Self-Perceptions in Relation to Self-Reported Depressive Symptoms in Boys and Girls

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Abstract

Background: Low self-esteem is associated with depressive symptoms in children. However, the association between domains of self-esteem (e.g., self perceptions) and depressive symptoms may vary by gender. **Aims:** This study evaluated self-perceptions in relation to self-reported depressive symptoms in boys and girls. **Methods:** School children in grades 3 to 6 (n = 140; 54% boys; 46% girls) completed the Children's Depression Inventory (CDI) and The Self-Perception Profile for Children (SPPC) as part of a school-based intervention targeting anxious and depressive symptoms. The CDI was re-administered about 1 month later. Pearson correlations between the subscales of the SPPC and the average CDI T-scores were determined. Significant correlations were entered in stepwise regressions to predict depressive symptoms for the whole sample and then separately for boys and girls. **Results:** Self-perceived scholastic competence, physical appearance, and behavioral conduct accounted for 19.8% of the variance in self-reported depressive symptoms overall. Behavioral conduct was a more salient predictor in boys (adjusted R^2 =0.146) whereas scholastic competence and physical appearance were more salient in girls (adjusted R^2 =0.203). **Conclusion:** Although replication is needed, boys and girls appear to have different self-perceptions in relation to depressive symptoms. Understanding these differences may help to inform clinical interventions.

Key words: depression, children, self-perceptions, self-esteem, gender differences

Résumé

Contexte: Les enfants qui ont une faible estime de soi présentent des symptômes de dépression. Toutefois, l'association entre l'estime de soi et la dépression varie selon le sexe du sujet. **Objectifs:** Étudier la relation entre la perception de soi et les symptômes de dépression à partir d'un formulaire d'auto-évaluation rempli par des garçons et des filles. **Méthodologie:** Des enfants de 3e à 6e année (n = 140; 54% de garçons; 46% de filles) ont rempli le CDI (Inventaire de dépression de l'enfant) et le *Self-Perception Profile for Children* (SPPC) dans le cadre d'une étude axée sur les symptômes d'anxiété et de dépression qui a été menée à l'école. Le CDI a été administré de nouveau un mois plus tard. Les corrélations de Pearson ont été établies entre les sous-échelles du SPPC et la note t du CDI. Les corrélations significatives ont été traitées par régression progressive de manière à prédire les symptômes de dépression pour la totalité de l'échantillon, puis séparément pour les garçons et pour les filles. Résultats: Les données sur les résultats scolaires, le physique et le comportement expliquaient 19,8% de l'écart constaté dans tous les symptômes de dépression indiqués par les sujets. Le comportement était un meilleur prédicteur chez les garçons (R^2 ajusté = 0,146), tandis que les résultats scolaires et le physique ressortaient davantage chez les filles. (R^2 ajusté = 0,203). **Conclusion:** Cette étude, qui devra être reproduite, montre que les garçons et les filles perçoivent la dépression de manière différente. Comprendre ces différences aidera à mieux cibler les interventions cliniques qui leur sont destinées.

Mots clés: dépression, enfants, auto-perception, estime de soi, différences selon le sexe

Introduction

Early onset depression is a prevalent and highly debilitating condition, with long-term adverse effects on children's development (reviewed in Beardslee & Gladstone, 2001). A better understanding of factors associated with childhood depression offers the hope of preventing these adverse effects. Several reviews indicate a strong relationship between depression and low self-concept (e.g., self-esteem) among children

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suggesting that further studies of self-esteem in depressed children may be fruitful (Abela & Taylor, 2003; Kim & Cicchetti, 2006). None, to our knowledge, have examined gender differences in the nature of this relationship.

Developmental changes in self-perception may have implications for the etiology of depression. Negative or low self-esteem is a central component of many theories of depression and clear links between 'self-system processes' (i.e., perturbations in self-perception) and depressive symptoms have been shown empirically (Abela & Taylor, 2003; Kim & Cicchetti, 2006).

Despite the strong theoretical base, no study has examined self-perception in depressed boys and only a few studies examined it among depressed girls. In an early study by Brooks-Gunn and Petersen (1983), depressed girls reported significantly lower scores on measures of self-esteem than unaffected controls. Subsequently, depressed girls demonstrated significantly higher levels of body dissatisfaction and lower levels of self-esteem than boys (Wood, Becker, & Thompson, 1996). Similarly, depression in girls has been associated with negative body perception (Bither, Magnotti, & Yew, 1994; DuBois, Tevendale, Burk-Braxton, Swenson, & Hardesty, 2000; Rierdan & Koff, 1997). Examining self-perception in relation to depressive symptoms in boys and girls would thus address an important gap in the literature and potentially contribute to knowledge regarding the development of depression.

The Self-Perception Profile for Children (SPPC; Harter, 1985), a measure of self-esteem, is based on the hypothesis that children do not always feel equally competent in every skill domain. The SPPC therefore allows for the measuring of skill domains separately. Thus, the SPPC is ideal for examining the relationships between various perceived competencies and depressive symptoms. The following study evaluated self-perceptions (with the SPPC) in relation to self-reported depressive symptoms in children from grades 3 through 6. Gender differences were postulated, but specific hypotheses with respect to domains were not made due to the exploratory nature of the study.

Methods

Subject Recruitment
The present analysis is based on a subset of data obtained as part of a randomized controlled trial of school-based cognitive behavioral therapy (CBT) for anxious and depressive symptoms with the goal of preventing the onset of internalizing disorders in children at risk due to elevation of symptoms in either domain (for a more detailed description of the methods, please see Manassis, Wilansky-Traynor, Farzan, Kleiman, Parker, & Sanford, 2010). Ethics approval for the

study was obtained at the participating mental health facility and at four participating school boards in a large Canadian city, and study procedures complied with the Code of Ethics of the World Medical Association.

Principals were approached regarding school participation. Twenty-six schools were selected by the investigators to ensure broad economic and ethnic diversity, representative of the local urban and suburban population.

After obtaining parental consent and child assent, children in grades 3 to 6 were screened for internalizing symptoms using the Children's Depression Inventory (CDI; Kovacs, 1992) and the Multidimensional Anxiety Scale for Children (March, 1998). Children enrolled in special education classes full-time or not fluent in English were excluded, as they may not benefit fully from CBT. Children already meeting criteria for a depressive or anxiety disorder on structured interview were also excluded, and referred to local children's mental health resources. Remaining children who screened positive (t>60 on either measure) also completed the Self-Perception Profile for Children (SPPC; Harter, 1985) prior to participating in the randomized controlled trial. Only the CDI and SPPC results are included in the present analyses.

Outcome Measures
Children's Depression Inventory (CDI; Kovacs, 1992). The CDI is a 27-item self-report measure of 7 to 17 year old children and adolescents' depressive symptoms. It has been extensively validated and well utilized in clinical research, with high internal and moderate test-retest reliability (alpha = .5 to .7 depending upon the time interval measured).

The Self-Perception Profile for Children (SPPC; Harter, 1985) is a self-report measure which provides a profile of children's (aged 8 - 13) perceived competencies, and is a revision of the Perceived Competence Scale for Children. The SPPC is a 36-item, 4-point scale measuring perceived competence in seven areas. These include: scholastic competence, athletic competence, social acceptance, physical appearance, close friendships, behavioral conduct, and global self-worth. Higher scores reflect greater perceived competence. Internal consistency reliabilities range from Cronbach's alpha 0.71 to 0.86.

Data Analysis
Bivariate correlations between the CDI total score and each specific subscale of the SPPC (excluding the more general global self-worth) as well as age, gender, and family income were obtained for the total sample and separately for boys and girls. Significant correlates were then entered into stepwise regressions to determine the best predictors of depressive symptoms (dependent variable) for the sample as a whole and for each gender. The sample size ensured at least 10 subjects

Table 1. Correlations between mean scores for depressive symptoms and self-perceptions (total sample)					
Pearson correlation Sig. (2-tailed) (n = 140)	SPPC scholastic competence	SPPC social acceptance	SPPC athletic competence	SPPC physical appearance	SPPC behavioral conduct
CDI total *t* score	-.411 .000	-.317 .000	-.268 .002	-.327 .000	-.294 .001
SPPC scholastic competence		.350 .000	.391 .000	.211 .012	.287 .001
SPPC social acceptance			.470 .000	.309 .000	.178 .035
SPPC athletic competence				.271 .001	.212 .012
SPPC physical appearance					.330 .000
CDI = Children's Depression Inventory; SPPC = Self-Perception Profile for Children					

per predictor entered, consistent with accepted statistical practice.

Sample Recruitment

During the 3-year study, 1139 children participated in screening. Of those screened, 327 met inclusion criteria for the trial (i.e. they had elevated anxious or depressive symptoms but did not meet criteria for depressive or anxiety disorders). Of those eligible for the study, 148 children and families agreed to participate. Of the 148 participants, complete data was available for 140. This data was included in the present analyses. Consent rates were comparable to other school-based studies in this age group with similar procedures (e.g., Misfud & Rapee, 2005).

Results

Sample Characteristics

The sample was comprised of 76 (54%) boys and 64 (46%) girls. Thirty percent were in Grade 3, 26% in Grade 4, 23% in Grade 5, and 21% in Grade 6. Ethnicity as reported by families was: 56.8% Caucasian, 12.8% Asian, 8.1% East Indian, 6.8% Hispanic, 5.4% Phillipino, 3.3% Black, and 6.8% Mixed/Other.

Sixty children in the sample had elevated CDI T-scores (mean score = 66.63 ± 6.11), with or without elevated anxiety symptoms. Other children had elevated anxiety symptoms only. CDI T-scores for the total sample ranged from 35 to 81 (raw scores 0 to 34), with a mean of 53.01 ± 9.75 (raw score mean: 15.26 ± 6.96). Boys' and girls' CDI T-scores did not differ significantly [boys' mean T-score = 52.76 ± 10.39 (raw score

mean: 14.88 ± 6.94); girls' mean T-score = 53.37 ± 9.02 (raw score mean: 15.80 ± 7.06)].

Correlations

Bivariate correlations revealed that age, gender, and family income were not related to depressive symptoms in the total sample or in either gender separately. In contrast, several subscales of the SPPC were related to depressive symptoms. Significant correlations for the total sample are presented in Table 1.

Regressions

Table 2 illustrates stepwise regression results for the best fitting models to predict depressive symptoms for the total sample, as well as boys and girls separately. Self-perceived scholastic competence, physical appearance, and behavioral conduct were significantly predictive in the total sample (adjusted R^2 = 0.198; p=0.000). Self-perceived scholastic competence and physical appearance were significantly predictive in girls (adjusted R^2 = 0.203; p=0.002). Behavioral conduct was significantly predictive in boys (adjusted R^2 =0.146; p=0.000).

Discussion

This study replicated the strong relationship between depressive symptoms and low self-esteem found in previous studies (Abela & Taylor, 2003; Kim & Cicchetti, 2006). Problems with self-reported scholastic competence, physical appearance, and behavioral conduct were especially salient predictors of depressive symptoms. This study enhanced the previous literature in that the nature of the relationship between depression and self-esteem was different in boys and

Table 2. Significant predictors of depressive symptoms (stepwise regressions)

	Un-standardized coefficients		Standardized coefficients						
	B	SE	Beta	t	Sig.	F for Model	Sig. for Model	Adjusted R^2 (SE)
Total sample (n=140) (constant)	76.895	3.733		20.599	.000	12.046	.000	.198 (7.299)
SPPC scholastic competence	-3.322	.998	-.273	-3.330	.001			
SPPC physical appearance	-2.240	.951	-.196	-2.355	.020			
SPPC behavioral conduct	-2.203	1.086	-.170	-2.028	.045			
Boys (n=76) (constant)	70.065	4.391		15.957	.000	13.661	.000	.146 (7.866)
SPPC behavioral conduct	-5.609	1.518	-.397	-3.696	.000			
Girls (n=64) (constant)	73.501	4.242		17.329	.000	8.376	.001	.203 (6.769)
SPPC scholastic competence	-3.600	1.256	-.343	-2.867	.006			
SPPC physical appearance	-2.761	1.202	-.275	-2.297	.025			

SE = Standard Error; SPPC = Self-Perception Profile for Children

girls. Boys and girls appeared to have different self-perceptions in relation to depressive symptoms.

Girls' self-perceptions regarding cognitive competence and academic performance were predictive of depressive symptoms, as were self-perceptions regarding physical appearance. The latter finding replicates the previously found relationship between depression and negative body perception in girls (Bither, Magnotti, & Yew, 1994; DuBois, Tevendale, Burk-Braxton, Swenson, & Hardesty, 2000; Rierdan & Koff, 1997). The findings are somewhat inconsistent with findings in adults suggesting that females are more sensitive to interpersonal stress and males to achievement stress (Stroud, Salovey, & Epel, 2002). Perhaps awareness of each others' academic performance contributes to interpersonal stress in adolescents, accounting for girls' sensitivity in this area.

On the other hand, boys' depressive symptoms were better predicted by self-perceived behavioral competence. Perceived behavioral competence included items about satisfaction with one's behavior, being able to behave well, and staying out of trouble. These findings suggest that behavioral concerns are more salient for boys, though it is also possible that behavioral dyscontrol contributes to depression in boys (a possibility meriting further evaluation). Additional studies of the gender-specific relationships between reactivity to different types of stress, self-perceptions, and depressive symptoms are clearly needed.

The generalizability of these findings is limited by a modest study participation rate and the lack of a comparison group for the measures reported. Also, the participants in this study were at risk for depression and anxiety, but were not clinically impaired. Potential comparison groups for future study could be children without elevated anxious or depressive symptoms or children with clinical depression. An additional limitation of the study was that the range of scores on the CDI was restricted because a screened sample was utilized. Our sample was, however, ethnically and economically diverse, suggesting generalizability to other jurisdictions.

Overall, this study helps elucidate the types of self-perceptions that may relate to depressive symptoms in boys and girls. Understanding these relationships may inform clinical intervention with depressed children. For example, praising a depressed girl for being well-mannered and showing good self-control in class may be less meaningful than praising her academic achievements. In contrast, praising a boy for good self-control may be more meaningful than praising his academic achievements.

Because the study is cross-sectional, however, the direction of these relationships remains unclear. It is possible, for example, that depressive symptoms increase girls' focus on possible shortcomings in appearance or academic

achievement and boys' focus on perceived behavioral conduct problems. If so, these self-perceptions may improve as depressive symptoms remit. Alternatively, negative self-perceptions may contribute to the maintenance of depressive symptoms, suggesting that they would be a useful target of intervention. Longitudinal studies are clearly needed to clarify the direction of these effects and thus inform appropriate intervention for these vulnerable children.

Acknowledgements / Conflicts of Interest

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