The Intergenerational Impact of Precarious Work: A retrospective cohort analysis of the association between parent's employment quality and their children's behavioral problems

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Abstract

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BACKGROUND: Employment norms in the U.S. are trending toward increasingly less standard and more precarious arrangements. The quality of one's job is predictive of their health, material wealth, and capacity for positive emotional and physical parental involvement – each of which are associated with child development and health outcomes. In this study, we explored whether parents' employment quality (EQ) conferred intergenerational risk to their children's behavioral health.

METHODS: Using the Panel Study of Income Dynamics (PSID), we constructed a multidimensional EQ scale from measures of employment stability, material rewards, working time arrangements, and collective organization. Then, using the 2014 PSID Child Development Supplement (N=3150), we ran multilevel linear regression models to estimate the risk of child behavioral problems as measured by the Behavior Problem Index (BPI), as a function of parental EQ. We explored separately the association between father's EQ, mother's EQ, and the higher of either parent's EQ on child BPI scores.

RESULTS: We found that children of parents with the worst EQ had higher scores on the BPI (Beta=3.87, 95% CI: (1.13, 6.62) for fathers; Beta=0.60, 95% CI: (-0.21, 1.41) for mothers; Beta=0.84, 95% CI: (0.09, 1.59) for the parent with better EQ) than children of parents with the best EQ. Paternal EQ revealed a stronger association with child behavior problems than maternal EQ.

CONCLUSIONS: Parents with precarious/poor EQ are more likely to have children with behavioral health problems.

Contents

Author's Positionality Statement:

The author is a white, cisgender, able-bodied, educated woman who comes from an upper-class community and a family with economic privilege but a history of poverty in previous generations. She was raised by a stay-at-home mother and a father that benefited from union membership for his 40 years of employment. Importantly, while the author was not involved in PSID study development or data collection, her positionality may impact the way she chose to frame the research question, select the covariates, and interpret the findings and the reader should be aware of the position from which she approaches this work.

The biggest challenge we face today isn't coming from technology. It's coming from the steady erosion of the social contract between employers and workers.
- Doug Bloch

At the end of the day, the most overwhelming key to a child's success is the positive involvement of parents.
- Jane D. Hull

Introduction

For decades, sociologists, economists, and philosophers have cautioned that capitalism's demands for increased profits and decreased corporate oversight dictate the erosion of labor conditions. The COVID-19 global pandemic has made clear the salience of these points: employers largely value profit over people and workers are taken advantage of, lacking labor policy protections and/or union power to ensure their own health. In the U.S., where alternative, less stable employment, often called "gig" work, is increasingly becoming the norm (Katz and Krueger 2016), it is imperative that health and well-being implications of work, in all its forms, be fully understood.

While the rise of less conventional work and the "gig economy" are gaining increasing attention in mainstream conversations, unpredictable work arrangements are by no means a new practice. Precarious employment – defined in this study as the low end of employment quality (EQ), or work with the most employment insecurity, income inadequacy, and lack of rights and protections (Kreshpaj et al., 2020) – has been scrutinized in its connection to adverse health outcomes as far back as the 1800s (Kalleberg 2009; Quinlan 2013). Given that marginalized groups (racialized populations, less-educated individuals, and women) are disproportionately affected by precarious work conditions (Muntaner et al. 2010; Oddo et al. 2020), understanding and addressing the health risks of EQ are pressing health equity issues.

Much of the employment literature in the U.S. focuses only on singular dimensions related to precarious work, like unemployment, low wages, or contract types. There is increasing evidence, however, that factors beyond wages or tenure, including working time arrangements, fringe benefits, and features of the employer-employee relationship, are extremely important, interrelated, and indicative of workers health

(Julià et al. 2017; Kreshpaj et al. 2020; Schneider and Harknett 2019; Vives et al. 2010). With this understanding, some researchers have begun to explore EQ as a multifaceted measure, establishing its dynamic connection to worker's health globally (Gevaert et al. 2020; Julià et al. 2017; Rugulies et al. 2006; Vives et al. 2010) and in the U.S. (Eisenberg-Guyot et al. 2020; Peckham et al. 2019).

An underexplored area of this conversation is the impact of a person's employment on the health of their family and children. Some singular dimensions related to work quality, including unemployment (Foster and Furstenberg 1998), family income (Brooks-Gunn and Duncan 1997; Shaw et al. 2006; Yeung, Linver, and Brooks-Gunn 2002), access to paid family leave (Hamad, Modrek, and White 2019; Lichtman-Sadot and Bell 2017; Rossin 2010), hours worked (Benson and Mokhtari 2011), and level of occupational prestige (Kroes et al., 2002), have been assessed in their association on the next generation's health, however few studies have accounted for the multiple dimensions that we now understand contribute to EQ. One study recently utilized a multidimensional EQ predictor in examining the impact of maternal EQ on infant's health, finding that precarious employment was positively associated with low birth weight (Patil et al. 2020). This study aims to build upon Patil et al.'s findings, looking further downstream to explore whether parental EQ contributes to child development and impacts early health outcomes.

Adverse behavioral and psychological outcomes during early childhood and adolescence are a widespread problem in the U.S., with 1 in 6 children having a mental, behavioral, or developmental disorder diagnosis (Cree et al. 2018). Given that child behavioral problems have been identified as an important risk factor of poor health and other outcomes later in life, like educational nonperformance (Dennison et al. 2019), obesity and physical inactivity (Kracht et al. 2019; Lauder et al. 2006), and mental health problems (Fryers and Brugha 2013; Harrington 1996; Kroes et al. 2002), understanding intervenable, upstream prevention strategies for behavioral problems would be of great benefit.

A parent's EQ can impact the behavioral outcomes of their child through several mechanisms depicted in Figure 1. First, a parent's EQ impacts their capacity for positive involvement in their child's life (e.g., parent-child discussion, parent involvement at school, and parental monitoring of a child's behavior). For instance, the amount of time that a parent may be physically able to spend with their child will vary based on how many hours they work, and the quality of positive time spent engaging with their child will vary based on how mentally and physically demanding the parent's work is. Lack of parental involvement is predictive of child behavioral problems through a number of pathways (Neymotin 2014). For instance, a

child may act out due to lack of parental attention, may fall into harmful behavior patterns due to a lack of parental oversite, or may lack social skills or behavioral knowledge that would typically be imparted by modeling by a more available, well-resourced parent. Second, poor EQ is a risk factor for parental stress (Ray, Kenigsberg, and Pana-Cryan 2017), and parental stress is associated with negative behavioral outcomes for their children (Dennis, Neece, and Fenning 2018). Increased parental stress is also likely to negatively impact the parent's capacity for involvement in the child's life, creating a negative feedback loop into the mechanisms previously described. Further, the link between parental stress and children's behavior may contribute to a bidirectional feedback loop, as a parent with poor EQ's stress may lead to a child's misbehavior, which could further exacerbate the parent's stress thus causing more misbehavior, and so on. Finally, access to the resources that enable health – e.g., money, healthcare, safe working and living conditions, access to healthy food and quality education – is dependent on EQ and indicative of child behavioral health (Letourneau et al. 2013).

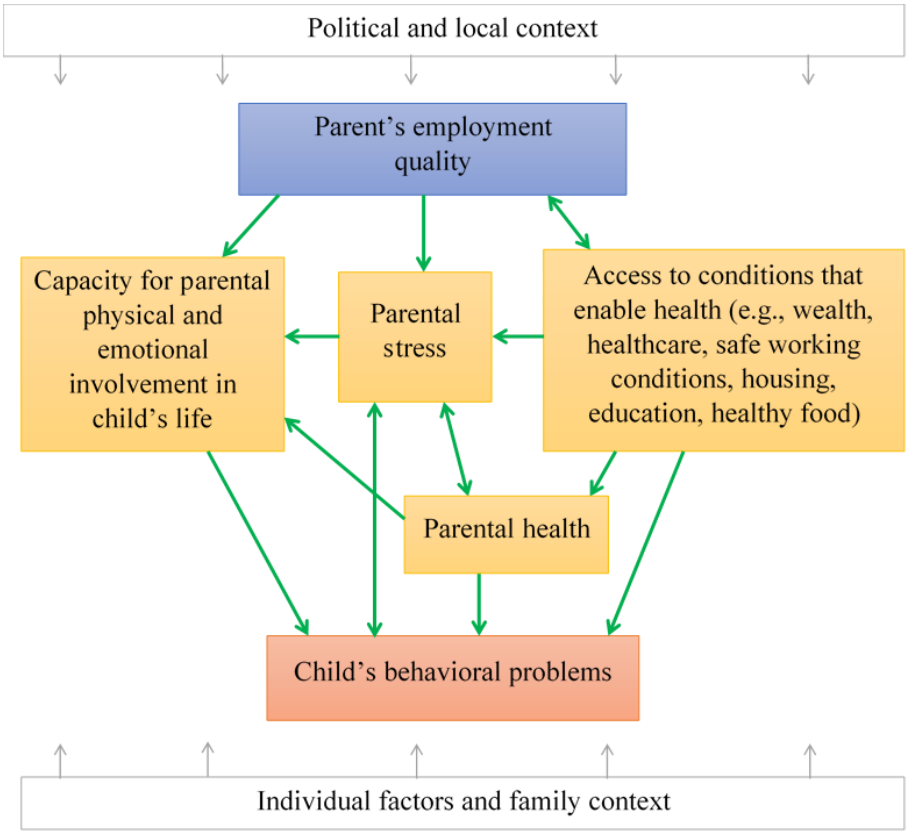

Figure 1: Conceptual model for the effect of parental EQ on children's behavioral problems

The aim of this study was to investigate the association between a parent's EQ and their children's behavioral health. Using a multidimensional scale constructed from questions related to work type, conditions, and benefits, we examined the impact of parent's EQ, averaged over a child's lifetime, on child behavioral problems, as measured by the Behavioral Problem Index (BPI). We hypothesized that child behavioral problems would be negatively associated with parental EQ.

The findings from this study will paint a picture of the intergenerational behavioral health associations of EQ. This information could provide insight into how side-effects of parental employment (things like stress, scarcity, and material deprivation) are transmitted through families, help clinicians, educators, and researchers more accurately anticipate and decrease the risk of child behavioral health problems, and expose a potential benefit of policy aimed at improving workers' rights and protections.

Methods

Data

This study utilizes data from the Panel Study of Income Dynamics (PSID), a nationally representative, longitudinal household survey that has collected annual employment, income, family structure, and health information on a sample of U.S. individuals and their descendants since 1968 (Sastry, Fomby, and McGonagle 2018). Data on child behavioral outcomes and covariates was taken from the 2014 Child Development Supplement (CDS) of the PSID. The CDS collects information from children and their primary caregiver (PCG) about the child's health, development, education, and well-being (Sastry et al. 2018). Our sample was restricted to children in the 2014 CDS with a BPI score and with at least one parent with EQ data available for at least one year of their life. Our final sample consisted of 3051 children and 1819 parents (1548 mothers and 253 fathers) from 1542 households (Figure 2).

Exposure

The exposure of interest for this study was parental EQ. Following previous literature (Van Aerden et al. 2014; Gevaert et al. 2020; Julià et al. 2017; Kreshpaj et al. 2020), EQ is conceptualized as a multi-dimensional construct comprised of seven distinct, interrelated components of employment. Because children included in the analyses include those from 0 to 17 years in 2014, and our measure of parental EQ was averaged across each child's lifetime, we based on EQ measures on parental employment variables and covariates from the 1996-2013 waves of the main PSID. Three of these components -

interpersonal power relations, training and employment opportunities, and workers' rights and social protections – did not have a related question in PSID thus were not included as indicators for our EQ score. The four remaining components - employment stability, material rewards, working time arrangements, and collective organization - were operationalized through the data as depicted in Table 1.

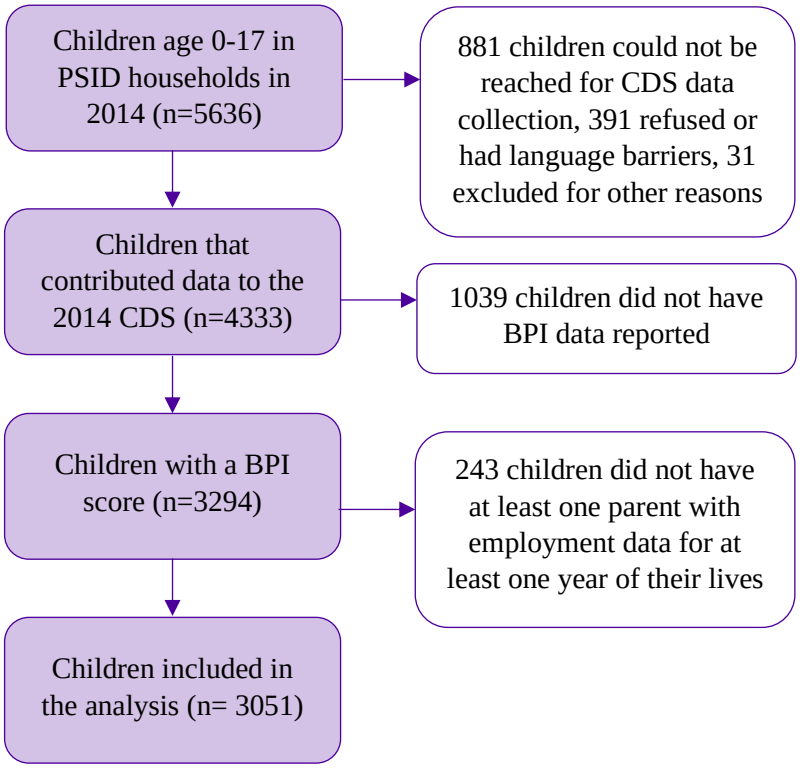

Figure 2: Exclusion criteria for CDS-2014 children

An EQ scale was constructed by summing parent's responses to the questions in Table 1. If a parent was missing a response for a dimension, data was carried over from the nearest year with non-missing data. If a parent was missing data for any dimension for all years of interest or was unemployed or not in the labor force for all years of interest, they were removed from the dataset. Parents received a score from 0 to 6, with a higher score reflecting poorer EQ. Quartiles from the data were used to define a parent's employment quality as Poor/Precarious, Fair, Good, or Great. Parent's EQ score was averaged over the years following their child's birth year until the CDS 2014 sample. Three exposures were examined separately: (1) maternal EQ, (2) paternal EQ, and (3) parental EQ of whichever parent had the better average EQ (for children with only one parent in the dataset, that parent's EQ was used).

Table 1: PSID questions related to EQ

Dimension of EQ*	Related PSID Question(s)	Response (EQ count)	Average Parental Employment Characteristics N (%)	
			Mother (N=1548)	Father (N=253)
Employment stability	Were you ever unemployed/temporarily laid off in the past year?	Yes (1)	14 (1)	12 (5)
		No (0)	1534 (99)	241 (95)
Material rewards	What is your annual income? (adjusted to 2019 dollars) Categorized from quartiles in the data	Low (1)	496 (32)	31 (12)
		Medium (0.5)	865 (56)	123 (49)
		High (0)	187 (12)	99 (39)
	Do you have employer-based insurance?	No (1)	1064 (69)	153 (60)
		Yes (0)	484 (31)	100 (40)
Working time arrangements	How many hours do you work annually? (Irregular: <30 or >50 per week, Regular: 40+/-10 per week)	Irregular (1)	787 (51)	85 (34)
		Regular (0)	761 (49)	168 (66)
Collective organization	Are you a member of a labor-union?	No (1)	1469 (95)	224 (89)
		Yes (0)	79 (5)	29 (11)

* There were no PSID questions to proxy the following three dimensions: Interpersonal power relations, Training and employment opportunities, and Workers' rights and social protections. For this reason, these dimensions were not included in our EQ scale.

Outcome

The outcome of interest was the Behavioral Problem Index, a 27-item battery developed by James Peterson and Nicholas Zill based on the Achenbach Child Behavior Checklist (Achenbach and Edelbrock 1981; Peterson and Zill 1986). The BPI was used to assess the prevalence and severity of child behavior problems and is comprised of questions relating to child behaviors, emotional status, and interpersonal relationships. In the 2014 CDS, PCGs (usually mothers) of children age 3-17 reported whether each item was often true, sometimes true, or never true of their child in the 3 months preceding

the assessment. Scale scores were constructed by dichotomizing responses (1: often true or sometimes true; 0: never true) and then summing these recoded values. The total BPI score is treated as a continuous variable with scores ranging from 0 to 27, with higher scores indicating a greater level of emotional or behavioral difficulties. The total BPI score consists of two sub-scales: externalizing behaviors, a measure of aggressive and rebellious behaviors, and internalizing behaviors, a measure of anxious, depressed, and withdrawn behaviors. Psychometric properties of the BPI show high estimates of internal consistency for the overall BPI (Cronbach's α = 0.90-0.91) and for each subscale (Cronbach's α = 0.86-0.88 for externalizing, and 0.84 for internalizing) (Institute for Social Research, University of Michigan 2017). Table 2 lists the 27 items of the BPI and their corresponding sub-scale. Three outcomes were assessed separately: (1) the total BPI score, (2) the externalizing behaviors score, and (3) the internalizing behaviors score.

Table 2: BPI Questions from the CDS-2014

	For the next set of statements, decide whether they are not true, sometimes true, or often true, of (CHILD)'s behavior. He/She…
Externalizing	...is restless or overly active, cannot sit still.
	...is stubborn, sullen, or irritable.
	...has a very strong temper and loses it easily.
	...breaks things on purpose or deliberately destroys (his/her) own or another's things.
	...demands a lot of attention.
	...has sudden changes in mood or feeling.
	...is impulsive, or acts without thinking.
	...cheats or tells lies.
	...argues too much.
	...has difficulty concentrating, cannot pay attention for long.
	...bullies or is cruel or mean to others.
	...is disobedient.
	...does not seem to feel sorry after misbehaves.
	...is rather high strung, tense and nervous.*
	...has trouble getting along with other people (his/her) age.*
Internalizing	...cries too much.
	...feels or complains that no one loves him/her.
	...is too fearful or anxious.
	...is easily confused, seems to be in a fog.
	...worries too much.
	...is too dependent on others.

	...feels others are out to get (him/her).
	...is unhappy, sad or depressed.
	...is withdrawn, does not get involved with others.
	...feels worthless or inferior.
	...is not liked by other people (his/her) age
	...has a lot of difficulty getting (his/her) mind off certain thoughts.
	...is rather high strung, tense and nervous.*
	...has trouble getting along with other people (his/her) age.*
* These questions are included in both Externalizing and Internalizing scales, but summed only once in the Total scale.	

Covariates

Several variables that research finds are associated with child health outcomes and adult EQ were controlled for as potential confounders. These include parent's level of education (categorized as less than college, or at least college), parent's age as a continuous variable, parent's self-reported race/ethnicity (categorized as non-Hispanic White, non-Hispanic Black, non-Hispanic Asian, non-Hispanic American Indian/Alaskan Native, Hispanic, and other), total household wealth (in 2019 dollars, categorized as low, medium, high) and parent's marital status (categorized as married or not married). For parent's age, education level, total household wealth, and marital status, which may vary over time, we utilized the response captured in the most recent PSID. Child's age (as a continuous variable), child's sex (from parental report with the options male or female), child's race/ethnicity (from parental report, categorized in the same way as parental race/ethnicity), and exposure to household violence (from responses to the statement: "Family members sometimes hit each other", dichotomized as Yes: completely agree or agree, and No: completely disagree, disagree, or neither agree nor disagree) were also included in the model as potential confounders. Race/ethnicity was included as a proxy for the effects of interpersonal racism and structural racism which are associated with child behavior and EQ via oppressive practices and norms in the U.S. including social and occupational segregation, redlining, punitive immigration policy, mass incarceration, intergenerational trauma, racial profiling, disproportionate disciplinary action in schools based on race, and interpersonal biases (Bailey et al. 2017; Gee and Ford 2011; Riddle, Travis Sinclair 2019). Worth noting, sex of child was collected by asking parent's what the sex of their child is, with options of "male", "female", or "refuse/don't know". Given it is now understood that biological sex, or sex-assigned-at-birth, may not coincide with gender or gender identity, and that neither are binary (Madsen et al. 2017), the way that sex of child was collected

and categorized in the PSID is limited in terms of inclusivity and clarity of what is actually being measured.

Statistical analysis

We conducted descriptive analyses and compared sociodemographic characteristics across EQ groups. To assess the association between parental EQ and child BPI score, we estimated a series of multivariate multilevel linear regression models with random intercept, fitted with maximum likelihood and adjusted for covariates. Given that multiple children in our sample resided in the same home, children were grouped by household using robust standard errors to correct for clustering of sibling data (Guo 2005). With three distinct exposures (maternal EQ, paternal EQ, and best EQ of either parent) and three distinct outcomes (total BPI score, internalizing score, externalizing score), we ran and report on a total of 9 models.

All statistical analyses were done using R version 3.6.2 (R Core Team 2019). The University of Washington Institutional Review Board found this study, in which we used publicly available data from University of Michigan's Institute for Social Research, to be except from requiring human subjects review.

Results

The study population included 3051 children, 1548 mothers, and 253 fathers, from 1542 distinct households. Children in the sample were more likely to have a single primary caregiver (without a spouse or partner), be non-Hispanic White or Black, and come from a household with more than one child (Table 3). Most fathers and mothers in the sample had at least a college education and were in their mid to late 30s. A smaller proportion of fathers had poor or fair EQ compared to mothers, which follows given that mothers were more likely than fathers to have the less favorable score on every EQ dimension (Table 1).

Table 3: Sociodemographic characteristics of children in the 2014 PSID CDS, their parents, and their households

Child covariates (N=3051)	
Sex of Child	
Female	1539 (50.4%)
Male	1512 (49.6%)
Age of child (Years)	
Mean (SD[1])	9.3 (4.1)
Child Race/Ethnicity	

AIAN[2]	13 (0.4%)
Asian NH[3]	24 (0.8%)
Black NH	1163 (38.1%)
Hispanic	269 (8.8%)
Other	22 (0.7%)
White NH	1528 (50.1%)
BPI score: Mean (SD)	
Total Score	6.8 (5.9)
Externalizing Score	2.4 (2.9)
Internalizing Score	4.8 (3.9)
Child's primary caregiver has a spouse/partner	
Yes	1045 (34.3%)
No	2006 (65.7%)

Household Covariates (N=1542)	
Exposure to household violence	
No	1388 (90.0%)
Yes	154 (10.0%)
Total household wealth	
High	403 (26.1%)
Medium	747 (48.4%)
Low	389 (25.2%)
Number of children in household	
1	347 (22.5%)
2	692 (44.9%)
3+	500 (32.4%)

Parent Covariates	Mother (N=1548)	Father (N=253)
Parent Race/ethnicity		
AIAN	9 (0.6%)	0 (0.0%)
Asian NH	11 (0.7%)	6 (2.4%)
Black NH	605 (39.1%)	75 (29.6%)
Hispanic	150 (9.7%)	28 (11.1%)
Other	6 (0.4%)	2 (0.8%)
White NH	761 (49.2%)	141 (55.7%)

Highest level of education		
College	1000 (64.6%)	162 (64.0%)
Less than College	547 (35.3%)	91 (36.0%)
Age (Years)		
Mean (SD)	35.1 (7.6)	38.0 (8.0)
Average EQ		
Great	343 (22.2%)	132 (52.2%)
Good	423 (27.3%)	62 (24.5%)
Fair	409 (26.4%)	43 (17.0%)
Poor	373 (24.1%)	16 (6.3%)

[1]SD = Standard deviation
[2]AIAN=American Indian/Alaska Native
[3]NH = Non-Hispanic

Fathers were more likely to have great EQ compared to mothers, and less likely to have poor EQ (Figure 3). In addition, within the better EQ categories (Good and Great), fathers were more likely to have a lower raw EQ score, indicating better EQ, than mothers (Figure 4). Thus, a mother's best EQ was worse than a father's best EQ in this study, and the raw difference in EQ between the Great and Poor categories was wider for fathers than mothers.

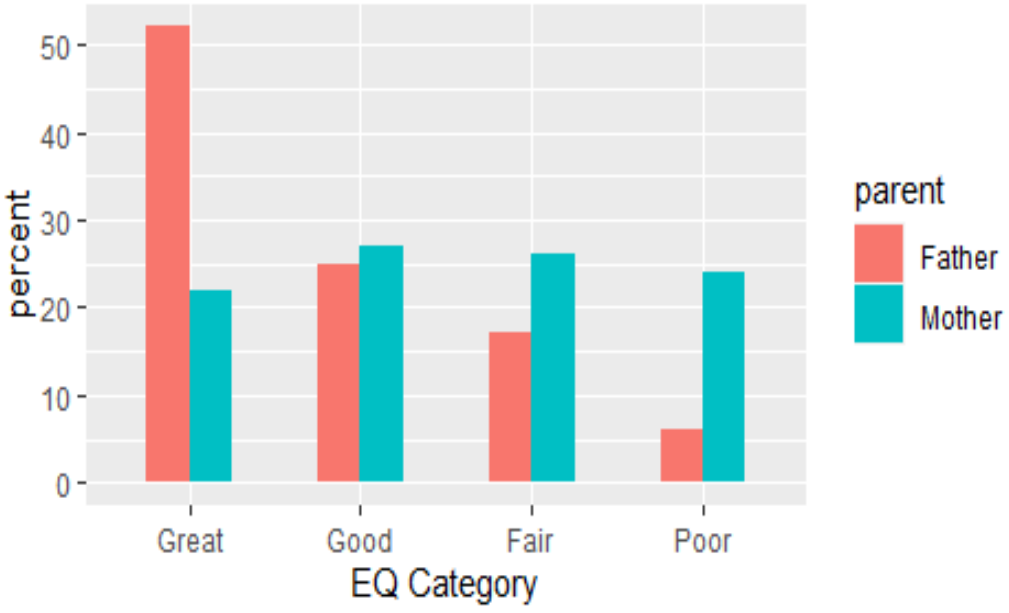

Figure 3: Distribution of EQ, by parent type

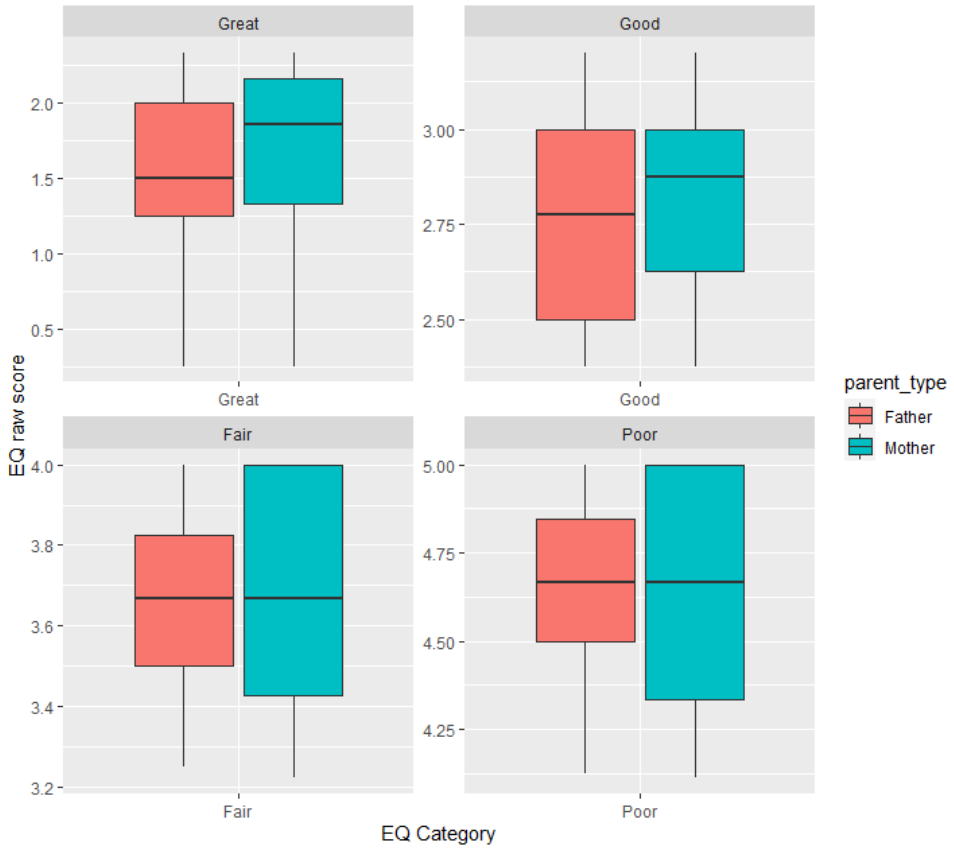

Figure 4: Distribution of EQ score within each EQ category, by parent type

Based on linear regression results, in general, children with a parent with poorer EQ scored higher on the BPI, indicating a greater level of emotional or behavioral difficulties, than children who had a parent with better EQ (Table 4). While none of the associations between maternal EQ score and child BPI score were statistically significant using an alpha of 0.05 and most were close to zero (null value), associations between fathers' EQ and the higher of either parent's EQ and child BPI were statistically significant.

Children who had a father with poor EQ scored almost 4 points higher (Beta=3.87, 95% CI: (1.13, 6.62)) on the total BPI scale compared to children who had a father with great EQ. Trends in most categories followed similar patterns: the total BPI, externalizing, and internalizing scores in general were lower with increased level of parental EQ. This is true across parental groups examined, although children with a mother that had poor EQ were found to score only about a half point higher (Beta=0.6, 95% CI: (-0.21, 1.41)) on the total BPI compared to children who had a mother with great EQ, and this was not a statistically significant finding (p>0.05).

In general, parental EQ was more impactful on children's externalizing behavior scores compared to internalizing behavior scores. Children who had a father with poor EQ scored on average about 2.4 points higher (Beta= 2.43, 95% CI: (0.64, 4.22)) on the externalizing scale and only about 1.8 points higher (Beta= 1.83, 95% CI: (0.48, 3.20)) on the internalizing scale compared to children who had a father with great EQ.

Table 4: Differences in likelihood of child behavioral problems by level of parental EQ

	Adjusted[1] linear coefficient (95% CI[2])			
	Parental EQ			
Child BPI Score	Great	Good	Fair	Poor
Mothers' EQ	**N= 566**	**N= 657**	**N= 701**	**N= 710**
Total	Ref	-0.02 (-0.76, 0.73)	0.28 (-0.48, 1.05)	0.60 (-0.21, 1.41)
Externalizing	Ref	0.04 (-0.45, 0.54)	0.08 (-0.43, 0.59)	0.49 (-0.05, 1.03)
Internalizing	Ref	-0.09 (-0.46, 0.28)	0.22 (-0.16, 0.6)	0.14 (-0.26, 0.54)
Fathers' EQ	**N= 199**	**N= 112**	**N= 66**	**N= 31**
Total	Ref	0.45 (-1.25, 2.15)	0.21 (-1.91, 2.32)	3.87 (1.13, 6.62)*
Externalizing	Ref	0.27 (-0.84, 1.39)	0.17 (-1.21, 1.55)	2.43 (0.64, 4.22)*
Internalizing	Ref	0.27 (-0.58, 1.12)	0.06 (-0.98, 1.11)	1.83 (0.48, 3.20)**
Higher of either parent's EQ	**N= 774**	**N= 776**	**N= 763**	**N= 738**
Total	Ref	0.28 (-0.42, 0.98)	0.84 (0.09, 1.59)	0.07 (-0.6, 0.74)**
Externalizing	Ref	0.09 (-0.35, 0.54)	0.1 (-0.37, 0.56)	0.63 (0.13, 1.12)**
Internalizing	Ref	-0.04 (-0.37, 0.3)	0.2 (-0.14, 0.55)	0.27 (-0.1, 0.64)

[1]Adjusted for child's sex, child's age, child's race, parent's age, parent's educational level, total household wealth, presence of household violence, and whether child's primary caregiver had a spouse/partner.
[2]CI=Confidence Interval
*p-value<0.005, **p-value<0.05

Discussion

The relationship between parental EQ as a multidimensional construct and child behavioral outcomes has never been explored in the literature. Using a large, nationally representative dataset, we identified a positive association between poor parental EQ and child behavior problems, as measured by the BPI,

among 2014 PSID CDS respondents. Associations were strongest among children who had a father with poor EQ compared to children that had a father with great EQ. Our study contributes to a body of work highlighting the need to intervene on poor employment conditions and protections to improve population health, now highlighting the intergenerational benefits of improving EQ.

Only one other study has used a composite EQ score to explore the association between a parent's employment and their child's outcomes (Patil et al. 2020). The findings from Patil et al, that precarious maternal employment during pregnancy was associated with low birth weight, align with our conclusions that poor parental EQ has negative implications for child development and health. Further, our findings are consistent with other studies that have examined the impact of singular dimensions of poor employment on child health outcomes. Several studies have found positive associations between maternal employment duration during childhood and adverse child outcomes, including child BMI (Morrissey 2013), child poor health status (Kuhlthau and Perrin 2001), and child behavioral problems (Carolina 2002). A study of the relationship between parental employment characteristics and child well-being during middle childhood in Australia found that poor child socio-emotional development was associated with having a mother who works long hours, a father with increasing work hours, and a mother with low job security (Lam, Flaherty, and Baxter 2016). Previous research in child development and psychopathology have found that children facing conditions of income poverty and inequality are at higher risk of behavior problems (Shaw et al. 2006). Our study builds upon these findings by exploring EQ as a construct that encompasses multiple dimensions which are likely correlated.

Our findings that parental EQ is associated with BPI score may indicate that improving parental EQ is an intervenable way to improve child behavior problems. This is especially important, as improving parental EQ will not only be beneficial to the parent, as their EQ is indicative of their own health, but having a child with behavioral problems can be difficult, especially if employment conditions make it harder to attend to their children. Further, if improving parental EQ improves child behavior problems, this may subsequently also buffer educational, mental health, and conduct disorder outcomes later in life, all of which are predicted by child behavior (Dennison et al. 2019; Fryers and Brugha 2013; Kracht et al. 2019; Kroes et al. 2002; Lauder et al. 2006). Additionally, our findings may help inform clinicians about risk factors of behavior problems, which is clinically useful because undiagnosed and untreated behavioral

psychological problems during adolescence increase risk for poor health status and poor health behavior outcomes (World Health Organization 2020).

In our study, a father's EQ was found to be more strongly associated with child BPI score than a mother's EQ. This finding aligns with prior research that has documented the positive developmental and behavioral impact of positive father involvement (Day and Padilla-Walker 2009; Yoon et al. 2018). However, the association between maternal EQ and child BPI was not found to be statistically significant. We hypothesize a few potential explanations for these results. First, this finding could be due to the fact that maternal underemployment could mean that a mother has more time to spend with their child, which has been found to be protective of behavioral problems, particularly during infancy (Carolina 2002). Thus, perhaps if a result of having what this study terms "poor EQ" is that a mother is able to spend more quality time with their child, this may buffer the negative impacts of other EQ dimensions, like materials rewards and stress, which we would anticipate being negatively associated with child behavior. As such, it may be a limitation of our study's categorization of EQ levels not fully capturing the dynamic, nuanced ways that factors of employment, particularly working time arrangements, impact the parent-child relationship. Future work should further explore how EQ dimensions may be differentially advantageous for mothers vs fathers.

Second, the finding that fathers' EQ is more significantly associated with child behavior could be explained by gender differences in employment type and quality. For instance, women's best EQ is still lower than men's best EQ in this study (Figure 4), making the difference between mother's poor and great EQ less significant than the gap between father's poor and great EQ. This is not surprising, given that employment trends in the U.S. historically favor men over women, and it is consistently documented that women on average have poorer EQ than men (International Labour Organization 2016). This differential percent change between Great and Poor EQ categories could explain why it appears that there is more significant change in child's behavior for what is classified as the "same" change in parental EQ.

Finally, there may be a difference in which EQ dimensions are driving poor EQ between mothers and fathers. For example, if fathers are more likely to have consistent stability, organizing benefits, and working time arrangements across all jobs but the difference between varying levels of EQ is driven by fluctuations in income, and if mothers have fairly consistent income across jobs but EQ differences are

driven by changes in non-material dimensions, then we may anticipate to see different impact on child BPI from mothers and fathers that had the same EQ categorization in our study.

Our study has several important limitations. First, there may be potential weaknesses of the BPI as an equitable and generalizable tool for measuring behavior and mental health. Some concerns have been raised regarding cultural bias of the BPI, citing homogeneity of the sample (majority white) from whom the original scale was derived, and the possibility that assessment of behavior problems may be influenced by cultural factors that vary by ethnicity. One study finding nonequivalence of the BPI across ethnic groups (Black, Hispanic, White) (Spencer et al. 2005) was later critiqued and disputed by researchers finding measurement invariance across ethnic groups concluding that the BPI works similarly across groups (Guttmannova, Szanyi, and Cali 2008). Both authors note that ethnic-based measurement would be most important when using the BPI as a clinical tool for individual-level assessment or when cross-ethnic comparison is the main aim, which is not the case in this study.

A second limitation is the potential for uncontrolled or unmeasured confounding because of data availability. Some variables, like immigration status and family structure changes over the study period were not available in the PSID. In addition, while we controlled for whether a child's primary caregiver was single, we were unable to determine whether children from households with an unmarried parent had more than one parent involved in their life, which may substantially influence the impact of having a parent with poor EQ, if there is a second parent contributing to a child's wellbeing. Further, limitations in the dataset make distinguishing between parents that were missing employment data and parents that were unemployed and/or had moved out of the family unit unattainable in our analysis. For instance, the number of fathers in our analysis was lower than the number we would anticipate based on how many children had a primary caregiver with a spouse or partner. This could be due to fathers not having information collected from them during PSID data collection, or due to fathers being unemployed and thus not providing employment variables, or due to mothers having a spouse or partner that was not the child's biological father, however we do not have enough data to fully understand the picture.

Lastly, PSID questions were designed prior to conceptualization of the utilized multidimensional EQ construct, and as such proxies for each EQ component were gathered from the collected variables, some which may not sufficiently capture the entirety of the dimension. Further, no PSID question equivalent

was found to represent the dimension of workers' rights and social protections, which may be an important consideration in the explored relationship.

Nevertheless, our findings that a parent's EQ may impact their child's behavioral problems is timely as the number of people that are unemployed and underemployed is on the rise due to the ongoing economic impacts of the COVID-19 pandemic (Tomaskovic-Devey, Dominguez-Villegas, and Hoyt 2020). Economic and labor policies oriented at improving employment conditions and increasing employee's rights among those most affected by recessionary conditions may also prevent intergenerational behavioral problems and consequent adverse mental and physical health outcomes.

Future research should build upon this study to better understand the nuanced facets of EQ, how these factors incur risk on subsequent generations, the difference between maternal vs paternal employment impact, and how parents' EQ may interact with one another in two parent households. Further research needs to be conducted to better characterize the seven dimensions of EQ, as the PSID asked questions only pertaining to four of the seven dimensions which have been found to most impact health.

Conclusion

Our study finds minor but significant differences in behavior problems between children with a father with poor EQ compared to those with a father with great EQ. We find similar but not statistically significant trends in BPI scores comparing children with a mother with poor EQ compared to those with great EQ. Our construction of an EQ scale from multiple employment dimensions allows us to look wholistically at the multiple, interrelated components of employment and present a fuller view of how EQ impacts child behavior problems which are indicative of later in life problems. These findings may help clinicians, educators, and researchers more accurately anticipate and decrease the risk of child behavioral health problems, and may expose an intergenerational benefit of policy aimed at improving workers' rights and protections.

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