



Exploring the Predictive Values of Self-Evaluations and Cognitive Distortions in Relation to Childhood Anxiety among Hispanic/Latino Youth

Cristina J. Sperrazza, M.A., M.S., Susan Panichelli-Mindel, Ph.D., Kelsey Dailey, M.S., Melanie Levitt, M.S., Leslie Fernandez, M.A., Ed.S., Elaine Bedden, M.A., LPC, and Nicole Fleischer, M.S.
Philadelphia College of Osteopathic Medicine

Introduction

- Anxiety disorders are known to be the most common psychiatric diagnoses (Kessler et al., 2012), during childhood and adolescence (Costello, Egger, & Angold, 2005; Pina, Zerr, Villalta, & Gonzales, 2012).
- Age, grade (Grills-Taquechel et al., 2010), and gender have been found to be vulnerability factors for anxiety in childhood (Kessler et al., 2005).
- Reciprocal relationships have been found between levels of self-evaluation and anxiety (Sowislo & Orth, 2013; Trzesniewski et al., 2006). However, little research has been conducted to determine if specific domains of self-evaluation are predictors of certain types of anxiety.
- As individuals develop self-evaluations, these ways of thinking may become negatively biased (Burns, 1999) and are often the result of errors in thinking, also known as cognitive distortions (Beck & Beck, 2011; Burns, 1999; Yurica & DiTomasso, 2005).
- Children with anxiety display negative biases in their information-processing abilities (Leitenberg et al., 1986; Reid et al., 2006; Weems et al., 2001), and in turn, hold dysfunctional cognitions that bias their perception of reality in a way that maintains their anxiety (Mogoşşe et al., 2013).
- The cognitive model explains how individuals' perceptions of themselves or experiences can influence their behavioral and emotional reactions (Beck & Beck, 2011) based on the way they process external information (Kendall, 1992).
- Few studies have investigated the potential relationship between self-evaluation, cognitive distortions, and anxiety in Latinos, the nation's largest minority group (U.S. Census Bureau, 2009).
- Early adolescents within this ethnic group have the highest prevalence rate of anxiety when compared to early adolescents of other races (Roberts et al., 2012).

Hypotheses

- The six domains of **self-evaluation will be predictors of overall anxiety**, after controlling for grade and gender.
- Significant **negative correlations** will exist between **self-evaluations** and different **subtypes of anxiety**.
- The selected **cognitive distortions will be predictors of overall anxiety**, after adjusting for grade and gender.
- Significant **positive relationships** will exist between **cognitive distortions** and different **subtypes of anxiety**.
- The **revised factor structure** of the ICD for children **will yield similar loadings to the original ICD** for adults.

Method

Purpose of the Study:

- The purpose of this study was to investigate whether self-evaluations and cognitive distortions are predictors of anxiety in a Hispanic/Latino child and adolescent sample while taking age and gender into account.

Participants:

- 84 inner-city elementary/middle school students at bi-lingual, public charter school
- Ages:** 9-15; Grades: 4-8
- Gender:** 48 girls; 36 boys
- Ethnicity:** 53.6% Puerto Rican; 20.2% of multiple Hispanic/Latino backgrounds

Inclusion Criteria:

- Current student at charter school in grades 4-8
- Identify as Hispanic/Latino
- Parent/child understand English for consent and assent

Exclusion Criteria:

- None

Measures:

- Demographic questionnaire
- Screen for Child Anxiety Related Disorders (SCARED)
- Harter's Self-Perception Profile for Children (SPPC)
- Inventory of Cognitive Distortions (ICD) – *revised for children in current study*

Procedures:

- After obtaining consent, measures were administered at school during regular hours.
- Individual assistance in completing the measures was provided as needed.
- Free snacks and raffles were provided as compensation.

Table 1:
Summary statistics for SPPC data

Variable	Mean	SD
Scholastic Competence	17.50	4.64
Social Competence	17.62	4.33
Athletic Competence	17.32	4.45
Physical Appearance	16.69	5.04
Behavioral Conduct	17.49	4.51
Global Self-Worth	18.62	4.45

Note. Scores for each domain range from 6 to 24. Higher scores indicate more positive self-perception or self-esteem.

Table 3:
Summary statistics for SCARED data

Variable	Mean	SD
Panic (≥ 7)	6.39	4.99
School Avoidance (≥ 3)	2.14	1.69
Social Anxiety (≥ 8)	5.75	3.51
Separation Anxiety (≥ 5)	5.56*	3.56
Generalized Anxiety (≥ 9)	6.40	3.92
Overall Total (≥ 25)	26.11*	13.44

Note. Overall total scores range from 0 to 82. Higher scores indicate the presence of more anxiety symptoms. Clinical thresholds are identified in parentheses. *Mean exceeds clinical threshold.

Table 5:
Hierarchical multiple regression weights from model of Self-Evaluation Predicting Anxiety, Controlling for Grade and Gender

Predictor	b	β	p	ΔR^2
Step 1			.001	.20
Grade	-3.84	-.39*		
Gender	6.95	.26*		
Step 2			.000	.13
Grade	-3.61	-.36*		
Gender	6.24	.23*		
Scholastic	0.23	.08		
Social	-0.65	-.21		
Athletic	0.19	.06		
Physical	-0.36	-.14		
Behavior	0.21	.07		
Self-Worth	-0.62	-.20		

Table 7:
Correlational Matrix between Subtypes of Self-Evaluation, Cognitive Distortions, and Anxiety

	Scholastic	Social	Athletic	Physical	Self-Worth [▲]	Discount Positive	Magnify Minimize	Fortune Telling	External Self-Worth	Perfect	Catastro.
Panic	-.182*	-.260**	-.188*	-.128	-.202*	.437***	.350**	.342**	.255**	.158	.451***
School	-.134	-.187*	-.102	-.268**	-.246*	.325**	.357***	.397***	.248*	.058	.318**
Social	-.122	-.311**	-.108	-.158	-.219*	.476***	.327**	.325**	.275**	.234*	.345**
Separation	-.052	-.341**	-.237*	-.093	-.127	.323**	.298**	.394***	.261**	.101	.413***
Generalized	-.167	-.212*	-.223*	-.413***	-.395***	.611***	.324**	.476***	.489***	.410***	.462***

Note. [▲] Behavioral Conduct was not significantly correlated with any anxiety subtypes. *p < .05. **p < .01. ***p < .001.

Table 2:
Summary statistics for ICD data

Variable	Mean	SD
Discount the Positive	31.19	11.62
Magnify/Minimize	25.69	7.47
Fortune Telling	11.63	4.97
Externalize Self-Worth	11.12	4.83
Perfectionism	7.57	2.99
Catastrophize	5.12	2.10
Overall Total	92.14	26.89

Note. Overall total scores range from 39 to 195. Higher scores indicate the presence of more cognitive distortions.

Table 4:
Reliability statistics for Revised ICD Subscales

Variable	# of Items	α
Discount the Positive	14	.89
Magnify/Minimize	10	.80
Fortune Telling	5	.89
Externalize Self-Worth	5	.81
Perfectionism	3	.64
Catastrophize	2	.36
Overall	39	.94

Table 6:
Hierarchical multiple regression weights from model of Cognitive Distortions Predicting Anxiety, Controlling for Grade and Gender

Predictor	b	β	p	ΔR^2
Step 1			.001	.20
Grade	-3.84	-.39*		
Gender	6.95	.26*		
Step 2			.000	.29
Grade	-2.40	-.34		
Gender	5.64	.21*		
Discount Positive	0.36	.32		
Magnify/Minimize	0.31	.17		
Fortune Telling	0.16	.06		
External Self-Worth	0.46	.16		
Perfectionism	-0.66	-.15		
Catastrophize	0.51	.08		

Results

- Hierarchical multiple regression analyses were conducted to assess the relationship between self-evaluation, cognitive distortions, and anxiety, as measured by the SPPC, the revised ICD, and the SCARED, while controlling for grade and gender.
- When grade and gender were entered together in Step 1, they significantly predicted overall anxiety, $F(2, 81) = 9.92, p < .001, R^2 = .20$. When the **six domains of self-evaluation were added to gender and grade** in Step 2, **this combination of variables significantly predicted overall anxiety**, $F(6, 75) = 2.46, p < .05, R^2 = .33$.
- When grade and gender were entered together in Step 1, they significantly predicted overall anxiety, $F(2, 81) = 9.92, p < .001, R^2 = .20$. When the **six types of cognitive distortions were added to gender and grade** in Step 2, **this combination of variables significantly predicted overall anxiety**, $F(6, 75) = 7.17, p < .001, R^2 = .49$.
- A Pearson correlation matrix was conducted to determine the possible significant **negative relationships between specific domains of self-evaluation and certain subtypes of anxiety**. Of the 30 possible relationships, 15 Pearson correlations were found to be statistically significant and were equal to or greater than $r(82) = -.182, p < .05$, one-tailed.
- A Pearson correlation matrix was conducted to determine the possible significant **positive relationships between specific domains of cognitive distortions and certain subtypes of anxiety**. Of the 30 possible relationships, 27 Pearson correlations were found to be statistically significant and were equal to or greater than $r(82) = .248, p < .05$, one-tailed. Of these 27 relationships, 25 were significant at the $p < .01$ or $p < .001$ level.
- To investigate the factor structure of the revised ICD for children, a principal components factor analysis with varimax rotation was conducted. Based on the sample size, a factor loading criterion of at least .578 was used to identify significant loadings for items in each factor. **This exploratory factor analysis revealed a spread of items across nine factors**, each containing unique loadings, **similar to that of the original ICD for adults**.

Conclusions

- Significant correlational and predictive relationships were found** between self-evaluation, cognitive distortions, and anxiety in a Hispanic/Latino youth sample, which are both novel and consistent with prior studies.
- The combination of **grade, gender, and six domains of self-evaluation predicted overall anxiety symptoms**. The Scholastic, Social, Athletic, Physical Appearance, and Self-Worth domains of self-evaluation were negatively correlated with at least one of the Panic, School (Avoidance), Social, Separation, or Generalized subtypes of anxiety.
- Consider culture:** *Familismo* is the idea that a person's family is the central support system (Clark & Huttlinger, 1998). Another concept, *confianza*, encourages people to trust and rely on their own family as opposed to non-family members (Cervantes & Castro, 1985).
- Consider demographics:** The majority of the sample reported living with their mothers (95.2%), yet less than half of the participants lived with their fathers (46.4%).
- The six types of **cognitive distortions, when combined with grade and gender, predicted overall anxiety symptoms**. All six cognitive distortions were positively correlated with at least one of the five anxiety subtypes.
- A generally negative cognitive schema may be associated with internalizing symptoms, or anxiety, and specific associations are manifested in the strength of relationships. In other words, **children experiencing anxiety may also display a general negative schematic processing style similar to that of children with general negative affectivity**, a theory consistent with previous major theoretical positions (Clark & Watson, 1991; Reid et al., 2006; Ronan et al., 1994).
- Future studies** should continue to investigate the relationship between these variables in Hispanic/Latino youth and other ethnic samples.
- Interventions** that improve self-evaluation, reduce cognitive distortions, and decrease anxiety in Hispanic/Latino youth should be explored.