTORS**

Low Risk

Moderate Risk

High Risk

National Suicide Prevention Lifeline CTS (Joiner et al., 2007)

Suicide Assessment: High Risk

DESIRE

+

CAPABILITY

+

INTENT

Low Risk

Moderate Risk

High Risk

National Suicide Prevention Lifeline CTS (Joiner et al., 2007)

Method: Participants

- 666 children and adolescents
 - Arrived at a wide variety of mental health service facilities for intakes and later received at least a minimal level of mental health services
 - Completed a comprehensive battery of questions at baseline and then again 6 months later
 - Demographics
 - Age range: 7-17 (M=12.5)
 - 62% Male
 - Diagnoses: 32% ODD, 28% ADD, & 22% Dysthymia
- Parents of child/adolescent sample who completed baseline measures
 - 85% female
 - Age range: 21-63 (M=36)
 - Ethnicity: 79% White, 19% African-American, 8% other, 6% reported multiple ethnicities

Method: Measures

- Child Assessment Schedule (CAS) & Parent Child Assessment Schedule (P-CAS)
 - Structured clinical diagnostic interviews
 - The outcome variable for this study, suicide related behavior at wave 2, was derived from questions that asked about suicide related behavior over a six month period
- Family Assessment Device (FAD)
 - Parent self-report measure of family functioning
- Brief Symptom Inventory (BSI)
 - Parent self-report measure of current parental psychopathology
- The Family Inventory of Life Events and Changes (FILE)
 - Parent self-report measure of chronic and acute stressful events
- The Child and Adolescent Functional Assessment Scale (CAFAS)
 - Interviewer based scale measuring functional impairment in children and adolescents

Method: Procedure

- In order to identify the most important variables for making predictions of suicide related behaviors:
 1. Conducted comprehensive literature review
 2. Surveyed experts in the field of suicidality
 - Rated and suggested most important variables
- Based on the information gathered, a list of potential predictor variables were identified in the dataset

Potential Predictors

SUICIDAL DESIRE			
SUICIDE RELATED THOUGHTS	DEPRESSIVE COGNITIONS	OTHER DEPRESSIVE SYMPTOMS	FUNCTIONING IN ENVIRONMENT
Suicidal ideation in last 2 weeks	Hopelessness	Feeling usually sad in last 6 months	Global maladaptive functioning in environment
Suicidal ideation in past 6 months but no attempts to hurt or die	Describes self negatively	Anhedonia	Suspended or expelled
	Inadequate/dislikes self	Loss appetite	School difficulties/low grades
	Poor body image	Sleep trouble	Absent due to lack of interest in school
	Views self as clumsy	Increased tiredness	
	Views self as dumb	Feeling unable to think clearly	
	Self-blaming	Difficulty concentrating in school	
		Depression Diagnosis	

Potential Predictors

SUICIDAL CAPABILITY		
SUICIDE RELATED THOUGHTS/ACTIONS	EXTERNALIZING SYMPTOMS	DEATH/HEALTH STRESSORS
Suicide related behavior w/o the intent to die in last 2 weeks	Any substance use	Parent Report Abuse
Suicide related behavior w/o the intent to die in last 6 months & never tried to die	Impulsivity	Recent deaths in family/friend
Thinks about death (frequency)	Angry	Parent died
Carelessness in past 6 months	Loses temper	Health problems
	Fighting	
	Antisocial behavior	
	Conduct disorder	
	Police contact/trouble with law	

Potential Predictors

SUICIDAL INTENT

SUICIDE RELATED THOUGHTS/ACTIONS

Suicide attempt with intent to die in last 2 weeks

Suicide attempt with intent to die in last 6 months

Has current suicide plan

Suicidal ideation specifically about intending to die in past 6 months with no plan

Potential Predictors

PROTECTIVE FACTORS	
PEERS	FAMILY
Peer conflict	Family functioning
Lack of friends	Parental Psychopathology
	Negativity of mother to child
	Negativity of father toward child
	Recent divorce

Initial Data Analyses

- Series of hierarchical, logistic regression models used to predict SRB 6 month follow-up
- In each model, SRB was first regressed on a set of demographic covariates (e.g., age, gender, race)
- Then, theoretically important domains were added one at a time to assess if their inclusion contributed additionally to the ability to predict SRB
- Criteria for inclusion in comprehensive simultaneous logistic regression model = p value of .05 or less
- “Optimal” set of predictors identified

Regression: Initial Model

SUICIDAL DESIRE			
SUICIDE RELATED THOUGHTS	DEPRESSIVE COGNITIONS	OTHER DEPRESSIVE SYMPTOMS	FUNCTIONING IN ENVIRONMENT
Suicidal ideation in 2 weeks prior to intake- YR (1.92)	Hopelessness - YR (1.32)	Feeling usually sad in 6 months prior to intake- YR (1.74)	Global maladaptive functioning in environment (1.02)
Suicidal ideation in 2 weeks prior to intake- PR (1.92)		Loss appetite - YR (1.61)	Absent due to lack of interest in school - PR (1.60)

Regression: Initial Model

SUICIDAL CAPABILITY		
SUICIDE RELATED THOUGHTS/ACTIONS	EXTERNALIZING SYMPTOMS	DEATH/HEALTH STRESSORS
Suicide related behavior w/o the intent to die in 2 weeks prior to intake- YR (1.80)	Any substance use - YR (16.9)	Health problems (.73)
Suicide related behavior w/o the intent to die in 2 weeks prior to intake- PR (2.50)	Loses temper - PR (1.50)	
Thinks about death (frequency) - PR (1.55)		
Carelessness in 6 months prior to intake- YR (1.64)		
Carelessness in 6 months prior to intake- PR (1.54)		

Regression: Initial Model

SUICIDAL INTENT

SUICIDE RELATED THOUGHTS/ACTIONS

Suicide attempt with intent to die in 6 months prior to intake- PR (2.00)

Has current suicide plan - YR (1.54)

PROTECTIVE FACTORS

PEERS

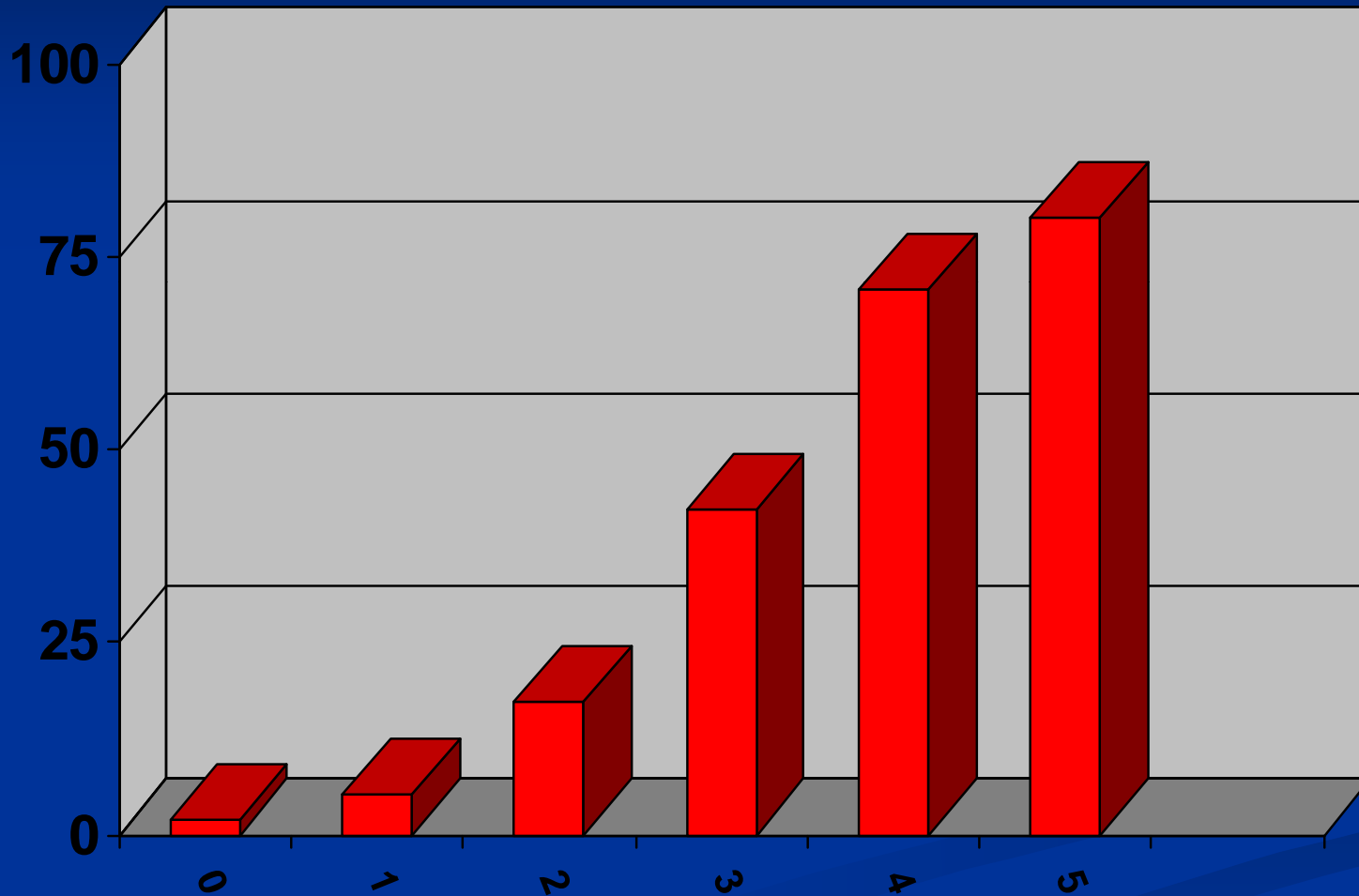
Lack of friends -PR (1.60)

FAMILY

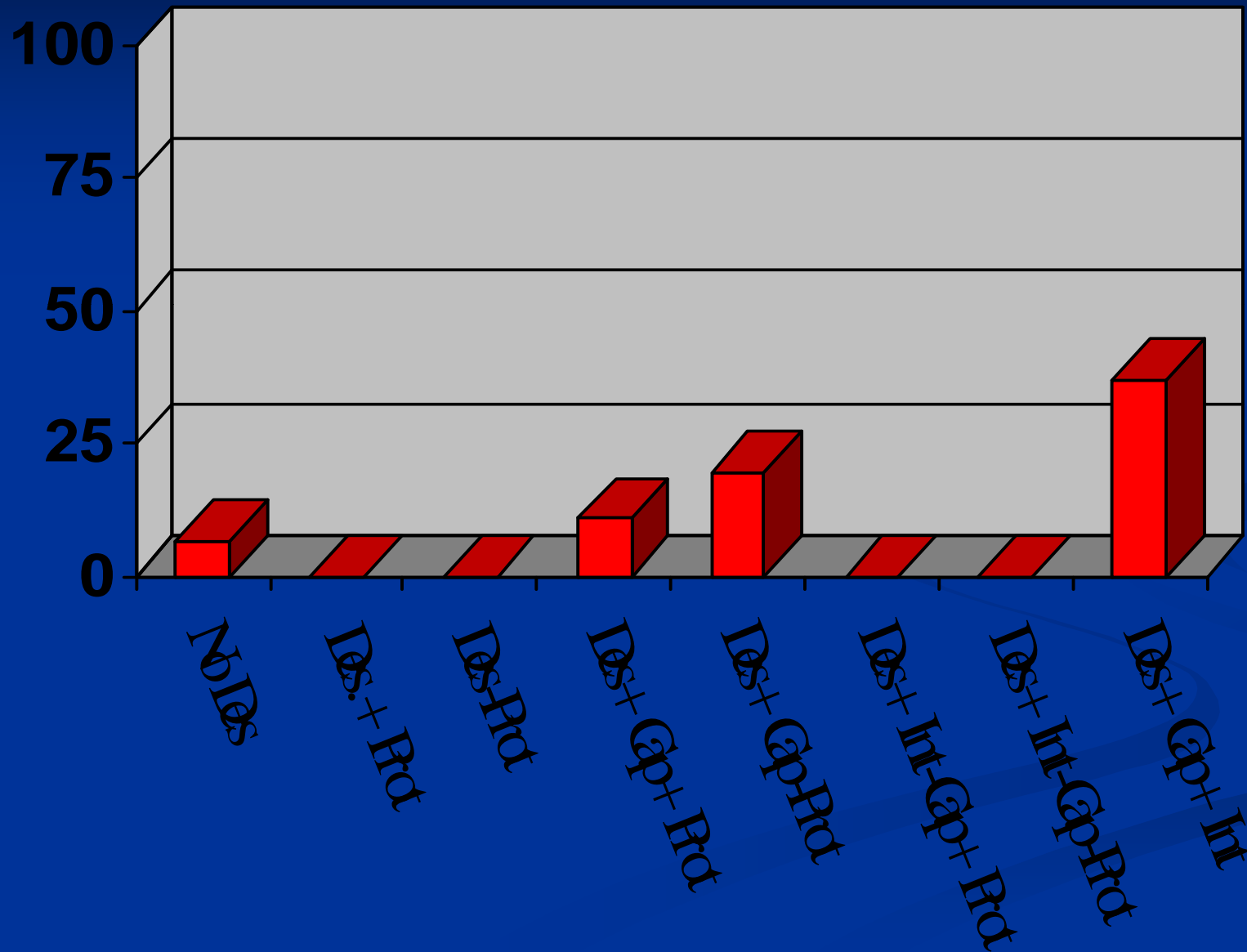
Regression: Comprehensive Model

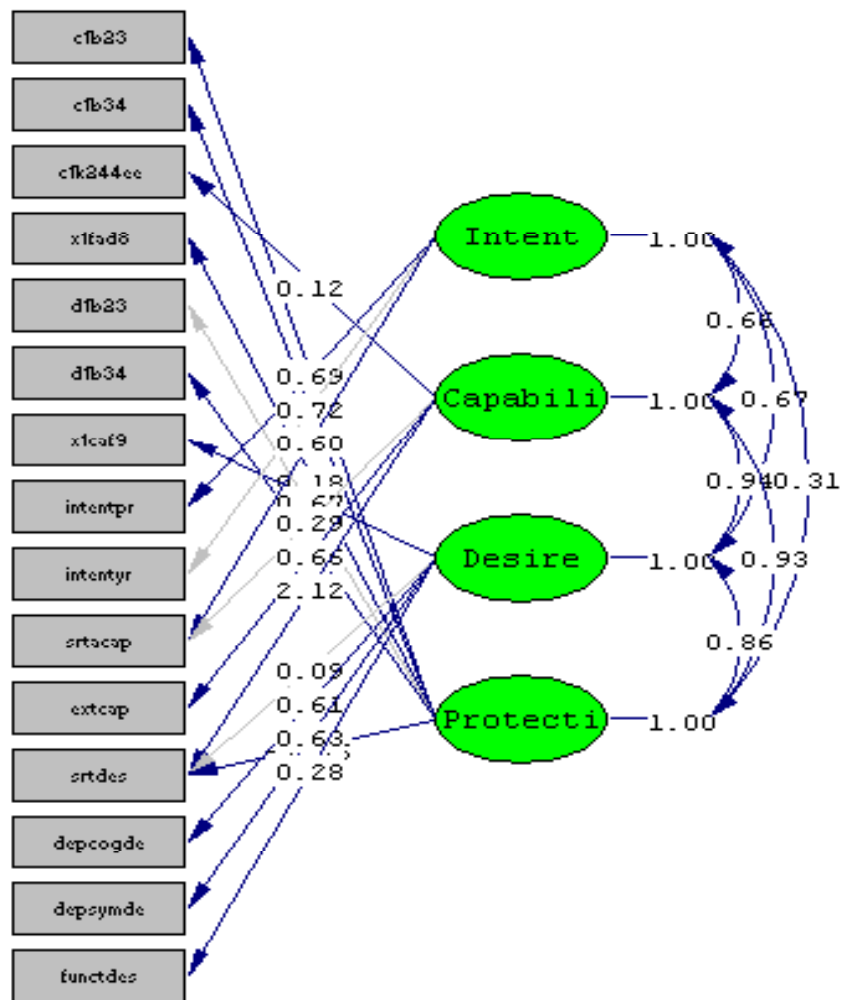
SUICIDAL DESIRE			
SUICIDE RELATED THOUGHTS	DEPRESSIVE COGNITIONS	OTHER DEPRESSIVE SYMPTOMS	FUNCTIONING IN ENVIRONMENT
-	-	-	-
SUICIDAL CAPABILITY			
SUICIDE RELATED THOUGHTS/ACTIONS		EXTERNALIZING SYMPTOMS	
Suicide related behavior without the intent to die in 2 weeks prior to intake- YR (1.78)		Any substance use - YR (16.24)	
Suicide related behavior w/o the intent to die in 2 weeks prior to intake- PR (2.31)		Loses temper - PR (1.42)	
Carelessness in 6 months prior to intake- YR (1.48)			
SUICIDAL INTENT			
SUICIDE RELATED THOUGHTS/ACTIONS			
Suicide attempt with intent to die in 6 months prior to intake- PR (1.62)			
PROTECTIVE FACTORS			
PEERS		FAMILY	
Lack of friends - PR (1.38)		-	

Incremental Risk Model



Testing the Joiner et al, 2007 Model





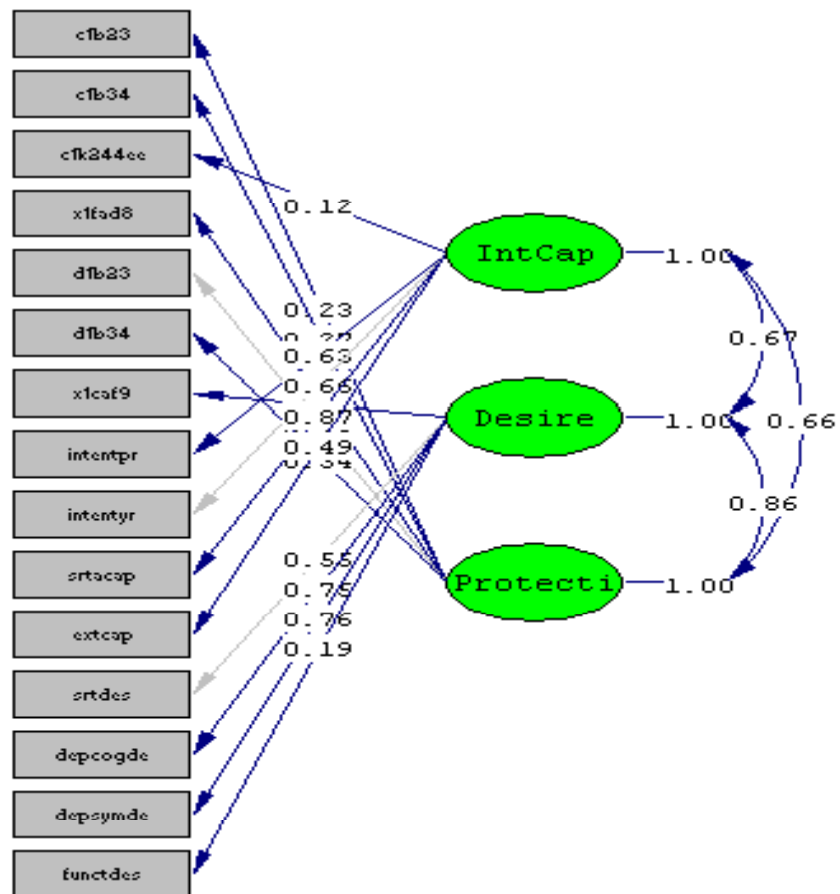
Chi-Square=180.65, df=75, P-value=0.00000, RMSEA=0.046

Full Model Interpretation

- RMSEA suggests adequate fit
- Remaining indices relate in the hypothesized direction with their latent constructs
- Relationships among latent constructs are significant and in the hypothesized direction:
 - Intent \rightarrow Capability ($R = .66$)
 - Intent \rightarrow Desire ($R = .67$)
 - Intent \rightarrow Protective Factors (Protective indicators coded in the negative direction; $R = .31$)
 - Capability \rightarrow Desire ($R = .94$)
 - Capability \rightarrow Protective Factors ($R = .93$)
 - Desire \rightarrow Protective Factors ($R = .86$)

Concerns with the Full Model

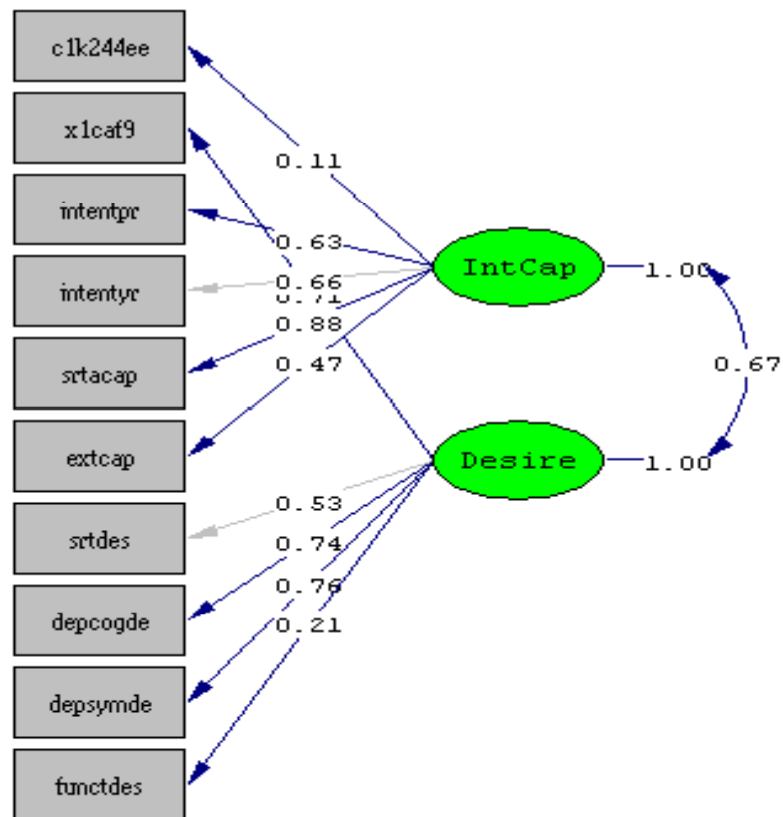
- Loadings for suicide-related indicators on multiple latent constructs
- A negative covariance matrix among latent constructs resulted
 - Strong correlations between Intent and Capability indicators may be responsible
- A new model combining the Intent and Capability constructs may improve fit



Chi-Square=169.88, df=70, P-value=0.00000, RMSEA=0.046

Reduced Model Interpretation

- RMSEA suggests adequate fit
- Covariance matrix among constructs is now positive
 - Correlations among the Intent and Capability indicators are being measured on one construct
- Relationships among latent constructs:
 - IntCap \rightarrow Desire ($R = .67$)
 - IntCap \rightarrow Protective ($R = .66$)
 - Desire \rightarrow Protective ($R = .86$)



Chi-Square=50.89, df=23, P-value=0.00070, RMSEA=0.043

2-Factor Model Interpretation

- Maximum likelihood method invoked
- Adequate model fit
 - RMSEA = .043
 - CFI = .99
- Remaining indicators are strong predictors of latent constructs
- Significant association between IntCap and Desire: $R = .67$

Regression: CFA Domain Model

SUICIDAL DESIRE

Odds ratio (1.02)

SUICIDAL CAPABILITY/INTENT

Odds ratio (1.08)*

SUICIDAL DESIRE * SUICIDAL CAPABILITY/INTENT

Odds ratio (.999)

Regression: Alternative Models

- Returned to second model by adding Protective factors domain
 - Protective Factors non-significant
 - No improvement in overall variance predicted in SRB
 - Interactions with Protective factors non-significant.

Testing the Joiner et al, 2007 Hypothesized Risk Combinations II

- Presence of Suicidal Desire item
 - 98.9% of youths
- Presence of Capability/Intent item
 - 99.5% of youths
- Almost every youth with both domains present

Conclusions

- Full Joiner et al. model not the best fit for youths in treatment
- Evidence for critical items in predicting future SRB
- The assessment of **Suicidal Capability** is critical
 - For example: high risk behavior, prior self-harm, drug or alcohol use, frequently losing one's temper
 - Significant “Intent” item could also be categorized as “Capability”
 - Prior SRB with intent to die
- Lack of friends was predictive of SRB but no Suicidal Desire items
- Incremental Risk model outperformed Joiner et al. model in predicting future SRB in youth treatment sample

Limitations

- Potential predictors *not* included in dataset:
 - Sexual orientation
 - Chronicity of suicidal ideation
 - Exposure to suicide
 - Reasons for living
 - Preparatory behaviors
 - Bullying and victimization
 - Quality of therapeutic relationship
- Research = Intervention
- Limited generalizability
- Methodology did not allow for the differentiation between the prediction of self-harm behavior without the intent to die and a suicide attempt with the intent to die

Implications

- Clinicians may need to assess for and attend to a set of most critical items (mostly Suicidal Capability items)
 - The presence of at least 3 critical items=high risk
- The presence of Suicidal Desire is not sufficient for predicting SRB (but should lead to further questioning)
- Unclear how Joiner et al model applies to youths in treatment.

Future Research

- Replicate in additional settings
- Larger samples to differentiate SRBs
- Examine cultural and developmental differences
- Use better measures of Joiner et al. domains
- Measure variables that were missing from current data set
- Examine clinician ability to utilize risk factor information
- Determine interventions appropriate for different levels of risk of SRB

Additional Clinical Suggestions

- Ask suicidal students about “things that make them want to live”
 - Suggest examples
- Suicide is just one solution to problem solving
 - MHPs can help with solving problems
 - Especially emphasize any past or present successful coping and possible resources.
 - Most suicidal students lack problem solving skills

Additional Clinical Suggestions

- Grab on to any future perspective
- Build on strengths
- Validate, validate, validate

Talking to Parents

- Tell the parent of your concern
- Inform the parent of what leads you to be concerned
- Let them know legal responsibility
- Emphasize that want the youth to be safe
- Ask the family to safety proof
 - Firearms removed
 - If parents refuse or not take seriously, possible duty to report to DCFS

If highest risk...

- Immediate intervention is likely required
- Youth may be in imminent danger of committing suicide.
- Consider hospitalization.
- Prefer voluntarily, but may need to contact law enforcement.
- Document!!!!

Emotional Reactions



Suicide Assessment & Treatment: Clinicians' Emotional Responses

- Protectiveness
- Anxiety
- Emotional Exhaustion
- Helplessness
- Hopelessness
- Sadness
- Anger, Irritation, Resentment
- Defensiveness

Suicide Assessment & Treatment: Coping with Emotional Responses

- Actively engage in problem solving strategies
- Focus on suicide related treatment goals, which include improving coping and interpersonal skills
- Remain cognizant of the requirements and limits of professional responsibility
- Consult with other MHPs
- Become aware of and accept your emotional reactions

Thank You