The Mediating Effects of Shame and Social Support on Distress and Attributional Processing in Adults Abused as Children: A Structural Model

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The effects of childhood trauma on later adult functioning has been the topic of considerable research over the past 20 years. Types of childhood trauma that have been proposed to induce symptoms of anxiety and depression in adulthood have included sexual victimization (Finkelhor, 1988; Finkelhor & Browne 1985; Greenwald, Leitenberg, Cado, & Tarran, 1990), physical abuse (Brown & Anderson, 1991; Deblinger, McLeer, Atkins, & Ralphe, 1989), severe parental mental illness (Walker, Downey, & Bergman, 1989), and parental alcoholism (Williams & Corrigan, 1992; Plescia-Pikus, Long-Suter, & Wilson, 1988). Little is known about how parentally-induced prolonged and stressful events effect attributional and self-regulatory style in the adult individual.

Recent epidemiological reports suggest that as many as one out of four girls are molested by a parent, family member, or close friend by the time she is an adult (Finkelhor, 1988). As many as one out of six boys suffer similar abuse. Alarmingly, recent research suggests that epidemiological studies of childhood sexual victimization might underrepresent the base rates of the problem (Finkelhor & Browne, 1985).

Research suggests there are some common residual traits among people who were physically, sexually, or emotionally traumatized as children (Deblinger et al, 1989). Moreover, the perceived or actual extent of the childhood trauma appears to account for certain primary distress measures in adulthood. The constructs investigated have included depression, trait anxiety, self-esteem, and size and utilization of available social support networks (Kiser, Heston, Millsap, & Pruitt, 1991; Wolfe, Gentile, Michienzi, & Sas, 1991; Williams & Corrigan, 1992; Brown & Anderson, 1991).

Shame and Distressful Negative Affect

Cognitive and attributional studies have implicated self-focused attention and self-consciousness as possible intervening factors over an individual's feelings of negative affect

(Weiner, 1982). Both have been shown to perpetuate a cycle of distress and negative self-awareness (Strack, Blaney, Ganellen, & Coyne, 1985; Pyszczynski & Greenberg, 1987). Replicated findings support the view that there is a dispositional tendency to be highly self-focused that is correlated with depression in both non-clinical and clinical samples (Smith & Greenberg, 1981).

Attributional theory posits that increasing the perceptual salience of any object increases the extent to which that object influences perceptions and cognitions (Taylor & Fiske, 1978). It follows that since self-focus increases the salience of the self, an individual with negative self-schemata will engage in internal causal attributions and self-blame. "Shame" will be used as a term to describe the effect of negative self-consciousness and internalized guilt.

Some family systems theorists have long maintained that shame plays a primary role in the adult functioning of individuals who were victimized as children (Bradshaw, 1988; Whitfield, 1987). The concepts of shame and guilt are differentiated by the self-statements, "I am bad" versus "I did a bad thing" (Bradshaw, 1988; Stone, 1992). The etiology of shame can be conceptualized as a pervasiveness of negative internalized global attributions of events over which the individual as a child had no control (Rothbaum, Weisz, & Snyder, 1982). This attributional style pervades the adult's functioning, and distressful feelings of depression and anxiety are the outcome.

Brown and Taylor (1986) hypothesized that mood states activate mood-congruent self-schemata that "facilitate the encoding and processing of mood-compatible personal information." Their findings suggest that schematic effects on memory are more pronounced during stimulus registration than at retrieval. Hence, childhood perceived negative self-descriptive information organizes self-schemata which are highly resistant to restructuring. These perceived negative internal states are salient aspects of the self, and act to further enhance deprecating self-focus.

The process has been shown to be self-perpetuating (Dweck & Licht, 1981). The present study attempted to confirm the presence of a reciprocal feedback path between self-consciousness and internal distressful states like depression and anxiety. It was anticipated that the effect of shame will enhance distress. Likewise, continued distress was expected to facilitate focus on salient negative aspects of self. Thus, the feedback paths in both directions were expected to be positive, and therefore would augment one another (Figure 1).

The differential effects of sexual abuse and physical abuse were examined in our study. Various writers and theorists have suggested that the effects on shame may be more pernicious when associated with sexual abuse than when associated with physical abuse (Bradshaw, 1986; Brown & Anderson, 1991; Finkelhor et al, 1985). Bradshaw (1986) suggests that the patterns of acting out and externalization concomitant with childhood physical abuse may be in the form of anger, antisocial behavior, and substance abuse. The shame-based feelings associated with sexual victimization may be internalized to a greater degree, and may take the form of negative self-statements and punitive scripts.

Shame and Social Support as Interacting Reciprocal Mediators

The negative effects of shame have been hypothesized to attenuate social support, and reciprocally, the positive effects of social support would be expected to mitigate the effects of shame. Strack and his associates (Strack, Blaney, Ganellen, & Coyne, 1985) elicited depression-like deficits in normal individuals by inducing negative self-focus after task failure. Subjects were allowed 100 seconds to solve a sequence of five letter anagrams. After the testing, half the participants were placed in front of a mirror and given a questionnaire requiring them to "honestly" evaluate their task failures. The other participants were given identical tasks, but without the mirror, and with additional external distractions. When both groups of subjects were

combined and re-evaluated for performance with different tasks, the self-focused group performed significantly more poorly than the distracted group.

Interventions which serve to disrupt the tenacity of negative self-focus should be beneficial in reducing depression and anxiety. Changes in the satisfaction and amount of available social support have been researched as a means of redirecting self-focused attention among depressed individuals (Hirsch & Reischl, 1985). Research findings also suggest that satisfaction and utilization of available social support is related to reduction of depression and anxiety, and an increase in self-esteem in adult children of alcoholics (Williams & Corrigan, 1992), adult children of mentally ill (Walker, Downey & Bergman, 1989; Williams & Corrigan, 1992), and adult survivors of childhood sexual abuse (Gold, 1986). However, optimal utilization of available social support may be diminished by negative self-focus. Jacobson and Anderson (1982) showed that depressed subjects are more likely than nondepressed subjects to inappropriately refer to themselves in social interaction when such self-references are not directly solicited. This preoccupation with self may inhibit depressives' social performance by disrupting the normal flow of social interaction. This study attempted to confirm an indirect effect between distressful internal states and social support size and satisfaction mediated by shame and self-focus. These mediating pathways are shown in Figure 1. A factor which serves to redirect attention outside the individual (social support) should have an ameliorating effect on self-conscious awareness. Likewise, there was expected to be a reciprocating mitigating effect on the effect of social support by self-conscious awareness. The valence of both paths was expected to be negative. Hence, as the effect of shame is reduced by increased size and satisfaction of available social support, the negative effects on social support utilization by shame will be reduced, thus enhancing the ability of social support indices to reduce distress.

Mediated Distress and Attributions

Self-focusing tendencies among depressed people encourage dispositional (internal) attributions for negative outcomes and situational (external) attributions for positive outcomes (Pyszczynski & Greenberg, 1987). Attributional style may explain reactions to specific positive and negative events and the resulting impact on adverse outcomes (Anderson, Jennings, & Arnoult, 1988). There are two dimensions of attribution relative to the valence of a specific event. An individual could characterize any given event in one's life along both an external/internal axis, and along a positive/negative axis. Attributions are thus depicted by the quadrants defined by these axes. People prone to depression would be expected to blame themselves when anything bad happens, and to attribute luck for good things that happen to them. Conversely, nondepressed people will accept responsibility for the good in their lives, but tend to blame the situation on others when things do not work out (Beck et al, 1979).

The difference in information processing and attributional style between individuals who perceived themselves as abused in childhood and those individuals who made no such confirmation was also examined. The distress-mediated pathways of shame were expected to effect the dimensions of locus of control and expectancy differently among individuals who confirm childhood sexual abuse, physical abuse, and combined abuse. The salience of these effects was expected to be most apparent when the direct differential contributions to the magnitude of shame were evaluated. Subjects who endorse child abuse-related items were expected to have more negatively valenced internal and positively valenced external attributions. Subjects who do not confirm childhood abuse were expected to have patterns of negatively valenced external and positively valenced internal attributions.

Most research on the effects of physical and sexual abuse has been conducted with clinical populations of disturbed children or adults.(Plescia-Pikus et al., 1988; West & Prinz, 1987). Interviewing subjects in treatment settings may confound findings by yielding samples

that comprise prediagnosed individuals who have been sensitized to life's problems. Many of the perceptions of childhood function have been gathered secondarily from parents, from clinicians and other service providers who suspect psychopathology, or retrospectively, from the children. To circumvent these confounds, subjects in this study were adults who had not previously participated in extensive clinical treatment.

<u>Summary of Hypotheses</u>

1.   The variables of shame and current social support interact in concert with distress to organize an individual's internal and external attributions of personal expectancies for success or failure. Reciprocity effects among distress, shame, and social support were anticipated. The alternate hypothesis is that shame is not a mediator between distress and social support, and that there is direct interaction between the two factors.

2.   Childhood sexual abuse and physical abuse impact shame differentially, thus having varying degress of effects on distress. An alternate hypothesis is that the effects of shame are noncontributory, and that the effects of abuse interact directly with social support and distress.

3.   The effects of shame augment the effects of distress, escalating levels of depression and anxiety. Alternately, the effects are directly reciprocal.

4.   Distress mediates the feelings of shame, thus increasing negative self-focus. If shame is an irrelevant contributor to the dynamics of the model, mediation of distress is an direct consequence of social support.

5.   Shame attenuates the availability and satisfaction of social support. Thus, events that occurred to the adult subject as a child differentially impact the initiation of shameful feelings, and one's ability to acquire and derive satisfaction from social support.

6.   Increased social support mitigates the effects of shame by reducing it.

7.	The effect of childhood social support on current social support should be significantly positive and direct.

Figure 1 represents the model from a psychodynamic perspective. It serves to characterize a composite of the psychodynamically-oriented hypotheses of this study. Figure 2 depicts the alternate hypothesis of the model. This structure describes a more behavioral orientation to the distress-social support-abuse triad. The intervening effects of shame are removed, and there is direct interaction between the factors of interest.

Method

Subjects

Subjects for this study were recruited from a pool of graduate and undergraduate psychology and sociology students at a major university in Southern California. Of the 180 subjects who completed the an hour long battery of self-report measures, fourteen of the questionnaires were invalid or incomplete.

To understand the rationale for the study, subjects were told that "questions you are about to answer probe into memories and feelings associated with childhood sexual and physical abuse." Recollected abuse history was determined after subjects completed the Childhood Sexual Victimization Interview Schedule (Russell, 1983) and the Assessing Environments III (Berger, et al, 1988) . The Assessing Environments III Inventory (AE3) is a 164 item, 15 scale instrument designed to measure the perception of an adult's family environment as a child. Of primary importance to the present study was the 12 item Physical Punishment (PP) Scale (Appendix A, Block 8, Items 1-12). Respondents indicated the occurrence of disciplinary events ranging from exemplars of mild physical discipline (spanking) to potentially injurious physical punishment (e.g., punching, kicking, choking, hit with objects). The authors of the measure reported a two month test-retest reliability coefficient of .89 for the scale (Berger, 1988).

Subjects who positively endorsed three or more items were considered physically abused as children. This threshold was selected based on findings from a pilot study.

Childhood sexual victimization was also hypothesized to be a critical abuse component in this study. Respondents were asked to complete eight items from the Childhood Sexual Abuse Interview Schedule which "elicit memories of child sexual abuse experiences" and identified adults who were molested as children (Russell, 1983). Weighted response options for each item are age ranges: (1) less than 14 (weighted '2'), (2) age 14-18 (weighted '1'), and (3) not by age 18 (weighted '0'). Types of questions regarding childhood sexual victimization included experiences which ranged from being upset by genital exposure to having experienced forced sexual intercourse. Consensually valid threshold levels were confirmed by interview at the conclusion of a pilot study.

Findings from the Childhood Sexual Victimization Interview suggested that 14% of the sample were sexually victimized as children (n=23). Results from the AE3 revealed that another 11% perceived themselves as being physically abused as children (n=16). Moreover, 7% endorsed items for both physical and sexual abuse (n=12). Hence, 30% of the sample (n=51) perceived themselves as being sexually and/or physically abused as children. This frequency was concurrent with recent epidemiological abuse reports. Demographic characteristics across abuse categories were summarized in Table 1.

Measures

Distress measures.

Studies that have examined negative affect in adult children of alcoholics (Plescia-Pikus et al, 1988; Williams & Corrigan, 1992), adults physically abused as children (Brown & Anderson, 1991; Kiser et al, 1991), and adult survivors of childhood sexual victimization (Brown & Anderson, 1991; Kiser et al, 1991; Wolfe et al, 1991) have used anxiety and

depression as indices of distress. In the present study trait and state anxiety were determined using the state and trait versions of the State-Trait Anxiety Inventory (STAI) (Spielberger, 1983). Each measure included 20 items, and the total scale ranges from 20 to 80 for each part. Test-retest correlations for the trait anxiety scale range from .73 to .86 for college students.

Depression was measured using the Beck Depression Inventory (BDI) (Beck, 1967). Split-half reliabilities for the BDI range from .78 to .93. Both the STAI and BDI have been used to measure the severity of effects in adults abused as children (Walker, Downey, & Bergman, 1989).

Shame measures.

Shame was assessed by the Self-Consciousness Scale (SCS) (Scheier, 1987). The SCS is a 22 item measure with a range of 0 to 66, where a low score indicates low negative self-consciousness. It focuses on the assessment of an individual's self-consciousness in both public and private situations. The measure's authors report an internal consistency of $\alpha=.84$, and a two week test-retest reliability of .82. The SCS measures degree of negative self-focusing, self-awareness, and the extent to which an individual engages in self-blaming rumination. The measure correlates well with both the Mosher Forced-Choice Guilt Scale and the Revised Shame-Guilt Scale.

Another facet of shame was measured by the Perceived Guilt Index (PGI) (Otterbacher and Munz, 1973). The PGI measures one's experience of guilt at both the state and trait levels. It consists of a pool of two sets of 11 adjectives and phrases that describe various intensities of guilt. Each item is assigned a score value based on its intensity. The authors report that the PGI is sensitive "to assessing changes occurring as a consequence of sacramental confession." Four week test-retest reliability for the trait portion of the PGI was .3.

Measures of Social Support

To measure current social support, the 12 item short form of the Social Support Questionnaire (SSQ) (Sarason, Levine, Basham, & Sarason, 1983) was used. The SSQ yields two scores, the <u>number</u> of persons listed as available social support (SSQN) and the respondent's <u>satisfaction</u> with available social support (SSQS). Alpha coefficients of internal reliability for the SSQ typically range from .94 to .97 for N and S scores, with S scores having the lower alpha. Test-retest reliability over a four week interval was .90 and .83 for N and S respectively.

We proposed that current social support is initiated by social support patterns established in childhood. In order to examine this relationship respondents were instructed to recall through visual imagery his/her tenth birthday. When the subject had indicated recall of his/her past environment, s/he was asked to respond to the SSQ as s/he would have at that time when s/he was ten years of age. The validity of this procedure was supported in a pilot study by corroborating parental responses. Findings showed parent-child corroborative correlations between .6 to .8 for related social support questions.

<u>Measures of Attributional Style.</u>

The Nowicki-Strickland Locus of Control Scale (N-SLCS) (Nowicki & Strickland, 1973) was used to assess locus of control. The N-SLCS is a 40-item instrument designed to measure whether or not a person believes that reinforcement comes to him or her by chance or fate (external locus of control), or because of his or her own behavior (internal locus of control). The authors of the test report an internal consistency of $\alpha = .81$. Six week test-retest reliability was reported at r=.71.

Positive and negative expectancy was measured by the Generalized Expectancy for Success Scale (GESS) (Fibel & Hale, 1978). The GESS is a 30 item instrument that assesses the generalized expectancy of being successful. Each item is rated in terms of how much it applies to the respondent on a scale of 1 to 5, where "1" indicates strong agreement, and "5" indicates

strong disagreement. Norms were established with three separate samples of primarily white, middle class college students. The authors reported an internal consistency of $\alpha = .90$ for males and $\alpha = .91$ for females. Six week test-retest reliability was reported to be .83 for both genders.

Respondents were presented with a test booklet and an answer sheet for template scoring. The questions and measures which did not lend themselves to automatic scoring had response sections on the back of the answer sheet (i.e. the Social Support Questionnaire, and certain items in Demographics).

Statistical Procedure

LISREL (LInear Structural RELationships) path analysis (Joreskog & Sorbom, 1989) was used to estimate the fit of the interrelationships between type of childhood abuse, distress, shame, past and present social support, and locus of control components. The computer program Lisrel 7.15 was used to perform analyses for maximum likelihood parameter estimates and overall maximized goodness of fit.

Bollen (1989) suggests a minimum of 5-10 subjects for each free model parameter in a structural model. A full and unrestricted model of either structure would have been unwieldy and indecipherable. The maximum number of free paths included paths between indicators and factors, paths between factors, and error perturbation paths where there is more than one observed measure for a factor. Measurement error paths where there was only one indicator for a factor were fixed, and therefore not free. This study required a minimum of five subjects per free parameter estimate. Since there were 29 free parameters in the base model, a minimum of N=145 subjects were required for the study.

The structure of the model in Figure 1 was driven by prevelent psychodynamic theory. That is, an internal psychodynamic process, shame, intervenes between internal feelings of distress, and external social influences. The fit of an alternate model was also explored. A more

behaviorally-oriented model excluding the presence of the psychodynamic factor of shame was introduced into the analysis, and alternate fit parameters were presented (Figure 2).

Latent variables are drawn as ovals. Measures to which a factor is latent are drawn as boxes. The latent contributor to Shame is Abuse. Abuse is composed of physical abuse (AE3) and sexual abuse (SCAI). The single latent effect on Current Social Support is shown as Childhood Social Support. The indices of Childhood Social Support are identified as components of the Sarason Social Support questionnaire with the childhood scenario. Error perturbations (residuals) for all measurement indices are designated by arrows directed toward the box.

The effects between the factors are designated by the arrows between the ovals. The baseline model (Figure 1) shows Shame effecting Distress, and reciprocally Distress effecting Shame.   Furthermore, Shame effects Current Social Support， and Current Social Support effects Shame.

Since the level of distress in concert with the other mediating factors was expected to determine attributional pattern, this pattern is shown with reciprocal paths between Distress and Attributional Style. The observed indices of Distress are Trait Anxiety (STAI-T), State Anxiety (STAI-S), and Depression (BDI) . The Shame factor is associated with its observed measures, SCS and the SCAAI. Its indices of Current Social Supprot are Social Support-Number (SQN) and Social Support-Satisfaction (SQS).

Figure 2 represents a model which excludes Shame as a mediator between Distress and Social Support. As is illustrated, there is direct reciprocation between Distress and Social Support.

Of particular interest during the analysis will be the differential fit of nested models. Specifically, the changes of relative fit where certain parameters of interest are held constant, or

are allowed to vary freely. Specifically, the differential effects physical and sexual abuse will be explored.

Results

Structural analysis of model with shame as a mediating latent variable (Figure 1)

Various structural analysis representations and nestings of this model were attempted, and an adequate fit was not obtained. The best maximum likelihood fit rendered for this model was $\chi2=249.50$, df=36, p<.0001 (Table 7). In most cases, the model simply could not be determined (i.e., $\Sigma, \Phi,$ or Ψ matrices from the Lisrel program). This model was abandoned for the model which did not incorporate shame as an mediator between Distress and Current Social Support.

Structural analysis of model without shame as a mediating latent variable: The alternate hypothesis (Figure 2)

The alternate model yielded a comparatively good fit, $\chi2=46.5$, df=29, p=.021 (Table 7). The path parameters between measures (boxes) and factors (ovals) are depicted by the lambda(λ) coefficients. Lambda x are the path parameters between exogenous latent factors and their associated loadings; lambda y are the path parameters between endogenous latent variables and their associated factor loadings. Relative factor loadings between exogenous (independent) and endogenous (dependent) latent variables and their associated measures are shown in Table 2. The significance of each path is shown by the associated t-value in parentheses.

Parameters between latent variables (beta's, β), and parameters between exogenous and endogenous latent variables (gamma's, γ) are presented in Table 3. The beta (β) parameters show direction and strength of effect between endogenous factors. The gamma (γ) parameters show strength of effect from independent (exogenous) to dependent (endogenous)

latent variables. The significance of each path is also represented by the associated t-value in parentheses. The error variances associated with each measurement term in x are delta 1 through delta 4 ($\delta_1 - \delta_4$); error variances associated with each measurement term in y are epsilon 1 through epsilon 7. These parameter values are shown in Table 6. Parameters with values of zero were fixed in the model, and were not estimated. Typically, values not estimated were statistically insignificant, and were subsequently fixed in order to provide more degrees of freedom to the model. Error disturbance (residuals) on the latent variables are also shown in Table 6.

Exogenous Path Parameters

Loading comparison of sexual abuse and physical abuse measures on the Abuse factor

The psychodynamic model predicted differential loading of their effects through shame. The behavioral model predicted an Abuse factor which was loaded by sexual and physical abuse. Physical abuse and sexual abuse have almost equal path parameters with the exogenous variable, Abuse. The path coefficient between Abuse and the measure for physical abuse was 1.1, and the coefficient between Abuse and sexual abuse was 1.0 (Figure 2 and Table 2). These findings seem to suggest that sexual abuse and physical abuse play equal roles in defining Abuse as it was presented in our model. However, physical abuse also had a deleterious impact on the child's ability to derive social support, as shown by the negative coefficient (-.39) between physical abuse and the exogenous latent variable, Child Social Support (Figure 2). A similar path between sexual abuse and Child Social Support was not identified. Furthermore, when the parameters between the latent factor, Abuse, and its related measurement indices, physical abuse, and sexual abuse, were forced to be equal, the resulting model estimation was a significantly worse fit (Table 7) in that it was unidentifiable.

Relative loadings of satisfaction and size on childhood social support factor

It was hypothesized that there would be differential loadings of satisfaction and size measures on Childhood Social Support. The results indicated that Childhood Social Support was affected by three indicators: social support satisfaction, social support size, and the recollection of the extent of physical abuse (Figure 2). The relative values of the coefficients estimated in the model suggest that the effect of social support size had four times the effect of social support satisfaction ($\lambda x42=1.0$; $\lambda x32=0.25$) on Childhood Social Support. However, the amount of satisfaction could have been an indirect artifact of the effect of physical abuse on Childhood Social Support, since the relation between the physical abuse indicator and Child Social Support was negative ($\lambda x12= -.39$). The indicator for social support satisfaction has a negative effect on the exogenous latent variable, Abuse ($\lambda x31=-.68$; Figure 2). Estimates indicate that these maximum likelihood paths are all statistically significant (p<.05).

As a further test of the relationship between social support satisfaction and size on the child social support latent variable, a model was estimated where the two social support indicator coefficients were forced to be equal. The resulting estimation yielded a model with $\chi2=85.84$, df=29 (Table 5). The difference in fit to the baseline model is $\Delta\chi2=39.34$, $\Delta df=1$. The difference of fit between the baseline model and the nested model is markedly significant, where p<<.01.

Effect of Childhood Social Support on Current Social Support

It was predicted for both the psychodynamic and behavioral model that Childhood Social Support would have a direct effect on Current Social Support. The subsequent analysis supported that social support derived as a child had a direct positive impact on an individual's current social support. The path coefficient between Child Social Support and Current Social Support is .81 (t=8.85, p<<.01) (Table 5 and Figure 2). A direct path between Abuse and Current Social Support was not significant. In our model the most important determiner of adult

social support was social support developed as a child. Hence, development of a strong and

satisfying social support structure as a child endures to a functional adult support system.

Dual effects of Abuse on Distress and Attributional Style

Abuse affected Distress positively and directly. It affected Attributional Style directly,

and indirectly through Distress (Figure 2). The path coefficient between Abuse and Distress is

both strong and significant, $\gamma 11=.90$, t=3.44, p<.01 (Table 5). The coefficient between

Abuse and Attributional Style is appropriately negative ($\gamma 31= -.22$), but it was not as

significant as the path between Abuse and Distress (t=1.47, p<.1). In order to compare the

baseline model to a nested model with a direct path only between Abuse and Distress, the path

from Abuse to Attributional Style was fixed, and this nested model was estimated. The fit

resulted in $\chi 2=50.17$, df=30. The difference in fit between the baseline model and the nested

model was $\Delta \chi 2=3.67$, $\Delta df=1$, p<.1. Inversely, another nested model where $\gamma 11$ was

fixed, and $\gamma 31$ was freed, was also estimated. The resulting fit was $\chi 2=87.69$, df=30.

This difference was $\Delta \chi 2=41.19$, $\Delta df=1$, p<<.01. Hence, the existence of a direct path

between Abuse and Attributional Style does not yield a significantly better or worse model;

however, $\gamma 11$ must exist for the model to fit the data. These results suggest that the direct effect

of Abuse on Attributional Style is not as essential as the indirect effect of Abuse through

Distress.

Endogenous Path Parameters

Indicators of distress: state anxiety, trait anxiety, and depression

The indicators for Distress were: state anxiety (STAI-S), $\lambda y11=1.0$; depression

(BDI), $\lambda y21=1.3$; trait anxiety (STAI-T), $\lambda y31=1.4$ (Table 4 and Figure 2). It appeared

from these findings that Distress contributed the greatest relative portion of its effects to trait

anxiety, secondly to depression, and finally to state anxiety. Furthermore, there was a negative contribution to current social support satisfaction (SSQS) from Distress (Table 4 and Figure 2).

<u>Relative loadings of satisfaction and size on current social support factor</u>

Current Social Support was affected by two indicators: social support satisfaction and social support size (Figure 2). The relative values of the coefficients estimated in the model suggest that the effect of social support size had more than five times the effect of social support satisfaction ($\lambda y52=1.0$; $\lambda y42=0.18$) on Current Social Support. Furthermore, estimates indicate that these maximum likelihood paths are all statistically significant (p<.05).

As a further test of the relationship between social support satisfaction and size on the current social support latent variable, a model was estimated where the two social support indicator coefficients were restricted to equality.   The resulting estimation yielded a model with $\chi2=87.69$, df=30 (Table 7). The difference in fit to the baseline model is $\Delta\chi2=41.19$, $\Delta df=1$. The difference of fit between the baseline model and this nested model is quite significant (p<<.01).

<u>Relationship of locus of control and expectation to Attributional Style</u>

Our analysis portrayed that a more positive locus of control measure indicated a more externally oriented locus of control. The more positive the expectation measure became, the more likely the respondent expected successful results from his/her actions and future. A negative effect on locus of control predicted a more internal orientation. Likewise, a positive effect on expectation predicted a positive expectation of one's actions in the future. Thus, any negative effect on Attributional Style shifts locus of control to become more external (a negative times a negative is a positive effect), and expectation to become more negative. Thus, a person would come to expect negative events from his/her environment which are out of his/her control.

The results reveal that this view of the world was enhanced by the negative direct effects of Distress and Abuse, and through the indirect effect of Abuse through Distress.

Reciprocal effects between Distress and Current Social Support

The analysis supported a model predicting direct interaction between Distress and Social Support. The endogenous latent variables Distress and Current Social Support interacted with one another through reciprocal paths (Figure 2). Distress affected Current Social Support positively through $\beta 21=.13$; Current Social Support affected Distress negatively through $\beta 21=-.29$ (Table 5). Social Support has a direct negative effect on Distress.

Separate nested analyses were performed in order to confirm the significance of equal and unequal and reciprocal paths between Distress and Current Social Support. The nested model where the the reciprocal paths are equal, the resultant fit was $\chi 2=52.94, \text{df}=30.$ The comparison of fit between the reciprocal pathway model and the equal pathway model was $\Delta \chi 2=6.44, \Delta \text{df}=1, \text{p}<.01.$ These results suggest that the reciprocal pathways between Distress and Social Support are significantly not equal, and that the feedback loop model is a better fit for the data.

Several models were analyzed where parameters of $\theta \varepsilon, \psi, \text{and } \theta \delta$ were either freed or allowed to vary. The model shown in the present study resulted in the best χ^2 estimate and goodness of fit. Changes in χ^2 $(\Delta \chi^2)$ relative to differences in degrees of freedom (df) did not present a significant improvement in fit over comparable models analyzed. In the final model (Figure 2) $\chi^2 = 46.50$ with 29 degrees of freedom (p=.021). The goodness of fit index was .957; the adjusted goodness of fit index was .902.

Discussion

In summary, a model representing a behaviorial orientation to the interaction of feelings of distress, childhood abuse, and social support was supported over a more psychodynamic

representation where shame mediated between feelings of distress and social support. The psychodynamic model required shame and current social support to interact in concert with distress to organize an individual's internal and external attributions of personal expectancies for success or failure. From the analysis of our original model we found that Shame was not a factor of mediation, and that Distress and Current Social Support interacted directly. Shame was subsequently removed from the model.

Likewise, childhood sexual abuse and physical abuse were hypothesized to impact shame differentially, thus having varying degrss of effects on distress. Childhood sexual abuse was thought to have a greater negative impact on adult functioning. This interaction is a mute point in the behavioral representation since Shame was not incorporated into the model. However, results from the analysis of the model suggested that physical abuse has a more profound effect on adult pathology than sexual abuse. There may be confounding features in these otherwise elucidating findings, however.

It could be argued that the physical abuse measure and the sexual abuse measure were targeted at different perpetrators. The physical abuse measure was very specific about parental physical abuse. The sexual abuse measure was more global in its scope. It queried the respondent about all sexual abuse from all sources, including close relatives, friends, and strangers. Hence, the difference in relationship of the perpetrator to the victim may confound the effects of the type of abuse. In the present study physical abuse may appear more profound only because the relationship of the perpetrator was closer to the victim.

Another limitation to our study was that only relatively high functioning young adults were sampled. Hence, the spectrum of distress may have a narrow band relative to the individuals who were not sampled in this study. On the other hand, a clinical population has probably been outfitted with an armormatoreum of therapeutic tools and gimmicks to help cope

with distress and conflict. Responses from this group could be biased based on therapy already received. Other sampling issues may bias our sample as well. Most subjects were behavioral science students. One could surmise that many of these individuals, although not formally a clinical population, have read techniques and theories relative to various treatment modalities. This general knowledge alone sets the stage for certain response bias.

It was expected that the effects of shame augment the effects of distress, escalating levels of depression and anxiety. Contrary to this supposition, the effects of Distress in the place of Shame was found to enhance Current Social Support. Thus, Distress actually augments the availability and satisfaction of social support.

The hypothesis that increased social support would help to mitigate the effects of shame was supported. Furthermore, it was expected that the effect of childhood social support on current social support would be significantly influential and direct. This suppostion was also strongly supported.

Generally, findings from this study showed that subjects who had no significant prior history of psychiatric treatment but believed they were sexually or physically abused as children had increased levels of negative affect and different attributional patterns than individuals who had no beliefs about childhood abuse. Despite using a nonclinical sample, results from this study showed that 33% of subjects believed they were abused as children. This frequency is concurrent with recent epidemiological reports which suggest that as many as one out of four girls are molested by a parent, family member, or close friend by the time she is an adult (Finkelhor, 1988). As many as one out of six boys suffer similar abuse, and recent studies suggest even higher prevalence of molestation for boys.

Alarmingly, recent research suggests that epidemiological studies of childhood sexual victimization might underrepresent the base rates of the problem (Finkelhor & Browne, 1985).

These data are supported by the statements of many reporting agencies that the instances of child abuse and neglect are probably underreported. Alternately, an adult child's recollection and perception of problems experienced in childhood may alter perception of the actual severity of the abuse. Either way, these findings suggest that children who perceived their parents or trusted others as having sexually or physically abused them have greater adjustment problems in young adulthood.

Effects of sexual and physical abuse

The differential effects of physical and sexual abuse were examined. The original hypothesis posited that sexual abuse would have a more profound effect on adult functioning. Alternately, the findings indicated that although the effects of physical abuse and sexual abuse are equal abuse indicators, physical abuse acts through additional paths to compound adult pathology. These findings suggest that not only does physical abuse abrogate an individual's ability to assuage ultimate negative affect through establishing social support channels as a child, but also it's overall indirect impact on the effects of Distress through Abuse are greater. Furthermore, physical abuse may serve to diminish the child's ability of derive satisfaction from the available social support network. This interpretation was supported by the finding that conversely, the indicator for social support satisfaction had a negative effect on the exogenous latent variable, Abuse ($x31$=-.68; Figure 2).

Alternate to our original supposition, the indirect mediating effects of social support on feelings of distress through reduction of negative self-focus (shame) was shown to be insignificant and noninstrumental in our model. Rather, there is direct reciprocating interaction between current social support and feelings of distress. This finding is significant relative to the treatment of individuals suffering from feelings of negative affect due to childhood abuse. If shame were indeed an important and influential mediating variable between Distress and Current

Social Support, then treatment techniques might be targeted at reducing levels of shame through the induction of cognitive modification and schematic reorientation. These techniques would be used to alter an assumed underlying negative belief system which would likely be chronic and long-standing in nature. However, our model suggests that changes in one's current social support status has a direct and negative impact on feelings of depression and anxiety.

Moreover, the model facilitates a direct behavioral approach for these maladies. The model implies that an increase in the numbers of individuals available in one's social support network is more effective than increasing satisfaction in one's existing social repertoire. Changing the number of social contacts lends itself to more empirical and direct procedures than changing how an individual affectively perceives his/her social topology. Moreover, as Distress is attenuated by the augmentation of Current Social Support through increased social contacts, the negative effect of Distress on social support satisfaction is reduced. Hence, increased personal contacts are reinforced not only through decreased anxiety and depression, but also from more satisfaction derived from one's encounters.

Hence, social support contributes in alleviating feelings of anxiety and depression. Moreover, the effect occurred for both acute (state) anxiety as well as the more chronic and personality-entrenched (trait) anxiety.

Distress facilitates social support

The surprising finding was that Distress did not diminish one's ability to establish adequate and satisfying social support. On the contrary, Distress mildly facilitated social support as shown by the positive effect of   21=.13 (Figure 2, next page).

These findings could be interpreted as the an interactive feedback loop between Distress and Current Social Support. As distress in the form of negative affect increased in one's life due to

historical circumstances, the effect of social support is enhanced. Reciprocally, social support

performed an attenuating action on distress, reducing the symptoms of negative affect.

Since the latent endogenous factor, Distress, impeded one's ability to derive satisfaction

from one's available social support, one could argue that Distress had a negative impact on the

adult's ability to derive satisfaction from available social support in the same way that Abuse

had a detrimental effect on the child's ability to derive satisfaction from past available social

support. Interestingly, the effects were almost equal: the parameter (x31) between Abuse and

the child social support indicator (SSQS-Child) was -.68, and the parameter (y41) between

Distress and current social support satisfaction (SSQS) was -.66 (Figure 2).

Although the effect of social support size had more than five times the effect of social

support satisfaction (y52=1.0; y42=0.18) on Current Social Support, the amount of

satisfaction could be an indirect artifact of the effect of Distress on SSQS. The relation between

Distress and the indicator for current social support satisfaction (SSQS) was negative (y41=-

.66). Distress may function to diminish the adult's ability of derive satisfaction from the

available social support network.

This model provides an optimal treatment enhancement through change of action rather

than change of thought or feeling. It represents change as a process of doing, and one's thinking

subsequently changes in order to accommodate the action. Alcoholics Anonymous has

prescribed this edict since its inception through one of its many slogans, "Bring your body, and

your head will follow."

This model not only has treatment implications for adults who were victims of abuse, but

also for children who are currently being seen in clinical environments as a result of severe

mistreatment. In our model the most important determiner of adult social support was social

support developed as a child. Hence, development of a strong and satisfying social support

structure as a child endures to a functional adult support system. The model depicts Child Social Support not only as a curative factor, but also as a preventative factor. Child Social Support has a strong and significant effect on adult social support potency. Establishing a foundation of effective social behaviors in childhood can serve as a vaccine, as well as a cure, against future adult dysfunction.

The psychodynamic model posited that through the mediating effect of shame on distress, childhood sexual abuse was more detrimental to adult functioning than physical abuse. However, the hypothesized endogenous variable, Shame, had to be removed since the original model did not fit the data. The revised model, the behavioral model, suggested that physical abuse was slightly more pernicious than sexual abuse in facilitating debilitating negative affect (loading coefficient for physical abuse was $x11=1.1$; loading coefficient for sexual abuse is $x21=1.0$). However, our original supposition was still partly valid. Child Social Support appeared to act as an inhibitor of physical abuse, since the loading of Child Social Support on the physical abuse indicator was negative and significant ($x12=-.39$, $p<.01$). Child Social Support did not have the same negative effect on the sexual abuse indicator. This pattern of path coefficients suggested that sexual abuse may be resilient to the environmental influences of the child. Thus, a large and rewarding social support network in a child's life may retard the potential for physical abuse, but not sexual abuse. Hence, sexual abuse appeared to proceed without as much social buffer. The dual effects of sexual and physical abuse served to increase the impact of the abuse factor on distress, as well as decreasing the child's ability to secure satisfying social relationships. As one might expect, individuals who were both physically and sexually abused were at much higher risk of experiencing unmoderated distress as adults.

Contrary to the notion that feelings of depression and anxiety disable one's ability to seek relief through social intercourse, the path coefficients of our model suggested that distress

embellishes Current Social Support. Within this specific sample, as one experiences more

feelings of negative affect, one is more prone to turn to social outlets for redress. This model

does not reinforce the idea of the abused and shamed self-destructive automaton who withdraws

further and further into a whirlpool of distress and self-loathing because of self-blaming

memories of childhood trauma. Rather, this model addresses an adaptive, functional, and self-

corrective approach that would appear to parallel other survival characteristics of human beings.

People are drawn to aspects of life that serve to provide refuge or alleviation from distressing

experiences and feelings. Social support serves such a function.

A compelling finding of this study was that although the differential effects of attribution

between the Abused and Unabused groups were different, all paths to all attributional categories

for both groups were significant. These findings support literature which refutes claims of some

attributional theorists that only depressed or distressed individuals attribute positive events to

external causes and negative events to internal causes. Research with depressed populations

indicates that about one-third of all depressed people exhibit this attributional style, and those

who do, change their style in periods when they are not depressed (Hamilton & Abramson,

1983). Indeed, our study accounted for a more conditional and adaptable model of attribution.

That is, all causal paths were open, and represent potential attributional routes. The prevalence

of the pattern was contingent upon the mediation of social support. Situational circumstances

could enhance distress in an unabused individual as shown by our model. Likewise, the distress

of abused individuals could be diminished through the attenuating action of social support on

distress. Consequently, a shift in attributional pattern would result.

A preferred analytical procedure would have been comparative structural analysis with

different samples. The fit of the model could have been compared across different abused

groups. Hence, there could have been differential fit from sexually abused, physically abused,

dually abused, and unabused subjects. Unfortunately, the sample size for each group would have to be as large as the entire sample of our study. Since each abuse category represented a relatively small percentage of our sample, our sample size would have to be increased at least 10 fold to have performed these procedures.

An additional drawback to our model is that we did not consider the effect of attribution on distress, shame, and social support. Negative attributions may tend to perpetuate distress, and impair one's ability to derive adequate ameliorating effects from potentially available social support. Future research should address these paths as separate issues, or our model could be integrated with feedback paths from attributions to form a more comprehensive model. In either event, increased sample sizes would have to account for the additional parameter estimates.

The results of the estimated model provided potential insight into multiple pathways for the mediating effects of social support on feelings of distress. Furthermore, the model provided an explanation for differential outcomes of attributional schematic processing across individuals who have experienced traumatic events in their childhoods.

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Table 1

Means and Standard Deviations of Demographic Variables across Abuse Categories.

	Abuse Categories			
	Normal	Sexual Abuse	Physical Abuse	Sexual & Physical
	n=115	n=23	n=16	n=12
AGE	21.4(7.4)	22.9(9.1)	27.9(9.8)	21.8(4.3)
GENDER				
MALE	65	6	7	2
FEMALE	50	17	9	10
ETHNICITY				
% Caucasian	74	65	88	75
% Other	26	35	12	25
YEARS/ EDUCATION	13.8(2.7)	14.0(2.9)	15.3(2.9)	15.4(2.7)
YEARS/THERAPY	0.54(1.1)	1.1(1.8)	2.6(4.8)	1.3(1.6)

Standard deviation of age, years/education, and years/therapy are included in parentheses.

Table 2

<u>Free parameter coefficient estimates of latent variables to measures</u>.

	Distress	Current Soc. Sup	Attrib. Style	Abuse	Child Soc. Sup.
STAI_S	1.00 *	.000 -	.000 -	.000	.000
BDI	1.30 (8.04)	.000 -	.000 -	.000	.000
STAI_T	1.40 (9.27)	.000 -	.000 -	.000	.000
SSQS	-0.66 (4.94)	.180 (1.62)	.000 -	.000	0.25
SSQN	.000 -	1.00 *	.000 -	.000	1.0
LOC	.000 -	.000 -	-2.90 (2.70)	.000	.000
EXP	.000 -	.000 -	1.00 *	.000	.000
PA	.539 (4.25)	-.334 (4.28)	.000	.000	.000
SA	.492 *	.000 -	.000	1.00	.000
SSQS_C	-.327 (3.22)	.213 (2.31)	.000	-.68	.25
SSQN_C	.000 *	.856 -	.000	.000	1.0

t-values are in parentheses. (-) designate unestimated parameters. (*) designates

parameters whose parameter was set to one (1) for scaling.

Table 3

Standardized parameter coefficients between latent variables

	Distress	Current Soc. Sup	Attrib. Style	Abuse	Child Soc. Sup
Distress	.000 -	-.290 (3.29)	.000 -	.900	.000
Current Soc. Sup	.130 (1.07)	.000 -	.000 -	.000	.81 (8.65)
Attrib. Style	-.170 (1.66)	.000 -	.000 -	-.22	.000
Abuse	.000 (3.22)	.000 -	.000	.000	.000
Child Soc. Sup	.000	.000	.000	.000	.000

t-values are in parentheses. (-) indicate unestimated parameters.

Table 4

Error correlations between measures

	STAI_S	BDI	STAI_T	SSQS	SSQN	LOC
STAI_S	.613					
BDI	.160	.328				
STAI_T	.285	.000	.234			
SSQS	-.130	.000	.000	.787		
SSQN	.000	.000	.000	.196	.500	
LOC	.000	.000	-.085	.000	.000	.373
EXP	.000	.108	.000	.000	.000	.000

	EXP
EXP	.923

	PA	SA	SSQS_C	SSQN_C
PA	.599			
SA	.000	.758		
SSQS_C	-.264	.000	.862	
SSQN_C	.000	.000	.319	.270

Table 5

Summary of Competing Model Goodness of Fit Parameters

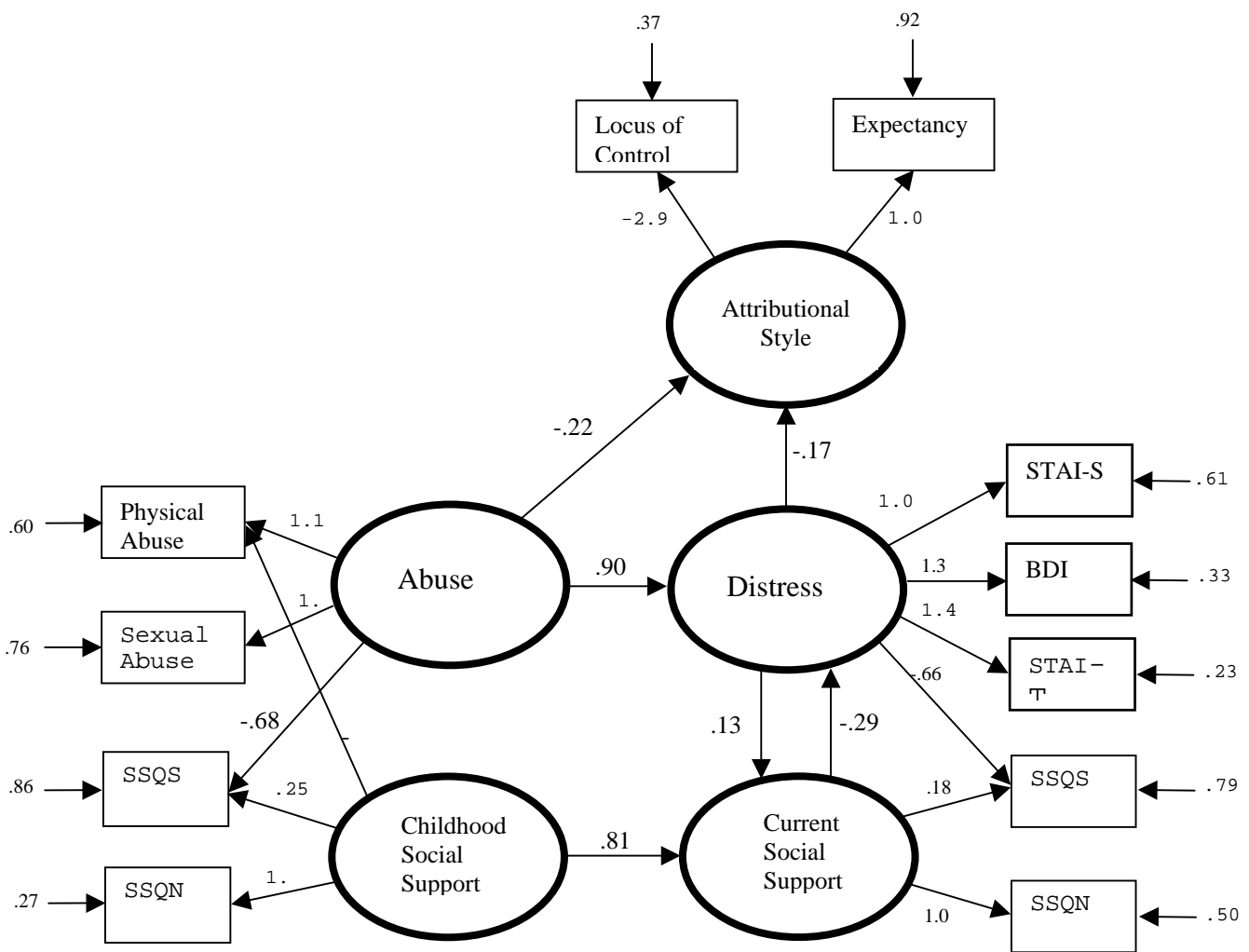| MODEL	$\bullet^2$	df	$\bullet^2$/df	p
"Psychodynamic" model shown in Figure 1	249.50	36	6.92	.0001
"Behavioral" model shown in Figure 2	46.50	29	1.60	.021
Reciprocal effects between Distress and Current Social Support held equal	52.94	30	1.76	<.006
Negative contribution of latent Abuse to Child Social Support Satisfaction not estimated	50.17	30	1.67	<.012
Effect of Abuse on Distress forced equal to effect Child SS on Current SS	46.61	30	1.55	.027
Effects of sexual abuse and physical abuse equal	Not identified	--	--	--
Child Social Support, Satisfaction and Size held equal	85.84	29	2.96	<.0001
Current Social Support, Satisfaction and Size held equal	80.05	29	2.76	<.0001
Effect of Abuse on Distress not estimated	87.69	30	2.92	<.0001

Figure 2

Figure 1