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Parental Stress and Daycare Attendance. Does Daycare
Quality and Parental Satisfaction with Daycare Moderate the
Relation Between Family Income and Stress Level Among
Parents of Four Years Old Children?

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Abstract

This study examine whether quality of daycare and parental satisfaction with daycare moderate the relationship between family income and parental stress. The sample consisted of 163 families of four year old children (Montreal), who have attended regulated daycare full time since 12 months old. Results indicate that parental satisfaction with daycare is a significant predictor of parental stress and that low quality of care moderates the relation between low family income and high parental stress. The results underline the importance of interventions to enhance quality in daycare settings, particularly in a childcare network largely funded by the government.

Keywords: Parental Stress; Daycare Quality; Family Income; Parental Satisfaction with Daycare.

1. Introduction

Parental stress is a strong predictor of difficulties in children's development (Attree, 2004). When parents experience chronically high levels of stress, their parenting practices are less appropriate (Huang et al. 2005; Lyons, et al., 2005). At the same time, their children's behavior is more problematic (Crnic, Gaze, and Hoffman, 2005) and their level of development less optimal (Attree, 2004). Parents who report a larger number of people in their social support network tend to have children who exhibit fewer developmental and behavioral problems (Ceballos and McLoyd, 2002; Oravec, Koblinsky and Randolph, 2008). Some research has also indicated that the social support available to parents of young children can help to reduce parental stress levels (Lyons et al., 2005) and improve child outcomes. These relationships

between social support and parental stress are stronger for families living in poverty (Kim-Cohen et al., 2004).

Daycare may provide a certain kind of social support to families. Daycare is increasingly important in the lives of today's families; parents who work full time increasingly rely on regulated daycare and prefer this type of care for their children (ISQ, 2011). In Quebec (Canada), nearly 67% of children aged 0-5 years old attend regulated daycare settings. One goal of the Quebec's regulated nonprofit educational childcare network is to promote equal opportunities for all children (Gouvernement du Québec, 2007). But what about children whose parents live in conditions of economic insecurity (low income)? Daycare may provide an important source of emotional, instrumental and informational social support (Lepage, Vézina and Desrosiers, 1990) to low-income parents, which could in turn contribute to lower levels of parental stress. If so, daycare attendance could act as a protective factor for low-income families. Parental satisfaction with daycare may also play a role in parenting stress. When parents are worried about what is going on in their child's daycare, they probably feel more stressed; when parents are satisfied with daycare, they are likely less stressed about their children (Sund & Ostwald, 1985).

It is important to note that the quality of care is key to insuring the best outcomes for children and families, and that quality may be especially important for families from less advantaged backgrounds (Belsky, 2006, Lambert et al. 2006; Papero, 2005). Research has shown that daycare settings offer varying degrees of quality, and that family income and daycare quality interact to influence child and family outcomes. Notably, high quality daycare has been associated with improved outcomes for children living in poverty, while poor quality of care has been linked to worse outcomes (Burger, 2010). These relationships are present but not as strong for middle income families. This study explores these issues by examining whether quality of daycare and parental satisfaction with daycare moderate the relationship between family income and parental stress.

2. Methods

2.1. Subjects

The sample consisted of 163 families and their four year old children who have attended regulated daycare full time since the age of 12 months old ($M = 12.77$, $SD = 4.61$). They were recruited from the Montreal metropolitan area between 2009 and 2010.

2.2. Measures and procedures

Measurements were taken at daycare and at home when children were 4 years old. During a home visit, mothers completed questionnaires about the selected variables. Daycare quality was observed at the same time.

Measures of the *socio-demographic characteristics of families* included age, income, education, marital status, language, country of origin of parents. Family income was reported by parents and was compared to low-income thresholds established by Statistics Canada (2004), a standard which takes into account the number of people living in the household and the area of residence. We determined whether families were situated above or below the poverty line according to these thresholds. Family structure (single-parent or two-parent family) and level of parental education (lower or higher than a high school diploma) were also categorized into two categories.

Parental stress was measured by a version of the Parental Stress Index (Bigras et al., 1996), designed for parents of young children (0 to 5 years) and validated for Québec (Lacharité et al., 1992). It consists of 101 questions divided into two broad categories of stressors: those related to the child (distraction / hyperactivity, enhance parenting, mood, parent acceptance, adaptability, degree requirement) and those linked to the parent (sense of competence, commitment to the child, role limitations, depression, relationship with spouse, social isolation, physical health of the parent). The questionnaire demonstrates good psychometric properties (Lacharité et al., 1992).

Parental *satisfaction with daycare* was evaluated by a questionnaire comprised of three scales (Emlen, 1999). The scale "satisfaction of parents with daycare" consists of 39 items rated on a Likert-type response scale (1 = never, 5 = always) and measures parents' perceptions regarding health and safety in the daycare environment. A second scale includes 12 items providing information on the "daycare's flexibility." A Likert-type scale (1 = strongly disagree to 4 = strongly agree) is used to rate the level of flexibility of hours of care based on the parent's work schedule. Finally, the scale "parent-teacher communication," composed of five items and also rated on a Likert type scale (1 = never to 5 = every day), measures the level of communication and emotional support between parent and educator.

Process quality was assessed using the EQOS, center-based and family-based daycare version (Bourgon et al., 2004b, c). A trained research assistant completed the instrument after 5 hours of observation (from 7:45 am to 12:45 pm on one selected day). A second assistant was present for 15% of observations to insure interrater reliability. The EQOS includes 153 items divided into four dimensions: 1- physical setting (44 items), 2- activities (30), 3- interaction educator / children (49), 4- interaction educator / parents (7). Each item is rated on a four-point scale (1 = poor, 2 = minimal, 3 = good, 4 = very good). Global quality of care is indexed by computing the mean score across all items. Analyses of internal consistency of the center-based and family-based daycare versions show alphas ranging between 0.81 and 0.93 for each of the four dimensions (Drouin et al., 2004).

3. Results

A hierarchical regression analysis was conducted to verify which daycare characteristics best predicted parenting stress and to examine whether income level interacted with these predictors. Preliminary analysis indicated which family and daycare predictor variables were correlated with overall parenting stress scores. These predictive variables included family's income level, parental satisfaction with childcare, and global quality of care, as well as several interaction terms for income level with other daycare characteristics. Variables with predictive power were entered into a hierarchical regression in which the most proximal influences on parental stress were entered first, followed by more distal ones. Table 1 presents the descriptive statistics for and correlations among the final variables selected for the model.

Table 1. Means, standard deviations, and intercorrelations for parenting stress index (mothers scores) and family income level, satisfaction about daycare and overall process quality scores.

Variables	Mean	SD	1	2	3	4	5
1-Parenting stress ^a	217.72	33.30					
2-Income ^b	0.20	.40	.19**				
3-Satisfaction ^c	223.01	17.80	-.31***	-.01			
4-Quality ^d	1.70	.07	-.22**	-.07	.18**		
5-Income X Satisfaction	-0.02	1.01	.21**	.02	-.38***	-.18**	
6-Income X Quality	-0.48	1.45	.18**	.99***	-.01	-.08	.03

p* < .05, *p* < 01, *** *p* < .001. Note : *n* = 163,

^a Mean scores of Mother Parenting Stress Index total score, ^b -1 for income above the low income threshold level and 1 for income over the threshold level, ^c Mean score of parental satisfaction about daycare (mother scores), ^d Log of overall process quality scores

To predict overall parenting stress, the variable “income level” was entered in the first block in the regression as a variable representing family vulnerability, the most proximal characteristic. The second block included the variable “overall satisfaction with daycare,” considered to be the next most proximal environmental variable. The third block included “overall process quality.” The last block included interaction terms representing the interaction of income level with (1) “overall satisfaction with daycare” and (2) “overall process quality of care.” Some variables (parent’s education, marital status) were excluded from the regression analysis because of multicollinearity (Tabachnick and Fidell, 2001). The results of this hierarchical regression analysis are presented in Table 2.

Table 2. Summary of hierarchical regression analysis for variables predicting parenting stress index scores for mothers of children in daycare at 4 years old.

Variables	<i>B</i>	<i>SE B</i>	<i>β</i>
Step 1			
Income ^a	15.48	6.40	.19*
Step 2			
Satisfaction ^b	-.57	.14	.307***
Step 3			
Quality ^c	-70.96	34.61	-.15*
Step 4			
Income X Satisfaction	3.34	2.60	.10
Income X Quality	-99.85	39.39	-4.33*

p* < .05, *p* < 01, *** *p* < .001. Note : *n* = 161, Δ*R*² = .03 for Step 1 (*p* < .05); Δ*R*² = .09 for Step 2 (*p* < .001); Δ*R*² = .02 for Step 3(*p* < .05); Δ*R*² = .04 for Step 4 (*p* < .05).

^a -1 for income above the low income threshold level and 1 for income over the threshold level, ^b Mean score of parental satisfaction about daycare (mother scores), ^c Log of overall process quality scores.

The first step of the regression equation suggests that “income level” is related to mothers’ overall stress scores, explaining 3.5% of its variance, $F(1, 161) = 5.86, p = .017$. The Beta coefficients indicate that families below the low income threshold have higher stress scores ($b = .187, p = .017$). The second step of the regression equation reveals that “overall satisfaction with daycare” relates to mothers’ stress scores, $F(1, 160) = 11.89, p = .000$, adding on its own 9.4% to the variance already accounted for by income level. The negative Beta coefficients indicates that lower satisfaction with daycare is associated with a higher stress scores for mothers ($b = -.307, p = .000$). The results for the third step of the regression indicate that the “overall process quality score” is also related to mothers’ stress scores, $F(1, 159) = 9.49, p = .000$, even after controlling for income level and satisfaction with daycare, adding on its own 2.2% to the variance already accounted for by the other variables. The negative beta coefficient indicates that lower overall quality process scores are linked to higher mother stress scores ($b = -.153, p = .042$). The results of the final step of the regression show that a significant proportion of mothers’ stress scores (3.9%) is explained by the interaction of income level and process quality, $F(1, 157) = 7.42, p = .000$. Figure 1 shows that for families in good quality daycare, parenting stress did not vary regardless of family income level (above or below the low income threshold). On the other hand, when quality scores were lower (below the good quality level), low-income mothers reported higher levels of parenting stress than mothers whose family income was above the low income threshold.

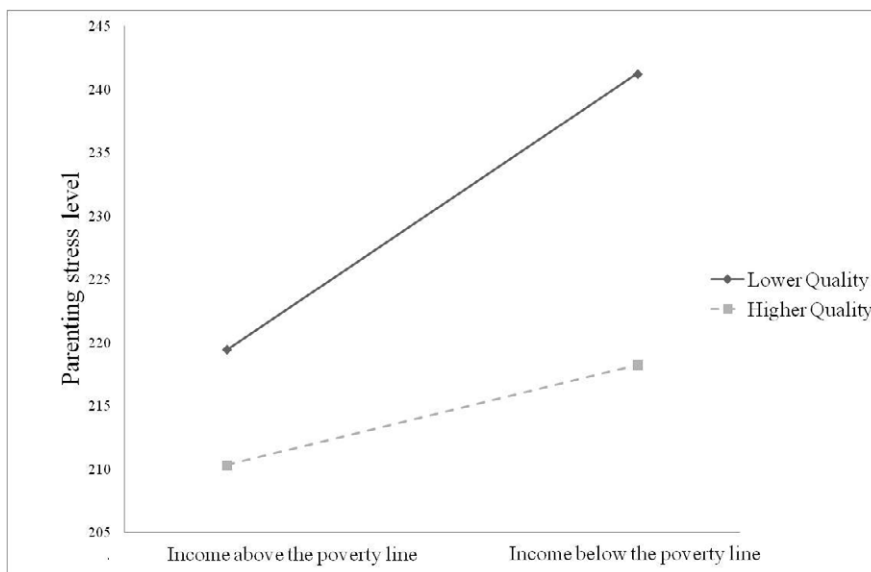


Figure 1. The relation between parental stress and family income level as a function daycare process quality

4. Discussion

These results suggest that low levels of daycare quality are associated with higher levels of parental stress for low-income mothers. This relation confirms results reported by previous studies (Burger, 2010) pointing to low quality of care as a key variable in outcomes for families living in poverty. In addition, correlations between the process quality scales and the parental stress index suggest that higher quality of relationships between educators and children are associated with lower parental stress for low income families. It is possible that these characteristics of the daycare environment provide emotional and

informational support for parents, contributing to lower levels of stress. However, the proportion of variance explained by this interaction is small; indicating that other variables, such as parental satisfaction with daycare, remain important predictors of parental stress.

Correlations between parental satisfaction and parental stress variables indicate that a major part of the scales centered on children are linked with parental stress levels. For example, mothers who reported that the educator has the ability to answer the needs of their child also reported less parental stress. Studies show that children from less advantaged backgrounds are less likely to attend daycare either because daycare services are more difficult to find in their immediate environment or because their parents do not seek out these services (Bigras, Pomerleau, Malcuit & Blanchard, 2008; Denis et al., 2005; Magnuson et al. 2004; Parish, et al., 2005). Children from low-income families tend to have access to lower quality daycare (Japel et al. 2005; Marshall, 2004). Future studies should explore the reasons why lower income parents are more likely to use lower quality daycare, and what factors and interventions might improve quality in these settings. Research should also examine the factors that are associated with parental satisfaction with daycare. However, the correlational design of our study prevents us from inferring causal relationships among these variables. For example, it is also plausible that families who feel less stressed live in more resource-rich neighborhoods where daycares offer higher quality.

5. Conclusion

Ours results indicate that parental satisfaction with daycare is a significant predictor of parental stress and that low quality of care moderates the relation between low family income and high parental stress. The results underline the importance of daycare quality and of parental satisfaction in regulated daycare and the importance of interventions designed to enhance quality in daycare settings where levels of quality are low. These results are particularly important in a context where a regulated nonprofit childcare services network is largely funded by the government in order to insure equal opportunities for all.

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