

Parent–Adolescent Communication and Psychological Symptoms among Adolescents with Chronically Ill Parents

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Objective To examine the psychological adjustment of adolescents living with a chronically ill parent and the relationship between psychological symptoms and communication with both their healthy and ill parents. **Method** Adolescents, healthy parents, and ill parents from 38 families completed questionnaires regarding adolescent psychological symptoms, including posttraumatic stress symptoms, and parent–adolescent communication. **Results** Adolescent anxiety, depression, and behavior problems were within the subclinical ranges while approximately one-third of adolescents reported clinical levels of posttraumatic stress symptoms. Openness, but not problems, in communication between adolescents and their parents varied as a function of the parent's health status (healthy or ill) and parent sex. Adolescents reported poorer communication with healthy mothers; however only the quality of communication with healthy parents was related to adolescent psychological symptoms. **Conclusions** Many adolescents with severely ill parents appear to experience clinically significant posttraumatic stress symptoms, therefore assessment for these symptoms in this population is important. Communication with a healthy parent may serve significant and unique functions for adolescents with ill parents, making communication between adolescents and their healthy parent a potentially useful target for clinical intervention.

Key words adolescents; parent illness; parent–adolescent communication; posttraumatic stress.

Parental physical illness represents a highly salient stressor for children and adolescents as they are often faced with both short-term losses (e.g., parental hospitalizations, disturbed daily routines) and long-term losses (e.g., parental death, ongoing family disruption; Leedham & Meyerowitz, 1999). When compared to adolescents of healthy parents, adolescents with ill parents report significantly more psychological symptoms (such as anxiety, depression, behavior problems, low self-esteem, and social skills deficits) and higher rates of symptoms in the clinical range, although their *mean* symptom levels tend to remain in the subclinical range (Forsyth, Damour, Nagler, & Adnopoz, 1996; Hirsch, Moos, & Reischl, 1985; Pedersen & Revenson, 2005; Rodrigue & Houck, 2001; Siegel et al., 1992).

Recent literature suggests that having a seriously ill family member may be best conceptualized as a traumatic event in which stress response symptoms are

problematic. Parents and siblings of pediatric patients being treated for cancer or awaiting organ transplantation report elevated posttraumatic stress (PTS; Alderfer, Labay, & Kazak, 2003; Kazak et al., 2004; Young et al., 2003). Neither of the two previous studies examining PTS in adolescents of ill parents found elevations in their samples relative to younger children (Compas et al., 1994) or controls (Harris & Zakowski, 2003). However, these studies did not examine the relationship between adolescent PTS and parent–adolescent communication.

Parent–adolescent relationships and aspects of the family environment are important to the adjustment of adolescents of ill parents. They perceive more conflict, lower cohesion, and poorer organization in their families than adolescents of healthy parents (Peters & Esses, 1985). Greater family cohesion and less conflict are associated with fewer emotional, behavioral, and academic problems in adolescents whose parents have

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cancer (Harris & Zakowski, 2003), rheumatoid arthritis (Hirsch, Moos, & Reischl, 1985), and HIV (Armistead, Klein, Forehand, & Wierson, 1997; Kotchick et al., 1997). In general, parent–adolescent communication research suggests that adolescents tend to report more conflict with mothers than fathers (Montemayor & Hanson, 1985; Smith & Forehand, 1986) but more openness in this relationship as well (Barnes & Olson, 1985), especially for females (Noller & Callan, 1990). Although not directly investigated in this population, in general, higher quality parent–adolescent communication is related to multiple areas of adolescent adjustment, including higher self-esteem, fewer depressive symptoms, less self-harm, and greater life satisfaction (Ackard, Neumark-Sztainer, Story, & Perry, 2006; Jackson, Bijstra, Oostra, & Bosma, 1998; Tulloch, Blizzard, & Pinkus, 1997). Thus, the first aim of this study was to examine adolescent psychological functioning among adolescents of ill parents and its relationship to parent–adolescent communication.

Communication with ill and healthy parents may have different levels of impact on adolescent adjustment, as suggested by two studies that included parent–child relationships in their analyses of the impact of parental illness on child functioning. In a study of pre-adolescents ages 6 to 12 years whose mothers had breast cancer, Lewis and colleagues (1993) found that the relationship with the mother (ill parent) had little association with adolescent adjustment, while the relationship with the father (healthy parent) correlated with positive adolescent functioning. Steele and colleagues (1997) examined families in which fathers had hemophilia, some of whom were HIV-positive. The association between parent–child conflict and children’s internalizing symptoms was nearly twice as strong in healthy parent (mother)–child pairs as it was in the ill parent (father)–child pairs. These studies suggest a potentially more important role for the healthy parent–child relationship in predicting adolescent psychological adjustment to parental illness.

Communication is a primary process through which adolescents receive socioemotional support and information, and the importance of variables describing family relationships has been identified in a review of the parental illness literature (Pedersen & Revenson, 2005). Adolescents may perceive healthy parents as more available or psychologically stable, thereby fostering more openness with the healthy parent than with the ill parent. Healthy parent–adolescent communication may also reduce anxiety and increase psychosocial functioning

by buffering the effects of the ill parents’ emotional distress or diminished parenting (Lewis, Hammond, & Woods, 1993). Although the aforementioned studies suggest that healthy parents may serve an important function in the adjustment of adolescents in families with ill parents, the relative importance of adolescent communication with each parent has not been explored. In agreement with recommendations by Pedersen and Revenson (2005), the second aim of the study was to examine family processes (relative influences of ill and healthy parent–adolescent communication) in families with a variety of illnesses, to increase the generalizability of findings beyond those of a specific illness group (e.g., cancer).

The primary purpose of the current study was to examine adolescent adjustment to parental illness and its relationship to the quality of communication between adolescents and their healthy and ill parents. Three primary hypotheses were examined. (1) It was hypothesized that greater proportions of adolescents would report clinically significant symptoms when compared to normative samples, but that mean scores would be in the subclinical range. (2) Since healthy and ill parent relationships appear to have differing influences on adjustment, it was hypothesized that adolescents may report differences in the quality of communication with their ill and healthy parents. (3) Communication with the healthy parent was expected to be more strongly related to adolescent psychological symptoms than communication with the ill parent.

Method

Participants and Procedure

The university institutional review board approved all study procedures. Families were recruited and consented during appointments at hospital-based adult specialty clinics if they included one parent with a chronic, life-threatening illness, one parent without a serious medical condition, and an adolescent 12 to 17 years old who had lived together for the previous 6 months. In families with more than one adolescent, one was randomly chosen to participate. Four eligible families declined participation. Of the 38 participating families, 25 were ill fathers with daughters ($n=18$) or sons ($n=7$) and 13 were ill mothers with daughters ($n=7$) or sons ($n=6$). Family and parent demographic information appears in Table I.

Thirty-eight adolescents (mean age = 14.92 years ($SD=1.65$); 66% female) participated. Racial/ethnic backgrounds included Caucasian (84%), Black (13%), and Hispanic (3%). Their ill parents had active illness

Table 1. Demographics

Family variables		
Family size		
3 members		32%
4 or more members		68%
Family income		
<\$20,000		13%
\$20,000–\$39,999		35%
\$40,000 or more		52%
Ill parent diagnosis		
Liver disease (e.g., hepatitis C)		32%
Cancer (e.g., Hodgkins lymphoma)		29%
Kidney disease (e.g., end-stage renal disease)	24%	
Heart disease (e.g., congestive heart failure)		11%
Lung disease (e.g., pulmonary hemosiderosis)	5%	
Number of hospitalizations, mean (SD)	3.8 (3.2)	
Parent variables		
Age, mean years (SD)	44.7 (6.2)	43.7 (7.4)
Education		
Less than high school	13%	5%
High school graduate	45%	49%
More than high school	42%	46%
Biological parent to adolescent	82%	84%

requiring ongoing medical treatment. The time since diagnosis ranged from 3 months to 32 years; 34% of the ill parents had been diagnosed within the last year. Adolescents had been aware of their parents' illnesses for an average of 34 months (range = 2 to 165 months) prior to participation. Sixty percent had been aware of the illness for over 1 year.

Ill parents completed the study protocol at their clinic appointment and provided permission to contact their adolescent child. Healthy parents and adolescents provided assent and completed their questionnaires at the clinic appointment, when available, or by phone. Adolescents received a \$10 gift certificate.

Measures

Background Information

The ill parent provided demographic and medical information regarding the patient, his or her partner, and the adolescent. Medical information included the diagnosis, date of diagnosis, number of hospitalizations, and when the adolescent was told of the illness. To confirm that adolescents recognized the severity of their parent's illness, adolescents completed a 5-point Likert scale item, "How bad do you think your parent's illness is?" (1 = "not at all bad" to 5 = "extremely bad"; Compas et al., 1994). Thirty-four of 38 adolescents

responded with a three or higher, confirming that they perceived the illnesses as significant. Because the item was skewed, it was not used in further analyses.

Impact of Event Scale (IES)

Adolescents completed the IES (Horowitz, Wilner, & Alvarez, 1979), a 15-item self-report measure of PTS symptoms in the past 7 days. Adolescents were instructed to rate symptoms, such as reexperiencing (e.g., "Pictures about it popped into my mind.") and avoidance (e.g., "I tried to remove it from my memory."), in reaction to their parent's illness. Scores range from 0 to 75; higher scores signify more stress response symptoms. Because of the event-specific nature of the IES, normative data do not exist. However, its psychometric properties have been established, and a clinical cutoff score of 35 has been shown to yield high positive predictive power and low misclassification of PTSD (Neal et al., 1994). Total raw scores were used in analyses.

Children's Manifest Anxiety Scale – Revised (RCMAS)

The RCMAS (Reynolds & Richmond, 1997) is a 37-item self-report questionnaire assessing anxiety symptoms for children and adolescents 6 to 19 years old. Higher scores indicate more anxiety. *T* scores more than one standard deviation above the mean are considered to be in the clinical range (Reynolds & Richmond, 1997). Standardized *T* scores were used in the analyses.

Reynolds Adolescent Depression Scale (RADS)

Adolescents completed the RADS (Reynolds, 1987), a 30-item self-report measure of depression. Higher scores indicate more depressive symptoms. A raw score of 77 is the established cutoff for clinical depression, with 8% of males and 14% of females from community samples scoring above this cutoff (Reynolds, 1987). Standardized *T* scores were used for the current analyses.

Child Behavior Checklist (CBCL)

The behavior problems section of the CBCL (Achenbach, 1991) is a measure of the frequency of problem behaviors among children and adolescents. Both parents (ill parents, $n=38$; healthy parents, $n=35$) rated 112 behaviors for the past 6 months. Higher scores indicate more problem behaviors. The present study used the total behavior problems scale for analysis. A *T* score >60 is clinically meaningful (Achenbach, 1991). Standardized *T* scores were used in analyses.

Parent-Adolescent Communication Scale (PACS)

The PACS (Olson, 1985) consists of 20 items measuring the quality of communication between adolescent

Table II. Correlations among Measures of Adolescent Psychological Symptoms and Demographics

Measure	Age	IES	RCMAS	RADS	CBCL-H	CBCL-III
Time	.35*	.10	.04	.14	.23	.26
Age		.36*	.21	.20	.09	.18
IES			.16	.11	.19	.12
RCMAS				.60*	.24	.31*
RADS					.25	.36*
CBCL-Healthy						.48*

Note. * $p < .05$. All significance tests are one-tailed. Time = time between when adolescent was told of illness and adolescent interview, in months; Age = age in months; IES = Impact of Event Scale; RCMAS = Revised Children's Manifest Anxiety Scale; RADS = Reynolds Adolescent Depression Scale; CBCL = Child Behavior Checklist.

and parent. Adolescents completed the measure in its entirety in relation to one parent and then for the other; the order of administration (mother vs. father) was counterbalanced throughout the study. Items were rated on a 5-point scale from "strongly disagree" to "strongly agree" to generate a total score and two subscale scores. The Open Family Communication (OFC) subscale reflects feelings of free expression and understanding in parent-adolescent interactions (e.g., "When I ask questions, I get honest answers from my mother/father"). The Problems in Family Communication (PFC) subscale measures negative interaction patterns and hesitancy to disclose concerns (e.g., "My mother/father has a tendency to say things to me that would be better left unsaid"). Higher scores represent better parent-adolescent communication. Normative data based on parent sex are only available for total scores so raw scores were used when analyses included subscale data.

Data Analysis

Coefficient alphas calculated for all adolescent-completed measures ranged from .78 to .90 suggesting adequate internal consistency for all instruments. Statistics for skewness and kurtosis indicated normal distributions for all scales used in the analyses.

Next, correlations were conducted to examine the associations between measures of adjustment and their relationship to selected demographic factors. Also, correlations within the measures of communication were calculated. Independent samples *t*-tests were conducted to assess for differences on symptom measures on the basis of both adolescent and ill parent sex.

To examine Hypothesis 1 (adolescent psychological symptoms), means were calculated for the measures of adjustment and compared to published normative data using Welch's *v* test. The proportion of the sample in the

Table III. Correlations among PACS Communication Scores

Measure	Healthy OFC	Healthy Total	Ill PFC	Ill OFC	Ill Total
Healthy PFC	.48*	.86*	.15	-.29*	-.07
Healthy OFC		.86*	.11	-.04	.04
Healthy total			.15	-.19	-.02
Ill PFC				.51*	.87*
Ill OFC					.87*

Note. * $p < .05$. All significance tests are one-tailed. PACS = Parent-Adolescent Communication Scale; PFC = Problems in Family Communication; OFC = Openness in Family Communication.

clinical range was also calculated. To examine Hypothesis 2 (adolescent perceptions of communication), a 2 (adolescent sex) \times 2 (ill parent sex) \times 2 (ill and healthy parent communication) mixed factorial ANOVA was conducted with the first two factors being between subjects and the final one being within subjects. Analyses to test Hypothesis 3 (relationship between communication and psychological symptoms) included Pearson correlations between adolescent psychological functioning and communication. Williams *t* tests, used to compare differences between dependent correlations, were also used to assess whether communication with the healthy parent was more strongly correlated with psychological symptoms than communication with the ill parent.

Results

Preliminary Analyses

Pearson correlations assessed associations between demographic characteristics and psychological symptoms (Table II) and between ill and healthy parent communication (Table III). Adolescent age and the amount of time they had been aware of their parent's illness were positively correlated with each other, but neither correlated significantly with dependent measures, with one exception. IES scores were significantly correlated with age such that older adolescents reported more stress response symptoms. Several symptom measures were significantly correlated. The RCMAS (anxiety) and RADS (depression) were significantly associated with each other and with the ill parent's CBCL (adolescent behavior problems). Ill parent and healthy parent CBCL scores were also significantly correlated.

Adolescent reports of communication with healthy parents and ill parents were generally not significantly correlated, with one exception. More communication problems with the healthy parent were associated with greater openness with the ill parent.

Table IV. Means and Standard Deviations of Measures of Adolescent Psychological Symptoms

Measure	<i>M</i>	<i>SD</i>	<i>v</i>	Clinical Cutoff	Normative % Above cutoff	Sample % Above cutoff
IES	27.87	14.30	NA	RS \geq 35	NA	32
RCMAS	49.21	10.84	.06	<i>T</i> > 60	16	18
RADS	48.10	8.72	1.41	RS \geq 77	8 ^a , 14 ^b	5
CBCL-Healthy	49.11	10.73	.72	<i>T</i> \geq 60	16	14
CBCL-III	49.46	8.70	.43	<i>T</i> \geq 60	16	11

Note. RADS = Reynolds Adolescent Depression Scale; IES = Impact of Event Scale; RCMAS = Revised Children's Manifest Anxiety Scale; Reynolds Adolescent Depression Scale; CBCL = Child Behavior Checklist; RS = raw score. ^amales, ^bfemales. All *v* tests comparing to normative data were nonsignificant, $p > .05$. Normative data for the IES not available for this population.

Independent samples *t*-tests revealed no significant differences based on the sex of the ill parent (IES: $t(36) = -.35$, $p > .05$; RCMAS: $t(36) = -.41$, $p > .05$; RADS: $t(34) = -.46$, $p > .05$; CBCL-III: $t(35) = -.47$, $p > .05$; CBCL-Healthy: $t(33) = .62$, $p > .05$) or the adolescent (IES: $t(36) = .54$, $p > .05$; RCMAS: $t(36) = .23$, $p > .05$; RADS: $t(36) = 1.04$, $p > .05$) except on the CBCL. Ill parents rated adolescent males as having more behavior problems than females, $t(35) = 2.45$, $p < .05$. Healthy parents did not report this difference ($t(33) = .38$, $p > .05$).

Primary Analyses

Hypothesis 1: Adolescent Psychological Symptoms

As predicted, average *T* scores on measures of anxiety, depression, and parent-reported behavior problems were within normal limits (Table IV). Contrary to expectations, the percentages of the sample in the clinical range on these measures were near or below published norms. Consistent with the hypothesis, approximately one-third of adolescents reported clinical levels of PTS symptoms.

Hypothesis 2: Adolescent Perceptions of Ill vs. Healthy Parent Communication

The hypothesis that differences would exist in the quality of communication between the adolescent and their healthy versus ill parents was supported. Adolescent reports of total communication were within one standard deviation of the norm for descriptions of both healthy parents ($M = 52.34$, $SD = 12.59$) and ill parents ($M = 55.02$, $SD = 10.53$). To examine differences between ill and healthy parent communication by sex of adolescent and ill parent, 2 (adolescent sex) \times 2 (ill parent sex) \times 2 (ill and healthy parent communication scores) mixed ANOVAs were conducted. Regarding openness in communication, using estimated marginal means adjusted for the between-subjects factors of adolescent sex and patient sex, a significant main effect for health status emerged,

$F(1, 34) = 5.51$, $p < .05$, in which communication quality was rated higher for ill parents ($M = 40.4$, $SE = 1.3$) than for healthy parents ($M = 36.2$, $SE = 1.5$). An interaction between health status and patient sex was also present, $F(1, 34) = 11.81$, $p < .05$, such that healthy mothers were rated less positively ($M = 32.5$, $SE = 2.3$) than ill mothers ($M = 42.9$, $SE = 2.0$), ill fathers ($M = 38.0$, $SE = 1.6$), or healthy fathers ($M = 40.0$, $SE = 1.9$). No significant interactions were detected between health status and adolescent sex, $F(1, 34) = 2.07$, $p > .05$, or the three variables, $F(1, 34) = 0.37$, $p > .05$. For problems in communication, no significant findings emerged for the main effect of health status, $F(1, 34) = 2.33$, $p > .05$, health status by patient sex, $F(1, 34) = 1.71$, $p > .05$, health status by adolescent sex, $F(1, 34) = 0.08$, $p > .05$, or the three way interaction, $F(1, 34) = 1.46$, $p > .05$.

Hypothesis 3: Relationship Between Parent-Adolescent Communication and Psychological Symptoms

The hypothesis that communication with the healthy parent would be more strongly associated with adolescent adjustment was supported on several measures (Table V). Because normative information based on parent sex is available only for total, but not subscale, PACS scores, unstandardized raw scores were used. In regard to communication between the adolescent and healthy parent, one-tailed bivariate correlation coefficients revealed that better total communication was significantly associated with fewer adolescent reports of PTS and anxiety and fewer ill parent reports of behavior problems. More open communication was significantly associated with lower adolescent anxiety and reports of behavior problems by the ill parent. Problems in communication were significantly associated with more adolescent PTS and anxiety. In contrast, there was no significant association between any measure of communication with the ill parent and any measure of adolescent psychological symptoms. Williams *t* tests for significant differences between dependent correlations

Table V. Correlations between Measures of Adjustment and PACS Raw Scores by Parent Health

Measure	PACS						Difference between correlations					
	Ill parent PACS			Healthy parent PACS			PFC		OFC		Total	
	PFC	OFC	Total	PFC	OFC	Total	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
IES-Total	-.01	.18	.10	-.41*	-.07	-.28*	1.97*	.03	1.05	.15	1.64	.06
RCMAS	-.16	.06	-.06	-.38*	-.44*	-.48*	1.06	.14	2.24*	.01	1.91*	.03
RADS	-.27	.01	-.15	-.25	-.10	-.20	.10	.46	.45	.33	.21	.42
CBCL-Healthy	.14	.12	.15	-.27	.00	-.17	1.97*	.03	.50	.31	1.36	.09
CBCL-Ill	-.15	.10	-.03	-.23	-.37*	-.35*	.37	.36	2.07*	.02	1.39	.09

Note. **p* < .05. All significance tests are one-tailed. PACS = Parent-Adolescent Communication Scale; PFC = Problems in Family Communication; OFC = Open Family Communication; RCMAS = Revised Children's Manifest Anxiety Scale; RADS = Reynolds Adolescent Depression Scale; IES = Impact of Event Scale; CBCL = Child Behavior Checklist.

Table VI. Correlations between Measures of Adjustment and PACS Raw Scores by Parent Sex

Measure	PACS						Difference between correlations					
	Father PACS			Mother PACS			PFC		OFC		Total	
	PFC	OFC	Total	PFC	OFC	Total	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>
IES-Total	-.23	.07	-.09	-.22	.01	-.14	.05	.48	.28	.39	.22	.41
RCMAS	-.37*	-.45*	-.46*	-.19	.00	-.12	.89	.19	2.18*	.02	1.64	.06
RADS	-.32*	-.14	-.26	-.20	.03	-.11	.58	.28	.76	.23	.67	.25
CBCL Total-Healthy	-.08	.09	.00	-.08	.03	-.04	.00	.50	.30	.38	.17	.43
CBCL Total-Ill	-.24	-.22	-.26	-.16	-.12	-.16	.37	.36	.45	.33	.44	.33

Note. **p* < .05. All significance tests are one-tailed. PACS = Parent-Adolescent Communication Scale; PFC = Problems in Family Communication; OFC = Open Family Communication; RCMAS = Revised Children's Manifest Anxiety Scale; RADS = Reynolds Adolescent Depression Scale; IES = Impact of Event Scale; CBCL = Child Behavior Checklist.

(Hittner, May, & Silver, 2003) revealed that adolescent psychological symptoms were statistically more strongly correlated with the quality of communication between the adolescent and healthy parent than with communication between the adolescent and ill parent (Table V).

Given results suggesting the importance of healthy parent communication, moderational models were examined as exploratory analyses to determine whether the impact of ill parent communication on adolescent functioning was influenced by healthy parent communication. Regression models entering healthy and ill parent total communication scores in the first block, followed by the interaction term of the two variables in the second, revealed no significant interaction terms to indicate moderator effects on anxiety, depression, PTS, or either parents' report of behavior problems.

Post hoc Comparisons of Communication with Mothers and Fathers

Because of the disproportionate representation of mothers in the role of healthy parents, the analyses for Hypothesis 3 were replicated for mothers and fathers to ensure that the significant findings noted were not better explained by mothers being more likely to be in the healthy role (Table VI). Fewer significant findings emerged, and those

that did suggested that communication was more strongly related to positive communication with fathers. No significant relationships emerged between communication with mothers and adolescent psychological symptoms. Adolescent anxiety was significantly associated with the quality of communication with fathers, and depression was associated with more problems in communication with fathers. Only the correlation between openness and anxiety was significantly stronger for fathers than mothers.

Discussion

This study assessed the association between communication and psychological symptoms, including PTS, in adolescents with severely chronically ill parents and contributes two unique findings. First, adolescents reported PTS symptoms in reaction to parental illness. Second, the quality of communication between the adolescent and their healthy, but not ill, parent was significantly associated with measures of adolescent psychological functioning.

Consistent with the majority of prior research, adolescents' mean levels of anxiety, depression, and behavior problems were not within the clinical ranges.

However, nearly one-third of adolescents endorsed clinical levels of PTS symptoms related to their parent's health, suggesting that PTS may best capture the distress experienced by these adolescents. This is congruent with research documenting elevated PTS symptoms in parents of patients with cancer (Kazak et al., 2004) or undergoing transplant (Young et al., 2003), as well as adult daughters of women with breast cancer (Boyer et al., 2002). The level of PTS symptoms reported by the adolescents was comparable to that reported in studies of adolescents exposed to traumatic events such as a dormitory fire (Jones & Ribbe, 1991) and war (Kuterovac, Dyregrov, & Stuvland, 1994). Although PTS symptoms tend to diminish over time (Vila, Porche, & Mouren-Simeoni, 1999; Yule & Williams, 1990), adolescents in this sample had been exposed to parental illness for an average of nearly three years and their PTS symptoms were unrelated to the time since being told of their parents' diagnoses. The chronicity of parental illness and continued acute events (e.g., medical crises, treatments) may contribute to persistent intrusion and avoidance symptoms. Thus, if parent illness is conceptualized as a trauma, PTS, not anxiety or depression, may be most important to screen for in this population.

There was a modest positive correlation between adolescent age and PTS symptoms. Greater cognitive development has been suggested as contributing to distress responses in other studies (e.g., Compas et al., 1994). In this sample, older adolescents' better understanding of the gravity of their parent's health condition may have heightened their experience and avoidance of distressing and intrusive thoughts.

The results suggest some evidence that adolescent reports of the quality of parent-adolescent communication were related to the health of the parent, in particular for mothers. Adolescents reported the least positive communication with healthy mothers. Role redistribution has been discussed as a potential mediating influence on adolescent adjustment (Pedersen & Revenson, 2005), but this role disruption may also affect healthy spouses. Role expectations may differ by gender. Thus, in the context of traditionally higher expectations of openness between mother and child (Barnes & Olson, 1985), reductions in a mother's openness due to demands of other roles may be perceived more negatively than reductions in a father's openness, whose altered patterns of communication may not be perceived as meaningfully.

It also may be that ill parents make special efforts to effectively communicate to compensate for other areas in which they may feel less able to participate, or that

adolescents and ill parents are more aware that their time together is not infinite, creating special motivation to communicate. Adolescents also may be reluctant to disclose any negative feelings about their ill parent, leading to inflated communication scores for ill (vs. healthy) parents. More problems communicating with healthy parents were associated with greater openness with ill parents. Conflict with healthy parents may drive adolescents to discuss this with ill parents, leading to openness around other topics as well.

The quality of communication with their *healthy* parents was significantly associated with fewer adolescent symptoms of anxiety, posttraumatic stress, and behavior problems. Communication with ill parents was not significantly related to any measure of psychological functioning. The relationships between adolescent psychological symptoms and communication were significantly stronger with the healthy parent as compared to the ill parent.

Conflict in the relationship with the healthy parent may be a significant risk factor for psychological distress, as problems communicating with healthy parents were associated with more anxiety and PTS symptoms. Increased conflict with a healthy parent may cause adolescents to feel more dependent on the other parent, who may be viewed as medically fragile and unreliable for long-term support, thus causing feelings of vulnerability, isolation, and anxiety. Openness may be associated with greater sharing of medical information, which may reduce uncertainty about the illness and thus reduce generalized anxiety. The same effect might not be expected for PTS or depression symptoms, where higher levels of ongoing information might increase avoidance and intrusive thoughts or lead to negative views of the future.

Communication with the healthy parent was significantly associated with ill, but not healthy, parents' reports of adolescent behavior problems. It may be that ill parents are more attuned to adolescent symptoms, since ill parent CBCL scores were significantly correlated with adolescent reports of anxiety and depression, whereas healthy parent CBCL scores were not. Alternatively, when adolescents display more positive communication with their healthy parents, ill parents may feel reassured of their child's well-being and report fewer adolescent problems.

Despite the contributions of the study, several limitations should be acknowledged. First, the small sample size limits the study generalizability and power to test more elaborate models of the constructs of interest. The power to detect significant relationships at $p < .05$

in this sample of 38 families was .47, using estimates of a .30 correlation between communication and adjustment (Jackson et al., 1998). However, despite the small sample size, the effects of interest were detected, though statistical correction for the number of tests conducted was not used. Second, the correlational nature of the study did not allow examination of the likely transactional nature of the relationship between communication and psychological symptoms. While it is hypothesized that good communication is protective for adolescents, adolescents with better psychological functioning may be better communicators or be perceived as more approachable by parents. Third, because adolescent perceptions of communication were of greatest interest, ratings were obtained only from them; however parent perceptions of communication may illuminate a different pattern of findings.

Nonetheless, the present study has several clinical and research implications. For clinicians, results indicate that a significant proportion of these adolescents experience posttraumatic stress symptoms that may go undetected. This suggests that clinicians should inquire about parental health and screen for stress response symptoms even when not part of an adolescent's presenting complaint. For adolescents who present with psychological symptoms in response to parental illness, these findings suggest that communication between the adolescent and their healthy parent may be an important target of clinical intervention.

Future research should further explore the processes involved in communication between adolescents and their healthy and ill parents, and the relationship of these processes to the psychological functioning of both parents and the adolescent. In addition, the role of communication with extended family and peers as resources for adolescent coping is an important area for future investigation. Substance use among these teens should also be examined, since PTSD represents a significant risk factor for substance abuse among adolescents (Lopez, Turner, & Saavedra, 2004). Longitudinal research will assist in answering questions about the patterns of stress response symptoms over time in this population, and intervention studies with children of ill parents will represent important contributions to their well-being.

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