

# The Effect of Parenting Stress on Fathers' Availability and Engagement

Nina Halme, Marja-Terttu Tarkka, Tapio Nummi & Päivi Åstedt-Kurki

*The present study was designed to shed light on the relation between parenting stress, father's alcohol use, child characteristics and father's engagement and availability. The study cohort comprised 821 fathers of preschool children in Finland. Parenting stress and child's mood, acceptability and demandingness were related to father's engagement to the preschooler and to the extent of the father's availability. Parenting stress began a cycle of alcohol abuse and child-negative characteristics, and eventually led to a decrease in joint father-child activities, father's feeling of compulsory engagement, daily conflict situations, difficulty in including the child in everyday activities and a reduction in the amount of time spent directly or indirectly together.*

## Introduction

Prerequisite to the development of effective modes of intervention supportive of fatherhood are recognition and assessment of the stress involved in parenting and functioning as a father (Dickersin & Manheimer, 1998; Zalaquett & Wood, 1997). Both in more recent research and among professionals in family counselling, attention has focused on the father-child relationship and the stress that fathers experience in situations where the child suffers particular difficulties or developmental disturbances. The relevant studies have concentrated for the most part on an evaluation of the connection between stress and the overall commitment of fathers in various stages of life, and the development of the child or marital relations (Arditti & Maddenderdich, 1997; Bagner & Eyberg, 2003; Baker *et al.*, 2003; Baker, Perilla, & Norris, 2001; Baker, 1994; Benzies, Harrison, & Magill-Evans, 2004; Deaterdecad, 1998; Esdaile & Greenwood, 2003; Harvey, 1998; Jackson, 1999;

---

Nina Halme is a doctoral student and researcher and Marja-Terttu Tarkka is an assistant professor in the Department of Nursing Science, Tapio Nummi is a professor in the Department of Public Health, and Päivi Åstedt-Kurki is a professor in and Department Head of the Department of Nursing Science, University of Tampere. Correspondence to: Nina Halme, Department of Nursing Science, University of Tampere, FIN-33014, Finland. Tel: +358 3 2157804; Fax: +358 3 215 6665; Email: nina.halme@uta.fi

Judge, 2003; Magill-Evans & Harrison, 1999, 2001; Tucker, Gross, Fogg, Delaney, & Lapporte, 1998). To the authors' knowledge no previous reports are available dealing specifically with the effect of parenthood stress on the level of engagement between fathers and their preschool offspring and fathers' availability.

There has also been debate on the matter of differences between fathers and mothers in respect of the stresses involved in parenting (Esdaile & Greenwood, 2003; Magill-Evans & Harrison, 1999; Wanamaker & Glenwick, 1998). Some studies have demonstrated fathers' lower stress compared with mothers (Esdaile & Greenwood, 2003). On the other hand, account has been taken of the possibility that fathers are less likely to admit to stress even though the problems of everyday life confront fathers and mothers alike (Baker *et al.*, 2003; Darke & Goldberg, 1994; Magill-Evans & Harrison, 1999). Generalizing from research findings, it must further be borne in mind that fathers' estimates of the stress they experience do not necessarily tally with physiological indicators.

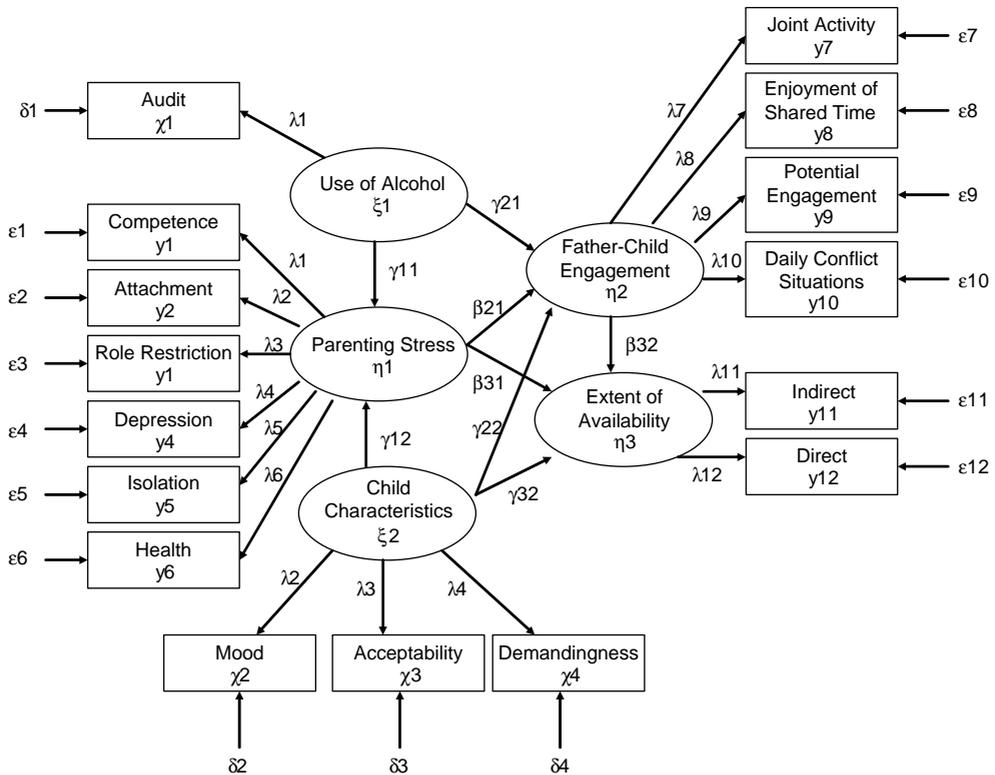
This article describes a study designed to explore the relationship between parenting stress, father's alcohol use, child characteristics and fathers' engagement and availability. Knowing more about their connections to father involvement is critical at both family and societal levels.

### **Conceptualization of Parenting Stress, Father's Engagement, Availability and Alcohol Use: The Point of Departure in Developing the Model**

The hypothetical model (Figure 1) depicting relationships between parenthood stress, father-child engagement and father's availability was developed on the basis of previous research data, which were mainly based on the CINAHL, JSTOR, EBSCO HOST and Sage Full-text Collection databases. The keywords used were "parenting stress + father or fathering". The search yielded a total of 39 articles or studies.

Stress factors associated with parenthood and functioning as a father comprise aspects such as the child's mood, demandingness and acceptability, the father's sense of competence in his role, his affection to the child, the restrictiveness of the parent role, father's isolation, health and depressive mood.

The term "demandingness" here refers to situations where the father feels that the child is imposing possibly excessive demands on him, as manifested in incessant crying, physical clinging, "pestering" and various minor problems of behaviour (Abidin, 1995; Beebe, Casey, & Pinto-Martin, 1993). Child's mood here means emotional function as evinced in satisfaction or dissatisfaction, low spirits, repeated crying and happiness or despondency (Abidin, 1995). Acceptability comprises the correspondence of the child's physical, mental and emotional qualities with the parents' expectations (Abidin, 1995). Previous studies have shown the child's characteristics to affect the father's sense of stress (Abidin, 1995; McBride, Schoppe, & Rane, 2002); here particularly the propensity of girls to manifest negative feelings (McBride *et al.*, 2002). This has been surmised to derive from the fact that fathers feel freer and more natural in their dealings with their male offspring, the child's qualities



**Figure 1** Measurement model of parenting stress, father’s alcohol use, child characteristics, and father’s engagement and availability to the preschooler. Exogenous variables are indicated by  $\xi$  and endogenous variables by  $\eta$ . Intervariable relations are marked  $\beta$  or  $\gamma$ , according to whether the relationship is between two endogenous variables or between an exogenous variable and an endogenous variable, respectively. Indexation is by numbering of the target and source variable. Loadings by exogenous and endogenous variables are represented by  $\lambda$  and measurement errors by  $\epsilon$  for endogenous variables and  $\delta$  for exogenous variables.

thus exerting a more marked effect on their sense of stress in the case of daughters (McBride *et al.*, 2002).

The skills involved in functioning as a father are drawn from a variety of sub-areas. In the present context what is conceived is mainly the father’s estimate of the adequacy of his skills and their appropriateness to child upbringing and care, together with criticism of the father in this capacity (Abidin, 1995). According to Fagan (2000) the shared time of a preschool boy and his father is curtailed as daily problems and conflicts accrue. Fathers report some 2.4 conflict situations a day connected with work, family or health (Fagan, 2000). Such situations arise more regularly when the father is in a bad mood (Almeida, Wethington, & McDonald, 2001). Experience of parenthood stress is closely associated with a paucity of social relations and support networks, and situations in which fathers feel concur with their children to exert a negative effect in important spheres of their lives; here fathers may experience

parenthood as an element apart from their own identity and as a factor restrictive of their freedom (Abidin, 1995). Although nursing science conceives of health as a broad spectrum of well-being, the term is here used to refer to freedom from disease and the father's general sense of mental and physical well-being (Abidin, 1995). Primarily, the mood that causes stress is mainly the father's sense of guilt, unhappiness and dissatisfaction with his life (Abidin, 1995).

As regards stress associated with functioning as a father of a preschool child and its connection with father-child engagement and the extent of the father's availability, research data are scant. According to Garrison and Blalock (1997), those who have become fathers later in life experience less stress associated with parenthood compared with men attaining to fatherhood at the typical stage in life. Particularly, stress connected to marital relations is less marked compared with that in the normally distributed age categories (Garrison & Blalock, 1997). In a number of cross-sectional studies it has proved difficult to demonstrate a causal relationship between parenthood stress and the extent of father-child engagement and father's availability (Esdaile & Greenwood, 2003; Fagan, 2000, McBride *et al.*, 2002). Since fathers frequently report greater parent-linked stress in consequence of a greater commitment to their children, it remains difficult to conclude unambiguously whether this stress influences their dealings with their children or vice versa (cf. Fagan, 2000). In constructing the measure model (Figure 1) for the present study, however it was felt justifiable on the basis of the literature to hitherto assume the father's experienced stress to be an explaining factor in father-child engagement (McBride *et al.*, 2002).

The increasing interest focused in recent years on fathers and fatherhood has raised questions as to why some fathers are more committed than others, derive greater pleasure from interplay with their children and are both indirectly and directly more readily available to the children and at their disposal. In conceptual terms, such engagement is defined as to embrace any joint and interactive undertakings of the father and preschool child in which the father's emotions, his attitude to his child and their joint activities, together with the daily conflict situations these may entail, are closely associated. (Almeida *et al.*, 2001; Baidam *et al.*, 2000; Fagan, 2000; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001). Although joint activities and availability have been conceptually operationalized in a number of ways in earlier studies (for example, Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000; Hawkins & Dollahite, 1997), it has nonetheless been acknowledged that a better understanding of father commitment calls preferably for a simultaneous quantitative and qualitative assessment of engagement and availability.

Some recent studies have drawn attention to fathers' use of alcohol (McMahon & Rounsaville, 2002). Almost one in three fathers (35–40%) are estimated to fall into the risk-user category at some stage in their lives (Halme *et al.*, 2004a, 2004b; Thomas & Donovan, 2001). Alcohol abuse has been found to be associated with a number of health problems, but above all with significant consequences for parental functioning and father-child social relationships, as also with the incidence of conflicts in the family (Babor, de la Fuente, Saunders, & Grant, 1992; Schmidt & Barry, 1995). Although no previous reports are available directly linking fathers' alcohol abuse with

father–child engagement, extent of father’s availability and parenthood stress, the present study assumes that the use of alcohol exacerbates the stresses associated with parenthood, exerts a negative effect on father–child engagement and curtails the extent of the father’s availability (Figure 1).

### Hypotheses

The objective in the present study was to assess the applicability to an empirical material of a measurement model depicting the stress associated with parenthood, father–child engagement, the extent of fathers’ availability and fathers’ use of alcohol. According to the null hypothesis there are no differences obtained in the basic cohort between various groups of subjects. Possible (minor) divergence between groups derives solely from random variation associated with sampling and is not in the statistical sense significant (see alternative hypothesis).

The measurement model involves the following hypotheses:

$H_{01}: \beta_{32} = 0$  (father–child engagement does not affect the extent of the father’s availability)

$H_{11}: \beta_{32} \neq 0$

$H_{02}: \gamma_{11} = 0$  (father’s use of alcohol is not related to stress associated with functioning as a father)

$H_{12}: \gamma_{11} \neq 0$

$H_{03}: \gamma_{21} = 0$  (father’s use of alcohol does not affect father–child engagement)

$H_{13}: \gamma_{21} \neq 0$

$H_{04}: \beta_{21} = 0$  (parenthood-linked stress does not affect father–child engagement)

$H_{14}: \beta_{21} \neq 0$

$H_{04}: \beta_{21} = 0$  (parenthood-linked stress does not affect the extent of the father’s availability)

$H_{14}: \beta_{21} \neq 0$

$H_{06}: \gamma_{12} = 0$  (characteristics of the child are not related to stress associated with parenthood)

$H_{16}: \gamma_{12} \neq 0$

$H_{07}: \gamma_{22} = 0$  (characteristics of the child are not related to father-child engagement)

$H_{17}: \gamma_{22} \neq 0$

$H_{08}: \gamma_{32} = 0$  (characteristics of child are not related to extent of father’s availability)

$H_{18}: \gamma_{32} \neq 0$

## Sample

The study cohort comprised 821 fathers of children aged between three and six years. The mean age of the fathers was 37 years (standard deviation = 5.9 years). Almost three out of four fathers (74%) worked 40 hours or more a week. One in five fathers (19%) had no professional training. The families of the fathers in the sample included an average of 2.4 children, which is slightly more than in the population at large (1.6–1.9 children; Statistical Finland, 2002). Altogether 74% of the fathers were at time of sampling married and 84% were living in the same household as their preschool children.

The fathers in the study comprised a simple random sample. Coded questionnaires containing the actual measurement charts, were mailed together with a stamped return envelope to 2,500 Finnish fathers of preschool children. The final response rate was 33% without follow-up reminders. Prior to the investigation proper, a pilot study was made on the basis of which means and distributions were calculated for the variables depicting father–child engagement and extent of father’s availability. On this basis the magnitude of effect was set *a priori* (ES = 0.6) (Halme, Tarkka, Paavilainen, Nummi, & Åstedt-Kurki, 2004a). A 95% significance level was accepted and a power of 80%, this corresponding to 20% probability for a type II error (Erdfelder, Faul, & Buchner, 1996). The requisite size of the sample on this basis being 90, the present material may be considered adequate for the purpose (Halme *et al.*, 2004a). Analysis of drop-out revealed non-response to fall more frequently than usual among fathers not living with their partner ( $\chi^2 = 21.10$ , degrees of freedom = 3,  $p < .001$ ) and not residing in the same household as their preschool offspring ( $\chi^2 = 28.11$ , degrees of freedom = 1,  $p < .001$ ). These aspects are taken into account in assessing the general applicability of the results and the representatives of the material.

## Methods

Three instruments were chosen to determine whether the proposed model represented an adequate fit to the data provided by a sample of fathers of preschool offspring.

1. Abidin’s (1995) Parenting Stress Index (PSI), which provides stress scores on both child characteristics (three subscales) and a father domain (six subscales). In the present case it was not possible to apply the index in total by reason of its length; items were included on the basis of theoretical correspondence. The PSI has been widely employed internationally and its reliability has been tested on father material in almost 40 studies. It has proved universally viable and valid irrespective of culture (Bigras, LaFreniere, & Dumas, 1996; Reitman, Currier, & Stickle, 2002; Rimmerman & Sheran, 2001).
2. Halme *et al.*’s (2004a) Father–Child Instrument (FCI), giving father’s engagement to the preschooler (four subscales) and the extent of his availability (indirect and direct time in hours). The FCI has been developed to apply to fathers of preschoolers and has been tested on Finnish fathers. Its development

and assessments of its reliability have been reported in previous papers (Halme, Åstedt-Kurki, Tarkka & Paavilainen, 2003; Halme *et al.*, 2004a; Halme, Tarkka, Paavilainen, Nummi, & Åstedt-Kurki, 2004b).

3. The Alcohol Use Disorders Identification Test (AUDIT) allowed assessment of fathers' use of alcohol, of problems associated with this and of addiction to alcohol. This measure, developed by the World Health Organization, has been widely employed internationally and its reliability has also been established in Finland (Holmila, 1997; McCann, Simpson, Ries, & Roy-Byrne, 2000; Schmidt & Barry, 1995; Selin, 2003; Thomas & Donovan, 2001). A score of 8 is recommended in a number of studies as the cut-off value for men in respect of risk consumption versus harmless indulgence (Allen, Litten, Fertig, & Barbor, 1997; Babor *et al.*, 1992; Conigrave, Hall, & Saunders, 1995; Reinert & Allen, 2002; Selin, 2003); this was also used as the limit in the present study.

Means, standard deviations and reliabilities for variables used in testing the model of parenting stress, father's availability and engagement are presented in Table 1.

Descriptive data analysis was performed using SPSS 11.0. Frequencies, means and standard deviations were calculated to obtain a profile of the sample on demographic, parenting stress, father engagement and availability-related variables. Chronbach's alpha was computed as a measure of internal consistency for all instruments used in this study. The proposed model was assessed using structural equation modelling. As some non-normality was present, the model was estimated by the weighted least-squares estimation procedure (WLS) implemented by LISREL8.4 (Jöreskog & Sörbom, 1996a). The WLS procedure was chosen since it does not make the strong distributional assumptions of the maximum likelihood procedure (Jöreskog & Sörbom, 1996b). The covariance matrix used as feed-in data was formed on the Prelis 2.14 program.

Several goodness-of-fit indices are provided by LISREL, including an approximate  $\chi^2$  statistic. With WLS, the  $\chi^2$  measure is correct if a correct weight matrix is used. It should be noted, however, that here, as in most empirical work, the model is only tentative and is only regarded as an approximation to reality. From this point of view the statistical problem is not one of testing a given hypothesis, but rather of fitting the model to the data and deciding whether the fit is adequate or not (Hayduk, 1987; Jöreskog & Sörbom, 1996a, 1996b). The  $\chi^2$  measure tends to be large in large samples, as in this study, if the model does not hold. In addition to this we estimated the fit of the hypothetical model with the observed variables using the following goodness-of-fit measures: root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), goodness-of-fit index (GFI) and adjusted goodness-of-fit index (AGFI). It is generally accepted that values smaller than 0.05 (the minimum is 0) for the RMSEA and the SRMR and values higher than 0.90 for the GFI and the AGFI indicate a good fit of the model to the data (Hayduk, 1997; Jöreskog & Sörbom, 1996a, 1996b).

In addition to assessing the overall model fit, it is essential to take note of the significance and the assumed direction of all paths. In this study we calculated

**Table 1** Means, standard deviations and reliabilities for variables used in testing the model of parenting stress, father's alcohol use, child characteristics and father's engagement and availability to the preschooler ( $N = 821$ )

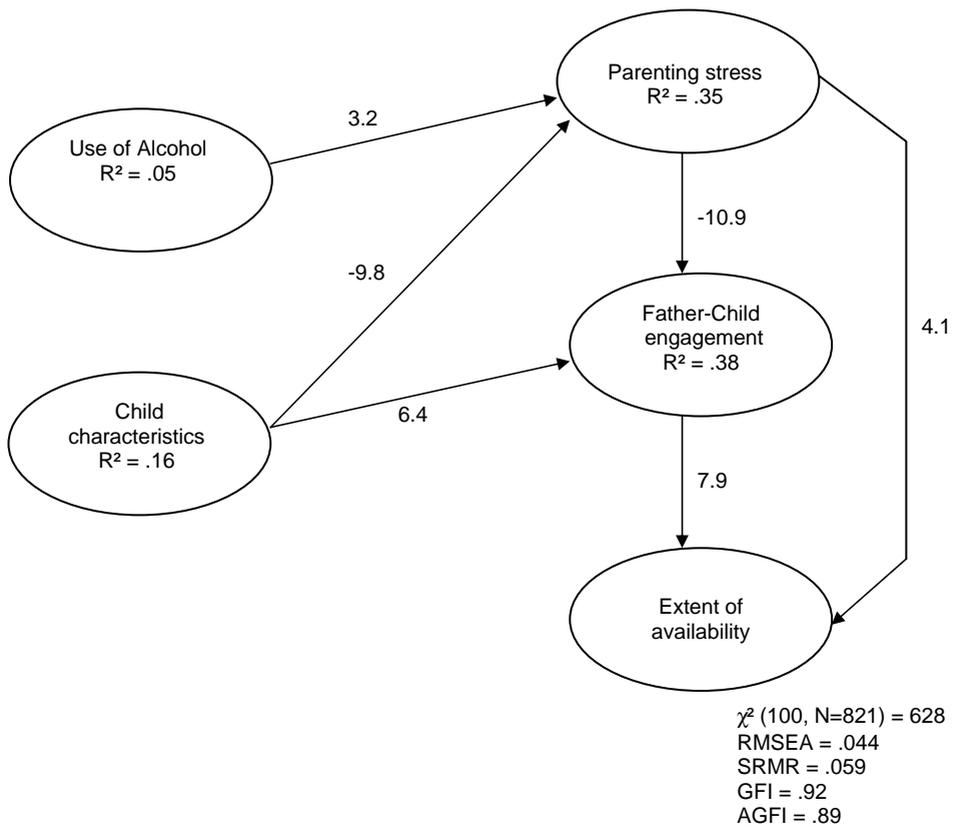
Variable	Measure	Mean (standard deviation)	Range	Number of items	Alpha
Parenting stress	Parenting Stress Index				
	Competence	1.99 (0.51)	1–5	9	0.77
	Attachment	1.92 (0.47)	1–5	7	0.55
	Role restriction	2.30 (0.63)	1–5	7	0.63
	Depression	1.95 (0.63)	1–5	5	0.72
	Isolation	1.95 (0.66)	1–5	5	0.77
	Health	1.92 (0.77)	1–5	3	0.58
Child characteristics	Parenting Stress Index				
	Mood	1.80 (0.48)	1–4	5	0.65
	Acceptability	1.50 (0.50)	1–4	7	0.47
	Demandingness	1.71 (0.48)	1–4	9	0.60
Alcohol use	The Alcohol Use Disorders Identification Test	7.28 (5.45)	0–40	10	0.77
Father's engagement	The Father–Child Instrument				
	Joint activity	4.68 (0.75)	1–6	8	0.76
	Enjoyment of shared time	5.08 (0.54)	1–6	12	0.78
	Potential engagement	4.58 (0.68)	2–6	4	0.64
	Conflict situations	3.60 (0.81)	1–6	5	0.71
Father's availability	The Father–Child Instrument				
	Direct availability	3.46 (2.79)	0–24	2	0.66
	Indirect availability	10.07 (5.54)	0–24	2	0.67

*t*-values to assess the degree of variance accounted for in each dependent variable (as the sample size is appreciable, *t*-values exceeding 2.0 are considered statistically significant) (Jöreskog & Sörbom, 1996a, 1996b).

**Results**

On the basis of non-significant *t*-values ( $t < 2.0$ ), certain paths (two) were deleted one at a time over several iterations in the model construction, and only statistically significant connections are presented in Figure 2. Modification indices were used to add specific correlations of measurement errors to the model. The model explained 38% of the variance in father engagement to the preschooler and fitted the data moderately well:  $\chi^2$  (degrees of freedom = 100,  $N = 821$ ) = 628,  $p < .001$ ; RMSEA = 0.044; SRMR = 0.059; GFI = 0.92; AGFI = 0.89.

As Figure 2 indicates, both parenting stress and child characteristics as well as father’s alcohol use were linked to father’s engagement and availability to children through several paths. Parenting stress at child’s age three to six explained 35% of the



**Figure 2** The LISREL model of parenting stress, father’s alcohol use, child characteristics and father’s engagement to the preschooler.

variance in father engagement to the preschooler. Stress had both direct and indirect links to the extent of the father's availability and engagement. The indirect link from parenting stress to availability was via engagement ( $t = -6.8$ ). There were also indirect links between child characteristics and availability via both parenting stress and father engagement ( $t = 8.9$ ) and to engagement via fathering stress ( $t = 8.3$ ). Child characteristics such as mood, acceptability and demandingness explained 16% of variance in fathers' engagement to their children. Fathers' increased use of alcohol was directly associated with depressive mood, health problems, withdrawal from human relationships, attachment to children, lack of confidence as a parent and fathers' experience of the parent role as a restriction on their own lives. In addition to this, the alcohol use had indirect links to father's engagement via parenting stress ( $t = -3.2$ ) and to the extent of availability via both stress and engagement ( $t = -2.7$ ). Of the fathers participating in the study, 38% could be classified as risk drinkers; nonetheless, father's use of alcohol explained only 5% of the variance in father-child engagement.

Not shown in Figure 2 are significant correlations of measurement errors between single variables. The father's sense of emotional closeness to the preschooler correlated with both acceptability and father's inclusion of the child in his own activities. This latter for its part was linked to the indirect time the father was available and accessible. The father's experience of the child as placing many demands upon him was associated with the presence of significant depression in the father and the father's experience of the parental role as restricting his freedom and frustrating him in attempts to maintain his own identity. Role restriction was also associated with daily conflict situations.

## **Discussion**

Our results indicate that parenting stress and child's mood, acceptability and demandingness are directly and indirectly related to the father's engagement to his preschool child and to the extent of his availability. Parenting stress at child's age three to six involved the father's competence as a parent, his attachment to his children, role restriction, father's depression, isolation and health. Fathering stress began a cycle of alcohol use and child characteristics, and led eventually to a diminishing of joint activities, an element of compulsion in engagement, daily conflict situations, father's difficulty in including the child in daily activities and diminished indirect and direct engagement. These findings support earlier results showing that fathering stress is closely associated with the father's commitment to parenthood (Fagan, 2000). Father's moderate alcohol use functioned as a protective factor between parenting stress and father's engagement. This again supports results reported in recent years whereby fathers' use of alcohol is, in general, associated with parenthood (McMahon & Rounsaville, 2002; Thompson & Donovan, 2001). A fortuitous finding not reported elsewhere in the literature was the link between father's alcohol abuse and fathering stress. In other words, the more abundant the father's use of alcohol, the more parenthood-linked stress factors. The findings strengthen our understanding of father engagement to children. An appraisal focusing solely on engagement and availability

instead of parenting stress, child characteristics and father's alcohol use presents a limited and perhaps overly romanticized conception of father engagement.

There are some limitations to our study. First, the data on father engagement and parenting stress were cross-sectional. It is possible that engagement, availability, child characteristics, parenting stress and alcohol use vary and alter concomitant with changes in the family's daily life and overall situation during childhood. Second, not all the criteria set for the fit of the model were fulfilled. It is probable that the  $\chi^2$  value came out high as a consequence of the large size of the sample and cannot thus in itself constitute a correct and adequate result. There has indeed been debate in the context of the LISREL analysis regarding the limitations of these goodness-of-fit values; rather, the theoretical viability of the model and the significance of the paths it contains have been found generally more acceptable (Hayduk, 1997; Jöreskog & Sörbom 1996a, 1996b). In the present study all paths included in the final model were statistically significant and were in line with the hypotheses posited on the basis of previous literature. Thirdly, a limitation may be seen in the circumstance that the present study confined attention to stress, child characteristics and the association between father's use of alcohol and father-child engagement and the extent of this. Although the aforementioned variables explained a considerable part of the variance in father-child engagement and its extent, they do not in themselves suffice to explain the phenomenon. Judging from previous reports it may be assumed that parenthood stress and father's commitment involve many other factors, one of them being the viability of the marital relationship (Krishnakumar & Buehler, 2000; Parke, 1996). Development of the model should thus be continued along these lines.

In the present study, we found that parenting stress, alcohol abuse and child's negative characteristics create a combination that eventually leads to the father's decreased engagement and availability. These findings are important for the study of prevention at both family and societal levels. At a family level, the prevention of parenting stress and father's alcohol use are important in that these constitute risk factors for father engagement. Father-child engagement is reported to promote child well-being and development (Dubowitz, Black, Cox, & Kerr, 2001; Rohner & Venetiziano, 2001), satisfaction in marital relations (Carlsson, 2000; Kalmijn, 1999) and father's satisfaction with himself as a parent (Barclay & Lupton, 1999; Logan, 2000). At a societal level it is important to address interventions supportive of parenthood to fathers who belong to the category of risk consumers of alcohol and who are subject to marked stress associated with functioning as a father. The consequences of diminished engagement between father and child entail a very considerable expense to the community.

## References

- Abidin, R. R. (1995). *Parenting stress index. Professional manual* (3rd ed.). Odessa, FL: Psychological Assessment Resource, Inc.
- Allen, P. J., Litten, R. Z., Fertig, J. B., & Barbor, T. (1997). A review research on the Alcohol Use Disorders Identification Test (AUDIT). *Alcoholism: Clinical & Experimental Research*, 21, 613-619.

- Almeida, D. M., Wethington, E., & McDonald, D. A. (2001). Daily variation in parental engagement and negative mood: Implications for emotionally supportive and conflictual interactions. *Journal of Marriage and the Family*, *63*, 417–430.
- Arditti, J. A., & Maddenderdich, D. (1997). Joint and sole custody mothers: Implications for research and practice. *Families in Society—The Journal of Contemporary Human Services*, *78*, 36–45.
- Babor, T., de la Fuente, J. R., Saunders, J., & Grant, M. (1992). *The Alcohol Use Disorders Identification Test: Guidelines for use in primary health care* (WHO Publication No. 89, 4). Geneva: World Health Organization.
- Bagner, D. M., & Eyberg, S. M. (2003). Father involvement in parent training: When does it matter? *Journal of Clinical Child & Adolescent Psychology*, *32*, 599–606.
- Baildam, E. M., Hillier, V. F., Menon, S., Bannister, R. P., Bamford, F. N., Moore, W. M. O., & Ward, B. S. (2000). Attention to infants in the first year. *Child: Care, Health, and Development*, *26*, 199–216.
- Baker, B. L., McIntyre, L. L., Blacher, J., Crnick, K., Edelbrock, C., & Low, C. (2003). Pre-school children with and without developmental delay: Behaviour problems and parenting stress over time. *Journal of Intellectual Disability Research*, *47*, 217–231.
- Baker, C. K., Perilla, J. L., & Norris, F. J. (2001). Parenting stress and parenting competence among Latino men who batter. *Journal of Interpersonal Violence*, *16*, 1139–1158.
- Baker, D. B. (1994). Parenting stress and ADHD: A comparison of mothers and fathers. *Journal of Emotional and Behavioral Disorders*, *2*, 46–50.
- Barclay, L., & Lupton, D. (1999). The experiences of new fatherhood: A socio-cultural analysis. *Journal of Advanced Nursing*, *29*, 1013–1020.
- Beebe, S. A., Casey, R., & Pinto-Martin, J. (1993). Association of reported infant crying and maternal parenting stress. *Clinical Pediatrics*, *32*, 15–19.
- Benzies, K. M., Harrison, M. J., & Magill-Evans, J. (2004). Parenting stress, marital quality, and child behavior problems at age 7 years. *Public Health Nursing*, *21*, 111–122.
- Bigras, M., LaFreniere, P. J., & Dumas, J. E. (1996). Discriminant validity of the parent and child scales of the parenting stress index. *Early Education & Development*, *7*, 167–178.
- Cabrera, N. J., Tamis-LeMonda, C. S., Bradley, R. H., Hofferth, S., & Lamb, M. E. (2000). Fatherhood in the 21<sup>st</sup> century. *Child Development*, *71*, 127–136.
- Carlsson, M. A. (2000). Family structure, father involvement and adolescent behavioral outcomes. *Dissertation abstracts International Section A: Humanities & Social Sciences*, *61* (2a), 782.
- Conigrave, K. M., Hall, W. D., & Saunders, J. B. (1995). AUDIT questionnaire: Choosing a cut-off score. *Addiction*, *90*, 1349–1356.
- Darke, P., & Goldberg, S. (1994). Father–infant interaction and parent stress with healthy and medically compromised infants. *Infant Behavior and Development*, *17*, 3–14.
- Deaterdecad, K. (1998). Parenting stress and child adjustment: Some old hypotheses and new questions. *Clinical Psychology—Science and Practice*, *5*, 314–332.
- Dickersin, K., & Manheimer, E. (1998). The Cochrane collaboration: Evaluation of health care and services using systematic reviews of the results of randomised controlled trials. *Clinical Obstetrics and Gynecology*, *41*, 315–331.
- Dubowitz, H., Black, M. M., Cox, C. E., & Kerr, M. (2001). Father involvement and children's functioning at age 6 years: A multisided study. *Child Maltreatment: Journal of the American Professional Society on the Abuse of Children*, *6*, 300–309.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behaviour Research Methods, Instruments, & Computers*, *28*, 1–11.
- Esdaile, S. A., & Greenwood, K. M. (2003). A comparison of mothers' and fathers' experience of parenting stress and attributions for parent–child interaction outcomes. *Occupational Therapy International*, *10*, 115–127.
- Fagan, J. (2000). Head start fathers' daily hassles and involvement with their children. *Journal of Family Issues*, *21*, 329–346.

- Garrison, B. M. E., & Blalock, L. B. (1997). Delayed parenthood: An exploratory study of family functioning. *Family Relations*, 46, 281–291.
- Halme, N., Åstedt-Kurki, P., Tarkka, M. T., & Paavilainen, E. (2003, May 15–16). *Fathers' involvement with their children—The development of The Father-Child Instrument*. Paper presented in the International Mental Health Conference, Tampere, Finland.
- Halme, N., Paavilainen, E., Parviainen, T., Nummi, T., & Åstedt-Kurki, P. (2004b). *An explanatory model of marital satisfaction, father's availability and engagement to the preschooler*. Unpublished manuscript. University of Tampere, Finland.
- Halme, N., Tarkka, M. T., Paavilainen, E., Nummi, T., & Åstedt-Kurki, P. (2004a). *The design and development of the Father-Child Instrument (FCI) for assessing the characteristics of father's presence with their preschooler*. Unpublished manuscript. University of Tampere, Finland.
- Harvey, E. (1998). Parental employment and conduct problems among children with attention-deficit/hyperactivity disorder: An examination of child-care workload and parenting well-being as mediating variables. *Journal of Social and Clinical Psychology*, 17, 476–490.
- Hawkins, A. J., & Dollahite, D. C. (1997). *Generative fathering: beyond deficit perspectives*. Thousand Oaks, CA: Sage.
- Hayduk, L. (1987). *Structural equation modelling with LISREL*. London: The John Hopkins University Press.
- Holmila, M. (1997). Family roles and being a problem drinker's intimate other. *European Addiction Research*, 3, 37–42.
- Jackson, A. P. (1999). The effects of non-resident father involvement on single black mothers and their young children. *Social Work*, 44, 156–166.
- Jöreskog, K. G., & Sörbom, D. (1996a). *LISREL 8: User's reference guide* (2nd ed.). Chicago: Scientific Software International.
- Jöreskog, K. G., & Sörbom, D. (1996b). *PRELIS 2: User's reference guide* (3rd ed.). Chicago: Scientific Software International.
- Judge, S. (2003). Determinants of parental stress in families adopting children from eastern Europe. *Family Relations*, 52, 241–249.
- Kelly, T. M., & Donovan, J. E. (2001). Confirmatory factor analyses of the Alcohol Use Disorders Identification Test (AUDIT) among adolescents treated in emergency departments. *Journal of Studies on Alcohol*, 62, 838–841.
- Kalmijn, M. (1999). Father involvement in childrearing and the perceived stability of marriage. *Journal of Marriage and the Family*, 61, 409–421.
- Krishnakumar, A., & Buehler, C. (2000). Interparental conflict and parenting behaviours: A meta-analytic review. *Family Relations*, 49, 25–44.
- Logan, S. C. (2000). Effective fathering practices and fathering satisfaction relate to fathering adolescents. *Dissertation Abstracts International Section B: The sciences & Engineering*, 61(5b), 2769.
- Magill-Evans, J., & Harrison, M. J. (1999). Parent-child interactions and development of toddlers born preterm. *Western Journal of Nursing Research*, 21, 292–307.
- Magill-Evans, J., & Harrison, M. J. (2001). Parent-child interactions, parenting stress, and developmental outcomes at 4 years. *Children's Health Care*, 30, 135–150.
- McBride, B. A., Schoppe, S. J., & Rane, T. R. (2002). Child characteristics, parenting stress, and parental involvement: Fathers versus mothers. *Journal of Marriage and Family*, 64, 998–1011.
- McCann, B. S., Simpson, T. L., Ries, R., & Roy-Byrne, P. (2000). Reliability and validity of screening instruments for drug and alcohol abuse in adults seeking evaluation for attention-deficit/hyperactivity disorders. *The American Journal of Addictions*, 9, 1–9.
- McMahon, T. J., & Rounsaville, B. J. (2002). Substance abuse and fathering: Adding poppa to the research agenda. *Addiction*, 97, 1109–1116.
- Parke, R. D. (1996). *Fatherhood*. Cambridge, MA: Harvard University Press.
- Reinert, D. F., & Allen, J. P. (2002). The Alcohol Use Disorders Identification Test (AUDIT): A review of recent research. *Alcoholism: Clinical & Experimental Research*, 26, 272–279.

- Reitman, D., Currier, R. O., & Stickle, T. R. (2002). A critical evaluation of the Parenting Stress Index-Short Form (PSI-SF) in a Head Start population. *Journal of Clinical Child & Adolescent Psychology, 31*, 384–392.
- Rimmerman, A., & Sheran, H. (2001). The transition of Israeli men to fatherhood: A comparison between new fathers of pre-term/full-term infants. *Child & Family Social Work, 6*, 261–267.
- Rohner, R. P., & Venetiziano, R. A. (2001). The importance of father love: History and contemporary evidence. *Review of General Psychology, 5*, 382–405.
- Schmidt, A., & Barry, K. L. (1995). Detection of problem drinkers: The Alcohol Use Disorder Identification Test (AUDIT). *Southern Medical Journal, 88*, 52–59.
- Selin, K. H. (2003). Test–retest reliability of the Alcohol Use Disorder Identification Test in a general population sample. *Alcoholism: Clinical & Experimental Research, 27*, 1428–1435.
- Thomas & Donovan (2001).
- Tucker, S., Gross, D., Fogg, L., Delaney, K., & Lapporte, R. (1998). The long-term efficacy of a behavioural parent training intervention for families with 2-year-olds. *Research in Nursing & Health, 21*, 199–210.
- Wanamaker, C. E., & Glenwick, D. S. (1998). Stress, coping, and perceptions of child behaviour in parents of preschoolers with cerebral palsy. *Rehabilitation Psychology, 43*, 297–312.
- Yeung, W. J., Sandberg, J. F., Davis-Kean, P. E., & Hofferth, S. L. (2001). Children's time with fathers in intact families. *Journal of Marriage and Family, 63*, 136–155.
- Zalaquett, C. P., & Wood, R. J. (Eds.) (1997). *Evaluating stress. A book of resources*. Lanham, MD: Scarecrow Press.

Copyright of *Child Care in Practice* is the property of Routledge and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.