Why Do Some Adolescents Manage Despite Parental Illness? Identifying Promotive Factors

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Article history: Received August 18, 2020; Accepted December 16, 2020

Keywords: Parental illness; Adolescents; Well-being; Promotive factors; Social support; Leisure time; Positive school experience; Cumulative effect; Resilience

ABSTRACT

Purpose: This study aimed to examine the association between social support, leisure time, school experience, and well-being among adolescents with an ill parent. Moreover, we explored the cumulative effect of promotive factors in relation to well-being.

Methods: The population included a subsample of 676 students reporting serious or chronic parental illness, selected from a nationwide Danish survey, the Well-being Despite Study. Well-being was measured by the five-item World Health Organization Well-Being Index. Social support included support from parents, siblings, and friends. A positive school experience encompassed trust in teachers, classroom community, and overall judgment of the school. Leisure time included frequency of activities and having enough time for friends and oneself. We performed multilevel logistic regression analyses using SAS 9.4.

Results: Social support, a positive school experience, and leisure time were positively associated with well-being. For instance, for boys and girls who felt they had enough time to themselves, the odds ratio of moderate to high well-being was 3.7 (95% confidence interval [CI]: 1.8–7.7) and 2.9 (95% CI: 1.9–4.3) respectively, compared with boys and girls who did not. Cumulative analyses showed increasing odds of moderate to high well-being with increasing number of promotive factors, the odds ratio being 39.7 (CI 95%: 11.6–136.2) among adolescents with 10 promotive factors compared with adolescents with 0–5 promotive factors.

Conclusions: Social support, a positive school experience, and satisfying leisure time may be important promotive factors, and the results point toward a more ecological approach to improve well-being among adolescents with ill parents.

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A substantial proportion of children grow up with an ill parent; however, the total prevalence of parental illness is uncertain. An estimated 10% of children have a parent with a chronic medical condition [1], and up to one in five experience...
parental mental illness [2]. Existing evidence has found that parental illness is associated with somatic symptoms [3] and internalizing problems, such as depressive and anxiety symptoms [1,4,5]. Studies have also shown that some adolescents experience benefit finding in relation to being a caregiver to an ill parent [6,7] and children with ill parents may experience increased maturity, strengthened family relations, and appreciation [8,9]. However, we still do not fully understand why some adolescents more easily adapt and thrive despite parental illness.

This study was inspired by a social-ecological perspective of resilience. Resilience is commonly defined as positive adaptation in the face of adversity; adversity ranging from daily stressors to major life events, and positive adaption conceptualized according to the nature of the adversity under study [10]. In the social-ecological perspective, resilience is perceived as a process of interaction between the individual and their context [11,12]. Promotive factors are factors that enhance resilience by reducing the negative outcome of a risk factor or enhance a positive outcome. Promotive factors might operate as compensatory for the risk factor or as protective factors, moderating the negative effect of the risk factor [13]. A supportive social network and a healthy relationship with parents have shown to be some of the most influential factors for the adaptive capacity of the child [11]. Moreover, leisure time activities and school connectedness have been found to enhance resilience [14,15].

Social support [6,16–18] and a high-quality parent–child relationship [4,17,19,20] have also been shown to promote positive adaptation among adolescents experiencing parental illness. A longitudinal study of recurrent parental depression found that co-parent support and high-quality social relations were associated with maintained good mental health of the child [21]. In several qualitative studies, maintaining a sense of normality in everyday life and seeking respite through school and leisure time activities have been identified as common coping strategies for adolescents with ill parents [22,23]. Likewise, school connectedness and keeping in touch with friends have been associated with positive adaptation in adolescents facing parental illness [6,17]. However, these studies have several methodological limitations, such as small sample size [6,18] and risk of selection bias [17], and have mainly focused on single diagnosis, such as parental cancer [18–20] and depression [21].

The aims of this study were to (1) examine how social support from friends, siblings, and parents, leisure time, and school experience are associated with well-being among adolescents with a mentally or physically ill parent; and (2) explore the cumulative effect of promotive factors on well-being of adolescents with an ill parent.

**Methods**

**Data source**

We used data from a cross-sectional survey among a nationwide sample of Danish children and adolescents, the Wellbeing Despite study. A total of 198 schools relevant for adolescents aged 12–19 years were randomly selected and invited, whereof 66 (33%) agreed to participate. At student level, 66.6% of the students participated, resulting in a total of 10,893 completed questionnaires. The questionnaire was developed based on literature, qualitative interviews with adolescents in the target group, regular consultations with a group of professionals in contact with the target group (such as teachers, student counselors, and parents), and pilot testing. The Web-based questionnaire was completed during school hours and available in text and audio version. Students spent approximately 30 minutes to complete the survey. Data collection took place from September to November 2016 and was supervised by teachers.

**Delineation of study population**

As this study concerns only students with ill parents, a sub-sample of the full study population was created based on the following procedures. Parental illness was determined based on the question, “Do any of the following persons have a serious illness, chronic illness, or a disability?” with the response options mom, dad, stepmom, stepdad, sibling, no. In this study, parental illness represents the illness of a mom, dad, or cohabiting step-parent. Adolescents were then asked, “What illness/disability does your mom/dad/stepparent have?” with the response options migraine or frequent headache, apoplexy, visual impairment, hearing impairment, spinal conditions, cancer, arthritis, multiple sclerosis, mental illness (e.g., depression or anxiety), heart disease, kidney disease, other illness/disability. The response option other illness/disability was an open-ended question, allowing the students to write any illness or disability. Students were then categorized as having a parent with physical or mental illness.

The wording of the question about parental illness invites students with an ill parent to report if they consider the illness serious or chronic. Knowingly, this results in a very diverse group of parental illnesses, ranging from terminal cancer to well-treated asthma, which are expected to have a very different effect on everyday life and well-being of the offspring. In a recent study by the authors, we found that adolescents who had a physically ill parent, not restricted in daily activities at least weekly, did not differ markedly in relation to life satisfaction from adolescents with healthy parents (study under review). This is consistent with other studies identifying parents’ physical functioning rather than specific diagnosis, as important for the psychosocial functioning of the child [24,25]. Adolescents with a mentally ill parent, regardless of impairment, differed significantly from adolescents with a healthy parent in relation to life satisfaction. Thus, the study population was restricted to adolescents having physically ill parents who were impaired in daily activities at least weekly or a mentally ill parent, regardless of impairments in daily life. We excluded 702 students with a physically ill parent, impaired by their illness less than weekly, and students with missing information on outcome, promotive factors, or confounders. Moreover, students at primary schools (aged 6–12 years) and production schools (an education offer for young people aged 15–25 years, who are not yet qualified to start upper secondary education) were excluded, as these students completed a shorter version of the questionnaire, resulting in missing information on key items for this study (N = 573). The final study sample includes 676 adolescents with an ill parent (see flow-chart, Appendix A). Because of the gender difference in the reporting of parental illness, the study sample consisted of 75% female respondents.

**Ethics**

Principals, teachers, students, and parents were informed about the overall contents of the survey, the data collection procedure, that participation was voluntary, and that data were handled and stored safely. Information was given directly to...
parents of children in lower secondary schools through the online parental intranet, and parents had the opportunity to withdraw their child from the survey. For youth education programs, information was distributed through school Web sites. The Well-being Despite Study followed all national ethical guidelines and is registered at the Data Protection Agency at the University of Southern Denmark (J.nr. 10.755).

Measures

Outcome

Well-being is measured by the five-item WHO Well-being index (WHO-5), a validated instrument to assess subjective psychological well-being [26,27]. The WHO-5 includes five items: Over the past two weeks (1) I have felt cheerful and in good spirits, (2) I have felt calm and relaxed, (3) I have felt active and vigorous, (4) I woke up feeling fresh and rested, (5) my daily life has been filled with things that interest me. The response options being all of the time (5 points), most of the time, more than half the time, less than half the time, some of the time, at no time (0 points). The answers were summed and multiplied by four for comparability to other scales measuring the quality of life. The final score ranges from 0 to 100. We defined moderate to high well-being as a score >50 [26]. The Cronbach’s alpha of the WHO-5 well-being index was .84 in this study sample.

Sensitivity analysis was performed using an alternative outcome, the Cantril Ladder [28]. The Cantril Ladder measures life satisfaction on a scale from 0 to 10, representing the best possible life. In the sensitivity analyses, high life satisfaction was defined as a score of 8, 9, or 10.

Exposures: potentially promotive factors

The potentially promotive factors included are based on previous studies on resilience in adolescents and literature focusing on adolescents experiencing parental illness. The items used either originate from the Health Behaviour in School-aged Children (HBSC) [29] or were developed for the Well-being Despite Study, as a result of a thorough development process. The factors are grouped into three themes, all situated at the family and community levels, and finally combined into a promotive factor index.

Social support. Social support from parents was measured by two items. (1) Who do you talk to when something is troubling you or you are upset?, followed by a list of 16 response options including mom, dad, stepmom, and stepdad. Students reporting talking with either mom, dad, stepmom, or stepdad when something was troubling them were categorized as having confidentiality with parents. (2) How often is the following statement true: I can talk to my parents whenever I want to. The response options were dichotomized into always/most of the time versus seldom/never. Social support from siblings was measured by the question My siblings help and support me a lot, and social support from friends was measured by the item I can count on my friends when things go wrong. The items were dichotomized into strongly agree/agree versus neither nor/disagree/strongly disagree.

Leisure time. To measure the frequency of leisure time activities, we combined two questions: How often do you do the following in your leisure time: (1) Sports (e.g., soccer, gymnastics, dance, fitness), (2) Scouting, play in a band or an instrument, creative activities, or other leisure time activities than sports. The variable was dichotomized into leisure time activity at least weekly versus less than weekly. Moreover, students were asked to state how much they agree/disagree with two statements: (1) I have enough time for myself and (2) I have enough time to meet with my friends. The response options were dichotomized into strongly agree/agree versus neither nor/disagree/strongly disagree.

School experience. Three variables were used to measure positive school experience. One item represents the student’s individual perception of connectedness with teachers, I feel I can trust my teachers; response options dichotomized into strongly agree/agree versus neither nor/disagree/strongly disagree [29]. The second item represents the student’s perception of belonging in his/her class, Do you feel part of the community in your class, dichotomized into always/most of the time versus sometimes/seldom or never/there is no community. The last item refers to the student’s overall judgment of the school, asking the students to what extent they agree that My school is a nice place to be, dichotomized into strongly agree/agree versus neither nor/disagree/strongly disagree [29].

Promotive factors index. The 10 promotive factors were summed to an index ranging from 0 to 10. Because of the statistical power and distribution of promotive factors, students having 0–5 promotive factors were collapsed into one group. Thus, students were categorized as having 0–5 (reference), 6, 7, 8, 9, or 10 promotive factors.

Confounders

For the measurement of socioeconomic and demographic variables, items from the Danish version of the HBSC survey were used in the Wellbeing Despite study and categorized according to HBSC practice [29,30]. Family occupational social class was based on the following items: Does your mother/father have a job? If yes, Please write exactly what job he/she does and Please state their place of work. Based on an evaluation of the nature of the job with regards to educational requirements, management skills, and level of control, the answers were manually condensed into a classification of occupation, ranging from I (high occupational status) to V (low occupational status), unclassifiable occupation (VI), financially inactive parents receiving transfer income (VII), studying (VIII), or missing (IX). High occupational status included jobs requiring at least 4 years of education or managerial responsibility of 50 employees or more, whereas low occupational status included unskilled and semiskilled work. Family occupational social class was determined by the highest parental occupational social class and categorized into four groups: high (I and II), medium (III and IV), low (V and VII), and unclassifiable/students/missing (VI, VIII, IX).

Family structure was based on the item With whom do you live? Adolescents were categorized into living with both parents, in a single-parent home, in a reconstructed family, or in other family structure (e.g., other family members, foster care, institution, living alone or missing). For students, who gave multiple responses, the response “living with both parents” overruled all other responses, and “reconstructed family” overruled the response “single-parent home.” This was done because of the lack of information about the primary home, for example, adolescents with divorced parents, and based on the hypothesis that
the number of adults in the household is important in relation to parental illness. Self-reported physical and mental/behavioral illness was based on the question, *Do you have...*, followed by a list of physical and mental/behavioral diagnoses, including “other physical” and “other mental.”

Statistical analyses

To examine the associations between potential promotive factors and well-being, we performed multilevel logistic regression analyses, taking the clustering of students in schools into account. The analyses were stratified by gender and adjusted for own physical illness, family occupational social class, family structure, type of parental illness, and age. Finally, a graphical illustration displays how the prevalence of moderate to high well-being varies according to the number of promotive factors. The effect of cumulative promotive factors was moreover explored through multilevel logistic regression analyses.

Several sensitivity analyses were performed. First, the analyses were performed using the 75 percentiles as cutpoint for the WHO-5 score as the outcome. Second, the analyses were performed using an alternative outcome measure, the Cantril Ladder. Third, the analyses were conducted, adjusting for domestic activities and for the adolescents’ perceived responsibility in relation to helping and taking care of the ill parent. Finally, we performed the analyses stratified by parental mental, physical, and mental and physical illness. We used SAS version 9.4 to conduct all analyses.

Results

Characteristics of the study population

Most participants were female (73.6%), and the adolescents’ mean age was 17.1 years (Supplementary Table 1). Approximately half the adolescents lived with both parents, the majority had siblings (boys: 90.5%, girls: 94.6%), and more than three quarters identify as of Danish origin (Supplementary Table 1). The most frequently reported physical parental illnesses were spinal conditions (26.7%), arthritis (20.0%), migraine or frequent headaches (19.1%), cancer (14.0%), and apoplexy (10.2%) (not shown in table).

Association between potentially promotive factors and well-being

Boys in the study sample had a mean WHO-5 score of 61.1 (standard deviation 19.7), 73.0% scoring above 50 points, indicating moderate to high well-being. The girls had a mean WHO-5 score of 49.3 (standard deviation 19.2), and 49.6% reported moderate to high well-being (not shown in figure). Figure 1 describes the distribution of well-being among adolescents with an ill parent in relation to the presence or absence of potentially promotive factors for boys and girls, respectively.

We found increasing odds ratios of moderate to high well-being for boys and girls in the presence of potential promotive factors. Overall, social support, having an active leisure time with time to oneself and friends, and having positive school experiences were positively associated with well-being.
Figure 2. Adjusted odds ratio* (OR, 95% CI) for moderate to high well-being by promotive factors: social support, leisure time, and school experience. OR, odds ratio; CI, confidence interval.

(Figure 2). For instance, the odds ratio of moderate to high well-being was 5.3 (95% confidence interval [CI]: 1.5–18.6) for boys and 3.4 (95% CI: 1.9–6.2) for girls having social support from friends, compared with boys and girls without social support from friends. Adjustment for potential confounders resulted in minor changes of the effect estimates toward the null.

Explorative analyses of the cumulative effect of promotive factors

(Figure 3) graphically displays the prevalence and adjusted odds ratios of moderate to high well-being across the number of promotive factors. For more detailed statistics, see Appendix B. Adolescents with zero to five promotive factors are the reference group. Overall, the prevalence of moderate to high well-being...
increased with the number of promotive factors. Among adolescents with 10 promotive factors, the prevalence of having moderate to high well-being was 92.7%, and the odds ratio was 39.7 (95% CI: 11.6–136.2) when compared with adolescents with five or less promotive factors. Adjusted effect estimates were slightly smaller than the unadjusted measures.

**Strengths and limitations**

This study contributes to extend knowledge on promotive factors among adolescents with ill parents encompassing all parental diagnoses considered chronic or serious by the adolescent. It is, to our knowledge, the first study to explore the cumulative effect of promotive factors in relation to well-being in this target group, contributing with important knowledge to the understanding of resilience in adolescents living with parental illness as a challenge in their daily life. Contrary to most of the existing research within this field, this study is based on a nationwide survey, including a random and large sample of adolescents impacted by parental illness. Adolescents having an ill parent were not identified through their ill parent, reducing the risk of selection bias. The outcome measure, the WHO-5 well-being index, is a validated instrument to measure subjective well-being and has been used across a wide range of study areas [26,27].

Several limitations should be kept in mind when interpreting the results. The cross-sectional design limits us from drawing conclusions regarding causality and the direction of the associations. It cannot be precluded that low well-being might lead to social withdrawal, a less active leisure time, and difficulties regarding classroom communities and trust in teachers.

Parental illness is identified solely by child–reported information; it would have been preferable to have several data sources available. The promotive factors are based on single items and were dichotomized, entailing a risk of misclassification and loss of information. More comprehensive and validated measures of, for example, social support would have been desirable. However, the items were developed specifically for this study based on a thorough development process or come from the cross-national, World Health Organization collaborative study, the HBSC study [35].

Another limitation is the risk of residual confounding. For instance, the extent and nature of caregiving by the adolescent has been associated with several adjustment outcomes [36] and is likely to affect the ability of adolescents to participated in leisure time activities, the time available for friends and oneself, and the parent–child relationship. Sensitivity analyses, adjusting for indicators of caregiving, did however not alter the results.

An unequal participation rate at school level resulted in an overrepresentation of high school students and an underrepresentation of vocational educations and adolescents in lower secondary school. Moreover, young people not attending an education program were not part of the sample, and this group of adolescents is likely to differ from the study sample. Thus, the present sample cannot be considered representative of Danish adolescents facing parental illness.

**Implications**

The results of this study underline the importance of action across ecological levels to ensure well-being among adolescents experiencing parental illness. Family, friends, schools, and leisure time facilities need to be aware of their opportunity to be a resource in these young peoples’ lives and possibly contribute to the resilience of these young people.

Future research should explore the cumulative effect of promotive factors on the adjustment among adolescents with ill parents further, looking into potential interactions between promotive factors and using longitudinal data [13]. Moreover,
qualitative studies exploring possible mechanisms explaining the effect of, for instance, leisure time activities would be informative and establish a basis for developing interventions to provide ample support for this large group of adolescents challenged by parental illness.

Acknowledgments

The authors wish to thank the participating schools and students across Denmark who made the study possible.

Funding Sources

Helsefonden, The Egmont Foundation, Liljeborgfonden, and University of Southern Denmark contributed with funding for this study. The funding parties did not take part in the design, data collection, analyses, article write-up, or decision to publish this study.

Supplementary Data

Supplementary data related to this article can be found at https://doi.org/10.1016/j.jadohealth.2020.12.139.

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