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Preliminary validation of a self-efficacy scale for child functioning despite chronic pain (child and parent versions)

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Abstract

Despite frequent targeting of health beliefs in pediatric chronic pain treatment interventions, there are currently no reliable and valid self-efficacy measures for children with chronic pain and their parents. The current study examined the psychometric properties of parent and child versions of a self-efficacy measure related to the child functioning normally when in pain. Pediatric pain patients, 9–18 years of age, and a caregiver completed questionnaires before an initial tertiary care clinic appointment. The 67 patients in our sample had an average of 1.7 pain locations, including abdominal pain (43.3%), headaches (50.7%), body pain (25.4%), back pain (23.9%), limb pain (20.9%), and/or chest pain (9.0%). Reliability for the new measures was excellent; the Cronbach's alpha was .89 for the 7 child items and .90 for the 7 parent items. Strong evidence for construct validity was also obtained as 23 of the 27 hypothesized correlations were confirmed. As predicted, parent and child ratings of increased self-efficacy for the child *functioning normally when in pain* were significantly correlated with each other, and to parent reports of fewer problems functioning due to physical or emotional problems; parent reports of fewer somatic, behavioral or emotional symptoms; parent reports of increased self-esteem, and unrelated to child pain, age and gender. Additionally, child ratings of increased self-efficacy were significantly correlated with child reports of increased self-esteem and fewer somatic symptoms. Replication with a larger sample size, more complex modeling, and prospective studies are indicated.

Keywords

Pediatric chronic pain; Self-efficacy; Health belief measures

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1. Introduction

Social cognitive theory (Bandura, 1986) and the Health Belief Model (Becker et al., 1978) are two of the most significant theories for adolescent health promotion research (Montgomery, 2002). Concepts from these frameworks have been used to better understand non-adherence and to develop interventions to improve chronic illness self-management. Bandura's Social Cognitive Theory states that the probability a person will perform a health behavior is related to the person's beliefs that he or she has the knowledge and ability to perform the behavior (self-efficacy) and that the behavior will result in beneficial outcomes (treatment efficacy). Bandura's concept of self-efficacy emphasizes the likelihood of engaging and persisting in a behavior despite obstacles and aversive experiences. Originally, the Health Belief Model included the concepts of perceived susceptibility to illness, severity of illness, benefits of treatment, and barriers treatment. Rosenstock et al. (1988) proposed that Bandura's concept of self-efficacy be incorporated into an expanded Health Belief Model.

Empirical research with adults has produced considerable evidence that perceived self-efficacy has a strong impact on self-care activities (Aljasem et al., 2001; Easom, 2003). Self-efficacy has also been confirmed to be important in predicting physical functioning (Lackner et al., 1996; Dwyer, 1997). Additionally, Buclelew et al. (1994) reported that, with disease severity and age controlled, self-efficacy beliefs about functioning among fibromyalgia patients predicted pain behavior. Arnstein et al. (1999) observed that self-efficacy beliefs (related to pain management, coping and physical functioning) mediated pain intensity and disability, and that both self-efficacy beliefs and pain intensity contributed to depression. Other research suggests that drop-out from a pain management program is more likely when self-efficacy beliefs are not improved by treatment (Coughlan et al., 1995). Nicholas (1989) developed a measure of functioning despite pain in order to assess normal functioning (well behavior) rather than pain management (illness behavior) with the idea that this approach is conceptually more consistent with Bandura's emphasis on persistence in the face of obstacles and aversive experiences, and that improved functioning might be a more realistic outcome to target than pain relief. Using this measure, Asghari and Nicholas (2001) controlled for several possible contributors (pain intensity, pain duration, age, gender, neuroticism, depression, disability and catastrophizing), and demonstrated that pain self-efficacy beliefs (normal functioning despite the pain) were negatively correlated with pain behaviors, avoidance behaviors and complaint behaviors at baseline and over 9 months.

Preliminary research has found child self-efficacy to be related to measures of self-esteem, anxiety, depression, and age of the child (Comunian, 1989; Bursch et al., 1999; Judge et al., 2002; Piira et al., 2002). However, despite widespread recognition of the utility of health beliefs in pediatric chronic pain treatment interventions (Eccleston et al., 2002), little work has been conducted to develop reliable and valid self-efficacy measures for children with chronic pain. Examining the same aspect of self-efficacy as Asghari and Nicholas (2001), the current study examined the psychometric properties of a self-efficacy measure (parent and child versions) related to *the child functioning normally when in pain*.

2. Methods

2.1. Procedure

All sequential children and adolescents, 8–18 years of age, presenting to a tertiary care pediatric clinic for assessment of chronic pain and a caregiver were asked to participate in a larger outcome study currently in progress. Prior to the initial clinic appointment, two baseline questionnaire packets, one for the child and one for a parent, were mailed to the patient's home as part of the standard pre-clinic assessment procedure. It was left to the family to decide who would complete the parent/caregiver questionnaire. The packets contained instructions that

parents and children were to complete the measures separately, without consulting each other. The questionnaires covered demographic and general health information about the child, and a number of measures to assess the child's pain, anxiety and functioning levels. The families were instructed to bring the questionnaires with them to the initial clinic appointment. We reviewed each set of questionnaires to check for completion, if the handwriting was the same on the two questionnaires, and if the answers were identical. We identified 4 cases where the parent acted a scribe because the patient was unable to write. Because the answers on the child questionnaire were not identical to the answers of the parent, we considered these questionnaires to be valid. Research protocol approval was obtained from our Institutional Review Board and informed consent was obtained from each family to allow us to use the questionnaires for research purposes. Those measures that were related to the study aims are discussed below.

2.2. Survey construction

The *Child Self-Efficacy Scale* (parent and child report versions) was designed by the first author to measure self-efficacy with regard to normal functioning when in pain (Bursch et al., 1996; unpublished). Rational test construction was used. Proposed survey items were based on the domains of activities related to school, friends and family. These are domains that are often clinically observed to be impaired in this patient population (Bursch et al., 1998; Claar et al., 1999; Palermo, 2000). The original paper and pencil survey consisted of 11 questions designed for children (aged 8 to 18) and a similar version for their parents. All items were close-ended with a response scale from 1 to 5 (see Appendix A to see the question format). The original scale assessed the strength of the children's beliefs (*how sure are you*) that you can do each of the following when in pain: make it through a day of school, be with friends, do well in school, do house chores, take care of yourself, do homework, do things with family, eat, drink water, be alone for a while, and learn what you need to do to take care of yourself. IRB approval was obtained to conduct a chart review for purposes of conducting preliminary scales construction. The sample was obtained from the same population described above, prior to the time of the current study recruitment. Data from 120 cases were obtained. The prior sample was demographically and clinically similar to the sample for the current study. The average age of the children was 14.2 years, 55.8% were female, and 72.1% were Caucasian. Types of pain included: abdominal pain (40.0%, $n = 48$), headaches (48.3%, $n = 58$), body pain (20.8%, $n = 25$), back pain (19.2%, $n = 23$), limb pain (27.5%, $n = 33$), chest pain (9.2%, $n = 11$), and other, such as foot pain or fibromyalgia (21.7%, $n = 26$). Almost half had more than one pain location (45.0%, $n = 54$). The caregivers were mostly female (89.2%) with a mean age of 44.8 years. Factor analyses were used to determine dimensionality and inform decisions about item inclusion. The specific goals of these analyses were to reduce the length of the measure and yield a reliable one-dimensional measure of self-efficacy for normal child functioning despite pain. Three factors resulted from the principal components factor analysis, with varimax rotation. Factor 1 (Cronbach coefficient alpha: 0.90; 39% variance explained) was comprised of the following 7 items: make it through a day of school (0.84), be with friends (0.77), do well in school (0.84), do house chores (0.82), take care of yourself (0.59), do homework (0.80), do things with family (0.70). Factor 2 (Cronbach coefficient alpha: 0.65; 19% variance explained) included: eat (0.77), drink water (0.83), and be alone for a while (0.62). Factor 3 was defined by the item: learn what you need to do to take care of yourself (0.91; 12% variance explained). The final scale has 7 items representing a single dimension (Factor 1), with all factor loadings above 0.58: make it through a day of school, be with friends, do well in school, do house chores, take care of yourself, do homework, do things with family. The parent version was developed to mirror that of the child measure and was designed to measure how sure parents are of their child's ability to function when in pain. Factor analyses were not used in the construction of this scale. The final measures are presented in Appendix A.

3. Measures used for validation purposes

The child instruments included:

1. Children's Health Questionnaire (CHQ CF-87). The CHQ CF-87 (Landgraf et al., 1999) is a child-completed questionnaire designed to measure the physical and psychosocial well-being of children with and without chronic conditions. Reliability and validity testing have been extensive. Subscales used for our analyses included: bodily pain; self-esteem; mental health.
2. Children's Somatization Inventory (CSI). The CSI (Walker and Garber, 1992; Walker et al., 1993) has 35 items on a 5-point scale. It includes 13 symptoms from the Hopkins Symptom Checklist and 26 symptoms from the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised (DSM-III-R) criteria for somatization disorder (four items overlap). Evidence for instrument validity was obtained with a pediatric outpatient sample, which demonstrated significant correlations of the CSI with the Child Behavior Checklist (CBCL) internalizing scale, the CBCL somatic complaints scale, the Child Depression Inventory (CDI), and frequency of school absence.
3. Demographics: age and sex.

The parent instruments included are:

1. Children's Health Questionnaire (CHQ PF-50). The CHQ PF-50 (Landgraf et al., 1999) is a 50 item, parent-completed questionnaire designed to measure the physical and psychosocial well-being of children with and without chronic conditions. Reliability and validity testing have been extensive. The CHQ PF-50 measures components of physical and psychosocial functioning in 12 categories (subscales). The subscales used for our analyses included: physical functioning, role/social limitations (note: we call this subscale "School & Friends" since it measures the degree to which schoolwork or activities with friends are limited due to problems with physical health), bodily pain/ discomfort, mental health, and self-esteem.
2. Children's Somatization Inventory (CSI). The parent version mirrors the child version described above.
3. Pediatric Symptom Checklist (PSC). The PSC (Jellinek et al., 1986) is designed to assist pediatricians in the identification of children with psychosocial functioning problems. The PSC consists of 35 items that are rated as never, sometimes, or often present and scored 0, 1, and 2, respectively. Questions focus on friends, family, play, school, and general mood. Test-re-test reliability of the PSC ranges from $r = .84-.91$. Studies indicate strong (Cronbach alpha = .91) internal consistency of the PSC items.

3.1. Statistical analyses

Only those cases with complete data were used for reliability and validity testing ($n = 67$). The total number of participants approached was 182. Of these, 30 were not interested or non-compliant (e.g., did not sign and return informed consent forms), 23 did not attend the initial clinic evaluation and therefore were never seen at the clinic, 14 provided informed consent but withdrew from the study, and 13 were deemed ineligible (e.g., due to age of the child). Of the remaining 102 participants, 34.3% of participants had missing data on the questionnaires and were not included in the current analyses. Participants ($n = 67$) did not differ from eligible patients who were non-participants ($n = 53$) on age (independent samples t -test; $p > .05$) or sex (chi-square test; $p > .05$). When participants with complete data ($n = 67$) were compared to those with incomplete data ($n = 35$) using independent samples t -tests ($p > .05$), there were no differences on the following variables: child age, child sex, child ethnicity, parent ethnicity,

parent education level, self-efficacy-child measure, self-efficacy-parent measure, duration of pain, number of diagnoses, or type of diagnosis. Thus the final sample is considered representative of the larger clinic population.

Reliability Hypotheses—Because of the dynamic nature of self-efficacy, test–retest reliability was not considered a fitting test to use for the parent and child self-efficacy measures (Bandura, 1982). Cronbach's alpha (α) was used to test internal consistency reliability for each scale. Internal consistency reliabilities were hypothesized to fall within the range of .70–.90.

Validity Hypotheses—Convergent and divergent methods were used to test construct validity using bivariate correlations. Validity hypotheses were developed based on the expected relationships among the theoretical constructs and on past self-efficacy research described above. Table 1 illustrates the hypothesized validity relationships. Specifically, we expected that parent and child ratings of increased child self-efficacy for *functioning normally when in pain* will be related to each other, and to parent reports of fewer problems functioning due to physical or emotional problems; child and parent reports of fewer somatic, behavioral or emotional symptoms; child and parent reports of increased self-esteem, and unrelated to pain ratings, age and sex of the child. It should be noted that while previous research on child self-efficacy related to pediatric asthma attack prevention and management was found to be related to age (Bursch et al., 1999), this correlation was not expected in the current sample because the self-efficacy behavior examined in the current study is normal functioning when in pain (not specific prevention or emergency response skills that need to be learned). Because pain severity ratings in this clinic are skewed towards severe pain, we did not expect this variable to correlate with self-efficacy. Finally, while one might also expect that parent and child ratings of increased child self-efficacy would also be related to child reports of fewer problems functioning, we did not include this subscale of the CHQ CF-87 in our analyses since it would have decreased our sample size due to missing data.

To adjust the alpha level for the number of correlations, a *Keppel's Modified Bonferroni* (Keppel, 1991) correction was used. The formula is as follows:

$$\alpha_{MB} = \frac{df_A(\alpha_{EC})}{c}$$

where α_{MB} is the Modified Bonferroni alpha, df_A is the number of variables that were used in the group of correlations tests, α_{EC} is the usual alpha level (.05), and c is the correlation in the correlation matrix. Using this formula, an alpha level was set at 0.028.

4. Results

The average age of the 67 children in our sample was 13.8 years (range = 9–18 years), 77.6% were female, and 67.2% were Caucasian. Types of pain included: abdominal pain (43.3%, $n = 29$), headaches (50.7%, $n = 34$), body pain (25.4%, $n = 17$), back pain (23.9%, $n = 16$), limb pain (20.9%, $n = 14$), and chest pain (9.0%, $n = 6$). Patients had an average of 1.7 pain locations (range 0–6). Pain diagnoses included complex regional pain syndrome (12.5%, $n = 8$); neurovisceral disorders, including functional bowel, bladder and uterine disorders (44.8%, $n = 30$); headaches (44.8%, $n = 30$); myofascial (40.3%, $n = 27$); fibromyalgia (13.4%, $n = 9$); and, arthritis (1.5%, $n = 1$). Note that 31 participants (46.3%) had more than one pain diagnosis; data on pain diagnosis were missing for 3 participants (4.5%). The mean duration of pain was 40.43 months (SD = 47.0); range of pain duration was 2–213 months. Data on pain duration were missing for 4 participants (6%). The 67 caregivers were mostly female (89.6%) with a mean age of 46.3 years (range = 32–67 years). Descriptive data for all measures are presented in Table 2.

Excellent internal consistency reliabilities were obtained. The Cronbach's alpha was .89 for the 7 child items and .90 for the 7 parent items.

Evidence for construct validity was also obtained as 23 of the 27 hypothesized correlations were confirmed (see Table 3). As predicted, parent and child ratings of increased self-efficacy for the child *functioning normally when in pain* were significantly correlated with each other, and to parent reports of fewer problems functioning due to physical or emotional problems; parent reports of fewer somatic, behavioral or emotional symptoms; parent reports of increased self-esteem, and unrelated to child pain, age and gender. Additionally, child ratings of increased self-efficacy were significantly correlated with child reports of increased self-esteem and fewer somatic symptoms. The only three hypothesized correlations with the parent version that were not confirmed were child reports of somatic ($p = 0.18$) and emotional symptoms ($p = 0.22$), and child reports of self-esteem ($p = 0.045$). The only hypothesized correlation with the child version that was not confirmed was with child reports of emotional symptoms ($p = 0.06$).

5. Discussion

The developed measures demonstrated excellent initial reliability and validity, with nearly all of the hypothesized relationships being confirmed. Parent and child scales measuring child self-efficacy for *functioning normally when in pain* were correlated in the expected directions with parent reports of fewer problems functioning, fewer symptoms, increased self-esteem, and unrelated to child pain, age and gender. The child version was also correlated in the expected directions with child reports of increased self-esteem and fewer somatic symptoms. While the parent self-efficacy scale was not related to child reports of self-esteem, and somatic and emotional symptoms, this finding does not contradict any previously published research, as these hypotheses have not been previously tested. In fact, previous research has demonstrated that youth internalizing symptoms are likely to be overlooked by adults, particularly during adolescence (Yeh and Weisz, 2001; Martin et al., 2004). Consequently, it may be that our finding should be expected since the patients are making assessments of symptoms and self-efficacy based on internal perceptions of symptoms and thoughts, and the parents are doing so from their observations of external behavior. For example, it may be that parents are less sure their children can function with pain if they are not going to school (an observed disability); whereas the patients' assessments of self-efficacy may be tied more closely to their (unobservable) feelings, thoughts, symptoms, experiences and/or memories. This is a potentially important distinction since parents can influence the decisions related to functioning, such as school attendance, and family factors have been demonstrated to influence pain perception, functioning and outcomes (Chambers, 2003; Crushell et al., 2003). While parent perception is important to understand, our findings highlight the importance of including child reports for the most relevant assessment of child self-efficacy for *functioning normally when in pain*.

Successful treatment models for childhood pain have been specifically based on concepts from social cognitive theory and the health belief model. For example, the best studies in children with chronic headaches offer compelling evidence that relaxation skills training and cognitive behavioral therapy can be highly effective in reducing the severity and frequency of pediatric chronic pain (Eccleston et al., 2002). These scales represent a first step in developing useful measurement tools to test our theoretical constructs and interventions. Our findings offer preliminary support for the use of these measures to assess parent and child self-efficacy beliefs for the *child functioning normally when in pain*. When viewed at baseline, these scales can provide the clinician with an idea about how disabled the child feels and how disabling the parent believes the pain has become for the child. Importantly, it also allows the clinician to compare responses to determine whether child or parent is least sure of the child's ability to function in pain, and which activities pose the biggest perceived challenges. Such information

can be valuable for intervention planning. When viewed at follow-up, it is anticipated that the present measures will assist in the assessment of the impact of interventions geared towards increasing self-efficacy to function with pain. Additionally, the measures may prove helpful in explaining variance in assessments of self-management behaviors, including treatment adherence. These components of the research are underway.

The potential weaknesses of our study are related to our sample composition, our sample size, and the research design. First, our patients were recruited from university-based tertiary care clinics. This means that most of them had already been evaluated and treated by a primary care physician and/or by another specialist. Consequently, our finding might not generalize to children and adolescents with less severe chronic pain, or with less extensive experience with the health care system, and their parents. For example, with greater variance in pain severity, we would expect a relationship of this variable with self-efficacy. Second, the vast majority of our parent participants were female (mothers), indicating that we do not know if male caregivers would have similar perceptions. Third, we had complete data for 67 children and parents. It might be that with a larger sample, we would have obtained different results. Fourth, our study is cross-sectional in design prohibiting any conclusions regarding the ability of these measures to detect intervention effects or regarding the value of the measure in predicting self-management behaviors, such as adherence, and children's well-being and adjustment, after controlling for demographic variables and relevant clinical variables. Replication with a larger sample size, more complex modeling, and prospective studies are indicated.

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Appendix A. Final measures

Some people are able to do many things even when they have pain. Some people with pain are not able to do things. The next questions are about your ability to do things when you have pain.

When you have pain

How sure are you that you are able to do each of the following things when you have pain?

	Very sure	Pretty sure	In the middle	Pretty unsure	Very unsure
How sure are you that you can <u>make it through a day of school</u> when you have pain?	1	2	3	4	5
How sure are you that you can <u>be with your friends</u> when you have pain?	1	2	3	4	5
How sure are you that you can <u>do well in school</u> when you have pain?	1	2	3	4	5
How sure are you that you can <u>do house chores</u> when you have pain?	1	2	3	4	5
How sure are you that you can <u>take care of yourself</u> when you have pain?	1	2	3	4	5
How sure are you that you can <u>do your homework</u> when you have pain?	1	2	3	4	5
How sure are you that you can <u>do things with your family</u> when you have pain?	1	2	3	4	5

When your child has pain

Some people are able to do many things even when they have pain. Some people with pain are not able to do things. The next questions are about your child's ability to do things when he or she has pain.

How sure are you that your child is able to do each of the following things when he or she has pain?

	Very sure	Pretty sure	In the middle	Pretty unsure	Very unsure
How sure are you that your child can <u>make it through a day of school</u> when in pain?	1	2	3	4	5
How sure are you that your child can <u>be with friends</u> when in pain?	1	2	3	4	5
How sure are you that your child can <u>do well in school</u> when in pain?	1	2	3	4	5
How sure are you that your child can <u>do house chores</u> when in pain?	1	2	3	4	5
How sure are you that your child can <u>take care of him or herself</u> when in pain?	1	2	3	4	5
How sure are you that your child can <u>do homework</u> when in pain?	1	2	3	4	5
How sure are you that your child can <u>do things with the family</u> when in pain?	1	2	3	4	5

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Table 1

Validity hypotheses

	Self-efficacy for functioning normally (high scores = lower levels of self-efficacy)
<i>Child measure</i>	
Pain – CHQ (high scores = less pain)	∅
Well-being/mental health – CHQ (high scores = lower levels of disability)	–
Self-esteem – CHQ (high scores = lower levels of self-esteem)	+
Somatic symptoms – CSI (high scores = more somatic symptoms)	+
Age of child	∅
Sex of child	∅
<i>Parent measure</i>	
Pain – CHQ (high scores = less pain)	∅
Physical function – CHQ (high scores = lower levels of disability)	–
School & friends – CHQ (high scores = lower levels of disability)	–
Well-being/mental health – CHQ (high scores = lower levels of disability)	–
Self-esteem – CHQ (high scores = lower levels of self-esteem)	+
Pediatric Symptom Checklist – PSC (high scores = more emotional symptoms)	+
Somatic symptoms – CSI (high scores = more somatic symptoms)	+

⁺, a positive correlation is expected;

[–], a negative correlation is expected;

∅, no correlation is expected.

Table 2

Descriptive statistics

	<i>N</i>	Minimum	Maximum	Mean	<i>SD</i>
<i>Child measures</i>					
Pain – CHQ	67	0	80	20.00	19.85
Well-being/mental health – CHQ	67	31.25	91.67	61.96	15.06
Self-esteem – CHQ	67	9.09	100.00	65.02	21.11
Somatic symptoms – CSI	67	4.00	103.00	30.26	19.87
Self-efficacy (mean)	67	1.00	5.00	3.10	0.98
<i>Parent measures</i>					
Physical functioning – CHQ	67	.00	100.00	56.83	32.64
School & friends – CHQ	67	1.00	4.00	2.33	1.20
Pain – CHQ	67	0	90	22.99	20.53
Well-being/mental health – CHQ	67	25.00	100.00	63.21	17.51
Self-esteem – CHQ	67	16.67	100.00	53.40	24.10
Pediatric Symptom Checklist – PSC	67	3.00	40.58	20.61	9.69
Somatic symptoms – CSI	67	3.00	90.59	27.17	18.07
Self-efficacy	67	1.00	5.00	3.43	0.95

Table 3

Correlations among the measured variables

		Mean child self-efficacy	Mean parent self-efficacy
Mean child self-efficacy	Pearson correlation	1	.739**
	Sig. (2-tailed)		.000
Mean par self-efficacy	Pearson correlation	.739**	1
	Sig. (2-tailed)	.000	
<i>Child measures</i>			
Pain – CHQ	Pearson correlation	-.139	.141
	Sig. (2-tailed)	.263	.254
Well-being/mental health – CHQ	Pearson correlation	-.231	-.151
	Sig. (2-tailed)	.060	.224
Self-esteem – CHQ	Pearson correlation	-.335**	-.245
	Sig. (2-tailed)	.006	.045
Somatic symptoms – CSI	Pearson correlation	.332**	.166
	Sig. (2-tailed)	.006	.179
Child age	Pearson correlation	.144	-.104
	Sig. (2-tailed)	.246	.401
Child sex	Pearson correlation	.090	.125
	Sig. (2-tailed)	.471	.314
<i>Parent measures</i>			
Physical functioning – CHQ	Pearson correlation	-.443**	-.426**
	Sig. (2-tailed)	.000	.000
School & friends – CHQ	Pearson correlation	-.390**	-.328**
	Sig. (2-tailed)	.001	.007
Pain – CHQ	Pearson correlation	-.210	.033
	Sig. (2-tailed)	.089	.789*
Well-being/mental health – CHQ	Pearson correlation	-.272*	-.293*
	Sig. (2-tailed)	.026	.016
Self-esteem – CHQ	Pearson correlation	-.499**	-.455**
	Sig. (2-tailed)	.000	.000
Pediatric Symptom Checklist – PSC	Pearson correlation	.438**	.338**
	Sig. (2-tailed)	.000	.005
Somatic symptoms – CSI	Pearson correlation	.329**	.293*
	Sig. (2-tailed)	.006	.016

* Correlation is significant at the 0.028 (2-tailed; modified Bonferroni alpha) listwise $N = 67$.

** Correlation is significant at the 0.01 level (2-tailed).