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Abstract

A new, multi-dimensional scale of emotional empathy is described. The scale consists of 30 items and was administered to 793 adolescents and adults. A principal components analysis yielded six meaningful factors. Alpha reliabilities for all scale scores were moderate to high, and the scales demonstrate significant relationships to a number of behavioral criteria. The new empathy scale measures emotional aspects of empathy and can be used by researchers interested in a general measure of emotional empathy as well as providing detailed sub-scales.

A Measure of Emotional Empathy for Adolescents and Adults

The purpose of this study was to develop a multi-faceted scale of emotional empathy. The term empathy is defined in various ways, and there seem to be several traditions to its study. On the one hand, empathy can be defined cognitively, in relation to perspective taking or understanding of others. For example, Hogan (1969) described empathy as "the intellectual or imaginative apprehension of another's condition or state of mind without actually experiencing that person's feelings" (p. 308). On the other hand, empathy has also been defined as emotional arousal or sympathy in response to the feelings or experiences of others. For example, Mehrabian and Epstein (1972) defined empathy as "the heightened responsiveness to another's emotional experience" (p. 526). Finally, there is an integrative approach which employs both cognitive and emotional approaches to the study of empathy. More recently, empathy has been conceived of as a multi-dimensional construct (Davis, 1983; Thornton & Thornton, 1995). Davis (1983) included cognitive and emotional components in his view of empathy, and he believes that empathy "can best be considered as a set of constructs, related in that they all concern responsivity to others".

These definitions have also guided the development of measures of empathy. We will briefly review the main empathy scales, which include two scales by Mehrabian (and Epstein), two sub-scales from a multivariate scale developed by Davis (1983), and a scale developed by Hogan (1969). We will then examine a new scale of emotional empathy which we have developed.

Background: Cognitive and Emotional Empathy

Mehrabian and Epstein's (1972) scale, the Emotional Empathic Tendency Scale (EETS) was developed to measure emotional empathy. It consists of 33 items which are rated on a 9-point (-4 to +4) scale. There are 7 subscales: Susceptibility to Emotional Contagion ("The people around me have a great deal of influence on my mood"); Appreciation of the Feelings of Unfamiliar and Distant Others ("Lonely people are

probably unfriendly"); Extreme Emotional Responsiveness ("Sometimes the words of a love song can move me deeply"); Tendency to be Moved By Others' Positive Emotional Experiences ("I like to watch people open presents"); Tendency to be Moved By Others' Negative Emotional Experiences ("Seeing people cry upsets me"); Sympathetic Tendency ("Little children sometimes cry for no apparent reason"); and Willingness to be in Contact with Others Who Have Problems ("When a friend starts to talk about his problems, I try to steer the conversation to something else"). While the scale set out to measure emotional components of empathy, it does include a few "cognitive" items such as "I would rather be a social worker than work in a job training center".

The EETS has been shown to correlate with a large number of personality measures, with physiological measures of emotional arousal, ratings of parental affection, prosocial behavior, and helping behavior (for a comprehensive review of the literature, see Mehrabian, Young & Sato, 1988).

Mehrabian (1996) updated the EETS, creating a new 30-item emotional empathy scale which contains 15 positively-worded and 15 negatively-worded items (hence the name, the Balanced Emotional Empathy Scale or BEES) rated on a -4 (very strong disagreement) to +4 (very strong agreement) scale. The BEES correlates .77 with the original EETS and has excellent internal consistency reliability (alpha = .87). Means for men and women are very different, the a male mean of 29 (SD = 28) and a female mean of 60 (SD = 21). The scale is significantly and negatively correlated with measures of aggression and risk of violence, and positively correlated with a measure of Optimism-Pessimism (see Mehrabian, 1996). The scale yields a single score.

Later, Davis (1983) developed a 28-item empathy measure which included four, 7-item scales. Perspective Taking is the tendency to adopt another person's point of view ("I sometimes try to understand my friends better by imagining how things look from their perspective"), the Fantasy scale measures the degree to which a person imagines how characters in books or movies feel ("I really get involved with the feelings of the

characters in a novel") , the Empathic Concern scale measures warmth, compassion and sympathy for others ("I often have tender, concerned feelings for people less fortunate than me"), and the Personal Distress scale measures personal anxiety one feels in difficult social situations ("Being in a tense emotional situation scares me"). Davis found that the more "cognitive" Hogan scale correlated .40 with his own cognitive Perspective-Taking scale.

Hogan (1969) took a very different approach at developing an empathy measure. His work resulted in a 64-item true/false scale drawn from the California Psychological Inventory (CPI) the Minnesota Multiphasic Personality Inventory (MMPI) and a series of experimental measures. Hogan's scale is based upon a definition of empathy which he derives from a model of moral development and defines as "the intellectual or imaginative apprehension of another's condition or state of mind without actually experiencing that person's feelings" (p. 308). Hogan compared the responses of subjects rated high or low on empathy based upon observer's ratings on the item pool described above. Through the use of item analysis and other criteria, Hogan selected 64 items for his empathy scale. Hogan found that his scale correlated .58 with observer ratings of "social acuity". A factor analysis of the scale (Grief and Hogan, 1973) resulted in three factors which were labeled: Even-Tempered Disposition, Social Ascendancy, and Humanistic Sociopolitical Attitudes. Another study (Johnson, Cheek & Smither 1983) factor-analyzed Hogan's scale and obtained a four-factor solution: Social Self Confidence (I usually take an active party in the entertainment at parties); Even-Temperedness (I easily become impatient with people, reverse scored); Sensitivity (I have at one time or another tried my hand at writing poetry); and, Nonconformity (Disobedience to the government is never justified, reverse-scored).

In a review of a number of empathy scales, Chlopan, McCain, Carbonell & Hagen (1985) concluded that only the Hogan and Mehrabian-Epstein scales were reliable and valid (they did not include Davis' work in their analyses, noting its relationships to the

Hogan and Mehrabian-Epstein scale only in the discussion). They also noted the low correlation between the two scales and felt that the Mehrabian-Epstein scale measured emotional arousal due to another person's distress while the Hogan scale measured role-taking ability (as well as, perhaps, social functioning). Chlopan et. al. also concluded that a definition of empathy should include both of these components. Other scales which measure empathy have been developed, and include scales by Dymond (1949) and Kerr and Speroff (1954).   It appears that Hogan's scale is, as Davis (1983) noted, a "cognitive" measure of empathy which includes items which relate to social competence and behavior. Even Johnson, et al (1983) noted that the scale has "..no immediate or obvious semantic relationship to the concept of empathy" (p. 1309) due to the empirical method used to construct the scale. However, they also felt that the lack of face validity further strengthened the results they obtained with the scale since subjects taking the scale are not aware that their level of empathy is being assessed.

These empathy scales can be divided, conceptually at least, into two major groups: those related to cognitive perception and those measuring emotional responsiveness. Hogan's work also includes traits such as social ascendancy, even-tempered disposition and humanistic sociopolitical attitudes. The emotional realm of empathy seems somewhat different from the cognitive, and it is the emotional domain with which we are centrally concerned in this article. This domain, although only one of several threads measuring empathy, is itself multifactorial and of considerable theoretical interest. There are several advantages that emotion-based measures of empathy have in relation to other measures. These include the appropriateness of self-report methodology to understand a person's subjective responses and the directness of the emotional approach.

Introduction to the Present Study

The purpose of the present study was to develop a new measure of empathy suitable for use with adolescents and adults which could yield scores measuring multiple dimensions of emotional empathy. However, while we recognize the multi-dimensional

nature of the empathy concept, that is, having both an emotional and a cognitive component, our focus was on the emotional component of empathy. We were especially interested in using the empathy scale as part of a research program on emotional intelligence (c.f., Mayer & Salovey, 1997) and desired an empathy scale whose item content was as different as possible from the cognitive measurement of emotional intelligence as an ability. When a self-report measure with "obvious" item content (i.e., face validity) predicts a similar external criterion such a relationship is neither terribly convincing nor surprising (see Johnson, et al., 1983). Correlations between an emotional intelligence ability measure and an emotional, non-cognitive self-report measure would be "news".

In the present study, we examine whether: (a) the scale scores indeed demonstrate adequate internal-consistency reliability; (b) the scale is multi-factorial; (c) there are sex differences in empathic responsiveness, with women outperforming men; (d) empathy varies with age, and; (e) if the present empathy scale correlates with other personality and behavioral self-report measures.   In addition, if the scale is multi-factorial we will examine whether we obtain the same factor structure as the Mehrabian-Epstein scale even though we are employing a different item set.

<center>Method</center>

<u>Subjects</u>

We utilized two different samples for this study, with a total of 793 subjects participating in this research.

<u>Adult Sample</u>. Subjects were 503 adults with an average age of 23 years (range from 17 to 70), 164 men and 333 women (6 subjects did not report their gender). Subjects were asked to report their ethnicity, with 12% (n=58) being African-American, 6% Asian-American (n=31), 6% Hispanic (n=32), 68% White (340), and 8% (n=42) reporting some other background, or who did not supply their ethnicity.

Subjects were recruited from several sources. College students from four

different community colleges and universities in three different states were either paid ($15) for their participation in the study or participated to fulfill an introductory psychology course research requirement. The other subjects were executives in an outplacement setting, corporate employees, and career workshop attendees. These subjects received feedback on their test performance in lieu of payment.

   Adolescent Sample. Subjects were 290 adolescents age 11 to 18 years with an average age of 14 years. 115 were male and 140 were female (35 did not report their gender). Subjects were asked to report their ethnicity, with 4% (n=13) being African-American, 2% Asian-American (n=6), 2% Hispanic (n=7), 71% White (205), and 8% (n=22) reporting some other ethnic background (the rest, 13%, n=37 did not supply their ethnicity). Adolescents attended one of two independent secondary schools or participated in a church youth group.

   Scale Description. The items for the present scale were developed by having the second author indicate sample item categories such as "items denote a person who responds emotionally to others, who cries when they are sad, laughs when they are happy, and feels for animals, children and so forth". The first author then wrote the items for the present scale to try and capture this type of emotional responsiveness.

   The empathy scale consisted of thirty items such as "The suffering of others deeply disturbs me". Six negatively-worded items were included in the scale in order to reduce response bias (e.g., "I rarely take notice when other people treat each other warmly"). An attempt was made to include positive as well as negative emotional situations (e.g., "Being around happy people makes me feel happy, too"). A five-point response scale was used, where 1 was "Strongly Disagree" and 5 was "Strongly Agree". (The complete scale is included in the Appendix.)

   Criterion Scales. Adult subjects completed a series of lifespace scales. Lifespace scales are self-report scales, similar to bio-data scales, which record information on the types and frequency of behavior a subject engages in (see Mayer, Carlsmith, & Chabot,

1998). The current lifespace scales included questions on cultural events attended (attend the theater, museums, concerts, ballet), type of music listened to (13 categories, including rock, folk, rap, blues, jazz, punk and bluegrass), type of books read (13 categories, including short stories, poetry, romance, self-help and business), artistic skills (8 areas, including painting, acting, pottery, weaving, and cooking), the subject's parent's parenting style (7 behaviors, including warm and supportive, verbally abusive, and listened to me), satisfaction with multiple dimensions of their life (financial situation, relationships, academic status, career/work situation), and whether they had been in psychotherapy. The responses to these questions were either open-ended (e.g., list the number of such books read) or answered on a three-point scale: cultural events attended (almost never, once/month, more than once/month), type of music listened to (almost never, sometimes listen, listen a lot), type of books read (list how many books per year read in each category), artistic skills (no/little talent, some talent, very talented), the subject's parent's parenting style (5-point scale from definitely does not describe to definitely does describe), satisfaction with multiple dimensions of their life (5-point scale from not at all satisfied to extremely satisfied), and whether they had been in psychotherapy (yes or no). A principal components analysis of the music, books and cultural events ratings was conducted in order to construct a set of lifespace scales. The Artistic Skills, Satisfaction and Parenting ratings were submitted to separate principal components analyses. The factor-based scales which were used in this study were a Parenting scale, an Artistic Skills scale, a Psychotherapy scale, and a Life Satisfaction scale, as well as three scales reflecting attendance at cultural events, books read and music listened to: Culture, Entertainment-Seeking, and Self-Improvement. For a more complete description of these scales, see Mayer, Caruso, & Salovey, in press.

Adolescent subjects completed a 7-item empathy scale based upon the Mehrabian-Epstein empathy scale (Bryant, 1982) and a 16-item social loneliness scale (Asher, Hymel, & Renshaw, 1984). Each of these scales yielded a single score. In addition, these

subjects were asked to indicate whether they had no skill, some skill or were very talented in six different areas (musical instrument, singing, painting/drawing, sports, dance/ballet, acting), and how good their school grades were in comparison to others kids in their class (a lot worse, a little worse, average, a little better, much better). A principal components analysis yielded a single factor for the talent questions, and so these ratings were combined into a single score.

<div align="center">Procedure</div>

Subjects completed the 30-item empathy scale as part of a larger study on emotional intelligence. Subjects completed the study in small groups or individually. Each subject received an item and answer booklet which contained all necessary instructions, test items and responses. The test was not timed and the empathy scale materials were self-administered. The instructions stated "Circle the response which best indicates how much you agree or disagree with each item."

The adult sample of 503 subjects age 17 years and older completed the lifespace scales described above, and the adolescent sample of 290 students, age 11 to 17, completed the 7-item empathy scale, social loneliness scale, and other lifespace measures described above.

<div align="center">Results</div>

The six negatively-worded items were first reverse-scored and then a total empathy scale was computed by adding all 30 items and computing a mean (in order to compare responses across various sub-scales). Internal consistency for all scores was computed using coefficient alpha. The alpha reliability for the total 30-item scale scores was .88 (mean=3.63, SD=0.57).

In order to determine the factorial structure of the scale, the 30 empathy scale items were submitted to separate principal components analyses for the adolescent sample and for the adult sample. The analyses were nearly identical. Therefore, the data were combined and another principal components analysis was conducted on the combined

sample which yielded six factors with eigenvalues equal to or greater than 1 (the eigenvalues were 7.53, 1.87, 1.76, 1.61, 1.16, 1.09). Other solutions were analyzed, retaining fewer factors, but the six-factor solution was the most meaningful. The results of the varimax-rotated analysis are reported in Table 1. Examination of this table indicates that the factors obtained in the present study had a good deal of overlap with the factors obtained by Mehrabian and Epstein (1972).

Next, factor-based scales were created by adding together all items with pattern/structure coefficients at .45 or greater on each factor (with one exception which is noted below). The first factor-based scale, Empathic Suffering, consists of 8 items (mean=3.97, SD= .71, alpha = .80), with item 8 having the highest pattern/structure coefficient: "I get very upset when I see a young child who is being treated meanly". Factor scale two, Positive Sharing, included 5 items (mean=3.82, SD= .83, alpha = .71). Item 22 had the highest pattern/structure coefficient on factor two: "Seeing other people smile makes me smile". Factor scale three, Responsive Crying, has 3 items (mean=3.10, SD= 1.16, alpha = .72), with the first scale item having the highest pattern/structure coefficient: "I cry easily when watching a sad movie." Factor scale four, Emotional Attention, has 4 items (mean=3.68, SD= .90, alpha = .63), with item 13, a reverse-scored item, loading highest: "I rarely take notice when people treat each other warmly." Factor scale five, Feeling for Others, has 3 items with pattern/structure coefficients of .45 or greater, and one with a pattern/structure coefficient of .43 which was included in the scale since its content was so similar to the other 3 items (mean=3.10, SD= .79, alpha = .59). Item 10, "If someone is upset I get upset, too" had the highest loading on factor five. The last factor scale, Emotional Contagion, has two items (mean=3.40, SD= .91, alpha= .44), including item 17, "If a crowd gets excited about something so do I". A General Empathy scale, consisting of the 26 items of the six factor scales, has a mean of 3.53 (SD= .60) and an alpha reliability of .86. Table 2 lists the means, standard deviations, alpha reliability of the scale scores and the correlation with the full scale for each of these six factor-based

scales. Table 3 reports the intercorrelations of the six factor-based scales. The correlation matrix is positive, with the lowest correlations obtained for the Emotional Attention scale and the Emotional Contagion scale. (Emotional Contagion, with just two items and low alpha reliability of the scores, will be dropped from further analyses.)

As expected, women scored higher on all empathy scales than did men. A MANOVA on the six empathy sub-scales was significant, $\underline{F}$ (6,741) = 41.8. Univariate ANOVA's were then computed for the six sub-scales. For the Suffering scale, $\underline{F}$ (1,746) = 66.0 (Men's mean =3.7, Women's mean =4.1); Positive Sharing scale, $\underline{F}$ (1,746) = 52.5 (Men's mean =3.6, Women's mean =4.0); Responsive Crying scale, $\underline{F}$ (1,746) = 203.5 (Men's mean =2.4, Women's mean =3.5); Emotional Attention scale, $\underline{F}$ (1,746) = 29.8 (Men's mean =3.5, Women's mean =3.8); Feel for Others scale, $\underline{F}$ (1,746) = 79.0 (Men's mean =2.8, Women's mean =3.3); Emotional Contagion scale, $\underline{F}$ (1,746) = 33.8 (Men's mean =3.2, Women's mean =3.6); and on the General Empathy scale $\underline{F}$ (1,746) = 191.8 (Men's mean =3.2, Women's mean =3.8). All $\underline{F}$'s were significant at the .001 level.

The total sample varied so greatly in age that it was likely for a total sample correlation to be skewed by the presence of a few older subjects in the sample. Therefore, an analysis of changes in empathy with age was conducted by examining the correlations of the general empathy scale and age for subjects 21 years of age and younger, and for subjects 22 years of age and older. For the 580 subjects 21 years or younger (mean=3.38, SD=0.58), the correlation between General Empathy and age was .26 ($\underline{p}$ < .001) (r^2 = .068), and r = .09 ($\underline{p}$ > .05), for the 145 subjects 22 years of age and older (mean=3.58, SD=0.56). There was a significant difference between the younger and older subjects on this scale ($\underline{F}$(1,741)=8.91, $\underline{p}$<.01).

The analyses of the 503 adult subjects who were also administered a set of life space scales are reported in Table 4, and the analyses of the 290 adolescent subjects administered a set of self-report scales are reported in Table 5. For the 503 adults, these correlations indicate that empathy is related to artistic skills, satisfaction with one's

career, social and personal aspects of life, and a warm, supportive upbringing. For the 290 adolescents, empathy is significantly correlated with an adaptation of the Mehrabian-Epstein empathy scale and is somewhat related to one's skill set. Of interest are the mostly non-significant correlations between the empathy scales and social loneliness. Only the Responsive Crying scale is significantly correlated with loneliness, with that correlation being negative. Almost 40% of the variance in General Empathy is held in common with the Mehrabian-Epstein adapted scale.

Discussion

Scores obtained from the present emotional empathy scale were found to have internal consistency reliability as measured by coefficient alpha of .86, with individual sub-scale score alpha reliabilities ranging from .44 (for a 2-item sub-scale) to .80 (for an 8-item sub-scale).

Empathy, while often measured unidimensionally, was found to consist of a number of separate components. The scale described in the present study measured six different components of empathy even though it was based upon an emotional view of empathy, rather than on a multidimensional empathy model. The scores from these scales were found to be reliable. These six scales appear to overlap to a large extent with the Mehrabian-Epstein scale: the present measure's Suffering scale with the EETS' Susceptibility to Emotional Contagion scale; our new Emotional Contagion scale with Appreciation of the Feelings of Unfamiliar and Distant Others; Responsive Crying with Extreme Emotional Responsiveness; Positive Sharing with Tendency to be Moved By Others' Positive Emotional Experiences; Feel For Others with Tendency to be Moved By Others' Negative Emotional Experiences; and, Emotional Attention with Willingness to be in Contact with Others Who Have Problems. The EETS' Sympathetic Tendency appears to reflect a person's interest in others' feelings and does not have a correlate in the present scale.

We found significant sex differences, as hypothesized, for the total scale as well

as for the six sub-scales. Empathy was also found to increase somewhat in adolescence, but no significant impact of age on empathy was noted for the adult subjects.

The new empathy scales demonstrated significant correlations with a brief adaptation of the Mehrabian-Epstein scale designed for a younger population. The new scale did not, generally, correlate with a measure of social loneliness, with one exception: the correlation between the Responsive Crying scale and social loneliness was -.13 ($p <$ .05). However, the scores share less than 2% of the variance ($r^2 = .016$). The relationship between social functioning and a child's negative emotionality has been demonstrated in several studies conducted by Eisenberg and her colleagues (for a review, see Eisenberg, Fabes, & Losoya, 1997). For the adult sub-sample, the correlation between Emotional Attention and Parenting Style of .34 ($r^2 = .12$) suggests that the development of empathy, and especially of a non-defensive empathetic style, is related to how one is raised. The significant correlation between empathy and a positive parenting style is consistent with results obtained by Barnett, Howard, King & Dino (1980) who found that high-empathy subjects had parents who spent more time with them, discussed feelings and displayed more affection.

Small, but significant, correlations were also obtained for several of the empathy scales and a subject's culture-seeking behaviors (Culture). Subjects who read a number of self-help type books (Improvement) did not display greater empathy than did other subjects, and in fact, demonstrated a slight tendency to avoid negative emotions ($r = -.14$, $p<.05$, $r^2 = .019$). No significant relationships were obtained with entertainment-seeking behavior (Entertainment) such as TV viewing. Interestingly, there was no significant relationship between any of the empathy scales and psychotherapy. This could be due to the fact that if a subject had even just a single therapy session then they were coded as having had psychotherapy. Therefore, it might be more accurate to conclude that there was no relationship between therapy-seeking and empathy. An additional analysis of the length (number of months, total number of sessions) of therapy, however, also failed to

uncover a relationship with any of the empathy scales.

The researcher wishing to study empathy as part of a broader research program may utilize the General Empathy scale while empathy researchers have the means to include multiple aspects of empathy in their research programs. For those wishing to more closely examine the emotional components of empathy, we recommend using the first five factor-based scales listed in Table 1. Given that only two items comprise the Emotional Contagion scale, and that its scores had an alpha reliability of .44, we do not suggest its routine use in empathy research. These five factor-based scales allow the researcher to more closely, and easily, examine multiple facets of empathy.

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Author Note

Table 1

Varimax-rotated principal component analysis with communalities and pattern/structure coefficients

	Commun-	Factor					
Scale/Item Content	ality	I	II	III	IV	V	VI
Suffering							
Upset when a child treated meanly	.48	.65	.18	.06	.14	-.03	.05
Makes me mad to see injustice	.46	.62	.23	.03	.12	.07	-.01
Feel good to help someone out	.53	.61	.34	.09	.18	-.04	.01
Suffering of others disturbs me	.43	.59	.12	.00	-.01	.24	.08
Stories of sick children upset me	.41	.57	.14	.15	-.03	.08	.18
Hurts to see a person in pain	.48	.54	.32	.09	.03	.27	.05
Seeing a hurt animal is upsetting	.40	.52	.04	.24	.19	-.18	.01
Happy when people are nice	.48	.50	.43	.00	.04	.04	-.20
Certain music can really move me	.34	.44	.12	.28	.01	.13	-.18
Depressed people bring me down	.40	.43	-.08	.00	-.02	.20	.41
Feel deeply for others	.46	.42	.27	.10	.15	.41	-.13
Positive Sharing							
Others make me smile	.67	.16	.76	.14	.08	.11	.18
Happy people make me feel happy	.62	.17	.74	.08	.09	.03	.16
Feel other's joy	.56	.20	.65	.08	-.02	.26	.12
Feel happy when others laugh/enjoy	.52	.36	.62	.03	.10	.01	.05
Warm feeling when others help	.51	.37	.56	.07	-.01	.21	-.11
Crying							
Cry easily watching sad movie	.74	.23	.15	.81	.02	.12	.03
Cry at sad parts of books	.64	.19	.12	.75	-.05	.09	.09
Don't cry easily	.58	-.04	.03	.67	.29	.21	-.06
Emotional Attention							
Rarely notice when people are warm	.52	.04	.26	.04	.67	.02	.08
Don't give other's feelings thought	.51	.14	-.01	.04	.67	.16	-.01
Annoying when people cry in public	.46	-.01	.05	.08	.63	.21	-.13
Too much made of suffering of pets	.43	.22	-.03	.01	.59	-.15	.13
Feel For Others							
Get upset when others upset	.58	.21	.11	.30	.00	.58	.31
Get carried away by other's feelings	.49	.21	.15	.28	-.03	.52	.28
Feelings don't reflect how others feel	.35	-.10	.04	.07	.23	.53	-.01

Feel other's pain	.45	.38	.32	.10	-.03	.43	.01

Emotional Contagion

When a crowd gets excited so do I	.64	-.06	.24	-.02	.01	.12	.75
Laugh when others laugh	.45	.05	.44	.16	.16	-.07	.45
Tune into the feelings of others	.43	.32	.35	.05	.15	.34	-.24

Table 2

Number of items, means, standard deviations, alpha reliabilities for factor-based scale scores and correlations with General Empathy

	Items	Mean	SD	Alpha	r	r^2
Empathic Suffering	8	3.97	0.71	.80	.72	.52
Positive Sharing	5	3.82	0.83	.71	.72	.52
Responsive Crying	3	3.10	1.16	.72	.72	.52
Emotional Attention	4	3.68	0.90	.63	.55	.30
Feeling for Others	4	3.10	0.79	.59	.71	.50
Emotional Contagion	2	3.40	0.91	.44	.32	.10
General Empathy	26	3.53	0.60	.86	-	-

Table 3

Intercorrelations among the six empathy sub-scales

	ES	PS	RC	EA	FO
Empathic Suffering (ES)	-				
Positive Sharing (PS)	.61	-			
Responsive Crying (RC)	.33	.31	-		
Emotional Attention (EA)	.27	.22	.20	-	
Feeling for Others (FO)	.42	.46	.43	.20	-
Emotional Contagion	.20	.38	.14	.12	.29

Table 4

Correlations of empathy sub-scales with behavioral measures for adult sample

		Empathy Factor-Based Scale				
Criterion	General	ES	PS	RC	EA	FO
Therapy	-.06	-.06	.02	-.06	-.08	-.01
r^2	.003	.003	.000	.003	.006	.000
Satisfaction	.23**	.22**	.25**	.13**	.13**	.08
r^2	.052	.048	.062	.016	.016	.006
Artistic Skills	.12**	.08	.06	.13**	.05	.07
r^2	.014	.006	.003	.016	.002	.005
Parenting	.20**	.09*	.16**	.04	.34**	.03
r^2	.040	.008	.026	.002	.116	.001
Culture	.18**	.16**	.21**	.20**	-.01	.06
r^2	.032	.026	.044	.040	.00	.003
Improvement	-.05	-.06	.05	-.03	-.14**	.04
r^2	.002	.003	.002	.001	.020	.002
Entertainment	-.03	-.02	.06	-.05	-.09	.03
r^2	.001	.000	.003	.002	.008	.001

Note: ** $p < .01$ * $p < .05$.

Table 5

Correlations of empathy sub-scales with behavioral measures for adolescent sample.

		Empathy Factor-Based Scale				
Criterion	General	ES	PS	RC	EA	FO
M-E Empathy Adaptation	.63**	.64**	.53**	.32**	.33**	.41**
r^2	.397	.410	.281	.102	.109	.168
Social Loneliness Scale	-.01	.02	.12	-.13*	.02	-.04
r^2	.000	.000	.014	.017	.000	.002
Skill Set	.15*	.11	.12	.07	.10	.12
r^2	.022	.012	.014	.005	.01	.014
Self-Reported Grades	.06	.06	.06	.09	.06	-.08
r^2	.004	.004	.004	.008	.004	.006

Note: ** $p < .01$ * $p < .05$

Appendix A

Empathy Scale Items.

_____

1. I cry easily when watching a sad movie.
2. Certain pieces of music can really move me.
3. Seeing a hurt animal by the side of the road is very upsetting.
4-R. I don't give others' feelings much thought.
5. It makes me happy when I see people being nice to each other.
6. The suffering of others deeply disturbs me.
7. I always try to tune in to the feelings of those around me.
8 I get very upset when I see a young child who is being treated meanly.
9-R. Too much is made of the suffering of pets or animals.
10. If someone is upset I get upset, too.
11. When I'm with other people who are laughing I join in.
12. It makes me mad to see someone treated unjustly.
13-R. I rarely take notice when people treat each other warmly.
14. I feel happy when I see people laughing and enjoying themselves.
15. It's easy for me to get carried away by other people's emotions.
16-R. My feelings are my own and don't reflect how others feel.
17. If a crowd gets excited about something so do I.
18. I feel good when I help someone out or do something nice for someone.
19. I feel deeply for others.
20-R. I don't cry easily.
21. I feel other people's pain.
22. Seeing other people smile makes me smile.
23. Being around happy people makes me feel happy, too.
24. TV or news stories about injured or sick children greatly upset me.
25. I cry at sad parts of the books I read.
26. Being around people who are depressed brings my mood down.
27-R. I find it annoying when people cry in public.
28. It hurts to see another person in pain.
29. I get a warm feeling for someone if I see them helping another person.
30. I feel other people's joy.

_____

Note: R indicates a reverse-scored item. To score the scale, change the scoring on the reverse-scored items (1=5, 2=4, 3=3, 4=2, 5=1). Add all the scores for the Total score and divide by 30. Add the following items together for each scale, and divide by the number of items: Suffering (3, 5, 6, 8, 12, 18, 24, 28); Positive Sharing (14, 22, 23, 29, 30); Responsive Crying (1, 20, 25); Emotional Attention (4, 9, 13, 27); Feel for Others (10, 15, 16, 21); Emotional Contagion (11, 17). Take the mean of these sub-scales to compute a General Empathy scale.